

Appendix H

Narrows Project Final Environmental Impact Statement Comments and Responses

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FEDERAL AGENCIES

- 1. Bureau of Land Management, Utah State Office, State Director**
- 2. U.S. Environmental Protection Agency, James B. Martin, Region 8,
Regional Administrator to U.S. Army Corps of Engineers**
- 3. U.S. Environmental Protection Agency, Larry Svoboda, Region 8,
Director, National Environmental Protection Act Program,
Office of Ecosystems Protection and Remediation**
- 4. U.S. Fish and Wildlife Service, Amy Defreese, Utah Field Supervisor**
- 5. U.S. Forest Service, Michael Davis, Environmental Coordinator,
Manti-LaSal National Forest**
- 6. U.S. Geological Survey, James F. Devine, Senior Advisor of Science
Applications**
- 7. U.S. House of Representatives, Representative, Jason Chaffetz, Utah,
3rd District**
- 8. U.S. House of Representatives, Representative Jim Matheson, Utah,
2nd District**

1. **BUREAU OF LAND MANAGEMENT, UTAH STATE OFFICE,
STATE DIRECTOR**



IN REPLY REFER TO:
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(UT-935)

ORIGINAL

United States Department of the Interior

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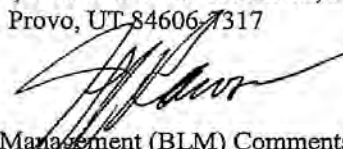
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Action:
Classification: ENH - 10.00
Project: Narrows
Comment No: 10034647
File No: 1122816

Memorandum

To: Bureau of Reclamation, Attention Peter Crookston, PRO-774
302 East 1860 South, Provo, UT 84606-7317

From: State Director 

Subject: Utah Bureau of Land Management (BLM) Comments on Narrows Project
Supplemental Draft Environmental Impact Statement (SDEIS).

The Utah BLM has reviewed the SDEIS for the Narrows Project (DES-09-55) and has the following comments and concerns.

General Comments:

1. BLM agrees with the finding that the proposed reservoir does not overlay recoverable coal resources. However, BLM is concerned that if project facilities are not designed to proper standards to withstand seismic events from coal mining in the Wasatch Plateau, placement of the Narrows Project at the proposed location would jeopardize future recovery of federal coal reserves.

- 1-1 2. The term "project facilities" is used throughout the SDEIS, often without specificity on what "project facilities" includes. Design criteria for all project facilities and activities, including construction and operation of the dam, all abutments, grouting, keyways, engineered fill, spillways, drains etc. must account for potential coal mining related seismic activity.

Specific Comments:

- 1-2 1. Page 3-102 of the SDEIS states that "design of project facilities would be based on maximum credible earthquake (MCE). Preliminary studies indicate that the appropriate MCE would be of magnitude 5.5. Further review of the appropriate MCE would be performed prior to final design of the dam."

The locations where the design criteria would be applied should be clarified and the criteria should be applied at the dam site and all ancillary facilities. The MCE should account for all forms of seismic activities as well as earthquakes. The FEIS should include the analysis that demonstrates that a 5.5 MCE would not cause piping or other damage to the dam or ancillary facilities.

- 1-3 2. Page 3-104: The discussion and analysis are incorrectly limited to "earthquake events." This section should address seismic events, including mining induced seismicity, as well as earthquakes.

Please direct any questions regarding this memorandum to Stan Perkes at the BLM Utah State Office, (801)-539-4036; e-mail: Stan_Perkes@blm.gov.

cc. Robert F Stewart
Regional Environmental Officer
Office of Environmental Policy and Compliance
P.O. Box 25007 D-108
Denver, CO 80225-0007

2. **U.S. ENVIRONMENTAL PROTECTION AGENCY, JAMES B. MARTIN,
REGION 8, REGIONAL ADMINISTRATOR TO U.S. ARMY CORPS OF
ENGINEERS**



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Ref: 8EPR-EP

JUL 06 2010

Colonel Thomas C. Chapman
District Commander
Sacramento District, U.S. Army Corps of Engineers
1325 J Street, Room 1480
Sacramento, CA 95814

Reply Date		
Date	Initials	Code
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Action:
Classification: **ENV - 6.00**
Project: **Narrows**
Control No: **10052.049**

Re: Action ID: SPK-1992-50255-00 11/28/16
Narrows Dam and Reservoir Project

2-1 Dear Colonel Chapman:

The U.S. Environmental Protection Agency (EPA) continues to have serious concerns regarding the direct, indirect, and cumulative impacts to Aquatic Resources of National Importance (ARNIs) resulting from the above referenced project. This letter follows our comment letter of June 8, 2010, and is sent in accordance with Part IV, 3(b) of the Memorandum of Agreement between the EPA and Department of the Army regarding Section 404(q) of the Clean Water Act (CWA), 33 U.S.C. §1344(q) (404(q) MOA). As discussed further below, the above referenced project will have substantial and unacceptable impacts to Aquatic Resources of National Importance.

EPA believes the proposed project will have substantial and unacceptable impacts to ARNIs due to the size, types and location of aquatic resources affected by the proposed project. The Narrows Dam and Reservoir Project will have unacceptable impacts to 89 acres of montane wetlands and five miles of cold water spring and stream systems associated with upper Gooseberry Creek, and, in addition, will affect lower Gooseberry Creek, Fish Creek, Scofield Reservoir, Price River, Green River and Colorado River due to reduced streamflows. Reduced streamflow below the diversion will lead to a 50-70% reduction in naturally-reproducing cutthroat trout biomass due to reduced habitat availability in Gooseberry Creek, and additional losses in aquatic habitat in the aforementioned streams. Potential water quality and aquatic life impacts exist downstream of Scofield Reservoir in the Price, Green and Colorado Rivers due to reduced releases from the reservoir under the proposed action, including cumulative effects on endangered species in the Green and Colorado Rivers¹.

¹ EPA previously determined the upper Colorado River to be an aquatic resource of national importance in a letter to the Corps regarding the Windy Gap Firing Project proposed in Colorado, December 24, 2008. The upper Colorado River provides a valuable habitat for many aquatic organisms, including four federally endangered fish species, and is a valuable commercial and recreational resource.

Fish and Gooseberry Creeks and associated wetlands, numerous high-yielding springs and tributaries are ARNIs. Lower Fish Creek and Gooseberry Creek are Class 3A (unique) under Utah water quality standards, and are “protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.” Class 3 streams support the majority of the stream fishing in Utah. These creeks maintain naturally-reproducing cutthroat trout fisheries and provide important spawning, nursery and unique habitat for these fishes. In addition to supporting a self-reproducing cutthroat trout population, Fish Creek also is used as spawning and rearing area by rainbow trout and is considered a Blue Ribbon Fishery in Utah. The tributaries of Gooseberry Creek, when flowing, are used extensively by cutthroat trout for spawning and rearing young-of-year fish.

These streams and their associated riparian wetland habitats represent rare aquatic ecosystems, as mountain riparian habitat comprises less than one percent of total land cover in the state. The riparian corridors of Fish and Gooseberry Creeks support extensive tracts of willow dominated habitat, and are regionally important for wildlife and support a diversity of neotropical migratory birds, including the largest breeding population of willow flycatchers, a federally endangered species, in the State. According to the Utah Comprehensive Wildlife Strategy, mountain riparian habitat is considered to be the most important habitat for overall vertebrate diversity and one of the most important to sensitive species in Utah. The U.S. Forest Service rated Fish Creek and Gooseberry Creek high on a regional scale of importance, noting the large amount of remote, undisturbed habitat, free of impoundments and human development. Diversions for water supply result in adverse impacts to montane riparian habitat, as it reduces the amount of water available for riparian vegetation and wildlife, alters natural hydrology, and reduces seasonal overbank flooding and subsequent riparian vegetation recruitment.

The rarity and uniqueness of this montane fish and wildlife habitat, the overall scope of resources affected by the proposed action, and the critical ecological functions support the ARNI designation. Streams and springs have been recognized as difficult-to-replace resources in the recent Compensatory Mitigation for Losses of Aquatic Resources Rule (Mitigation Rule)², highlighting the need for increased emphasis on avoidance and minimization requirements and compensatory mitigation for all unavoidable impacts (33 C.F.R. § 332.3(e)(3), and 40 CFR § 230.93(e)(3)). These high altitude streams support critical aquatic life and riparian wetland ecosystems, which provide water quality and wildlife habitat functions in a montane area that is still considered relatively remote and undisturbed.

EPA believes the proposed action fails to comply with the Clean Water Act Section 404(b)(1) Guidelines (Guidelines) (40 C.F.R. Part 230) due to potential availability of less environmentally damaging practicable alternatives, potential for the violation of state water quality standards, potential for the proposed action to cause or contribute to significant degradation to waters of the U.S. and lack of a detailed mitigation plan.

In our June 8, 2010 letter, EPA raised numerous issues concerning the information

² Compensatory Mitigation for Losses of Aquatic Resources; Final Rule; April 10, 2008; Department of Defense, Department of the Army, Corps of Engineers, 33 CFR Parts 325 and 332; Environmental Protection Agency, 40 CFR Part 230.

provided through the Public Notice, including: 1) the failure to adequately evaluate alternatives for impact avoidance and minimization requirements (40 C.F.R. § 230.10(a)), 2) the potential for the project to cause or contribute to the significant degradation of waters of the United States (40 C.F.R. § 230.10(c)), and 3) the lack of adequate mitigation to fully compensate for aquatic resource losses (40 C.F.R. § 230.10(d)). Additionally, according to the June 7, 2010 letter from the State of Utah to the Bureau of Reclamation, there are water quality and Endangered Species Act concerns that have not been adequately addressed. As such, the project proponent has not illustrated that the proposed action is in compliance with 40 C.F.R. § 230.10(b).

40 C.F.R. § 230.10(a) Alternatives Analysis

The inadequate analysis of alternatives in the Supplemental Draft Environmental Impact Statement (SDEIS) issued by the Bureau of Reclamation will result in substantial and unacceptable impacts to aquatic resource at the Narrows reservoir site because less environmentally damaging practicable alternatives may be available to the applicant. The action alternatives evaluated in the SDEIS are limited to providing storage in Gooseberry Narrows Reservoir at various storage capacities and screened alternatives based on “reasonableness” criteria pursuant to the National Environmental Policy Act. The alternatives need to be screened for “practicability” criteria under the Guidelines. Pursuant to the Guidelines, alternatives are considered practicable if they are available and capable of being done, taking into consideration cost, existing technology and logistics in light of overall project purpose. Other less environmentally damaging practicable alternatives may exist and alternatives for the multiple project purposes should be screened individually (i.e., agricultural versus municipal needs) to determine if a combination of alternatives may be practicable. In addition, EPA believes the project purpose is too narrowly defined in the SDEIS and that the Corps should independently evaluate the project purpose.

EPA believes there may be other less damaging practicable alternatives, both structural and non-structural, including 1) other water agriculture efficiency measures and transfers, 2) expansion of existing reservoirs, 3) construction of off-channel reservoirs, and 4) municipal conservation and reuse, which alone or in combination could meet the project purpose. For example, other potential reservoir storage projects and water supply alternatives such as off-channel reservoirs and aquifer storage and recovery options may be practicable and avoid substantial and unacceptable impacts at the Narrows Reservoir site.

40 C.F.R. § 230.10(c) Significant Degradation

Because the proposed action will inundate 89 acres of wetlands, multiple spring tributaries and 5 miles of cold water stream, as well as substantially reduce streamflows downstream of the impoundment, the combined influence of these direct and indirect effects will have substantial and unacceptable impacts on Gooseberry and Fish Creeks and associated aquatic resources. The direct and secondary impacts associated with the proposed action, in combination with past and present flow management in the Price River Drainage, will cause or contribute to significant degradation of the stream resources in the Price River Drainage, as well as the Green and Colorado Rivers, and will contribute to current water quality impairments and endangered

species issues in these waters. In addition, the proposed project will cause or contribute to significant degradation to Scofield Reservoir due to the reduced flows, and potentially result in an increase in phosphorus concentrations. Scofield Reservoir currently has a Total Maximum Daily Load (TMDL) in order to prevent algal blooms and fish kills in the reservoir.

In addition to dewatering effects in the Price River Drainage and downstream receiving Green and Colorado Rivers, the proposed transbasin diversion will also have significant effects in Cottonwood Creek due to flow augmentation. Increasing flows by 200% in Cottonwood Creek will have substantial effects on sediment transport and will likely lead to scouring and armoring of the stream channel and subsequent loss of habitat quality for vegetation, macro invertebrates and fish, including interstitial spaces for aquatic life refugia. Monitoring and mitigation need to be proposed to ensure that lost ecosystem functions in Cottonwood Creek are sufficiently mitigated.

40 C.F.R. § 230.10(d) Mitigation

The information on mitigation outlined in the Public Notice and SDEIS is not sufficient to determine compliance with the Guidelines (40 C.F.R. § 230.12). In accordance with the regulatory requirements found at 40 CFR § 230.10(c), sufficient compensatory mitigation is required to reduce the proposed impacts below a level of significance. With the information provided, we do not believe that adequate mitigation details have been provided to show that the applicant has offset these effects to aquatic resources. Additionally, due to the significance of adverse impacts, EPA requests that the applicant provide detailed cost estimates for the proposed mitigation to ensure that the proposed alternative is still practicable given the cost of that mitigation.

In order to comply with the Mitigation Rule, a compensatory mitigation plan must be submitted and approved by the Corps before the District Engineer can issue a CWA § 404 permit. This plan must address a number of critical details regarding the mitigation project including: clearly articulated project goals and objectives; project site selection criteria; site protection instruments (e.g., conservation easements); detailed quantitative and qualitative baseline information describing both the impact and compensation sites; a detailed discussion of the mitigation project's credit determination methodology and results; a maintenance plan; ecological performance standards used to evaluate the degree to which compensation projects are replacing lost functions and area; detailed monitoring requirements; a long-term management plan describing necessary long-term stewardship of the compensation sites and who is responsible for performing this stewardship; an adaptive management plan; and financial assurances to ensure project construction, implementation and long-term management.

The mitigation for proposed adverse impacts only provides cursory information on mitigation for wetland and stream impacts and does not include mitigation for the impacts to springs, which, along with streams, are considered difficult-to-replace resources under the mitigation rule. The ecological functions provided by the impacted wetlands, streams, springs and riparian areas must be appropriately characterized and replaced. The proposed mitigation plan fails to adequately compensate for the ARNIs in the project area due to the low likelihood

for ecological success and sustainability when considering the many site-specific mitigation issues on high altitude mitigation sites. Mitigation at high elevation is highly problematic as low night time temperatures and short growing season (due to typical late snow conditions) will greatly reduce and suppress plant growth and viability. To comply with the Guidelines, the applicant will need to provide a thorough analysis of the functions of the affected aquatic resources, indicate in the mitigation plan how these functions will be mitigated (e.g., a credit determination methodology and ecological performance standards) and identify opportunities to mitigate for these lost functions.

The Mitigation Rule's watershed approach also aims to maintain and improve the quality and quantity of wetlands and aquatic resources through strategic selection of compensatory mitigation sites (e.g. in this case, in the same watershed where the impacts occur). Additional mitigation options within the Price River watershed must be pursued to replace lost aquatic resource functions and values in the Price River watershed in order to comply with the Mitigation Rule.

A clear and detailed adaptive management plan is a key component of a mitigation plan for adverse impacts associated with this project. Because of the potential geographic scope of impacts due to reduced (and augmented) streamflows, and the subsequent risk for significant and potentially irreversible changes to aquatic ecosystems, an adaptive management plan that monitors the avoidance and minimization measures and requires compensatory mitigation for unavoidable adverse aquatic ecosystem effects is critical. This plan must include monitoring of specific water quality and aquatic life indicators, consider uncertainties associated with reasonably foreseeable actions, and outline necessary additional mitigation requirements (i.e., operational modifications, bypass flows, etc.), should mitigation prove unsuccessful. The adaptive management plan should also include long-term monitoring of stream geomorphology and sediment movement, as these potential effects will likely occur gradually and may not be detected for several years. In addition, this adaptive management plan should consider uncertainties associated with ecosystem changes due to climate change.

EPA continues to have serious concerns regarding the proposed project's lack of compliance with the requirements of CWA § 404(b) (1) Guidelines. Accordingly, without satisfactory resolution of these issues, EPA will continue to recommend denial of the permit for this proposed project. Your careful consideration of this matter is important for protecting the aquatic resources in Utah.

Thank you for your time and continued attention to this difficult matter. If you have any questions or concerns regarding these comments or recommendations, please contact the most knowledgeable person on my staff, Sarah Fowler (staff contact) at 303-312-6192, the Director of the Ecosystems Protection Program, Bert Garcia at 303-312-6670, or me at 303-312-6308.

Sincerely,


James B. Martin
Regional Administrator
Region 8

CC: Larry Crist, USFWS, Utah Field Office
John Harja, Public Lands Policy Coordination Office, State of Utah
Kerry Schwartz, Bureau of Reclamation, Provo Area Office
Tim Whitman, Corp of Engineers, Bountiful, Utah



3. **U.S. ENVIRONMENTAL PROTECTION AGENCY, LARRY SVOBODA,
REGION 8, DIRECTOR, NATIONAL ENVIRONMENTAL PROTECTION ACT
PROGRAM, OFFICE OF ECOSYSTEMS PROTECTION AND REMEDIATION**



ORIGINAL

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Phone 800-227-8917
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JUN 08 2010

Ref: 8EPR-N

Mr. Kerry Schwartz
Water and Environmental Resources Division
Manager, PRO-700
Bureau of Reclamation, Provo Area Office
302 East 1860 South
Provo, Utah 84606-7317

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Action:
Classification: E/NV 56.00
Project: NA
Comment No: 10042958
1122816

Re: Narrows Project Comments
SDEIS # 20100109

The U.S. Environmental Protection Agency, Region 8 (EPA) has reviewed the U.S. Bureau of Reclamation's Supplemental Draft Environmental Impact Statement (SDEIS) for the Narrows Project. EPA offers these comments in accordance with the Agency's responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C) and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609.

Project Background

The Narrows Project is a new dam and reservoir on Gooseberry Creek, located on the Wasatch Plateau about 40 miles south southeast of Provo and 8 miles east of Fairview, Utah. The project will transfer water from Gooseberry Creek, a tributary to Scofield Reservoir and the Price River (Upper Colorado River Basin), to Cottonwood Creek, a tributary of the San Pitch River (Great Basin). The proposed project will deliver an annual average supply of 4,281 acre-feet of supplemental irrigation water and 855 acre-feet of water for municipal use to the Sanpete Water Conservancy District (SWCD). The water will be diverted through the existing Narrows Tunnel (which will be rehabilitated as part of this project) into a new 0.8 mile pipeline along Cottonwood Creek, eventually discharging into Cottonwood Creek. The diverted flow will be conveyed via Cottonwood Creek to two existing diversion dams. Two new irrigation pipelines (16 miles total) will convey the water to irrigation users in Sanpete County.

The SDEIS analyzes three alternatives: the proposed 17,000 acre-feet Narrows Project Dam and Reservoir, the mid-sized reservoir with a capacity of 12,450 acre-feet and the small reservoir with capacity of 7,900 acre-feet. Numerous mitigation measures have also been incorporated into the environmental analysis including wetlands restoration, minimum low stream flows in Gooseberry and Cottonwood Creeks, stream bank stabilization and flushing flows for Gooseberry Creek, fish habitat improvements and phosphorus removal measures to reduce the loading to Scofield Reservoir.

Comments on SDEIS

The Narrows Project has been under development for many years. The SDEIS is the third edition of the DEIS that EPA has reviewed over the years. In addition, EPA has reviewed several preliminary documents. As a result of these prior opportunities for review and comment, many of our previous concerns have been addressed in this SDEIS.

EPA's main overarching concern about this project has been and continues to be the significance of the project's environmental impacts. Specifically, the project is expected to result in the following impacts:

- Inundation of 1 mile of Upper Gooseberry Creek and 4.3 miles of small tributaries to Gooseberry Creek, a direct loss of 84 acres of high value montane wetlands;
- Direct impacts to 89 acres of waters of the U. S.;
- Inundation / flow modification of prized trout streams, including loss of important habitat for cutthroat trout;
- Reduction by 74% of annual flows on Middle Gooseberry Creek below the proposed reservoir and loss of spring flushing flows which maintain riparian habitat;
- Increase by approximately 200% of average flows on Cottonwood Creek in July and August; and
- Numerous impacts to Scofield Reservoir
 - o Reduction in operating levels (10% reduction in reservoir surface area) and storage releases to Price River area; increased probability of fish kills due to low water levels.
 - o Increase in trophic state towards eutrophication and increased phosphorus concentrations.
- Increased salinity in the Colorado River due to water depletion (increase of 0.54 mg/L, measured at Imperial Dam)

EPA comments on the SDEIS focus on the following four concerns:

- 3-1 - The need for more certainty regarding implementation of proposed mitigation measures to address the project's environmental impacts. We recommend that the FEIS provide more information on whether the proposed mitigation measures are required or are voluntary; and what will happen if the Sanpete Water Conservancy District (SWCD) is unable to implement the measures or if the measures are not completely successful.
- 3-2 - The need for more information to assess the potential effectiveness of the proposed mitigation measures to reduce phosphorus loadings to Scofield Reservoir to decrease the chance of fish kills. Further, more details should be presented on adaptive management and potential additional mitigation measures that may be needed to achieve loading reductions.
- Coordination of the NEPA environmental review with the application for a Clean Water Act § 404 permit for the discharge of dredged or fill material into waters of the United States associated with the project. The SWCD has applied to the U.S. Army Corps of

Engineers (USACE) for the CWA § 404 permit needed to construct the Narrows Project. The public notice process for the CWA § 404 permit ends shortly after the comment period for the SDEIS. EPA will provide separate comments on the draft CWA § 404 permit.

- 3-3 – The lack of disclosure of the cost of the proposed project to SWCD water users and taxpayers in Sanpete County.

These issues are discussed in more detail in the enclosed detailed comments, along with several recommendations to improve the disclosure of impacts in the FEIS.

Through the years, numerous mitigation measures have been developed for the project to reduce the environmental impacts of the proposed dam, reservoir, pipelines and transmountain division of water. Although, EPA is pleased to see all of the mitigation measures incorporated into the environmental analysis, we continue to be concerned by the inundation of 89 acres (for the proposed action) of wetlands and the riparian areas of Gooseberry Creek and its tributaries by the reservoir. The proposed project will potentially exacerbate the eutrophication problem in Scofield Reservoir, and the effectiveness of proposed mitigation to reduce phosphorus loadings is unknown. We therefore, continue to rate the project as "Environmental Objections" (EO) because of these impacts. The changes and new information added to this SDEIS addressed much of the information requested in our comment letter on the DEIS dated May 7, 1998. However, as discussed above and in the detailed comments, there are several areas of the environmental analysis that warrant development of additional information. We therefore are rating the document as a "EO-2", (Environmental Objections"- Insufficient Information). A description of EPA's EIS rating system is also enclosed.

Thank you for considering our input. We would like to schedule a phone call with the Bureau of Reclamation to discuss the concerns raised in this letter. If you have any questions regarding our comments, please call me (303) 312-6004 or you may contact Dana Allen of my staff at (303) 312-6870.

Sincerely,



Larry Svoboda
Director, NEPA Program
Office of Ecosystems Protection and Remediation

cc: Peter Crookston, Reclamation
Tim Witman, USACE

**EPA's Detailed Comments on the
Narrows Project
Draft Supplemental Environmental Impact Statement (SDEIS)
June 2010**

Implementation of Mitigation Measures

- 3-4 1. Section 2.2.2 (page 2-8) lists 11 fish and wildlife mitigation measures. We anticipate that the measures associated with the wetlands mitigation project(s) will be incorporated into the requirements of the CWA § 404 permit from the Army Corps of Engineers. For the rest of these measures and other mitigation measures discussed throughout the EIS, it is unclear if the measures will be required. Appendix F provides more details on the mechanics of implementation and the intent for SWCD to enter into memorandums of agreement (MOA) with the Utah Department of Wildlife Resources (UDWR), Forest Service and other parties for implementation and maintenance of the wildlife mitigation measures. Many successful mitigation measures have been implemented through agreements or other voluntary arrangements; however, it is important to disclose the voluntary nature of the mitigation in the FEIS.

For example, in Appendix F, page F-2, #11, states that SWCD will fund and construct all 11 wildlife mitigation measures concurrently with the construction of other project facilities such as the dam. How will these conditions be implemented? For example, will the loan for the project be contingent on construction of these mitigation measures? Number 11 also states that the SWCD will be responsible for funding monitoring of the mitigation measures as outlined in the future MOA. The agency or organization charged with monitoring and maintaining the proposed mitigation will also be determined in the future MOA. Will the Bureau of Reclamation or any other governmental entity have the ability to require SWCD to fund, monitor or otherwise maintain the wildlife mitigation measures?

- 3-5 2. The FEIS should also describe how the flow mitigation measures were developed to offset reduced stream flows. For example, are the low flow requirements conditions of water right agreements or compacts? Are there specific chemical, physical or biological metrics that need to be met through the flow mitigation measures?

Will there be any commitments to monitor the effectiveness of minimum low flows, flushing flows, etc? What will happen if the low flows are not sufficient to meet the biological needs of the fishery? The FEIS should include summaries of the future mitigation plans including more details on how the watersheds will be monitored for successful implementation and what kinds of adaptive management provisions will be developed for long-term success.

- 3-6 3. Strict mitigation success criteria must be set for the streambank restoration and wetland mitigation. As part of the criteria, a long-term inspection program should be put into place to assure that the measures remain vital. The text of the SDEIS provides an example of why an inspection program is vital (pages S-16 and 3-50). The phosphorus loading reduction project funded under CWA § 319 appeared to be working, but now the

landowners are no longer excluding livestock from the stream. In order to assure long term viability of the mitigation and attendant water quality improvements, the mitigation must be maintained and inspected regularly.

Phosphorus Loadings and Mitigation

- 3-7 4. The existing 2000 total maximum daily load (TMDL) for Scofield Reservoir identifies total phosphorus and consequent low dissolved oxygen (DO) as pollutants of concern that have contributed to impairment of the cold water species beneficial use. The TMDL called for a reduction in the total phosphorus load (by 1,881 kg/yr); however, it is unclear whether this load reduction has been achieved. Further, the 2006 eutrophication study indicated a small projected increase in the phosphorus concentration in Scofield as a result of the proposed project (due to changes in loading and reduced flow from Fish Creek).

Water quality concerns regarding the phosphorus loading and potential changes (as a result of the proposed project) in Scofield Reservoir highlight the need for more current water quality data. With the exception of the eutrophication study (which included data for the period 1978-2005), it appears that the most of the data used in the SDEIS are almost 10 years old (or older). For example, is the streambank restoration work accomplished under the CWA § 319 and 314 programs for phosphorus reduction reflected in the water quality data?

- 3-8 There is clearly a need for more current data to characterize “current” conditions, to establish a baseline to measure mitigation success, and to update the evaluation in the 2000 TMDL. We recommend that a water quality monitoring program be developed and implemented as part of preparing the FEIS and for evaluating the success of proposed mitigation measures. The first sets of data should be used to verify existing water quality conditions in Scofield Reservoir and its tributaries in the FEIS. The long-term water quality monitoring program would be used to verify the success or failure of the proposed mitigation measures to reduce phosphorus loading and to update the TMDL for Scofield Reservoir.
- 3-9 5. The FEIS should more specifically define the phosphorus reduction goal for the proposed mitigation measures to reduce the phosphorus loading to Scofield reservoir. The monitoring plan discussed above (and potentially the proposed TMDL revision) should be used to identify a specific loading to be removed or a percent reduction. The current TMDL recommends a 28% reduction, however it is not clear how or where that reduction would be measured. The proposed monitoring program should define the specific measurements and monitoring locations that will be used to evaluate the effectiveness of (1) narrowing and improving fish habitat on Gooseberry Creek between the Narrows and Lower Gooseberry Reservoirs, and (2) fencing out livestock and stabilizing stream segments for 9.5 miles of stream segments tributary to Scofield reservoir (Table 3-13 on page 3-44 and page 3-60) to reduce external phosphorus loading. An adaptive management plan should be included in the monitoring program to define further mitigation should it be necessary to achieve loading reductions.

Costs of Narrows Project to Sanpete County Water User and Taxpayers

- 3-10 6. The construction cost of the Narrows Project is estimated at around \$40 million (Table 2-5, page 3-31). We recommend that the FEIS include information on the cost of the project to residents of Sanpete County. It appears that the SWCD is funded through property taxes and water use fees to irrigators and municipalities; however it is unclear how the proposed project will increase mill levies and user fees. We understand that the final financial arrangements are unknown, so we recommend that the section address a range of potential costs and likely funding sources. The cost estimate should also include operations and maintenance of the Narrows Project and associated mitigation measures.
- 3-11 7. We recommend expanding the information regarding the Small Reclamation Project Act (SRPA) in Section 2.1 of the SDEIS to explain the connection between requirements of the SRPA, future legislation authorizing the loan and the cost of the project to Sanpete County taxpayers and water users.

For example, on page 2-2, the second bullet in the first column states "Loan repayment must use 100% of the project's irrigation amortization capacity . . ." Will this condition affect the user rate structure or does this condition only apply in evaluating potential project alternatives?

Wetlands, Coordination with the 404 Permit

- 3-12 8. We recommend that the wetlands and mitigation sections in the FEIS be updated to reflect any changes or decisions that have been made as part of the CWA § 404 permit process.
- 3-13 9. We recommend that wetlands mitigation opportunities be identified along Fish Creek or Gooseberry Creek upstream of Scofield Reservoir. In addition to increasing the acres of wetlands mitigation, this type of mitigation will also help reduce discharges of phosphorus and sediment.
- 3-14 10. We recommend improving coordination between the NEPA and the CWA § 404 permit processes. Are there any off-channel reservoir sites that could be considered a "least environmentally damaging practicable alternative" (LEDPA) under the 404 permit regulations? Appendix B lists possible reservoir sites, but they all appear to be on channel, and potentially as environmentally damaging as the preferred alternative. We understand that selecting a reservoir site other than the Narrows site may require the renegotiation of the 1984 Compromise Agreement, however this renegotiation is not a basis for determining that an alternative is not practicable. We recommend that the FEIS include more information about the "practicability" issues of other potential reservoir sites. For example, how would the cost of pumping affect user fees? Would the project still be affordable for some users?
- 3-15

The SDEIS also infers that some of the funding sources are linked to the fish and wildlife mitigation measures. Would these funding sources still be available if the reservoir was located at one of the other sites?

- 3-16 11. We recommend that the BOR require more than the current mitigation ratio of slightly higher than 1:1. While a 1:1 ratio may be appropriate for wetland creation, for restoration mitigation we recommend a minimum ratio of 2:1.

Other Comments

- 3-17 12. We recommend that the FEIS disclose potential impacts from the conversion of Narrows Project water from irrigation to residential development. For example, will the new residential development impact any resources of concern?
- 3-18 13. As described in the SDEIS, water from the Narrows Project will be increasingly used for municipal water supply. Although there are no specific water use data for Sanpete County, it is anticipated that water consumption will be similar to the rest of Utah with a use of 270 to 281 gallons per capita per day (pages 1-7 & 1-9). Water use is very high in Utah due to outdoor irrigation; only about 70 gallons per capita per day will be used inside the home. We recommend that mitigation measures be developed to reduce residential consumption of water such as those described in "Utah's M&I Water Conservation Plan, Investing in the Future", July 2003. We also recommend that the mitigation plan incorporate some of the concepts of sustainable communities such as: preserving agricultural land, mixed-use developments or cluster developments reducing irrigated landscaping and preserving unirrigated open space. These types of development have an added bonus of reducing infrastructure costs.

4. U.S. FISH AND WILDLIFE SERVICE, AMY DEFREESE, UTAH FIELD SUPERVISOR



United States Department of the Interior

FISH AND WILDLIFE SERVICE

UTAH FIELD OFFICE
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UTAH 84119

June 2, 2010

In Reply Refer To
FWS/R6
ES/UT
10-FA-0007

To: Bureau of Reclamation, PRO-774, 302 East 1860 South, Provo, Utah 84606-7317 (Attn: Peter Crookston)

From: */s/* Utah Field Supervisor, Ecological Services, U.S. Fish and Wildlife Service, West Valley City, Utah

Subject: Narrows Project Supplemental Draft Environmental Impact Statement, Sanpete County, Utah DES-09-55

We received your letter, dated March 29, 2010, requesting review and comment to the supplemental draft environmental impact statement (SDEIS) for the Narrows Project. The Sanpete County Water Conservancy District (SWCD) proposes to dam and divert 5,400 acre-feet of water annually from the Gooseberry Creek drainage in the Colorado River Basin to northern Sanpete County in the Sevier River drainage basin. Project components include:

- Construction of the Narrows Dam and Reservoir on Gooseberry Creek;
- Rehabilitation of the Narrows Tunnel to convey water from the Narrows Reservoir to the Upper Cottonwood Creek Pipeline;
- Construction of the upper Cottonwood Creek Pipeline to carry project water from the Narrows Tunnel outlet to Cottonwood Creek;
- Construction of the Oak Creek Pipeline to convey water from Cottonwood Creek to the community of Fairview;
- Construction of the East Bench Pipeline to convey project water from Cottonwood Creek to project service areas south of Fairview;
- Relocation of SR-264;
- Modification of Forest Development Road Nos. 50124, 50150, and 50225;
- Modification of the snowmobile parking area along FDR No. 50150; and,
- Construction of recreation facilities at the Narrows Reservoir.

Pursuant to the National Environmental Policy Act (NEPA), the Migratory Bird Treaty Act (MBTA), the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), and the Fish and Wildlife Act of 1956, we provide the following comments for your consideration.

General Comments

The Narrows Project has a long history in Utah. We completed our Fish and Wildlife Coordination Act (FWCA) report for the Narrows Project in 1994, and we completed consultation under Section 7 of the Endangered Species Act for this project in 2000. There has been little communication or official correspondence between the Bureau of Reclamation (Reclamation) and our office since scoping was conducted for this SDEIS in 2003. While the majority of project features remain the same, we have new information about other resources that may be affected. We also developed updated best management practices for migratory birds, including raptors, to ensure compliance with the MBTA and Bald and Golden Eagle Protection Act (BGEPA). Below, we present these issues for your consideration.

Greater sage-grouse

- 4-1 On February 26, 2008, we published a notice to initiate a status review for the greater sage-grouse. On March 4, 2010, we found that the greater sage-grouse is warranted, but precluded from listing under the ESA (50 CFR Part 17). It is therefore a Candidate species for future action. The Narrows dam and reservoir is proposed within potential greater sage-grouse brood rearing habitat. We recommend that you require SWCD to conduct surveys for suitable habitat and develop appropriate avoidance and minimization measures for this species in coordination with our office and the Utah Division of Wildlife Resources (UDWR). Guidelines to minimize impacts to sage grouse, including seasonal and spatial buffers and habitat restoration recommendations, can be found in the UDWR's *Utah Greater Sage-grouse Management Plan, 2009*, Publication No. 09-17 and in *Guidelines to Manage Sage Grouse Populations and their Habitats* (Connely et al. 2000). In the FEIS, you should disclose whether habitat for greater sage-grouse exists within the project area and include measures to avoid, minimize and mitigate impacts to this species.

Updated Resource Status

According to the Utah Comprehensive Wildlife Conservation Strategy (UDWR 2005), mountain riparian habitat is very rare in Utah, comprising less than 1 percent of total land cover in the state. It is the most important habitat for overall vertebrate biodiversity and one of the most important to sensitive species in Utah. Because mountain riparian habitat is such a high priority habitat, UDWR identifies it as a "key" habitat for its value to wildlife. Only 10 of the 25 habitat types in Utah are key habitats. The UDWR documents specific threats to this habitat type including stream channelization from increased water velocity, lack of riparian vegetation and increased sedimentation. It also describes water development as a threat to mountain riparian habitat, specifically as it leads to a reduction in the amount of water available for riparian vegetation and wildlife, a lack of natural hydrological events, such as seasonal overbank flooding, and the impairment of riparian vegetation recruitment.

The Manti-La Sal National Forest described the unique attributes of Fish Creek and Gooseberry Creek in its determination of eligibility for these systems under the Wild & Scenic Rivers Act (U.S. Forest Service, Manti-La Sal National Forest 2003). Both creeks are regionally important for wildlife and support a diversity of neotropical migratory birds, including the largest breeding population of willow flycatchers known in the State. The corridors support extensive tracts of willow dominated habitat at least 100 meters wide and more than 500 meters long. The U.S. Forest Service rated Fish Creek and

Gooseberry Creek high on a regional scale of importance, noting the large amount of remote, undisturbed habitat, free of impoundments and human development.

- 4-2 In summary, mountain riparian habitat, specifically that encompassing Fish Creek and Gooseberry Creek, is critical to wildlife, rare in Utah and under increasing threat to its persistence. We recommend that you include this information in the FEIS and ensure that it is considered when evaluating direct, indirect and cumulative effects of the proposed project. You should also use this information to ensure that the applicant implements sufficient mitigation to minimize adverse impacts and compensate for the loss of these resources.

Migratory Birds, including Raptors

- 4-3 The environmental analysis should specifically assess potential impacts to migratory birds and establish measures to avoid and minimize impacts to birds. The MBTA prohibits the take of migratory birds, their parts, nests, eggs, and nestlings. Executive Order 13186, issued on January 11, 2001, affirmed the responsibilities of Federal agencies to comply with the MBTA. To ensure construction activities do not result in the “take” of an active nest or migratory bird protected under the MBTA, we recommend that SWCD:

- a. Conduct necessary vegetation clearing and surface disturbing activities outside critical breeding, nesting, and fledging seasons;
- b. Minimize temporary and long-term habitat loss; and,
- c. Mitigate for unavoidable habitat loss.

- 4-5 Your evaluation of short- and long-term impacts to migratory bird habitat should focus on species on the U.S. Fish and Wildlife Service 2008 List of Birds of Conservation Concern and species that are listed as Partners in Flight Priority Species. Species on these lists are considered high conservation priorities.

We recommend the use of the *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (Romin and Muck 2002) to provide consistent application of raptor protection measures and provide full compliance with environmental laws regarding raptor protection. Raptor surveys and mitigation measures are provided in the Guidelines to ensure that proposed projects will avoid adverse impacts to raptors. Locations of existing raptor nests should be identified prior to the initiation of project activities. Appropriate spatial buffer zones of inactivity should be established during crucial breeding and nesting periods relative to raptor nest sites or territories. Arrival at nesting sites can occur as early as December for certain raptor species. Nesting and fledging can continue through August.

- 4-6

Project Components

The SDEIS environmental analysis focuses primarily on the direct and indirect effects of dam and reservoir construction. The assessment of affected environment, predicted effects and appropriate mitigation measures should include an analysis of all project features. We recommend that you disclose and analyze environmental effects for the following project features where construction will result in habitat modification:

- 4-7 • Rehabilitation of the Narrows Tunnel to convey water from the Narrows Reservoir to the Upper Cottonwood Creek Pipeline;
- 4-8 • Construction of the upper Cottonwood Creek Pipeline to carry project water from the Narrows Tunnel outlet to Cottonwood Creek;
- Construction of the Oak Creek Pipeline to convey water from Cottonwood Creek to the community of Fairview;
- Construction of the East Bench Pipeline to convey project water from Cottonwood Creek to project service areas south of Fairview;
- Relocation of SR-264;
- Modification of Forest Development Road Nos. 50124, 50150, and 50225;
- Modification of the snowmobile parking area along FDR No. 50150; and,
- Construction of recreation facilities at the Narrows Reservoir.

Best Management Practices

- 4-9 To ensure that SWCD minimizes impacts to sensitive environmental resources during and after construction, we recommend that you identify best management practices in the FEIS. For example, where the Oak Creek and East Bench Pipelines will cross perennial streams, SWCD should use dry crossing methods, construct temporary equipment crossings that do not obstruct flow, and implement proper erosion control measures. The FEIS should also specifically identify measures to avoid and minimize impacts to greater sage-grouse, mountain riparian habitat, and migratory birds and their habitats. We recommend that Reclamation communicate with our office prior to finalizing the SDEIS to ensure that wildlife concerns are addressed.

Specific Comments

Page 1-25, Section 1.7 Environmental Issues Associated with the Proposed Action Alternative – Climate Change

- 4-10 We recommend that you strengthen the analysis for Issue No. 20, which describes how you will address the role of climate change. We believe that it is not only possible, but necessary and appropriate to conduct a meaningful climate change analysis for a small water development project. At a minimum, you can describe and discuss how climate change will generally affect water resources in the Colorado River basin based on a number of recent publications from sources such as the Rocky Mountain Climate Organization, the U.S. Forest Service Rocky Mountain Research Station, and the Southwest Climate Change Initiative for the Nature Conservancy. More specifically, the assessment should evaluate changes for average, wet and dry year stream flows under warming conditions. While there may be nuances and uncertainty surrounding the predictions, it is reasonable to select a range of scenarios that represent the potential changes in temperature and precipitation. Based on those representative scenarios, you should evaluate the implications to resources considered in your SDEIS.

Page 2-4, Section 2.2.2.1 Proposed Action Alternative, Water Supply and Use

Table 2-1 in Section 2.2.2 indicates that the balance between M&I and irrigation water will change as the demand for M&I use increases (M&I use will increase, and irrigation use will decrease). The

- 4-11 implication is that the demand for irrigation water will decrease or that SWCD will sacrifice irrigation water for M&I use. The purpose and need for the project, and the selection of alternatives, is therefore confusing to the reader. Specifically, we do not understand the ultimate use of project water and at what point in the future irrigation water users will relinquish water to the M&I sector. If SWCD anticipates a decline in irrigation water demand in the future, you should articulate how existing irrigation water rights could be used for M&I purposes as an alternative to the proposed project. We believe this may be a feasible alternative to the proposed action that could accomplish the purpose and need, and minimize environmental effects.

Page 3-1, Section 3.1.1 Threatened and Endangered Species, Affected Environment

- 4-12 Please note that the bald eagle (*Haliaeetus leucocephalus*) was removed from the federal list of endangered and threatened species. While bald eagles no longer are provided protection under the ESA, they are still protected under the Bald and Golden Eagle Protection Act (BGEPA) in addition to the Migratory Bird Treaty Act. The potential presence of nesting or wintering eagles in the project area should be evaluated to ensure compliance with the BGEPA and MBTA.
- 4-13 Greater sage-grouse is a Candidate species under the ESA. The Narrows dam and reservoir is proposed within potential greater sage-grouse brood rearing habitat. We recommend that you include a discussion of this species in Section 3.1.1; predicted project effects and conservation measures should be included in Section 3.1.3.

4-14 **Page 3-3, Section 3.1.1.1 Conservation Species, Affected Environment**

Columbia spotted frog (*Rana luteiventris*) is a state-sensitive species managed under an interagency Conservation Agreement, to which Reclamation is a signatory. We recommend that you coordinate with UDWR to determine if the data in the SDEIS reflect current conditions. Based on an evaluation of habitat within the project area, the FEIS should identify best management practices to minimize impacts to the species. Survey protocols, results, and proposals for minimization and compensatory mitigation measures should be coordinated with UDWR and our office.

4-15 **Page 3-6, Section 3.1.4 Conservation Species Impacts**

We disagree that the proposed project will not affect bluehead sucker (*Catostomus discobolus*) and flannelmouth sucker (*Catostomus latipinnis*). The SDEIS identifies that both species exist in the Price River below the Farnham Diversion Dam, approximately 3 miles southeast of Wellington, Utah in Carbon County. Based on the evaluation of current and predicted average streamflow in the Price River at Woodside (approximately 15 miles downstream of Wellington), it appears that peak flows in May and June will decrease by 18 and 28 percent post-project. The effect of reduced peak flow to bluehead sucker and flannel-mouth sucker should be fully assessed in the FEIS. You should coordinate your analysis with UDWR and our office.

4-16 **Page 3-8, Section 3.2.3.2 Wildlife, Predicted Effects, Proposed Action Alternative**

Table 3-1 provides acreage, Habitat Suitability Index (HSI) and Habitat Unit (HU) figures for five

- 4-17 species under the proposed action. We recommend that you describe how the proposed mitigation measures address losses in acreage, HSI and HU. It is also unclear if the conversion of upland habitat to wetland habitat was considered in your analysis of project impacts and under your proposals for wetland mitigation. We recommend that you include an evaluation of upland conversions in this section.

Page 3-8, Section 3.2.3.2 Wildlife, Predicted Effects, Proposed Action Alternative

- 4-18 The acquisition of conservation easements around the Narrows Reservoir is proposed to compensate for loss of mule deer and Brewer's sparrow habitat. We recommend that you identify who will hold those conservation easements and what activities will be precluded.

Page 3-9, Section 3.2.3.2 Wildlife, Predicted Effects, Proposed Action Alternative

We request to review the wildlife mitigation and monitoring program, referenced in this section prior to the publication of the FEIS. We can provide recommendations to ensure that it meets commitments reflected in the Fish and Wildlife Coordination Act Report.

- 4-19 **Page 3-11, Section 3.3.2 Water Resources, Methodology and Impact Indicators**

Please update the flow data in this section to include the years after 2002. The use of all available flow data will more accurately represent average, wet and dry years.

- 4-20 **Page 3-12, Section 3.3.3.2 Water Resources, Proposed Action Alternative**

The analysis of Lower Gooseberry Creek and Fish Creek is limited to reductions in flow during spring snowmelt. We recommend that you also identify and analyze the effect of reduced flow during the late summer and fall when baseflow is important for macro-invertebrates, fish mobility and the ability of fish to compete with non-native species. Based on Table 3-2, it appears that flows in Lower Gooseberry Creek, for example, will be reduced by 39 and 29 percent in September and October of an average year.

- 4-21 **Page 3-12, Section 3.3.3.2 Water Resources, Proposed Action Alternative**

You determined that the effect of reduced inflow to Lower Gooseberry Reservoir would be negligible. To ensure that the reader understands the rationale in the FEIS, please provide a more thorough explanation of project effects to the existing Lower Gooseberry Reservoir. We believe that reduced upstream flow will affect the size and habitat quality of the reservoir and associated wetlands.

- 4-22 **Page 3-14, Section 3.3.3.2 Water Resources, Predicted Effects, Proposed Action Alternative**

In Table 3.2 for the Price River below Scofield Dam, it appears that flow in an average year will be reduced by 100 percent in May, yet flows in a dry year will remain the same. If correct, this data is not intuitive. We recommend that you provide an explanation of this data in the text of the FEIS.

4-23 Page 3-16, Section 3.3.3.2 Water Resources, Predicted Effects, Proposed Action Alternative

The analysis of impacts to the Price River concluded that the project will primarily reduce volume and frequency of spills from Scofield Reservoir. To clarify the effect on downstream channel morphology and wildlife species, you should provide additional data and analysis to identify how flows may change in seasonal terms such as peak flow or base flow. Figures 3-2 and 3-3 are not sufficiently detailed to help the reader make that determination.

4-24 Page 3-23, Section 3.4.1 Fisheries, Affected Environment

The current effect of Fairview Lakes operation on the flows in Gooseberry Creek and Fish Creek is not clearly described in this section. To inform a better understanding of current fishery conditions, this section should be strengthened with additional information about the Fairview Lakes system. In addition, the rationale for a new operating agreement between SWCD and CGIC should be described, particularly how it may affect the fishery.

4-25 Page 3-25, Section 3.4.1.1 Fisheries, Affected Environment, Gooseberry Creek

It is unclear which species of cutthroat trout may exist in waters affected by the project. Please clarify throughout the FEIS.

4-26 Page 3-35, Section 3.4.1.7 Fisheries, Affected Environment, Scofield Reservoir

The Utah Legislature passed House Bill 38 in 2001 which provided funding for Governor Leavitt's Blue Ribbon Initiative in Utah. Blue Ribbon Fisheries are high quality aquatic systems that produce healthy fish populations for angling and aesthetic experience. They are to be managed principally by protecting their watersheds, maintaining and restoring habitat, and implementing appropriate angling regulations. The Blue Ribbon Advisory Council recommends that these waters, their ecosystems and the fishery be given protective legal status. Scofield Reservoir and Lower Fish Creek between the Highway 6 Bridge and Scofield Dam are Blue Ribbon Fisheries. This information should be disclosed under Affected Environment in this section, and the effects of the project to these Blue Ribbon Fisheries should be fully assessed.

4-27 Page, 3-35, Section 3.4.2 Fisheries, Methodology and Impact Indicators

It is unclear whether the pre-1994 data used to evaluate the standing crop of cutthroat trout and weighted usable area (WUA) reflects existing conditions. The data should be verified with the UDWR to ensure that the mitigation proposals adequately compensate for the resource that exists in 2010.

4-28 Page 3-36, Section 3.4.3.2 Fisheries, Predicted Effects, Proposed Action Alternative

Section 3.4 should evaluate project effects to the fishery in Lower Fish Creek below Scofield Reservoir. Flows in this segment will not be directly affected by the project, but will be indirectly affected by changes in the operation of Scofield Reservoir. Specifically, May and June flows will be reduced by 100 and 41 percent respectively under project conditions in an average year. We recommend that you

disclose and analyze the effect of these flow reductions to the fishery in this segment.

4-29 Page 3-36, Section 3.4.3.2 Fisheries, Predicted Effects, Proposed Action Alternative

Because there will be a reduction in flow in sections of the Price River as far downstream as Woodside, we recommend that you disclose and analyze the effects of the project to all fish species that may occur between Scofield Reservoir and the Green River including brown, rainbow and Yellowstone cutthroat trout.

4-30 Page 3-36, Section 3.4.3.2 Fisheries, Predicted Effects, Proposed Action Alternative

The description of the proposed alternative states that an increase in flow between 160 – 200 percent in Cottonwood Creek will not change stream channel stability because base flow will always be lower than peak flow. We do not agree with this conclusion and recommend that you provide additional information to support this assessment or that you further analyze and disclose how the stream channel will change.

4-31 Page 3-36, Section 3.4.3.2 Fisheries, Predicted Effects, Proposed Action Alternative

The SDEIS discloses that it will take 1-15 years to initially fill the Narrows Reservoir depending on hydrologic conditions in the basin. To ensure that impacts to downstream resources are fully mitigated, we recommend that SWCD maintain base flows during this period to reflect their commitment for post-construction flow.

4-32 Page 3-37, Section 3.4.3.2.2 Fisheries, Predicted Effects, Proposed Action, Lower Gooseberry Creek

This section concludes that the project will not affect cutthroat trout spawning habitat because the fish does not spawn in this segment. It appears that data are at least 16 years old. We recommend that you verify the absence of spawning cutthroat trout using updated data because monthly flow reductions in this segment range between 8 – 62 percent from April to August. In addition, we do not believe that this section of the SDEIS reflects applicant commitments in the FWCA Report where we documented that SWCD will mitigate for a decrease of 142 Habitat Units in Lower Gooseberry Creek.

4-33 Page 3-39, Section 3.4.2.2.4 Fisheries, Predicted Effects, Proposed Action, Cottonwood Creek

The SWCD will provide increased winter flows to mitigate for project impacts to the fishery in Cottonwood Creek. We recommend that you clarify this statement to reflect SWCD's commitment to augment winter flow by 2 cfs from the end of one irrigation season to the beginning of the next, as described in the FWCA Report. Other references to this mitigation commitment in the FEIS should be more specific as well to avoid confusion.

4-34 Page 3-62, Section 3.6.1 Wetland Resources, Affected Environment

It does not appear that all direct and indirect wetland impacts from project features have been considered

in the SDEIS. The SDEIS evaluates wetland impacts from only the proposed dam and reservoir. In the FEIS, we recommend that you identify wetland resources and project impacts that result from other project features, including the East Bench Pipeline and Oak Creek Pipeline, as well as the relocation of SR-264, modification of Forest Development Roads, the snowmobile parking area, and the construction of recreation facilities at the proposed Reservoir.

4-35 Page 3-62, Section 3.6.1 Wetland Resources, Affected Environment

In the SDEIS, you state that the wetlands within the project area are not unique to the area. As we described on page 2 of this letter, mountain riparian habitat is very rare in Utah, comprising less than 1 percent of total land cover in the state. The Manti-La Sal National Forest manages a significant portion of mountain riparian habitat in this area. They describe Fish Creek and Gooseberry Creek as regionally important for wildlife, noting that these creeks support a large amount of remote, undisturbed habitat, free of impoundments and human development. Please update the FEIS accordingly.

4-36 Page 3-65, Section 3.6.3.2 Wetland Resources, Predicted Effects, Proposed Action Alternative

The analysis of effects to riparian wetlands downstream of the proposed Narrows Reservoir concludes that there will be no adverse effect on riparian and wetland vegetation adjacent to Middle Gooseberry Creek because the stream will be manually narrowed to maintain the depth of flow. We are not familiar with this mitigation technique and cannot concur that it will produce the same type, quantity and quality of wetland resources that exist there today. In addition, we believe that additional ground disturbance downstream of the Narrows dam may introduce non-native species, produce erosion and sedimentation, and further degrade the system. Under Section 404 of the Clean Water Act, it is likely that the Corps of Engineers will require SWCD to monitor the site for many years to ensure that it returns to pre-construction conditions. We recommend that you evaluate the environmental cost of narrowing the stream by hand and determine whether the short-term benefit is worth that cost.

4-37 Page 3-65, Section 3.6.3.2 Wetland Resources, Predicted Effects, Proposed Action Alternative

This section should identify and evaluate project effects to wetland resources and riparian habitats along Lower Gooseberry Creek and Fish Creek above Scofield Reservoir. On page 3-5 in Section 3.1.3.2, you state that reduced flows to Fish Creek may affect the Southwestern willow flycatcher through reduction in availability of tall, thick stands of willows and reduction of standing water and saturated soils. We recommend that you expand on this information to ensure that project effects are adequately analyzed and mitigated.

We also recommend that you disclose all of the relevant conclusions in hydrologic and vegetation studies performed by Mussetter Engineering, Inc. and Mt. Nebo Scientific. Both entities make conclusions that indicate an expectation for change to the riparian wetland willow community riparian to Lower Goose Creek and Fish Creek above Scofield Reservoir. These changes should be evaluated and minimized to the extent possible. In his Riparian Vegetation Study, Patrick Collins provides a number of management options that could minimize the effect of the project to this resource. We recommend that you disclose these options in the FEIS and propose minimization measures based on these options.

4-38 Page 3-66, Section 3.6.4.2 Wetland Resources, Alternative Mitigation – Area West of Lower Gooseberry Reservoir

To create wetlands at the Cabin Hollow alternative mitigation site, SWCD proposes to use an existing open ditch to transport surface water across uplands to the site. We believe that the wetland hydrology goal should be to utilize self-sustaining, natural hydrologic processes that require little or no long-term maintenance. Water sources for wetland mitigation should originate on-site to ensure long-term persistence. SWCD also proposes to graze the site. Depending on how grazing is managed, it may impair the function of wetlands. We recommend that you eliminate this mitigation alternative unless you can demonstrate a local, self-sustaining water source and a grazing plan that will not impair wetland function.

4-39 Page 3-67, Section 3.6.4.4 Wetland Resources, Alternative Mitigation – Manti Meadows

To mitigate for wetlands inundated by the proposed Narrows Reservoir, SWCD proposes an alternative to mitigate at Manti Meadows in the San Pitch River drainage. We believe that compensatory wetland mitigation should occur within the same watershed where impacts occur. Therefore, we recommend that you eliminate this mitigation alternative from the suite under consideration.

4-40 Page 3-71, Section 3.7.3.2 Vegetation, Predicted Affects, Proposed Action Alternative

It is unclear if and how changes in flow regimes may affect riparian wetland communities and whether SWCD can operate the dam releases to minimize effects. Ultimately, it is important to understand how riparian wetland communities may change as a result of the project so that we can appropriately monitor and mitigate those effects. At this time, we cannot agree that riparian wetland vegetation will be minimally affected. We also cannot agree that it is appropriate to manually narrow the wetted channel in the Middle Gooseberry Creek segment to compensate for potential impacts to riparian wetland communities. We recommend that you reference the hydrologic and vegetation studies as an appendix to the FEIS and better describe your rationale and conclusions in the text of the document. We also recommend that you coordinate with UDWR and our office to ensure that impacts to riparian wetland habitat are fully analyzed and mitigated.

Page 3-112, Section 3.21.1 Cumulative Resource Issues

The Cumulative Effects analysis should be supplemented to better document and evaluate:

- 4-41**
 - The cumulative effect of the project to sensitive species in Utah including migratory birds, greater sage-grouse, Columbia spotted frog, bluehead sucker, and flannelmouth sucker;
- 4-42**
 - The cumulative effect of the project to mountain riparian systems within the Colorado River basin and San Pitch River Basin;
- 4-43**
 - The cumulative effect of the project to water quality in Scofield Reservoir and the Price River;
- 4-44**
 - Existing conditions and trends in the persistence and sustainability of natural resources, including sensitive species and habitat;
 - Reasonably foreseeable future actions; and,

4-45

- Thresholds for the assessment of resource degradation now and in the future.

Significant information is available that documents the status of sensitive species and their habitats in Utah. For example, in the Utah Comprehensive Wildlife Conservation Strategy (2005), the Utah Division of Natural Resources (DNR) described the ten most at risk habitat types found in Utah and ranked each by the degree of threat it faces due to various stressors. Conservation Agreements prepared for individual wildlife species such as Columbia spotted frog document trends in the persistence of species as well as the factors contributing to trends. Because greater sage-grouse was recently reviewed for listing under ESA, we conducted a thorough analysis of population trends and factors affecting those trends. You can find our decision for greater sage-grouse in the Federal Register at:

http://www.fws.gov/nevada/nv_species/documents/sage_grouse/032310_gsg_fed_reg.pdf.

For surface water and riparian resources, you should reference state water quality documents that assess the condition of Scofield Reservoir and the Price River. This information should be disclosed in the cumulative effects analysis.

These resources can also help identify thresholds for environmental resources. For example, a threshold for water quality can be extrapolated based on the current level of impairment identified in state water quality documents.

Summary Comments

In the seven years since Reclamation conducted scoping for this project, we have updated the status of various trust resources under our jurisdiction. The UDWR and USFWS also developed best management practices for some of these resources.

We request that you continue to coordinate with our office prior to finalization of the EIS to ensure that all wildlife resources are considered in your impact analysis and mitigation proposals. We also wish to reiterate our FWCA Report recommendation that we review detailed mitigation plans prior to finalization of the EIS.

We appreciate the opportunity to provide these comments. Should you have any questions or need any further information please contact Amy Defreese, Ecologist, at (801)975-3330 ext. 134.



cc: UDWR – Salt Lake City (Attn: Carmen Bailey)
UDWR – Price (Leroy Meade)
USEPA – Denver (Attn: Dana Allen)
USFS – Price (Attn: Pam Brown)
USFS – Price (Attn: Bob Davidson)

References

Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage sage grouse populations and their habitats. *Wildlife Society Bulletin* 28(4): 967-985.

Romin, L.A., and J.A. Muck. 2002. U.S. Fish and Wildlife Service. Utah field office guidelines for raptor protection from human and land use disturbances.

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U.S. Forest Service, Manti-La Sal National Forest. March, 2003. Final eligibility of wild & scenic rivers – Manti La Sal National Forest.

Utah Division of Wildlife Resources. 2005. Utah comprehensive wildlife conservation strategy. Publication Number 05-19.

Utah Governor's Office of Planning & Budget. Winter, 2007. Utah data guide, p.4.

5. U.S. FOREST SERVICE, MICHAEL DAVIS, ENVIRONMENTAL COORDINATOR, MANTI-LASAL NATIONAL FOREST

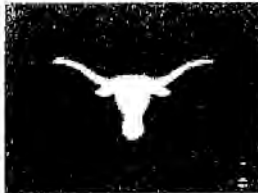
Crookston, Peter L

From: Michael Davis [michaeldavis@fs.fed.us]
Sent: Tuesday, June 01, 2010 5:34 PM
To: PRO NarrowsEIS
Subject: Comments on the Draft SEIS from the Manti - La Sal National Forest

A pdf file with the compiled comments from the Manti - La Sal is available for down load from our ftp site. If you are unable to retrieve our comments please contact me as soon as possible and I will forward you a CD with the pdf file.

<ftp://ftp2.fs.fed.us/incoming/mantilasal/NarrowsProject/>

Thank you



Michael Davis
Environmental Coordinator
Manti-La Sal National Forest
Email - michaeldavis@fs.fed.us
Office: 435.636.3550
Cell: 435.650.4820
"Hook 'em Horns"

EXECUTIVE SUMMARY

Narrows Project Supplemental Draft Environmental Impact Statement

S1.0 INTRODUCTION

The Narrows Project Supplemental Draft Environmental Impact Statement (SDEIS) updates information and analyses contained in the *Draft Environmental Impact Statement, Narrows Project* (DES-98-10) published in March 1998 (1998 DEIS). The SDEIS discloses the direct, indirect, and cumulative effects of the Proposed Action and alternative actions for water development for northern Sanpete County. This is an executive summary of the SDEIS.

S1.1 THE PROPOSED ACTION ALTERNATIVE

The Sanpete Water Conservancy District (SWCD) has applied to the Bureau of Reclamation (Reclamation) for a Small Reclamation Projects Act (SRPA) loan to help finance construction of a reservoir and related facilities (Proposed Action). SWCD also has requested authorization to use federally administered withdrawn lands as the site for dam construction. Most of the reservoir basin would be located on adjacent, privately owned land. If Reclamation approves the SRPA loan and land use and Congress appropriates the necessary funds, a supplemental water supply would be developed for presently irrigated lands and municipal and industrial (M&I) water users in northern Sanpete County. A dam and reservoir would be constructed on Gooseberry Creek, and water would be

diverted through an existing tunnel and a proposed pipeline to Cottonwood Creek; the existing tunnel would be rehabilitated. Pipelines would be constructed to deliver the water to existing water distribution systems. Recreation facilities would be developed, and a 2,500-acre-foot minimum pool for fish habitat would be provided. The resulting water storage and delivery system would be a non-Federal project owned and operated by SWCD.

Mitigation measures would be implemented to offset adverse impacts. Additional water conservation measures would be required independent of the Proposed Action. To be eligible to receive water from the Narrows Project, water users would be required to use, or agree to implement, conservation measures.

S1.2 LEAD AND COOPERATING AGENCIES

Reclamation is the lead agency in preparing the SDEIS. The two cooperating agencies are the U.S. Department of Agriculture Forest Service (USDA Forest Service) and the U.S. Army Corps of Engineers (USACE).

S1.3 HISTORY AND BACKGROUND OF THE NARROWS PROJECT

The Narrows Project, as defined in this document, is a non-Federal project that

Page: S-1

Author: michaeldavis Subject: Sticky Note Date: 5/28/2010 12:14:35 PM

John King, SWCD - Lead
Public Outreach Group Leader
Comments on the Narrows Project

Question: Many times mitigation is dependent on available funding. Is there any indication that the SWCD will be able to afford the land purchases they mentioned to implement the mitigation? It seems that costs of land will go up.

Statement: It seems that this document has bullet proofed many of the objections from the past. Again, I'm concerned that the costs have gone up for the various mitigation actions and that they may not be able to implement all of them. If that is the case, there would be objections in many areas.

Statement: There were evaluations of social effects to Sanpete County if this project were not to take place but not Carbon County (drinking water). I realize it has been legally determined that the water is Sanpete's, but shouldn't you still show effects.

The cost for building the recreation sites seems very low. They would need at least 10 toilets at \$20,000 a piece, some sort of tank for holding water or a water system that would cost approximately \$300,000, fencing around the campground to keep cows out and fencing around the reservoir shore to protect the "new wetlands" and prevent motorized travel to the shores (around \$300,000), trails leading to Skyline, and around the reservoir for motorized travel (probably in the neighborhood of several hundred thousand dollars) the cost for the facilities and interpretive information they would need to add the cost of gravel or cement padding for the facilities (tables, fire rings, pathways to facilities). It just seems that the cost of developing a facility this size would cost more than that estimated. The question is: Will this be part of the loan or does SWCD come up with the funds AND can they apply for additional funds? Question: If this campsite is turned into a fee area, would the forest service retain those fees for operation of the site - would SWCD retain the fees?

Author: michaeldavis Subject: Sticky Note Date: 5/28/2010 12:14:35 PM

Rod Player -

Here are a couple of concerns:

Much of the Fish and Wildlife data is more than 20 years old which leads me to wonder if it is still valid.

Proposed mitigations on National Forest System lands would require additional site specific NEPA analysis. For example improving riparian areas in Poncha, Upper Fish Creek would require site specific NEPA. SWCD needs to fund this analysis and implementation. I fear that because additional NEPA is required SWCD will opt to have mitigations at locations off of the National Forest. From the beginning the Forest has maintained that mitigations should be "in place and in kind". While some of the proposed mitigations meet this criterion many do not.

Question: Many times mitigation is dependent on available funding. Is there any indication that the SWCD will be able to afford the land purchases they mentioned to implement the mitigation. It seems that costs of land will go up.

Statement: It seems that this document has bullet proofed many of the objections from the past. Again, I'm concerned that the costs have gone up for the various mitigation actions and that they may not be able to implement all of them. If that is the case, there would be objections in many areas.

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Author: michaeldavis Subject: Sticky Note Date: 5/28/2010 12:14:35 PM

Rod Player - here are a couple of concerns: Much of the Fish and Wildlife data is more than 20 years old which leads me to wonder if it is still valid.

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Narrows Project
Supplemental Draft EIS

would not be built. ~~The existing Narrows Tunnel would be rehabilitated at some future date with other funding. The Cottonwood Creek Irrigation Company could not risk complete collapse and failure of the tunnel.~~ If the tunnel were to collapse, the Cottonwood Creek Irrigation Company would have to acquire some type of emergency funding and would be required to repair it. The demand on municipal water supplies in Fairview, Mount Pleasant, Spring City, and Moroni would continue to increase as supplies for outdoor municipal uses run short and as the population increased. Most likely, there would be a conversion of agricultural water to municipal use as the demand for municipal water increased with a growing population.

Water conservation measures would continue to be implemented. These conservation measures would reduce average shortages on irrigated farmland to about 29.5% or about 15,250 acre-feet per year. Implementing new conservation measures most likely would reduce irrigation return flows now supplying wetlands, aquatic habitat, and downstream users by an estimated 3,500 acre-feet per year.

There would be no wetlands, wildlife, or fisheries mitigation measures implemented under the No Action Alternative because there would be no impact to existing wetlands and wildlife habitat. Streamflows in Gooseberry and Fish Creeks would remain unaltered from their present state. Under this alternative, no flatwater fishery would be developed in the proposed reservoir basin.

S2.1.2 Proposed Action Alternative

If Reclamation approves the SRPA loan and Congress appropriates the necessary funds and lands, a supplemental water supply would be developed for municipal water users and agricultural use in north Sanpete County

under the Proposed Action. This additional water supply would satisfy the 1984 Compromise Agreement.

The Proposed Action would provide north Sanpete County an average annual supply of 4,281 acre-feet of supplemental irrigation water for 15,420 acres of presently irrigated farmland and 855 acre-feet of water for municipal use. The project would include construction of the 17,000 acre-foot Narrows Dam and Reservoir on Gooseberry Creek, pipelines to deliver the water to existing water distribution systems, rehabilitation of the existing 3,100 foot Narrows Tunnel, and relocation of 2.9 miles of State Road (SR) 264. The dam would be 120 feet high with a crest length of 550 feet and crest width of 30 feet.

The Narrows portion of the Gooseberry Project Plan would include a transmountain diversion of water from the Gooseberry Creek drainage of the Price-Green-Colorado River Basins to the San Pitch-Sevier River of the Great Basin. Geographically, the project facilities are located in close proximity to the drainage divide between the Price River system and the San Pitch River system. The general location is shown on the location map in the front of this document.

The Price River flows southeast to the Green River, a tributary of the Colorado River. The San Pitch River flows southwest to the Sevier River, which is completely consumed in the Bonneville Basin, a part of the arid Great Basin. The county line dividing Sanpete County and Carbon County is located more than 6 miles downstream from and about 3 miles east of the proposed Narrows damsite on Gooseberry Creek.

The proposed damsite, the transmountain Narrows Tunnel, and the project water distribution facilities are all located in Sanpete County. The source of the project water supply generally arises in Sanpete

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Author: kareynolds Subject: Replacement Text Date: 4/23/2010 9:20:59 AM
The existing Narrows Tunnel, managed by the Cottonwood Creek Irrigation Company, would be rehabilitated at some future date with other funding, because the Cottonwood Creek Irrigation Company could not risk complete collapse and failure of the tunnel.
Author: kareynolds Subject: Inserted Text Date: 4/23/2010 9:24:15 AM
Paragraph break

The existing Narrows Tunnel, managed by the Cottonwood Creek Irrigation Company, would be rehabilitated at some future date with other funding, because the Cottonwood Creek Irrigation Company could not risk complete collapse and failure of the tunnel.

Paragraph break

Author: Narrows Subject: Limited Text Date: 4/23/2009 9:42:31 AM
 Why is agency dead
 Author: Narrows Subject: Comment on Text Date: 4/23/2010 10:51:15 AM
 This document is 16 years old. Was it reviewed to see if all of the information was still accurate and pertinent?

reference to the SWWF. The Service concluded, however, that the project and associated depletion of water from the Colorado River system may affect the four endangered Colorado River fishes. While the opinion concluded that the proposed project may affect the four endangered fishes, it also stated that the project is not likely to jeopardize their continued existence, provided measures are implemented to offset project impacts (i.e., payment of a one-time financial contribution by SWCD).

S3.2 WILDLIFE

The wildlife species found in the general project area are common in the Great Basin Desert valleys and Rocky Mountain Range. There are about 364 species of terrestrial vertebrates that may inhabit the project area. Approximately 38 bird species and 33 mammal species use the habitats that would be disturbed by the proposed project.

Table 3-1 summarizes the impacts to wildlife habitat that would result from construction of the Proposed Action. In an assumed worst-case situation where the most habitat would be lost at one time, it would take the reservoir 2 years to fill to capacity. The 1994 *Fish and Wildlife Coordination Act Report* evaluates the impacts of the proposed Narrows Project on fish and wildlife resources and recommends appropriate mitigation (see appendix D).

A wildlife mitigation program has been designed to provide at least full mitigation for each impacted species. Because the wetland and upland wildlife mitigation measures are intended to provide full mitigation for project impacts, there would be no residual impacts.

S3.3 WATER RESOURCES

Gooseberry Creek and its three unnamed tributaries are located high in the Price River drainage. This tributary of Fish Creek flows directly into Scofield Reservoir (see the location map at the front of this document). Other tributaries to Scofield Reservoir include Mud Creek and Pondtown Creek. The Price River, which flows out of Scofield Reservoir, is a tributary of the Green River—a tributary of the Colorado River. These three rivers are all located in the Colorado River Basin.

Cottonwood Creek, located in the San Pitch River Basin, is located on the opposite side of the divide from Gooseberry Creek.

Cottonwood Creek and the San Pitch River are located in the Sevier River subbasin of the Great Basin.

Typical of Wasatch Mountain streams, flows in these creeks are greatest in the spring, when snowmelt runoff is peaking. Peak flows during May and June are estimated to range from 1.5 to over 100 cubic feet per second (cfs) in Upper Gooseberry Creek near the proposed damsite. The flow declines considerably in late summer and reaches a minimum in late fall or winter. Late-season flows are estimated to be 1.5 to 5 cfs in Upper Gooseberry Creek.

The average annual natural runoff volume of Upper Gooseberry Creek, near the proposed damsite, is 9,032 acre-feet. Of this amount, an average of 1,815 acre-feet presently is stored in Fairview Lakes and diverted transmountain to Cottonwood Creek through the Narrows Tunnel. The remaining water continues down Gooseberry Creek to Fish Creek. An average of 35,800 acre-feet per year enters Scofield Reservoir from Fish Creek. The total annual inflow to Scofield

This document is 16 years old. Was it reviewed to see if all of the information was still accurate and pertinent?

Narrowa Project
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Reservoir from all tributaries averages 57,500 acre-feet. The average total contents of Scofield Reservoir are about 42,360 acre-feet. All of these values are for the 1960–2002 hydrologic period.

The Price River below Scofield Reservoir, referred to as lower Fish Creek, has a wide range of flows that vary according to downstream water demands and hydrologic conditions. Releases consist of direct flow right bypasses and Scofield Reservoir storage deliveries for Scofield Project users. Spills occur when the reservoir is full and water flows over the spillway or when releases are made in excess of downstream demands. These total releases and spills have averaged 51,815 acre-feet for 1960–2002 but historically have varied from 13,762 to 154,475 acre-feet. Low flow conditions generally occur from November through March. There are no minimum flow requirements in the Price River, and it is not unusual for the flow below the dam to be completely shut off during winter months. Peak flows below the dam occur in wet years when the reservoir spills. While normal dam releases in June are about 150 cfs, the total releases with these spills have ranged up to more than 1,100 cfs. Since spills are in excess of downstream consumptive use requirements, they usually increase right flows throughout the lower Price River to the confluence with the Green River. From 1960 to 2002, the reservoir filled and spilled 37 times. This indicates that, on the average, the reservoir historically has spilled about every 2 to 3 years.

About 25 miles downstream from Scofield Reservoir near the small community of Heiser, the average annual flow of the Price River is about 81,000 acre-feet based on 1935–81 data. Within 5 miles of Heiser, numerous diversions from the river occur. The largest diversion is the head of the Carbon and Price-Wellington Canals, located

about 1.5 miles south of Spring Glen. Except during high water conditions when the flow of the river exceeds the capacity of the canals, the river essentially is dry below this diversion. In addition to irrigation water, winter flows also are diverted for stockwatering.

Irrigation return flows in this area discharge back to the river, and the flow of the river increases after passing through the Price-Wellington area. Near its confluence with the Green River, the average annual flow of the river is 94,929 acre-feet, based on 1960–92 records. The stream gauging station on the Price River at Woodside was discontinued in September 1992 and removed in July 2000.

As mentioned previously, Cottonwood Creek, located in the San Pitch River Basin, has typical flow conditions as compared with other streams in the area with one noted exception. After spring runoff flows subside in late May or early June, natural flows are supplemented with releases from Fairview Lakes. These releases are made through an existing transmountain tunnel. Flows from Fairview Lakes are used by the Cottonwood-Gooseberry Irrigation Company as a source of supplemental irrigation water in the Fairview area. These supplemental releases generally occur in July and August. The historic average annual flow volumes at the tunnel outlet and the mouth of Cottonwood Creek have been 2,055 and 8,600 acre-feet, respectively.

Operation of the Narrowa Project would affect streamflows in Gooseberry Creek, Fish Creek, Price River, Green River, Colorado River, Cottonwood Creek, and about 3 miles of the San Pitch River. Table 3-2 provides a comparison of average monthly streamflows under the four project alternatives evaluated. Monthly streamflow data were used to develop this table because reliable daily streamflow data were not available.

Author: [redacted]	Subject: Comments on Text	Date: 4/22/2010 8:59:40 AM
Editor: [redacted]	Subject: Comments on Text	Date: 4/22/2010 8:59:40 AM
Reviewer: [redacted]	Subject: Comments on Text	Date: 4/22/2010 8:59:40 AM
Reviewer: [redacted]	Subject: Comments on Text	Date: 4/22/2010 8:59:40 AM
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Reviewer: [redacted]	Subject: Comments on Text	Date: 4/22/2010 8:59:40 AM
Reviewer: [redacted]	Subject: Comments on Text	Date: 4/22/2010 8:59:40 AM
Reviewer: [redacted]	Subject: Comments on Text	Date: 4/22/2010 8:59:40 AM

What data is this statement based on? From what years?

Why does this information not include more recent data? This data is 8 years old.

So, what does the data from 2000 to 2010 say? Again, same comment as above, this information should include all recent data that's available.

What years of data is this statement summarizing?

Again, same comment about recent info. This data is 30 years old!

Impacts to Lower Gooseberry Creek and Fish Creek would occur primarily during the spring snowmelt period as water is stored in Narrows Reservoir for release later in the summer. Impacts to Lower Gooseberry Reservoir would consist of reduced inflow. However, the effect would be negligible because the reservoir is not operated as a storage reservoir. As a result, the outflow would be reduced in the same proportion as the inflow would be reduced. Impacts to Scofield Reservoir would be in the form of reduced inflows, resulting in a lowering of average reservoir storage. Impacts to regulated releases from Scofield Reservoir for Scofield Project use would occur only during multiple successive drought years, such as occurred in the early 1960s, early 1990s, and the early 2000s. Impacts to the Price, Green, and Colorado Rivers would result primarily in reduced spills from Scofield Reservoir.

The impacts of the Narrows Project on water resources are most pronounced near the reservoir. About 1 mile of Upper Gooseberry Creek and 4.3 miles of small streams in the proposed reservoir basin would be inundated by the reservoir. In addition, annual flows in the middle 3 miles of Gooseberry Creek between Narrows Reservoir and inflow into Lower Gooseberry Reservoir would be reduced by about 74%. Under the Proposed Action, a 1.0-cfs minimum flow would be made from Narrows Reservoir to Gooseberry Creek to provide a 1.5-cfs minimum flow at the USDA Forest Service campground ¼ mile downstream from the proposed dam site. If the 1.5-cfs flow at the campground is not met, up to an additional 0.25 cfs would be released from the reservoir to meet the required flow. Minimum streamflow releases from Narrows Reservoir would eliminate periodic dry stream channels in the Middle Gooseberry Creek segment. An average of 300 acre-feet per year also would be released for channel maintenance or other instream flow purposes.

Flows in Cottonwood Creek would increase during the irrigation season, with the import of project water through Narrows Tunnel. However, during the irrigation season, these flows would be less than peak flows that occur naturally during the spring snowmelt period. The Upper Cottonwood Creek Pipeline would convey these increased flows outside the stream channel between the tunnel outlet and the confluence with Left Hand Fork. About 300 feet below the Left Hand Fork confluence, the project flows would be discharged to the stream. At this point, the increase in average July and August flows from current conditions would be about 200%.

Depletions to the Price River drainage would average 5,597 acre-feet per year. This amount would consist of 5,227 acre-feet of transbasin diversions and 370 acre-feet of increased evaporation in the Price River Basin. When measured in Gooseberry Creek below Narrows Reservoir, the reduction in annual streamflow varies between 1,760 and 10,200 acre-feet, depending on the storage level of Narrows Reservoir and the magnitude of the streamflow into the reservoir. As shown in table 3-2, the greatest impact would occur during the spring snowmelt runoff period. Releases from Narrows Reservoir to Gooseberry Creek would remain at a minimum of 1.0 cfs and when the reservoir is spilling or when flushing releases are made, the flow would be greater.

As a result of constructing Narrows Reservoir, the operation of Scofield Reservoir would be altered within the normal historic range. Scofield Reservoir would operate at a lower level with implementing the Proposed Action, as shown in figure 3-1. Under project conditions, the average total contents of Scofield Reservoir would be reduced from about 42,360 acre-feet to about 31,500 acre-feet. Average reduction in storage releases to irrigators in the Price area

would be about 753 acre-feet per year. Total depletions to the Price River drainage would average 5,587 acre-feet per year. Both the volume and frequency of spills from the reservoir would be reduced. The average reservoir surface area would be reduced from 2,370 acres in the No Action Alternative to about 2,125 acres. This is about a 10% reduction or about 245 acres of the surface area of the No Action Alternative.

Since Scofield Reservoir would operate at a lower level, there is an increased potential for the reservoir to be drained to the bottom of its active storage. The frequency of this occurrence increases from 3 times in 43 years for the No Action Alternative to 12 times in 43 years with the Proposed Action.

During most years, controlled releases from Scofield Reservoir to meet Scofield Project demands would remain unaltered.

In summary, the residual impacts (after mitigation) of the Proposed Action include the inundation of 1.0 mile of Gooseberry Creek and 4.3 miles of unnamed tributaries. Flows in Gooseberry Creek below Narrows Reservoir, Fish Creek, and the Price River would be reduced as shown in table 3-2. The flow in Cottonwood Creek below the confluence with Left Hand Fork would be increased during the nonrunoff portions of the irrigation season. Scofield Reservoir would operate at a lower level in most years; and reductions in storage releases to irrigators in the Price area would occur only after several successive years of drought but would average about 753 acre-feet per year. However, on the average, these reductions would be about 1,500 acre-feet less than those that would have occurred if Scofield Reservoir had not been enlarged to accommodate the Gooseberry Project (Narrows Project).

S3.4 FISHERIES

Most of the Narrows Project alternatives have the potential to affect aquatic resources in Gooseberry Creek, Fish Creek, three unnamed headwater tributaries to Gooseberry Creek, Cottonwood Creek, Lower Gooseberry Reservoir, Fairview Lakes, and Scofield Reservoir (see the location map). Cottonwood Creek is in the San Pitch River Basin, whereas all of the others are in the Price River drainage. Cottonwood Creek flows into the San Pitch River downstream from Fairview, Utah; but the San Pitch River, within the project area, does not support a sport fishery because of low summer flows.

Flows in Gooseberry Creek, its unnamed tributaries, and Cottonwood Creek presently are affected by the operation of Fairview Lakes, which store water during spring runoff. Water from the lakes is delivered during the irrigation season via one of the unnamed tributary streams and a canal to the Narrows Tunnel that discharges into Cottonwood Creek. The released water then is diverted for irrigation in Sanpete County.

Lower Gooseberry Creek and Fish Creek downstream from the confluence with Gooseberry Creek also are affected by the operation and limited regulation offered by Fairview Lakes. If the project is approved, an operating agreement would have to be negotiated between SWCD and Cottonwood-Gooseberry Irrigation Company (CGIC) to regulate seasonal releases from Fairview Lakes in connection with downstream discharges from the Narrows Reservoir.

Aquatic resources vary considerably between the different reservoirs and stream segments that could be affected by the Narrows Project. Fish habitat study reaches are shown in figures 3-4.

5-9

Wouldn't this also include reductions to the municipal water supply for Helper and Price?

5-10

Tracker: OpenTable Subject: Executive Summary Date: 4/22/2019 10:44:55 AM
 This would be a cumulative negative impact to stream aquatic resources.

The State Engineer stipulates that a minimum of 1.0 cfs is to be released downstream from the proposed Narrows Dam; and, if the flow is not 1.5 cfs at the Gooseberry campground, SWCD is required to release 1.25 cfs from the dam. It also is stipulated that the dam be constructed with a multiple-level outlet to regulate water temperature for the trout located downstream from the dam.

The proposed project would cause flow reductions in Gooseberry and Fish Creeks as shown in table 3-2. Flows in Middle Gooseberry Creek immediately downstream from the proposed dam would be expected to be reduced on average by 74%, whereas flows downstream from Lower Gooseberry Reservoir would be expected to be reduced by 43%. In Fish Creek, flows would be expected to be reduced approximately 13%.

The 5,400-acre-foot diversion of project water into Cottonwood Creek would cause about a 200% increase in the base summer flow in Upper Cottonwood Creek (table 3-2). As shown, the base summer flows in Lower Cottonwood Creek would be increased by about 160%. However, the increased flows would occur only during the July-to-October period and not during the peak runoff or the low flow months (November–April). Additionally, these base summer flows would be less than the peak flows that currently shape the stream channel. Therefore, the stream channel itself would remain stable.

Providing a 2.0-cfs winter release through the Narrows Tunnel is expected to greatly increase the weighted usable area (WUA) for all fish species in Cottonwood Creek. This increased flow particularly would benefit the upper reaches of the creek and would be expected to facilitate the overwintering of fish.

The length of time required initially to fill Narrows Reservoir would, of course, depend on hydrologic conditions in the basin. During

wet years, the reservoir could fill during a single spring runoff. For more normal conditions, if no diversions were made to Cottonwood Creek until the reservoir filled, it likely would fill in 2 years—almost certainly within 3 years. Under dry conditions, if diversions to Cottonwood Creek did occur during the filling period, it could take 5 to 15 years to fill Narrows Reservoir. Due to these hydrologic uncertainties, there is no firm filling schedule for the reservoir.

At maximum storage, the proposed Narrows Reservoir would inundate about 1 mile of Upper Gooseberry Creek and approximately 4.3 miles of the three headwater tributaries with permanent flows that join to form Gooseberry Creek.

Based on the stream habitat that would be inundated by the proposed reservoir, it is expected that 1.3 and 2.1 acres of stream-based aquatic habitat would be lost in Gooseberry Creek and the tributaries, respectively. Using the standing crop estimator, approximately 230 pounds of stream-based cutthroat trout would be lost, of which 22% would occur in Gooseberry Creek and 78% would occur in the tributary streams, although the trout biomass likely would be converted into a flat-water equivalent.

The Utah Division of Wildlife Resources (UDWR) does not recognize the creation of a reservoir fishery as adequate compensation for the loss of stream aquatic resources. Creating an additional reservoir fishery would compensate for adverse effects that may occur on Lower Gooseberry Reservoir and Scofield Reservoir. This would represent a cumulative beneficial project impact to reservoir fishery.

In summary, the Proposed Action would result in loss of cutthroat trout stream habitat attributable to reservoir inundation and flow alteration. The project also would result in more reservoir habitat for cutthroat trout. The

, but would be a cumulatively negative impact to stream aquatic resources.

concern about nutrient loading of Lower Gooseberry Reservoir and its effect upon DO levels in the reservoir. The oxygen depletion of the reservoir during the winter is believed to result from low winter inflows combined with decomposition of organic material resulting from the extensive macrophyte growth during the summer, as mentioned above.

S3.5.3 Scofield Reservoir

Recent studies indicate that Scofield Reservoir is mesotrophic in its present state. Data collected in 1990 and 1991 depict the reservoir as hypereutrophic, while data in 1992 after treatment and eradication of trash fish indicate a moderately eutrophic system. Data collected between 1995 and 2003 indicate a mesotrophic system (State of Utah, Department of Environmental Quality, Division of Water Quality, 2006). Eutrophication is a term applied to the organic degradation of a body of water and is associated with elevated levels of carbon, nitrogen, phosphorus, and other inorganic nutrients. The degree of eutrophication generally is exhibited by the growth and appearance of large colonies of algae in highly eutrophic waters, coupled with a green cast or color to the water. This generally occurs during the warm summer months.

Trophic State Index (TSI) is a general measure of the level of eutrophication in a reservoir. The Carlson TSI is determined using measures of secchi depth, chlorophyll, and phosphorus (Carlson, 1977). TSI values greater than 50 are indicative of a eutrophic system, and TSI values between 40-50 are indicative of a mesotrophic system. The average TSI value for Scofield Reservoir of 53.3 (for 1979-80) was reported by UDEQ in a report entitled *Scofield Reservoir Restoration Through Phosphorus Control*. For the period 1981-2007 the average TSI value was computed to be 47.1 (see figure 3-5).

The water quality of Scofield Reservoir is considered fair. Average constituent levels of the reservoir and its tributaries are listed in table 3-15. The average detention time is about 1.4 years. The maximum depth is 66 feet, and the mean depth is 26 feet. The shallow areas with water less than about 15 feet deep normally are covered with extensive macrophyte growth, although these are normally submergent. This adds to the oxygen deficit problem during parts of the year.

The principal pollutants are nutrients, sediments, and trace elements associated with erosion and mining and nonpoint sources such as construction of roads and mine portals, domestic waste disposal, animal grazing, and natural deposits of rock containing phosphates.

Several independent water quality studies of Scofield Reservoir (listed in the "Bibliography") show that phosphorus is the limiting nutrient. This means that all available phosphorus is used up in producing algae or other cell bodies, while there remains a surplus of carbon, nitrogen, and other nutrients. Thus, without the input of additional phosphorus into the system, no additional algal cells can form. About 33% of the phosphorus loading to Scofield Reservoir enters from Fish Creek, according to a 1983 Utah Department of Health study. Indications are that the source of most of the phosphorus consists of naturally occurring, phosphorus-laden soils in the upper watershed.

Fish kills in Scofield Reservoir have been reported during 14 of the 46 years from 1960-2005. These fish kills are minor and generally occur in late summer. They are an indicator of water quality problems with low DO levels being the most probable cause of the fish dying.

Isn't there any more recent data? This is almost 30 years old.

In 1984, UDEQ received a Clean Lakes Phase II grant pursuant to the Clean Water Act, Section 314, to rehabilitate Scofield Reservoir through a program to reduce total phosphorus loading to the reservoir. UDEQ had concluded that

"the most pragmatic and effective means to control the further eutrophication of Scofield Reservoir, or possibly to effect a moderate reversal of the eutrophication process, appears to be a reduction of the phosphorus load to the lake."

The restoration project consisted of installing stream revegetations and checkdams, revegetation of degraded streambanks, replacing water diversion systems for irrigation, providing a fish cleaning station, and developing a public awareness and education program to alert people of the pollution problem and solicit their support in reducing phosphorus loads to the reservoir. Streambank rehabilitation activities occurred on segments of Mud Creek and Fish Creek. The overall streambank work was designed to reduce stream sediments and erosion through streambank stabilization and revegetation of degraded soils in highly eroded areas.

A postproject monitoring program indicated that the project was initially effective. Streambank stabilization and revegetation occurred in the project area. Visual observations indicated that sediments were being removed from the streams. Although there is insufficient empirical data to conclusively support the effects of the implementation effort, the data indicated a decline in total phosphorus concentrations. However, many aspects of the project were voluntary on the part of the landowners. Since the project completion, many of the project measures have not been maintained. In particular, one aspect included fencing Mud Creek to prevent cattle from entering the stream, damaging the streambanks, and defecating in the stream. This was initially

effective, but the landowners currently keep the gates open, thus allowing cattle access to the stream.

Utah Division of Water Quality officials believe that the presence of "rough fish," such as carp and suckers, also contribute to the water quality problems in Scofield Reservoir. These fish feed on the reservoir bottom and stir up sediments. This agitation could increase the internal phosphorus loading of the reservoir. In critical water quality years, removal of these fish species might improve the water quality of the reservoir. For example, 1992 was a critical year for Scofield Reservoir operation. Reservoir levels were extremely low, and fish kills were anticipated. However, a fish eradication program was conducted the previous year that killed the undesirable fish. No fish kills were observed in 1992 even though water levels were critically low.

In 2000, the Utah Department of Water Quality submitted, and the U.S. Environmental Protection Agency (EPA) approved, a phosphorus total maximum daily load (TMDL) for Scofield Reservoir (State of Utah, Department of Environmental Quality, Division of Water Quality, 2000). The TMDL identifies total phosphorus and DO as pollutants of concern, which have attributed to the impairment Scofield Reservoir's Class 3A beneficial use for cold water species of game fish. The TMDL focuses on total phosphorus as the pollutant of concern because low DO is linked to high phosphorus levels. The loading assessment quantified the current total phosphorus load to the reservoir at 6,723 kilograms per year (kg/year). The TMDL identified three endpoints to improve reservoir water quality:

1. Shift in phytoplankton dominance from blue-green algae

Wouldn't this also include reductions to the municipal water supply for Helper and Price?

2. DO level of no less than 4.0 mg/L in 50% of water column
3. TSI values between 40 and 50

These endpoints are to be met by reducing the total phosphorus load to the reservoir by 1,881 kg/yr.

S3.5.4 Colorado River Salinity

At its headwaters in the mountains of north-central Colorado, the Colorado River has a salinity concentration of 50 mg/L. As a tributary to the Colorado River, the Price River contributes to the salinity load of the river system. The concentration progressively increases downstream as a result of water diversions and salt contributions from a variety of sources. Near Yuma, Arizona, the Imperial Dam, built in the 1930s, diverts Colorado River water into three different canals and holds the river water until it can be directed into a desilting plant. Annual salinity concentrations at Imperial Dam are expected to decrease from the 1987 measured average level of 850 mg/L to an estimated average of 779 mg/L by the year 2025, assuming continuing successful implementation of the salinity control program.

Water in the Price River suffers major quality deterioration as the stream crosses the irrigated sectors of the river basin. The deterioration results from both geologic and human factors. From about November–April, little water is released from Scofield Reservoir, and the upper portion of the basin contributes little water to the river. During this period, irrigation return flow is not significantly diluted by better quality water. Although major releases are made from Scofield Reservoir from May–October, a large part of the flow is diverted during this period into major irrigation canals in the upstream part of the basin. Significant

amounts of irrigation return flow of poor quality enter the river downstream from points where most of the flow is diverted from the river.

Accordingly, during most of the year, the flow in Price River in the central basin is composed of relatively small amounts of good quality water from the upper basin and variable amounts of irrigation return flow and natural flow from tributaries that drain the marine shales. This increases the TDS level from about 300 mg/L to about 2,000 mg/L as measured above and below the areas of principal use. Although some deterioration in the chemical quality of the Price River probably would occur in the absence of stream regulation and irrigated agriculture in the central basin, deterioration is intensified with the presence of both.

S3.5.5 Cottonwood Creek and San Pitch River

As indicated above, Cottonwood Creek has good water quality and generally meets all of its present beneficial use classifications. The San Pitch River is also generally good quality water above Fairview. However, the San Pitch River degrades downstream since most of the water is diverted; and near Moroni, the river is composed mostly of return flows from irrigation and municipal waste water. However, the TDS levels are generally below 500 mg/L in this reach, and the water is very suitable for irrigation. Most of the water is diverted from the stream about 2.5 miles west of Mt. Pleasant. Table 3-16 summarizes the water quality in this reach of the San Pitch River. Levels of trace elements (metals) in both streams are normally below detection levels.

Table 3-17 summarizes the water quality in the lower section of the San Pitch River and in Sixmile Creek near the mouth. Water in Sixmile Creek is very good quality with

, but would be a cumulatively negative impact to stream aquatic resources.

TDS levels averaging about 350 mg/L. Waters in the lower San Pitch River consist of mostly return flows and are further degraded below the proposed project area. The average TDS in the San Pitch River above Gunnison Reservoir is about 1,050 mg/L and is about 1,635 mg/L below Gunnison Reservoir. The recommended TDS criteria for irrigation water are 1,200 mg/L. Levels of trace elements (metals) in both streams are normally below detection levels.

S3.5.6 Predicted Water Quality Effects

Under the Proposed Action, there could be some water quality impacts during construction; however, measures would be implemented to minimize those impacts. The contractor would be required to comply with applicable Federal and State laws, orders, and regulations concerning the control and abatement of water pollution. The contractor's construction activities would be performed by methods that would prevent entrainment or accidental spillage of solid matter, contaminants, debris, and other objectionable pollutants and wastes into streams, lakes, and underground water sources. Sanitary wastes would be disposed of by approved methods.

The construction contract would require the contractor to develop and implement a Water Quality Management Plan (Erosion Control Plan) and a Storm Water Pollution Prevention Plan. The contractor also would be required to implement the best management practices (BMPs) specified in the *Nonpoint Source Water Pollution Control Plan for Hydrologic Modifications in Utah*, which is an addendum to the *Utah Nonpoint Source Management Plan*. Specifically, applicable sections, such as Hydromod Planning Process, Measures to Control Construction Activities, and Impoundments, would be followed and implemented. Under a worst case scenario, if sediment control facilities temporarily failed

and any stream sections were significantly impaired, remediation/restoration work would be implemented to the satisfaction of the appropriate government agencies.

Any construction work occurring in streams or associated wetlands would be conducted in compliance with USACE's 404 Permit and/or Utah State Engineer's stream alteration permit, which would include the State 401 certification process.

S3.5.6.1 Lower Gooseberry Reservoir

The average annual inflow (based on 1978–2005 data) to Lower Gooseberry Reservoir would be reduced by 40%. The average annual phosphorus load levels below the proposed Narrows Reservoir would be reduced by about 113 kg/yr, resulting from phosphorus export and uptake in the Narrows Reservoir. This would result in a 45% reduction in the average nutrient load in the total inflowing water. The average in-lake phosphorus concentration would be reduced from 0.0131 to 0.0119 mg/L, and the probability of eutrophication would be reduced from 24.3 to 19.7%. Because the DO levels are greatest near the stream inlet, a decrease in inflow is expected to decrease the overall DO level of the reservoir in winter during flood-over conditions, thus increasing the potential for fish kills, unless mitigation were implemented. Mitigation is planned for this, which would include additional storage in the Narrows Reservoir and minimum streamflow releases as discussed in section 3.4, "Fisheries."

S3.5.6.2 Scofield Reservoir

The results of the eutrophication study (Fremont-Noble Engineering) with the Narrows Dam and Reservoir show that, under the Proposed Action, there would be a reduction of average annual phosphorus

Why isn't the data from the last 5 years considered? Surely this data is available.

mass loading into Scofield Reservoir (105 kg/yr) and a slight increase of 10.8% in phosphorus in-lake concentration from 0.0279 to 0.0309 mg/L. The reduction in phosphorus loading results from basin export and uptake in Narrows and Lower Gooseberry Reservoirs. The overall probability of eutrophication for the period studied shows an increase from 68.3 to 73.5% (about a 5.2% increase). The probability of eutrophication was increased slightly every year except 1984. Figure 3-6 shows a comparison of the future without project and project phosphorus level in Scofield Reservoir based on external loading.

As a result of the Proposed Action, the inflow to Scofield Reservoir would be reduced by an annual average of 5,726 acre-feet (about 9.2%). This means that Scofield Reservoir generally would operate at a lower elevation and smaller surface area. Its average flushing rate would decrease slightly, from 1.15 to 1.14. However, the flushing rate would drop below 0.85 in 10 of the 46 years studied, instead of 8 of 46 years as would occur in the future without the project (see Figure 3-7). The critical low flushing rate would occur 22% of the time with the project as compared to 17% of the time without the project. During these periods of critical flushing rate, the probability of fish kills could be somewhat higher.

Taking into account the slight increase in in-lake phosphorus concentration and essentially no change in flushing rate, professional judgment would indicate that the overall water quality in Scofield Reservoir would be degraded only slightly by the Proposed Action without mitigation. Mitigation measures to offset this potential impact are described in section 3.5.3.2.6.

S3.5.6.3 Proposed Narrows Reservoir

The overall water quality in the proposed Narrows Reservoir is projected to be good. The probability of eutrophication would be about 12% (compared to 73.5% for Scofield Reservoir and 19.7% for Lower Gooseberry Reservoir). The proposed Narrows Reservoir is not expected to strongly stratify due to its shape, water budget, and location. The active pool (the storage above the inactive pool) would only be 45 feet in depth, with an average drawdown of 9 feet during the recreation season and 12 feet annually. The proposed plan is to have three outlets spaced 20 feet apart, at elevations 8,640, 8,660, and 8,680 feet, respectively. The normal water surface elevation is 8,690 feet. If a mild thermocline develops, it normally would start at about 16 to 20 feet and, over the summer season, migrate down to a depth of 32 to 45 feet depending upon the release pattern, level of water withdrawn, and type of year. Once the reservoir was constructed, filled, and operated for several years, an operating plan would be developed jointly with the State and Federal agencies to enhance habitat for fish and wildlife downstream. As a result of the small releases and stream channel conditions downstream, the water would reach ambient conditions within the first one-fourth to one-half mile downstream, relative to temperature and dissolved oxygen, even if conditions were less than optimum in waters released.

Water quality at the proposed Narrows Reservoir would be protected by establishing protection zones adjacent to the reservoir. Within these protection zones, land use practices would be restricted to eliminate activities that would impact reservoir water quality.

S3.5.6.4 Price and Colorado Rivers

The Narrows Project would have virtually no effect on the lower Price River water quality during the November–April high TDS period,

5-15

Author: kareynolds Subject: Comment on Text Date: 4/23/2010 2:44:43 PM

What years were studied?

5-16

Author: kareynolds Subject: Comment on Text Date: 4/23/2010 2:50:32 PM

How much is a slight increase?

5-17

Author: kareynolds Subject: Comment on Text Date: 4/23/2010 2:51:28 PM

The paragraph above talks about the changes in flushing rate and the implications, which seems to imply that there is a change due to the flushing rate.

5-18

Author: kareynolds Subject: Comment on Text Date: 4/23/2010 3:06:00 PM

Where are these protection zones described? What activities are allowed or restricted? Are these things analyzed in this document?

5-19

Author: kareynolds Subject: Comment on Text Date: 4/23/2010 2:51:58 PM

who's judgement?

5-20

Author: kareynolds Subject: Comment on Text Date: 4/23/2010 2:54:16 PM

I thought phosphorus was the limiting factor. That coupled with the 5% increase in critical low flushing rates certainly seems like it's more than a slight degradation.

What years were studied?

How much is a slight increase?

The paragraph above talks about the changes in flushing rate and the implications, which seems to imply that there is a change due to the flushing rate.

Where are these protection zones described?
What activities are allowed or restricted?
Are these things analyzed in this document?

who's judgement?

I thought phosphorus was the limiting factor. That coupled with the 5% increase in critical low flushing rates certainly seems like it's more than a slight degradation.

because the effects of depletions caused by the proposed Narrows Project would consist primarily of reduced spills from Seafield Reservoir during the snowmelt runoff period.

Implementing the Proposed Action would have a slight detrimental impact on Colorado River salinity. Construction and operation of the proposed Narrows Dam and Reservoir would remove about 1,520 tons of salt per year from the Colorado River system.

However, the project also would cause a depletion of about 5,597 acre-feet of water to the Colorado River system. An increased salinity concentration of about 0.54 mg/L would occur at Imperial Dam.

33.5.6.5 Cottonwood Creek and San Pitch River

The overall water quality of Upper Goosberry Creek is better than that of Cottonwood Creek (see table 3-14), so the additional water imported to Cottonwood Creek would improve slightly its quality. The exception may include temporary periods of slightly higher turbidity from the increased summer flows. Flows in Cottonwood Creek (below Left Hand Fork) would increase in July and August due to the increased irrigation releases, but these flows would be significantly less than peak flows that naturally occur during the spring snowmelt period. As discussed in the EIS and the FEIS in section 3.14, "Slope and Channel Stability," the Narrows Tunnel operating gate would be automated to regulate releases through the tunnel so that even during floods, the channel-forming discharge would not increase above historical conditions. Consequently, even though the Proposed Action would increase the summer base flow, it would have no effect on Cottonwood Creek channel stability because the increase would be well below the 50-year channel-forming discharge.

Except during spring runoff and winter conditions, flows in the San Pitch River below the project area consist mostly of return flows from irrigation and municipal waste water. The project would increase the volume of return flows from both of these sources; but since no new lands receive project water, the quality of return flows would be similar to existing flows or possibly be of slightly better quality because lands would receive a more complete water supply. Consequently, the concentration of dissolved salts should be more diluted in the increased volume of return flows. The potential decrease in irrigation return flows resulting from increasing agricultural efficiencies would be offset by the increase of return flow from the additional project irrigation water. Even if the overall volume of return flow were reduced significantly due to increased efficiencies, the quality of the return flows likely would not change significantly, nor would the existing quality of the San Pitch River change significantly since it is already composed mostly of return flows.

As shown in table 3-17, the salinity of lower San Pitch River is about 1,150 to 1,635 mg/L TDS compared to about 350 mg/L in Sixmile Creek. If the Manti Meadows Alternative wetland mitigation area is selected, and water is delivered from Sixmile Creek and replaced with project return flows delivered to Goodison Reservoir in exchange, there could be some impact to effected irrigated lands.

Diversions to the wetland area would have to be timed to not significantly affect the exchanged irrigation water supply, or replacement waters would need to be bleached with higher quality Sixmile water to avoid impact to crops using the water. Under worst case conditions, an agreement with the Manti Irrigation Company might be needed, and minimal compensation might be required.

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Author: [unclear]	Subject: Generalist as Task	Date: 4/23/2010 2:14:52 PM

Further explain these sentences. Explain further what this means. Is this part of the proposed action or not? Are both of these scenarios analyzed in the document? This seems rather speculative.

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-5-23

~~The proposed Newmans Reservoir would inundate 89 acres of wetlands.~~

Hydrologic and hydraulic studies were conducted to determine the potential impacts to the riparian and wetland vegetation of Gooseberry Creek resulting from decreased flows. Flow measurements conducted by the Utah Division of Water Rights indicate that the stream is a "gaining stream." This means that the stream flow increases as it moves downstream because the stream is being fed by the adjacent ground water aquifer. Because the stream is serving as a drain for the ground water system, an increase or decrease in stream water level would result in a corresponding increase or decrease in the elevation of the ground water table adjacent to the stream.

- 5-24

Water surface profile studies were conducted to determine the depth of flow in Gooseberry Creek between the Nequame dam and Lower Gooseberry Reservoir. The studies indicated that, with the reduced flows proposed by the Proposed Action and with the existing stream cross section, the depth of flow would decrease by 6 to 11 inches under worst case conditions. However, the project plan includes proposed modifications to this portion of the Gooseberry Creek channel. These modifications include narrowing the channel to maintain the depth of flow. In designing the stream channel modifications, the intent would be to create a stream channel that is more naturally suited to the new flow regime and that will have the same depth of flow as under baseline conditions. Therefore, the depth of ground water adjacent to the stream would not decrease, nor would there be any adverse effects on riparian and wetland vegetation adjacent to the stream. If anything, it is entirely possible that the wetland communities would be enlarged as a result of the project impacts; the current outer bounds of those communities likely would be unchanged as a result of the shallow ground

5-25

[illegible]

They might not be unique, but we don't have a lot of wetland habitat, so they are important due in part to their rarity.

Describe what this means.

When was the data collected?

Where is this described? Is this modification sufficiently described, so that the short and long-term impacts from these modifications can also be analyzed?

This doesn't seem possible. The stream channel will be narrowed and the water concentrated in the narrower stream but yet the riparian area associated with the wider channel would still receive enough water to be maintained? I hope there is some data to back this statement up.

water flowing toward the stream, but the wetlands likely would be increased precisely to the degree that the stream channel itself (or at least, the open water surface of the stream) narrows.

The process of narrowing the stream, as described in the SDEIS, is planned so that the configuration of the narrowed streambanks would conform to that of the original streambank with respect to slope, materials, material size, and frequency as well as the water depth. The only change would be in the width of the channel and available open water surface. The result is that the same opportunity for overbank flows and wetted perimeter would exist as in the natural configuration. The gaining nature of the stream in this reach means that ground water is flowing toward and into the stream channel and that the stream does not provide the primary supply for the riparian community. The "wetted perimeter," therefore, should continue to be supplied from this source; and the stream will continue to gain as it flows. Bank saturation will not be affected here, as it would on many streams, because the direction of the ground water flows into the stream rather than away from it. While overbank flows may be reduced in frequency, such flows, for this same reason, also are not critical to the bank saturation that supports the riparian community.

About 160 square feet (0.004 acre) of wetlands adjacent to Cottonwood Creek would be impacted by constructing the discharge structure at the end of the Upper Cottonwood Creek Pipeline. The remainder of the stream channel would not be affected. The channel presently is stable and adequately protected by natural cobble armoring.

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.

S3.7 VEGETATIVE RESOURCES

Vegetation located in the study area consists primarily of plant communities common to high elevation mountain areas. Historically, the area has been used for livestock grazing and other reservoir impoundments. Cattle and sheep were introduced into the area in the 1800s and, subsequently, overgrazed the area to the extent that rangeland restoration became necessary. In 1908, the USDA Forest Service established a controlled grazing plan for the Manti-La Sal National Forest. Cattle and sheep grazing is still allowed in the area.

Major plant community types occurring in the reservoir basin have been mapped (see figure 3-8). The three major plant communities that would be affected most by reservoir inundation include vasey sagebrush, silver sagebrush, and wetlands. There are also areas within the basin that have been disturbed previously by diverting water to Cottonwood Canyon through the existing Narrows Tunnel. In addition, there are those disturbed areas associated with SR-264 that cross the north end of the basin.

The areas that are disturbed during project construction have a high probability of being infested by noxious weed species. People using the area may spread the weeds by carrying the seeds on their person or on their vehicles. Seeds will get into the water and be spread downstream in both Gooseberry Creek and Cottonwood Creek. Control of noxious weeds as part of the Narrows Project would be the responsibility of SWCD.

Areas along the foothills of the west side of the Wasatch Plateau would be dissected with the diversion pipelines. Plant communities such as big sagebrush, (*Artemisia tridentata*

Whitewater boating is limited mostly to a relatively short season when flows are peaking, coinciding with the high flows from the White River, when the gates at Scofield Reservoir are closed. In wet years, spills from Scofield may contribute to the peak.

Boating also ranks as one of the more popular outdoor recreation activities in Utah, and not enough float-water boating and boat launching

historic properties are located within the APE, and if they will be adversely affected by construction activities associated with the proposed project, a memorandum of agreement (MOA) will be developed. The MOA would be among Reclamation, the Utah State Historic Preservation Office, the USDA Forest Service, the Advisory Council on Historic Preservation (ACHP), if it chooses to participate, and SWCD. The MOA would outline cultural survey protocols, report and treatment plan requirements, and procedures for mitigation on potential impacts to identified and unidentified (inadvertent discovery situations) historic properties. The MOA also would include, among other stipulations, a Native American consultation summation and would identify the cultural resource APE for the proposed project.

Numerous cultural resource inventories previously have been conducted within the proposed project area. Under a contract with Dumas and Moore in 1979, the University of Utah conducted a Class I and Class III cultural resource inventory on a portion of the proposed project APE.

The 1975 Class III inventory identified two prehistoric archaeological sites near the proposed dam and reservoir areas. The sites were open lithic scatters with few formal tools. No further evidence of cultural materials was present on these sites. From the limited data available, the proposed project area appears to support the idea that high altitude areas were utilized as temporary, seasonal hunting grounds during the Archaic period, about 2,000-4,000 years before present. In addition, a total of 26 isolated artifacts were recorded during the cultural resource inventory.

Also, one historic cultural resource site, a stone structure foundation, was located during the 1979 inventory. The three cultural resource sites were not evaluated for their

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Why wasn't the entire area inventoried? How can an assessment of the impacts to cultural resources be made if the entire APE hasn't been surveyed?

NRHP eligibility in 1979. As a result, the sites will be revisited and evaluated for eligibility as stated in the environmental commitments for cultural resources.

The design and, therefore, the APE of the proposed project have changed since the 1979 cultural resource inventory. Class I and Class III cultural resource inventories have not been performed for the Upper Cottonwood Creek, Oak Creek, or East Bench Pipeline alignments, new road alignments, borrow areas, staging areas, new campgrounds, marinas, wetland mitigation areas, or haul roads. Class I and Class III inventories covering the entire APE of the proposed project will be conducted prior to initiation of final design and construction in accordance with 36 CFR Part 800.

Predicted effects to cultural resources as a result of the proposed project will be determined following the Class I and Class III inventories of the entire project APE.

S3.10 ECONOMIC AND SOCIAL RESOURCES

Social and economic conditions in Carbon and Sanpete Counties are underscored by a century-long dependence upon agriculture. Both valleys originally were developed for agricultural use. However, rich coal deposits were discovered in Carbon County during the 1860s. As a result, the mining industry has become the principal economic activity in the area. Agriculture still remains a significant economic activity in both Carbon and Sanpete Counties. Lack of sufficient irrigation water and concerns over neglected longstanding agreements on water rights constrain the agricultural sector in Sanpete County.

Population in the two-county project area is 43,185 according to the 2000 census. Carbon County had a 2000 population of 20,422. A 2007 census population estimate for this

county was 19,364, which is about a 5% decrease since 2000. Sanpete County's population in 2000 was 22,763. For 2007, the population estimate was 24,644, which is an increase of approximately 8% from the 2000 census. The largest community in the two counties is Price with latest census population data from 1990 and 2000; for 1990, the population was 8,712, which decreased to 8,402 in 2000.

The College of Eastern Utah in Price and Snow College in Ephraim are significant cultural and economic resources for Carbon and Sanpete Counties, respectively. The two counties have had a higher than average rate of unemployment since 1960 (refer to table 3-24). For 2007, the unemployment rate for Carbon County was 4.6%, Sanpete County was 3.6%, and the State of Utah was 3.0%. The leading economic sectors in Carbon County in 2006 (in order of importance) are mining, services, government, trade, and manufacturing. Leading economic sectors in Sanpete County include government, services, trade, agriculture, and manufacturing. Because of a larger population base, the city of Price rates higher on community facilities than do the north Sanpete County communities. Moroni and Spring City both have a particular need for improvements in police and fire protection, health care, housing, restaurants, day care facilities, youth recreation facilities, and cultural opportunities. In recent years, the construction and continued growth of the State Correctional Facility at Gunnison has created a sharp increase in the demand for housing in the project area, resulting in housing shortages. Educational facilities in the project area appear average, based on statewide norms.

Agriculture in Sanpete County is of major economic significance and involves a sizable number of people. From 1992 to 2002, the census of agriculture data shows the number

5-28

Page: S-28

Author: kareynolds Subject: Comment on Text Date: 5/21/2010 9:43:16 AM
Again, how can a decision be made with incomplete information? Has SHPO been consulted with?

Author: kareynolds Subject: Comment on Text Date: 5/21/2010 9:43:11 AM
Where is the discussion on the water needs in Carbon County. This section focuses on Sanpete County's needs and shortages, what about the agricultural and municipal needs for Carbon County?

Again, how can a decision be made with incomplete information? Has SHPO been consulted with?

Where is the discussion on the water needs in Carbon County. This section focuses on Sanpete County's needs and shortages, what about the agricultural and municipal needs for Carbon County?

water amount provided by each of the alternatives would support the existing community lifestyles and social structure in the study area.

S3.11 LAND RESOURCES

The proposed Narrows Project is located near the exterior boundaries of the Manti-La Sal National Forest. The damsite and other project features would be located on 225 acres of Reclamation withdrawn land. SWCD has acquired 366 acres of private lands for project uses from owners by perpetual easement or in fee. SWCD would purchase 1,340 additional acres of private and State School Trust lands for project needs (table 2-4).

While there are some private in-holdings, the majority of the lands located within the forest boundaries are federally owned and are administered by the USDA Forest Service pursuant to specific authorities granted by Congress to the Secretary of Agriculture and pursuant to the public land laws.

Lands within forest reserves may, however, be appropriated and used for irrigation works constructed under authority of the Reclamation Act of 1902 (32 Statute 388). Therefore, by Secretarial Order dated April 1, 1941, Reclamation withdrew certain forest lands from public entry under the first form of withdrawal (as provided in Section 3 of the 1902 Act). These lands were withdrawn for the construction, operation, and maintenance of the Gooseberry Project. The Gooseberry Project, as originally planned, was never constructed. However, a portion of the original project was constructed as the Scofield Project. The remainder of the Gooseberry Project, subsequently, was renamed the Narrows Project and is presently proposed as a non-Federal project. Today, approximately 6,728 acres of the lands originally withdrawn by Reclamation for the

Gooseberry Project remain under Reclamation withdrawal for the Narrows Project.

The 1941 Reclamation withdrawal of lands within the Manti-La Sal National Forest created the potential for two Federal agencies—Reclamation and the USDA Forest Service—to have overlapping jurisdiction on the same lands. However, the authority of the Secretary of the Interior under the 1902 Act to withdraw and administer lands for Reclamation purposes is limited to the specific uses provided for in that Act, that is, Reclamation projects. As a result, whereas Reclamation's withdrawal is dominant, its jurisdiction has been somewhat nominal because no Reclamation project actually was constructed on those lands; as a result, the USDA Forest Service exercised the only meaningful jurisdiction over them per the master interagency agreement between Reclamation and the USDA Forest Service. Once Reclamation initiated planning and environmental compliance activities for the Narrows Project, however, the overlap between the authorities of the Secretary of the Interior under the 1902 Act and those of the Secretary of Agriculture became real.

At present, both agencies have administrative authority over these lands—but each for activities related only to its own mission. Thus, Reclamation has jurisdiction over the withdrawn lands for uses associated with or incident to environmental compliance, planning, construction, or O&M of projects under the Reclamation laws, such as the Narrows Project; and the USDA Forest Service has jurisdiction over the withdrawn lands for uses associated with or incident to national forest activities, such as recreation, grazing, and timber sales. If the Narrows Project were constructed, it is anticipated that the Reclamation withdrawal would be revoked for any lands not needed for the project.

Author: kareynolds	Subject: Replacement Text	Date: 5/21/2010 10:15:53 AM
on		
Author: kareynolds	Subject: Comment on Text	Date: 5/21/2010 10:17:38 AM
Refer to map.		
Author: kareynolds	Subject: Inserted Text	Date: 5/21/2010 10:18:28 AM
Bureau of		
Author: kareynolds	Subject: Comment on Text	Date: 5/21/2010 10:21:44 AM
How likely is this to happen? What if the private land owners don't want to sell?		

Land ownership and use characteristics of Sanpete and Carbon Counties are summarized in tables S-28 and S-29, respectively. Federal and State-owned land comprises approximately 60% of each county's total land base; whereas, privately owned land accounts for 38% of the land base in Sanpete County and 41% of the land base in Carbon County. Of the total agricultural land in Carbon County, only 2% has been developed for cropland, and the remainder is rangeland. Comparatively, 36% of the total agricultural land in Sanpete County has been developed for cropland. An inventory of prime and unique farmland (Public Law 95-87) did not reveal any prime or unique farmland in the project area.

Lands approximately 3 miles east of the project area are under a Federal coal lease and are currently being mined. Additional mineable coal reserves are believed to exist beneath lands east of the East Gooseberry Fault approximately 1 mile east of the project area. A nearby landowner with both land and mineral rights to the east of the proposed reservoir, between the proposed dam and the currently operating Skyline mine, expressed to Reclamation in April 2009 his intent to mine his coal, but exact plans and timing are unknown at this time. Lands immediately adjacent to the project area (within the Gooseberry Graben) are not believed to have mineable coal reserves due to an offset of several hundred feet within the Gooseberry Graben area.

Agricultural land use within the project area is based on the livestock economy of the area—principally, cattle and sheep operations and a number of Grade A dairies. Other land uses include the turkey industry, large garden spots, potatoes, raspberries, and Christmas or ornamental trees.

The majority of the land area that would be inundated by the reservoir is privately owned; the dam, however, would be on Federal land. Some of the private land near the proposed dam and reservoir within the national forest boundary has been subdivided for summer homes and recreation development. Such development must comply with the zoning and building codes of the Sanpete County Commission and the sanitation requirements of UDEQ. The area adjacent to the proposed Narrows Reservoir is county-owned and is zoned as Forest Watershed 1-10 (one dwelling per 10 acres). The primary areas now under development include the area approximately 2 miles east of Lower Gooseberry Reservoir and the area on the north side of privately owned Fairview Lakes.

The Fairview Lakes development contains approximately 150 to 200 memberships in the privately owned Fairview Lakes Association. The memberships include the right to use a specific lot in the area north and east of Fairview Lakes and south of the project area to park a trailer or construct a cabin. This area has been rezoned, and the one dwelling per 10 acres development ratio does not apply to this area. As a result, it has been developed with lots every 1+ acre each. About 50 cabins have been constructed within the past 5 years. The cabins are used during the winter as well as the summer since the general area is a popular cross-country skiing and snowmobiling area. Many of the other lots have one to three trailers parked on them for the summer season (June–September). The private landowners allow their members to use some of the area southwest of Fairview Lakes for recreation use.

Portions of three grazing allotments occur within the project area. They include Swen's Canyon allotment, the Gooseberry-Cottonwood allotment, and the Beaver Dams-Boulder allotment.

This contradicts the information on S-28 and S-29 under S-3.10.

5-30

Page: S-33

Author: Matthew Davis Subject: Study Note Date: 5/24/2016 11:34:14 AM
 E: -What is the basis for this determination? How is this conclusion reached? This conclusion.
 Location: Laramie Subject: Comment on Text Date: 5/24/2016 16:43:05 AM
 Wasn't dam failure brought up as a public safety issue?

Additional allotments that may be impacted by the mitigation measures include the Fairview, Cabin Hollow, and Pondtown allotments.

Swan's Canyon allotment is located in two watershed drainages. That portion which is located in the same drainage as the proposed Narrows Dam and Reservoir consists of 583 acres, of which all is suitable for grazing land in fair range condition. Grazing capacity of that portion is about 115 minimal unit months (AUMs).

The Beaver Dams-Boulder allotment is a combination of two allotments. Grazing use includes 1,200 head of sheep with a season of July 6 to October 5. It is grazed with a rest rotation grazing system where part of the allotment is rested each year.

The Cottonwood-Gooseberry allotment is grazed by 500 head of sheep with a season of July 6 to September 30 using a rest rotation grazing system. Suitable grazing land was determined during a range analysis conducted during 1976.

A summary of information concerning the three grazing allotments and four grazing permits is presented in table 3-30. Range conditions and grazing were discussed in the vegetation section of chapter 3.

Under the Proposed Action, major changes in land use are not anticipated. Construction of summer homes outside of platted subdivisions might be accelerated but would be limited by zoning restrictions of one dwelling per 10 acres. Development of the Fairview Lakes complex would continue as previously planned, although build-out may occur earlier. Narrows Reservoir, SR-264 and forest development roads relocation, the recreation area, and the conservation easements adjacent to the reservoir would reduce the available grazing area by 856 acres. This area is about 10% of

the suitable grazing acreage in the area. The Proposed Action may result in the direct loss of 114 AUM grazing use (856 project acres per 1.5 acres per sheep month = 571 sheep months per 5 sheep months per AUM = 114 AUM); however, indirect loss of grazing (estimated to be about 1,014 acres) may occur on adjacent areas around the reservoir, between the highway and the reservoir and around camping and residence areas. The total grazing impact is estimated to be 249 AUM (1,870 acres per 1.5 acres per sheep month = 1,247 sheep months per 5 sheep per AUM = 249 AUM). This impact of grazing includes both private and Federal lands. Restrictions on the number of sheep and cattle allowed and/or realignment of grazing allotments may be required due to implementing the Proposed Action.

As the recreation use increased and summer home development proceeded, there could be additional areas in the upper Gooseberry drainage which would not be available for livestock grazing due to anticipated or existing livestock-people conflicts. For every 7 to 10 acres of additional land which cannot be grazed due to conflicts with traffic and/or people, there may be a loss of 1 AUM (5 sheep months) grazing use. Grazing permits and allotment boundaries may need to be adjusted. Land use in the Manti-La Sal National Forest Land and Resource Management Plan would change to reflect project implementation.

No reduction of acres of mineable coal reserve is anticipated as long as the dam is designed to withstand the effects of induced seismicity from mining approximately 1 mile away.

S3.12 PUBLIC SAFETY

The public safety issues raised, related to development of the Narrows Project, deals with increases in recreational traffic. The

What is the basis for this determination?
 Need to know what science was used to reach this conclusion.
 Wasn't dam failure brought up as a public safety issue?

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area adjacent to the proposed Narrows Reservoir is served by two State highways, SR-31 and SR-264. These two-lane roads are narrow and winding. Both highways are maintained for year-round use by the Utah Department of Transportation.

Average daily traffic (ADT) numbers for these roads are listed in table 3-31. ADT values shown in the table are based on UDOT traffic counts taken in 2000.

ADT on SR-31 would increase by 252 or 16% under the Proposed Action. ADT on SR-264 would increase by 31%. However, even with these increases, both roads would still be well within their design capacity. In order to increase safety, additional warning lanes with adequate sight distance would be provided at recreation area entrances and exits.

S3.13 AIR QUALITY RESOURCES

Ambient air quality is monitored by UDEQ, Division of Air Quality, at locations throughout the State of Utah. There are no existing monitoring sites near the proposed Narrows Project located in Sanpete County. The closest monitoring station is located in north Provo. Data from this station cannot be used as an estimate of the existing air quality in the impact area of influence because Provo is an urban/suburban area. The actual ambient air quality in Sanpete County most likely is much better than that in north Provo because of the lower population density and lack of significant major emission sources.

For the purposes of air quality management, geographic areas of the country are classified as "attainment" or "nonattainment" with the National Ambient Air Quality Standards (NAAQS). All air quality standards are

classified as being met in Sanpete County and, therefore, would have an "attainment" classification.

The Narrows Dam and Reservoir area is located in a fairly remote and rugged mountainous terrain. The air quality associated with this area is generally excellent. Primary sources of existing air pollutants in the project area include dust, smoke from campfires in area campgrounds, and exhaust emissions from intermittent traffic and recreational vehicles. Dozens of summer homes are located in the vicinity of the project. High levels of dispersed recreational use of this area are common.

Noise and air pollution are not expected to significantly increase under the Proposed Action (table 3-32).

S3.14 SLOPE AND CHANNEL STABILITY

Fairview Canyon, which contains Cottonwood Creek, is a steep, narrow canyon located east of Fairview, Utah. Highway SR-31 is located in the canyon. The canyon is approximately 7 miles long. The stream elevation at the mouth of the canyon is about 6,300 feet and about 8,800 feet near the summit. Typical slopes of the canyon wall are 2:1 to 2.5:1 (ratio of horizontal to vertical distance). Numerous landslides are located throughout the canyon on both sides. In several places, continual road maintenance is required to repair damage caused by landslides.

A total of 104 landslides were identified from aerial photographs and during a 1991 field review along the slopes of a 6-mile reach of Cottonwood Creek. The review team was comprised of individuals from various government agencies and private consulting firms. The review was to determine the impact of projected flow increases from

5-31

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Author: [redacted] Subject: Comment on Text Date: 10/27/2010 10:00:00 AM
 In this case, there is no need to be notified to reflect any land slides in the last 19 years and current information on the other slides identified.

Is this data from 199? If so, it needs to be updated to reflect any land slides in the last 19 years and current information on the other slides identified.

5-32
5-33

Narrows Tunnel on adjacent slopes of Cottonwood Creek. The state of activity of the slides was noted with 85 slides classified as "active" and 19 classified as "dormant." The certainty of landslide identification included 89 slides as "definite," 13 as "probable," and 2 as "questionable." The distances of the landslides from the tunnel portal ranged from 0.3 mile to 5.1 miles. Dominant types of slope movement of the 104 landslides are shown in table 3-33.

Based on observations during the review, it was determined that landslide activity is not related to stream channel stability or the flow in Cottonwood Creek but is caused by saturation from water sources on the hillsides.

Under the Proposed Action, increased flows in Cottonwood Creek will occur due to releases from Narrows Reservoir through the Narrows Tunnel and Upper Cottonwood Creek Pipeline. These increased flows will occur below Left Hand Fork where the Upper Cottonwood Creek Pipeline will discharge into the creek. Figure 3-10 is a hydrograph based on daily flow data which compares present, or No Action Alternative, flows in Cottonwood Creek with flows that will occur under the Proposed Action. The figure is based on 1968 data, which is an average year. As shown in the figure, the peak discharge of about 112 cfs occurs during the snowmelt runoff period. Presently, summer base flows are about 18 cfs. Under the Proposed Action, the summer base flows would increase to about 50 cfs. The maximum flows possible through the tunnel would increase by 45 cfs, from a preproject capacity of 15 cfs to a Proposed Action capacity of 60 cfs.

The 50-year rainfall peaks expected in the canyon range from 330 cfs below Left Fork to 570 cfs near the mouth of the canyon. The possible maximum increase in tunnel flows is less than 15% of the rainfall peaks. The

snowmelt peak is not a consideration because the tunnel will not operate during the snowmelt runoff. Based on the physical characteristics of Cottonwood Creek and the impacts of the proposed project on the flow characteristics, the project is unlikely to have a significant impact on the stability of the creek. To insure that the tunnel releases will not cause an impact, the measures described below will be implemented.

As described in chapter 2, 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 stream flow in Cottonwood Creek would be constantly monitored by these controls. As the stream flow increases during high runoff events such as thunderstorms, the tunnel operation would be discontinued when the flow exceeds 100 cfs. The project releases would not resume until after the flows drop below 100 cfs. Under this operating regime, the project flows through the tunnel would not increase streamflows above what is considered safe for channel stability. Increased flows under project conditions would be well below the 50-year channel-forming discharge.

Erosion along the banks of Cottonwood Creek would be carefully monitored, especially during the first year of operation, to verify that the project has no effect on Cottonwood Creek channel stability. Appropriate action would be taken if additional erosion above background levels is observed during project operation. Remedial actions could include placing additional armoring materials in the channel or along the bank or revising project operation to avoid more widespread stability problems.

5-32 Subject: Comments on Text Date: 5/17/2005 11:52:28 AM
5-33 Subject: Comments on Text Date: 5/17/2005 11:52:28 AM
An average year comparing data from when to when? Is there not a more recent average year than one from 40+years ago?

Doesn't the previous column state that the tunnel capacity would be 60cfs? If the capacity is 60 cfs, then how could the tunnel handle 100 cfs?

An average year comparing data from when to when? Is there not a more recent average year than one from 40+years ago?

Narrows Project
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regulations, and Executive orders to be integrated concurrently to the fullest extent possible in an EIS.

The following environmental laws, rules, regulations, and Executive orders have been considered during the preparation of the SDEIS. It has been determined that the Narrows Project would have no adverse effect upon them.

- ◆ Executive Order 11588 (Flood Plain Management)
- ◆ Wild and Scenic Rivers Act, Public Law 90-542. In 2007, the USDA Forest Service and Bureau of Land Management evaluated thousands of river miles for potential inclusion in the National Wild and Scenic Rivers System. In determining suitability, a key question was, does the river segment have Outstanding Remarkable Values (ORV). The USDA Forest Service conducted an environmental impact statement to evaluate the suitability of 86 eligible river segments (840 miles) including 21 miles of Fish Creek and Gooseberry Creek. The Record of Decision, signed November 2008, determined that Fish Creek and Gooseberry Creek were not suitable to be designated by Congress as components of the National Wild and Scenic Rivers System. All the non-suitable river segments are no longer afforded agency interim protection under the Wild and Scenic Rivers Act and continue to be managed under the direction of the respective agencies.
- ◆ Executive Order 13097 (Indian Sacred Sites)
- ◆ Executive Order 11990 (Protection of Wetlands).

S3.21 CUMULATIVE IMPACTS

The following discussion addresses the cumulative impacts to area resources in the Upper Colorado River Basin. Any analysis of cumulative impacts must deal with the issue of scope, both in terms of spatial and temporal scales. In the following discussions, these scales will vary depending upon the resource under evaluation.

Since 1960, some 30 water resources projects have been built or are under construction by Reclamation in the Upper Colorado River Basin (table 3-38). Reclamation estimates that those projects have provided full irrigation service to 138,460 acres with supplemental service to another 204,670 acres. These developments account for an estimated 62,776,000 megawatt hours of generated power and some 431,100 acre-feet of M&I water supplied annually. Recreational use associated with these projects, including sightseeing, picnicking, camping, boating, fishing, hunting, and other activities, is estimated at 45,068,970 annual recreation days. In terms of average annual permanent employment opportunities, these projects are responsible for some 13,716 jobs.

Aside from providing a net increase of 41,900 annual recreation days, and providing 855 acre-feet of M&I water annually, the Narrows Project would not affect the above resources. No new acres of cropland would be irrigated; no new power would be generated; and no new permanent jobs would be created. Because there would be no net change in existing levels of these resources in the Upper Colorado River Basin, it is assumed that there would be no cumulative impact from the proposed project; and it has been determined that further analysis of cumulative impacts of the above described resources is not necessary.

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Author: [REDACTED]	Subject: Cumulative Impact	Date: 07/11/2010 11:40:04 AM
For: [REDACTED]	For: [REDACTED]	For: [REDACTED]
Author: [REDACTED]	Subject: Cumulative Impact	Date: 07/11/2010 11:40:04 AM
For: [REDACTED]	For: [REDACTED]	For: [REDACTED]
Author: [REDACTED]	Subject: Cumulative Impact	Date: 07/11/2010 11:40:04 AM
For: [REDACTED]	For: [REDACTED]	For: [REDACTED]

5-34

What about the Endangered Species Act?
Migratory Bird Treaty Act and associated
executive order?
How is it possible to have no adverse impacts
on wetlands?

Several resource issues have been affected by past Reclamation developments and would be affected by the proposed project; thus, they have the potential to contribute to cumulative (additive) impacts within the region and beyond. These issues involve stream depletions that can impact fisheries and endangered native fishes and changes in salt loading within the Colorado River. These issues are treated in the SDEIS under the headings of fisheries, threatened and endangered species, and water resources, use, and quality.

S4.0 CONSULTATION AND COORDINATION

This section details the consultation and coordination between Reclamation and other State, Federal, and local agencies; Native American tribes; and the public in preparation of the SDEIS and the draft EIS published in 1998, which the SDEIS updates and supplements. Throughout the EIS process dating back to 1990, input has been actively solicited from a broad range of public constituencies as part of the ongoing public involvement process. Comments and involvement in the planning for and preparing of the Narrows Project generally were sought through two broad efforts: communication and consultation with a variety of Federal, State, and local agencies; Native American tribes, and interest groups; and the formal SDEIS scoping process and comment process, both of which invited input from the general public.

S4.1 SUMMARY OF INTER-AGENCY COORDINATION 1996–2003

In 1996, Reclamation invited a number of State and Federal agencies to become cooperating agencies in preparation of the

DEIS. The two agencies that agreed to become cooperating agencies for the EIS process, including the SDEIS, are the USDA Forest Service and U.S. Army Corps of Engineers. In addition to these two agencies, the following agencies had representation on the interdisciplinary team led by Reclamation that prepared the draft EIS published in 1998:

- ♦ U.S. Fish and Wildlife Service
- ♦ U.S. Environmental Protection Agency
- ♦ Utah Division of Wildlife Resources
- ♦ Utah Division of Water Quality
- ♦ U.S. Department of the Interior, Office of the Solicitor
- ♦ Sanpete Water Conservancy District

Reclamation hosted periodic cooperating agency meetings and interdisciplinary team meetings throughout preparation of the DEIS and the SDEIS, to ensure that all of the agencies were informed of, and involved in, the issues and analyses related to the SDEIS.

S4.2 CONSULTATION

Consultation was conducted as needed with agencies or experts that provided information for preparation of the DEIS published in 1998 and the SDEIS.

S4.3 PUBLIC INVOLVEMENT AND SCOPING

The scoping process for the SDEIS was conducted by Reclamation beginning in November 2003 to provide the general public, organizations, State and local governments, and affected Federal agencies an opportunity to identify issues and concerns they believe should be studied early in the preparation of

what happened between 2003 and 2010?

Utah Lake drainage areas. Municipal use per capita in the Wasatch Front drainage basins

for residential, commercial, and institutional uses is shown in tables 1-1 and 1-2.

5-36

Page: 1-8

David R. Kneibich, Project Engineer, Date: 06/03/03 10:00 AM
Why and the use in Carbon County also included, since the water is currently used?

Table 1-1.—Current per Capita Culinary and Secondary Use Values for Wasatch Front Drainage Basins

Culinary per Capita Use						
County	Residential Use		Commercial, Institutional, and Industrial		Total Culinary Use	
	acre-ft/yr ¹	GPCD	acre-ft/yr	GPCD	acre-ft/yr	GPCD
Weber Basin					0.220	197
Summit	0.082	225	0.058	52	0.140	277
Morgan	0.261	223	0.029	26	0.290	268
Weber	0.127	115	0.102	51	0.229	204
Davis	0.114	102	0.068	79	0.203	181
Jordan Basin					0.280	250
Salt Lake	0.188	177	0.082	73	0.290	250
Utah Lake					0.248	218
Utah	0.163	143	0.064	75	0.244	218
Utah	0.183	182	0.072	64	0.253	226
Wasatch	0.189	178	0.049	44	0.249	222
Average overall use	0.173	152	0.085	76	0.256	228

Secondary per Capita Use						
County	Residential Use		Commercial, Institutional, and Industrial		Total Secondary Use	
	acre-ft/yr	GPCD	acre-ft/yr	GPCD	acre-ft/yr	GPCD
Weber Basin					0.147	131
Summit	0.050	45	0.038	32	0.086	77
Morgan	0.045	40	0.003	8	0.045	40
Weber	0.141	126	0.019	17	0.160	143
Davis	0.129	115	0.015	14	0.145	129
Jordan Basin					0.011	10
Salt Lake	0.005	5	0.005	5	0.011	10
Utah Lake Basin					0.063	56
Utah	0.049	41	0.017	15	0.053	46
Utah	0.040	38	0.008	5	0.046	41
Wasatch	0.056	52	0.025	22	0.083	74
Average overall use	0.048	43	0.012	10	0.059	53

¹ acre-ft/yr = acre-foot per year.

evaporation, these losses either become part of the water supply for the shallow water table or become return flows to the natural surface streams. These losses support wetlands and aquatic habitat and become part of the water supply for downstream users. Total losses from local supplies would amount to an estimated 17,600 acre-feet per year before efficiency improvements were implemented. The losses would be expected to be reduced to about 14,100 acre-feet per year with implementing efficiency improvements. These efficiency improvements would result in a combined loss reduction of about 3,500 acre-feet per year.

1.4.3 Narrows Tunnel Rehabilitation

The poor condition of the existing Narrows Tunnel threatens the ability to deliver the existing water supply. The 3,100-foot-long Narrows Tunnel was constructed in 1964 to divert water from Gooseberry Creek to Cottonwood Creek and to the Fairview area for irrigation. It was designed to be concrete-lined and also serve as the culvert for the proposed Narrows Reservoir. Since its construction more than 30 years ago, the tunnel has experienced severe stability problems. Steel sets with wooden lagging were installed in certain reaches of the tunnel to provide additional reinforcement. However, the steel sets were widely spaced, and loose rubble from within the tunnel significantly loaded the wooden lagging between sets. As time passed, the lagging began to fail, permitting the roof and rib to slough over significant portions of the tunnel. In the early 1980s when it became evident that the tunnel could eventually collapse, a 36-inch corrugated metal pipe (CMP) was installed through the least stable tunnel sections to maintain the waterway. This

measure is considered to be temporary because the CMP eventually will collapse due to rust or excessive earth loads.

1.4.4 Recreation and Fishery Opportunities

In addition to the primary purpose of supplying water to Sanpete County, the proposed project would result in improved and additional recreation and fishery opportunities in Sanpete County. The recreation demand is increasing rapidly in the project area. The most popular outdoor recreational activities in Utah are fishing, boating, swimming, water skiing, camping, picnicking, hunting, and horseback riding. Boating ranks as one of the most popular outdoor recreation activities in the State of Utah. However, adequate flatwater boating and boat launching areas currently are not available in Sanpete and Carbon Counties. This need was included in the top 10 recreation issues in Utah identified in public meetings conducted by the Utah Division of Parks and Recreation in 1985 and 1990. The 1992 Utah State Comprehensive Recreation Plan (SCORP) states that:

"As Utah's population continues to grow, so does the demand for recreation facilities and opportunities. Obviously, the recreation system in place in 1970 or even 1980 is no longer adequate in the 1990s."

The SCORP suggests that additional water-based recreation areas are needed to accommodate the potential growth in demand for recreation use throughout the State.

In identifying priorities for recreation development, the SCORP states that:

"Generally, those projects in or near major urban and rural service

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Johnnie McNameis	Subject: Skoot Hole	Date: 1/25/2009 4:51:16 PM
I think that you are going to have some opposition to this. There are tons of fishing and recreational opportunities nearby. What makes this one different?		
Johnnie McNameis	Subject: Comment on Text	Date: 1/25/2009 5:41:54 PM
Where is the discussion related to impacts to supply-demand for Carbon County?		
Johnnie McNameis	Subject: Comment on Text	Date: 1/26/2009 9:46:07 AM
Use the 2009 SCORP information.		
Same comment posted by Timely Traveler		

I think that you are going to have some opposition to this. There are tons of fishing and recreational opportunities nearby. What makes this one different?
Where is the discussion related to impacts to supply-demand for Carbon County?
Use the 2009 SCORP information.

Author: michaelsdavis Subject: Sticky Note Date: 5/25/2010 4:56:40 PM
 Don't think that we need to issue an amendment - the land use change was done when you withdrew the land. It is now under the management of BOR. If this is in reference to activities other than the reservoir you need to be more specific

1.5.4 Price-San Rafael Rivers Unit, Colorado River Salinity Control Program

The Price-San Rafael Rivers Unit of the Colorado River Water Quality Improvement Program under the Colorado River Salinity Control Act would reduce salt contribution to the Colorado River by about 161,000 tons annually through a system of on-farm and off-farm irrigation improvements. The Narrows Project would divert water from the Price-San Rafael River Basins to develop a supplemental irrigation water supply of 5,400 acre-feet per year for municipal use and for approximately 15,420 acres of presently irrigated land in north Sanpete County, Utah. The Price-San Rafael Rivers Unit more than compensates for the trans-basin diversion of 5,400 acre-feet under the Narrows Project.

1.5.5 Upper Colorado River Endangered Fish Recovery Program

A coalition of agencies and organizations came together in 1988 to recover endangered Colorado River Basin fish and provide for future water development for agricultural, hydroelectric, and municipal uses.

Called the Recovery Implementation Program (RIP) for Endangered Fish Species in the Upper Colorado River (Recovery Program), this effort involves Federal, State, and private organizations and agencies in Colorado, Utah, and Wyoming. The Recovery Program complies with all applicable laws, including the Federal Endangered Species Act, State water laws, river laws, and interstate water compacts.

Recovery strategies include conducting research, improving river habitat, providing adequate streamflows, managing nonnative fish, and raising endangered fish in

hatcheries for stocking. Ongoing activities include the development of recommended flow regimes for the Price River to benefit endangered fish populations. As of August 2009, the Recovery Program is in the final stages of developing these flow recommendations.¹

1.6 DECISIONS TO BE MADE BASED ON THIS ANALYSIS

Based on the analysis documented in this SDEIS, the responsible official for Reclamation will make the following decisions:

- ◆ Whether Reclamation should approve SWCD's application for a SRPA loan to construct the Narrows Project
- ◆ Whether Reclamation should approve SWCD's use of Reclamation withdrawn lands for the Narrows Project, in accordance with Reclamation law
- ◆ Under what terms and conditions (of a local supplemental agreement between Reclamation and the USDA Forest Service) should the agencies administer resources within the total areas of project influence

In addition, the cooperating agencies may use this SDEIS to aid them in making the following decisions:

- ◆ Whether the USDA Forest Service should:
 - ◆ Amend the Forest Plan to reflect Narrows Project land use changes
- 2. Authorize mitigation measures on USDA Forest Service

¹ <http://www.coloradoriverrecovery.org/general-information/about.html>.

3. **Author: mchadwick** **Subject: Leadership** **Date: 3/25/2015 3:03:45 PM**

Author: mchadwick **Subject: Study Guide** **Date: 3/25/2015 3:05:23 PM**
(It was done 3/23/15)

I did not see any explanations on the products new meter for 2015 or an analysis to allow the pricing of the investment. With it going to govt the investment?

Author: mchadwick **Subject: Leadership** **Date: 3/25/2015 3:11:14 PM**

Author: mchadwick **Subject: Leadership** **Date: 3/25/2015 3:03:45 PM**

Author: mchadwick **Subject: Study Guide** **Date: 3/25/2015 3:05:23 PM**
the next step is to help to make the changes to the subjects. the change to questions, group, system, etc in period administration.

Author: mchadwick **Subject: Study Guide** **Date: 3/25/2015 3:02:35 PM**
General note - a comment that you have to know values and a series and some of them could have been generated from analysis in the introduction of design features.

Narrows Project
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Under this alternative, the Narrows Dam and Reservoir would not be constructed. Without the dam construction, there would be no need to relocate SR-264; and there would be no recreational facilities constructed at the reservoir site. The East Bench, Oak Creek, and Upper Cottonwood Creek Pipelines would not be built. The existing Narrows Tunnel would be rehabilitated at some future date and with other funding. The Cottonwood Creek Irrigation Company could not risk complete collapse and failure of the tunnel. If the tunnel were to collapse, the Cottonwood Creek Irrigation Company would have to acquire some type of emergency funding and would be required to repair it. The demand on municipal water supplies in Fairview, Mount Pleasant, Spring City, and Moroni would continue to increase as supplies for outdoor municipal uses run short and as the population increased. Most likely, there would be a conversion of agricultural water to municipal use as the demand for municipal water increased with a growing population.

Water conservation measures would continue to be implemented. These conservation measures would reduce average shortages on irrigated farmland to about 29.5% or about 15,250 acre-feet per year. Implementing new conservation measures most likely would reduce irrigation return flows now supplying wetlands, aquatic habitat, and downstream users by an estimated 3,500 acre-feet per year.

There would be no wetlands, wildlife, or fisheries mitigation measures implemented under the No Action Alternative because there would be no impact to existing wetlands and wildlife habitat. Streamflows in Gooseberry and Fish Creeks would remain unaltered from their present state. Under this plan, no flatwater fishery would be developed in the proposed reservoir basin.

2.2.2 Proposed Action Alternative

If Reclamation approves the SRPA loan and Congress appropriates the necessary funds and lands, a supplemental water supply would be developed for municipal water users and agricultural use in north Sanpete County under the Proposed Action. This additional water supply would satisfy the 1984 Compromise Agreement.

The Proposed Action would provide north Sanpete County an average annual supply of 4,281 acre-feet of supplemental irrigation water for 15,420 acres of presently irrigated farmland and 855 acre-feet of water for municipal use. The project would include construction of the 17,000 acre-foot Narrows Dam and Reservoir on Gooseberry Creek, pipelines to deliver the water to existing water distribution systems, rehabilitation of the existing 3,100 foot Narrows Tunnel, and relocation of 2.9 miles of State Road (SR) 264. The dam would be 120 feet high with a crest length of 550 feet and crest width of 30 feet.

The Narrows portion of the Gooseberry Project Plan would include a transmountain diversion of water from the Gooseberry Creek drainage of the Price-Green-Colorado River Basins to the San Pitch-Sevier River of the Great Basin. Geographically, the project facilities are located in close proximity to the drainage divide between the Price River system and the San Pitch River system. The general location is shown on the location map at the front of this document.

The Price River flows southeast to the Green River, a tributary of the Colorado River. The San Pitch River flows southwest to the Sevier River, which is completely consumed in the Bonneville Basin, a part of the arid Great Basin. The county line dividing Sanpete County and Carbon County is located more than 6 miles downstream

A map is needed to show the location of federal and private land that will be impacted by this alternative.

Section 1.4.2 discusses how implementing efficiency improvements would reduce the amount of irrigation water losses. The efficiency improvements would be expected to reduce water available to wetlands, aquatic habitat, and downstream users by up to 3,500 acre-feet per year. However, inefficiencies in project water would offset the 3,500-acre-foot-per-year reduction by about 1,820 acre-feet per year. This would result in a net loss to wetlands, aquatic habitat, and downstream users of about 1,680 acre-feet per year.

2.2.2.2 Construction Features and Project Operations

2.2.2.2.1 General

The principal construction features of the Narrows Project would consist of one reservoir and three pipelines. Narrows Dam and Reservoir (Figure 2-3) would be constructed on Gooseberry Creek and would provide storage for the project water supply. Oak Creek Pipeline would convey water from an existing diversion dam located on Cottonwood Creek northward to the Oak Creek Irrigation Company, north of the community of Fairview. The East Bench Pipeline would convey project water from the same existing diversion dam on Cottonwood Creek southward to areas of use along the east bench. Upper Cottonwood Creek Pipeline would carry project water from the Narrows Tunnel outlet to a point 300 feet downstream from the confluence of Cottonwood Creek and Left Hand Fork to protect the stream channel above that point from increased flows that would occur without the pipeline.

Other important features of the project would include rehabilitating the existing Narrows Tunnel; relocating SR-264; modifying parts of Forest Development Road (FDR) Nos. 50124, 50150, and 50225;

and modifying the snowmobile parking area along FDR No. 50150. Recreation facilities, primarily for boating, fishing, camping, and picnicking, would be provided at Narrows Reservoir to help satisfy projected recreation needs in the area. Title to the dam and permanent water facilities would be in the name of SWCID. Title to the land underlying those facilities and associated recreation facilities would remain in the name of the United States and under Reclamation management.

Specific proposed fish and wildlife mitigation measures include the following:

- ✦ Restoring year-round flows in two small tributaries to Gooseberry Creek (above the proposed Narrows Reservoir); providing minimum instream flows of 1.0 cubic feet per second (cfs) in Gooseberry Creek below Narrows Dam.
- ✦ Providing a multiple-level outlet at Narrows Dam to regulate the temperature of releases to Gooseberry Creek from Narrows Reservoir.
- ✦ Modifying and/or stabilizing streambanks and associated riparian zones along Middle Gooseberry Creek.
- ✦ Providing releases from the Narrows Reservoir into Gooseberry Creek for flushing flows and for fish habitat during critical periods.
- ✦ Acquiring and/or improving stream channel for fish habitat (Middle Gooseberry Creek).
- ✦ Providing winter releases to Cottonwood Creek.
- ✦ Providing summer flows in lower Cottonwood Creek.

5-39

5-40

Author: erin@swc.wa.gov Subject: Narrows Dam Date: 5/27/2013 4:42:54 PM
Who is going to inspect the dam and be responsible for dam safety and compliance with maintenance etc.
Author: erin@swc.wa.gov Subject: Narrows Dam Date: 5/27/2013 4:44:32 PM
Who will manage the recreation facilities going forward? Where will the fees from the recreation facilities go?

Who is going to inspect the dam and be responsible for dam safety and compliance with maintenance etc.

Who will manage the recreation facilities going forward? Where will the fees from the recreation facilities go?

would be installed near the tunnel inlet to regulate releases through the tunnel. Following rehabilitation, the tunnel would have a 60-cfs discharge capacity.

Remote control of the Narrows Tunnel operating gate would be provided to regulate automatically the releases through the tunnel. These controls would be coupled to an automated stream gauging station on Cottonwood Creek. The streamflow in Cottonwood Creek would be monitored constantly by these controls. As the streamflow increased during high runoff events such as thunderstorms, the tunnel operation would be discontinued when the flow exceeded 100 cfs near the mouth of the canyon. An automated gauging station would measure flow data and communicate with an automated gate controller at the tunnel. Under this operating regime, the project flows through the tunnel would not increase streamflows above what is considered safe for channel stability. Increased flows under project conditions would be well below the 50-year channel-forming discharge.

2.2.2.2.6 State Route 264 Relocation. Narrows Reservoir would inundate about 0.8 mile of SR-264, which provides access between Fairview and Scofield, Utah. Under the proposed project, this road would be routed around the perimeter of the existing snowmobile parking area. The road would be relocated to include 0.3 mile of FDR No. 50150 and No. 50124 (gravel road) to Lower Gooseberry Reservoir and by constructing 2.6 miles of new road and providing asphalt surfacing for the entire length of the relocation. This new road would cross Narrows Dam. The road relocation would increase the travel distance between Fairview and Scofield by 1.2 miles. The relocated road would have a total pavement width of 24 feet and would be designed to the same standard as the existing road.

2.2.2.2.7 Recreation Facilities. Public recreation facilities for the Narrows Project would be located along the northwest shore of Narrows Reservoir (see figure 2-3). The facilities would include a boat ramp, boat slips, a day use area with 10 picnic sites, restroom facilities, and a 60-unit campground. Access for the handicapped would be provided. All recreation facilities and water systems (non-surface source) would be constructed to USDA Forest Service standards. The water source for the recreation facilities would be required to meet State of Utah drinking water standards. Although a formal agreement has not been reached, it is anticipated that USDA Forest Service would administer the recreation facilities at the Narrows Reservoir under an operation agreement with SWCD and Reclamation. Title to the recreation facilities would remain in the name of the United States.

2.2.2.2.3 Fishery Measures

A total of 11 fishery mitigation measures have been included in the project to mitigate for adverse impacts. To the extent possible, an attempt was made to mitigate "in place" and "in kind."

2.2.2.2.3.1 Restore Streamflow in Gooseberry Creek Tributaries. Implementing this aquatic mitigation procedure would consist of altering the release of water from Fairview Lakes, which are owned and operated by CGIC. Presently, during the spring runoff period, water is stored in Fairview Lakes and released for irrigation use in the Fairview area. This release is a transbasin diversion of water to the San Pitch River drainage. With the historic operational pattern, the small unnamed tributaries to Gooseberry Creek located downstream from Fairview Lakes are dry several months each year. This

mitigation measure involves providing year-round releases, averaging about 2.6 cfs, from Fairview Lakes into two of these tributaries to Gooseberry Creek. This amounts to a 1.3-cfs average flow per channel. The total annual amount of water that is released from Fairview Lakes would not be changed. However, the flow would be dispersed during the entire year rather than the present 18- to 20-week discharge period, resulting in a higher water level in the lakes for more of the irrigation season.

Water released from Fairview Lakes during the year would be captured and stored in Narrows Reservoir. Upon notification by the CGIC, the Fairview Lakes water in Narrows Reservoir would be released through the Narrows Tunnel to the San Pitch River drainage.

This mitigation measure would provide not only aquatic mitigation benefits to the Narrows Project but also both aesthetic and recreational benefits to Fairview Lakes. These benefits would be a result of CGIC being able to maintain the lakes at higher water levels during more of the prime summer recreational season.

SWCD would be responsible for entering into operating agreements necessary to implement these year-round releases. SWCD also would ensure that the releases were made according to environmental commitments. Approval of a loan under the SRPA would be contingent upon securing these agreements with CGIC and an endorsement of the environmental commitments by SWCD.

Implementing this mitigation measure would result in creating approximately 2.3 stream miles of spawning and rearing habitat for cutthroat trout.

2.2.2.2.3.2 Provide Minimum Flows Below Narrows Dam.—The project plan calls for a 1.0-cfs minimum year-round release from

Narrows Reservoir to Gooseberry Creek

That flow, combined with flows from springs located immediately below the dam, would be expected to produce a streamflow of at least 1.5 cfs at the Gooseberry Campground. If the flow at the campground is less than the expected 1.5 cfs, then up to an additional 0.25 cfs would be released to help achieve that flow rate.

2.2.2.2.3.3 Provide a Multiple-Level Intake at Narrows Dam.—A multiple-level intake would be provided at Narrows Dam to regulate the temperature of water released to Gooseberry Creek. Each of the three intakes, planned at elevations 8,640; 8,660; and 8,680 feet, would be designed with a 10.0-cfs capacity.

2.2.2.2.3.4 Stabilize Streambanks Along Middle Gooseberry Creek.—This mitigation measure would involve modifying Gooseberry Creek channel between Lower Gooseberry Reservoir and Narrows Dam to provide better habitat with the reduced flows. It is expected that the channel eventually would narrow by itself due to the decreased flow. However, to expedite the process, certain manmade improvements would be made.

Two alternative methods of accomplishing this mitigation measure were considered. The first method, which was eliminated from consideration due to its more invasive approach, would involve using earthmoving equipment to place fill material within the existing high water line of the stream to narrow the channel.

The second and selected alternative method would involve a less intrusive approach, which would consist of installing a variety of fish habitat enhancement structures in the existing stream channel. These structures could include cover logs, depositional structures, organic riprap treatments, rock clusters, rock deflectors, and rock weirs.

5-41
5-42

Author: mchambers Subject: Study Notes Date: 10/15/2015 11:45 AM
From: jenkins, Neil The report of this support the following:

Author: mchambers Subject: Study Notes Date: 10/15/2015 11:45 AM

From: jenkins, K and date what this is a mitigation for and how it mitigates the problem. The FS would expect to see more discussion on what the problem is, why its a problem and how the mitigation relieves the problem.

Will this level of flow support the fisheries?

It isn't clear what this is a mitigation for and how it mitigates the problem. The FS would expect to see more discussion on what the problem is, why its a problem and how the mitigation relieves the problem.

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Example sketches of several of these enhancement structures are shown in figures 2-4 to 2-7. The objectives of these various structures would be to provide new pool habitat, hiding cover, high flow refuge area, scour holes, and spawning habitat for trout as well as a minimum level of channel erosion control.

Prior to SWCD constructing these improvements, SWCD would coordinate with the USDA Forest Service, Service, USACE, Utah Division of Wildlife (UDWR), and Utah Division of Water Rights. A qualified fluvial geomorphologist would develop a detailed plan based on the second alternative described above. A 200-foot-wide right-of-way corridor also would be acquired where the stream runs through private land. Fencing also would be provided where needed to protect the stream from livestock. Middle Gooseberry Creek would be used as spawning and rearing habitat for cutthroat trout.

2.1.2.2.3.5 Provide Flashing Flows and Other Releases to Gooseberry Creek—The project would provide releases from Narrows Reservoir to Gooseberry Creek in excess of the minimum 1.0-cfs release described above. These additional releases would be used to provide additional instream flows or to flush accumulated silt and fine sediments from the streambed to enhance spawning habitat. UDWR has expressed interest in using this water to provide additional inflow to Lower Gooseberry Reservoir during the critical winter period when DO levels in the reservoir are low. The project would provide an average of 300 acre-feet per year of additional water for release to Gooseberry Creek. This water, released from carryover storage in Narrows Reservoir, could be used for fish habitat or flashing flows. The annual volume of 300 acre-feet could be released each year in a single event, or the water could be stored in the reservoir for multiple

years to provide a larger magnitude or longer duration flush. In cooperation with UDWR, SWCD would determine the timing and quantity of water to be released each year. Because this water would be released to Gooseberry Creek, it would not count against the 5,400-acre-foot maximum transbasin diversion.

2.1.2.2.3.6 Acquire and/or Improve Stream Segments.—This measure would involve improving fishery habitat and/or fencing 11.5 miles of stream in the Price River drainage. Most of these stream segments are on private land; and, therefore, approximately 206 acres of right-of-way, that is a corridor averaging approximately 200 feet wide, would need to be acquired. Fishery habitat improvements such as riparian plantings and some minor channel work would be performed. As part of the 11.5 miles of habitat improvement, about 2 miles of stream would be improved in conjunction with the wetland restoration; and 1 mile of stream would be improved by providing fencing in conjunction with acquiring 640 acres of wildlife habitat adjacent to the Price River below Scofield Reservoir. The various parcels of land would be contiguous with other public lands and would be managed in conjunction with those public lands. Memoranda of agreement (MOAs) would be required between the SWCD and the managing agencies.

Where appropriate, the corridor would be fenced with a four-strand, barbed wire fence, topped with a rail to protect the streambanks and riparian zone from damage caused by grazing. Where the adjacent land is used for grazing, selected stream access points for livestock watering or other alternative livestock watering means would be provided. Stream crossings also would be provided as needed. Table 2-3 lists stream segments that have been recommended for this measure and

5-43

Page: 2-16

Author: rchadwick, S. J. Date: 12/2/2016 5:27:24 PM
Is the acquisition of the additional private land essential to the success of the project? (If so, what happens if the land is not acquired?)

Is the acquisition of the additional private land essential to the success of the project? If so what happens if the land is not acquired?

Table 2-3.—Stream Segments To Be Acquired and/or Improved for Fishery Habitat Proposed Action

Stream Reach	Length of Stream (miles)	Proposed Managing Agency
Price River Basin		
Mud Creek	4.0	UDWR
Winterquarters Creek	2.5	UDWR
Pondtown Creek	2.0	USDA Forest Service
Fish Creek above Scofield Reservoir	1.0	USDA Forest Service
Price River below Scofield Reservoir	2.0	UDWR

the proposed managing agencies. If necessary, additional parcels would be identified and evaluated to achieve the mitigation goal. The streams improved and protected under this measure would provide habitat for all life stages of cutthroat, rainbow, and/or brown trout. The improvements also would enhance wildlife habitat and water quality. A monitoring program would be established to ensure that the stream segments were acquired, improved, fenced, and maintained as planned.

2.2.2.3.7 Provide Winter Releases to Cottonwood Creek.—A release sufficient to provide a 2.0-cfs minimum flow at the confluence of Cottonwood Creek and Left Hand Fork would be made from Narrows Reservoir to Cottonwood Creek to increase the available fish habitat. Water released during the winter months would be stored in Wales Reservoir on a space-available basis. Wales Reservoir is a small reservoir that stores winter runoff from the Upper San Pitch River drainage, including Cottonwood Creek drainage.

2.2.2.3.8 Provide Summer Flows in Lower Cottonwood Creek.—Water would be released in lower Cottonwood Creek at the Cottonwood Canyon mouth to provide 2.0-cfs minimum instream flows at that location.

This measure would provide year-round flows in the stream that would support fish habitat, create a fishery, and enhance the wetland and riparian corridor. In the past, this segment of stream historically has been dewatered during the irrigation season.

2.2.2.3.9 Construct Upper Cottonwood Creek Pipeline.—Upper Cottonwood Creek Pipeline would be constructed as described in the previous section 2.2.2.2.4.

2.2.2.3.10 Provide a Minimum 144-acre Conservation Pool in Narrows Reservoir.—A minimum pool with a surface area of 144 acres containing 2,500 acre-feet of water would be provided in Narrows Reservoir for fish habitat and propagation. This pool would not be drawn upon for project use. At minimum pool, the reservoir would have a maximum depth of 58 feet; and approximately 53 acres of the reservoir would be at least 20 feet deep.

2.2.2.3.11 Reduce External Phosphorus Loading to Scofield Reservoir.—This measure would help improve water quality in Scofield Reservoir by reducing phosphorus loading and would be implemented in conjunction with improving stream segments on tributary streams above Scofield Reservoir. About 9.5 miles of stream segments would be improved. The improvements would consist of bank stabilization, primarily through riparian plantings. Where grazing would occur, the stream segments would be fenced to protect them from potential impacts.

This measure would reduce the amount of sediment and animal waste and, hence, the amount of phosphorus flowing into the reservoir. Historically, fish kills have occurred in Scofield Reservoir due to poor water quality. Phosphorus has been identified as the limiting nutrient in the eutrophication of the reservoir. Phosphorus loading occurs from several factors, including inflow of

5-44

Author: michael.davis Subject: Sticky Note Date: 5/18/2010 10:00:34 AM
P3 - Majority of segments are not on forest lands. Mileage equal to that must be restored or enhanced on adjacent NFS lands

5-45

Author: michael.davis Subject: Sticky Note Date: 5/28/2010 10:02:40 AM
P3 - BOR and SWCD must make sure that levels are sufficient to support fish populations.

5-46

Author: michael.davis Subject: Sticky Note Date: 5/28/2010 10:01:57 AM
provide additional flow doesn't mitigate for de-watering other land on the national forest.

Majority of segments are not on forest lands. Mileage equal to that must be restored or enhanced on adjacent NFS lands
BOR and SWCD must make sure that levels are sufficient to support fish populations.
Provide additional flow doesn't mitigate for de-watering other land on the national forest.

sediments that are naturally high in phosphorus and animal waste. In a report entitled *Scofield Reservoir Restoration Through Phosphorus Control*, the Utah Division of Water Quality concluded that:

"The most pragmatic and effective means to control the further eutrophication of Scofield Reservoir, or possibly to effect a moderate reversal of the eutrophication process, appears to be a reduction of the phosphorus load to the lake."

SWCD would have primary responsibility for implementing all fishery measures described above. SWCD would be responsible for finding and acquiring all lands and rights-of-way and would fund and construct all improvements, such as fencing and stream channel improvements. SWCD would provide water from its water rights or enter into operating agreements for all instream flows described above. This work would be performed concurrently with construction of other project facilities such as the dam, tunnel rehabilitation, and pipelines. All lands and rights-of-way would be acquired, and initial construction of fishery measures would be completed prior to initial filling of the reservoir. SWCD would be responsible to fund all operation and maintenance (O&M) costs of mitigation facilities. SWCD would be responsible to enter into a MOA with UDWR and other appropriate agencies for all fishery measures. The MOA would define clearly the roles and responsibilities of SWCD, UDWR, and other parties for implementing, monitoring, and maintaining the fishery measures.

2.2.2.2.4 Wetlands Measures

Wetlands measures would be included in the project to mitigate unavoidable adverse impacts to wetlands that have been identified with the project. Four alternative wetland

mitigation sites have been identified. The actual mitigation that is implemented could be from one alternative or a combination of alternatives. Proposed wetland mitigation areas are shown in figures 2-8, 2-9, and 2-10. A brief description of each alternative follows. Alternatives are listed in order of priority.

2.2.2.2.4.1 Enhance, Restore, and Create Wetlands Adjacent to Mud Creek Near Scofield Reservoir.—This measure includes the purchase or approximately 220 acres of private land adjacent to Mud Creek, south of Scofield Reservoir. The approximate elevation of this site is 7,700 feet. Some of this land consists of former wetlands damaged by cattle, and the remainder is upland habitat. Existing wetland portions would revert to their natural wetland condition by removing the cattle and allowing the vegetation to grow. The remaining wetlands would be created by other methods (e.g., construction).

To implement wetland mitigation at the Mud Creek site, a preliminary study of the site would use the following steps:

1. Perform wetland delineation mapping of the site to determine the location and quantity of existing wetlands.
2. Install piezometers to determine ground water levels.
3. Install a temporary check dam with a series of piezometers to determine the effectiveness of using check dams to raise ground water levels.
4. Excavate test pits to determine soil types and stratification of soils.
5. Design mitigation measures based on data collection.
6. Perform HEP analysis to quantify premitigation habitat.

5-47

Page: 2-22

Author: WetlandNet Subject: Fishery MOA Under: WCD/2002-01-01-01-01-01
 2) How does this mitigate for wetlands lost on forest lands? These wetlands are on state land.
 Author: WetlandNet Subject: Fishery MOA Under: WCD/2002-01-01-01-01-01
 2) How does this mitigate for wetlands lost on forest lands? These wetlands are on state land.

How does this mitigate for wetlands lost on forest lands? These wetlands are on state land. Need to coordinate with the Forest especially if any habitat work takes place on the forest

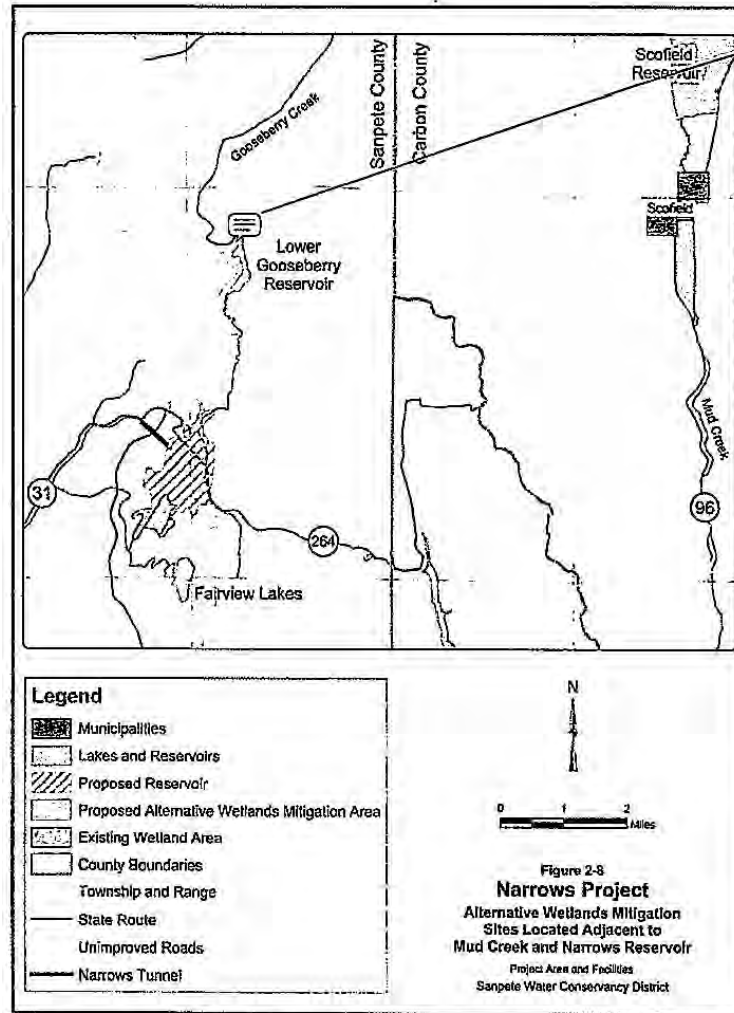


Figure 2-8.—Alternative Wetlands Mitigation Sites Located Adjacent to Mud Creek and Narrows Reservoir.

Chapter 2
The Alternatives Considered,
Including the Proposed Action Alternative

would report such hazardous conditions as potential slide or slump areas that might pose a danger to workers and equipment. All hazardous areas would be roped off and appropriate signs displayed to prevent accidents.

SWCD would develop a safety of dams program that would satisfy the State of Utah requirements. SWCD, with supervision by the State Engineer, would be responsible for monitoring structural performance and conducting safety inspections during construction and initial filling of the reservoir. Criteria would be developed and strictly followed for filling the reservoir and monitoring the safety of the dam. Marker buoys and float lines would be installed around spillway intake structures and other areas that might be hazardous to boaters. In accordance with State Engineer requirements,

a standard operating procedure would be prepared to ensure that the dam was operated in a safe manner. In addition, an emergency action plan would be prepared and distributed to public safety officials. This plan would describe procedures to be followed if an emergency involved the dam.

2.2.2.3 Costs and Financing

The Proposed Action would cost approximately \$40.3 million and would be funded by SWCD, the State of Utah, and a loan from the Federal Government. Of the \$40.3-million cost, about \$7.6 million would be allocated to fish and wildlife enhancement and recreation (table 2-5). These costs are nonreimbursable to the project sponsor. Total financing would be through provisions of the SFRA.

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7. What year(s) is it assumed that construction would occur? The way I read this table, it sounds like the construction costs are for construction from 2006-2008. If that's true then these costs need to be updated to reflect inflation and costs for the year in the future when construction is expected to begin.

What year(s) is it assumed that construction would occur? The way I read this table, it sounds like the construction costs are for construction from 2006-2008. If that's true then these costs need to be updated to reflect inflation and costs for the year in the future when construction is expected to begin.

Table 2-5.—Narrowes Project Cost Comparison of Storage Alternatives Evaluated in Detail¹

	Proposed Action	Mid-Sized Reservoir Alternative	Small Reservoir Alternative
Narrowes Dam and Reservoir	\$ 12,282,000	\$ 10,762,000	\$ 3,212,000
Narrowes Tunnel Rehabilitation	4,021,000	4,021,000	4,021,000
Upper Cottonwood Creek Pipeline	677,000	677,000	677,000
Oak Creek Pipeline	341,000	341,000	341,000
East Branch Pipeline	7,987,000	7,987,000	7,987,000
Recreation area	1,085,000	937,000	881,000
Highway SR-284 relocation	3,252,000	3,252,000	3,252,000
Wetlands, wildlife, and fishery mitigation	4,274,000	4,274,000	4,147,000
Recreation participation (EIS and planning)	950,000	950,000	950,000
SWCD's costs to date	2,818,000	2,818,000	2,818,000
Total construction cost	\$37,127,000	\$36,059,000	\$35,258,000
Estimated interest during construction (IDC)	2,528,000	2,447,000	2,386,000
Total project costs	\$40,255,000	\$38,505,000	\$38,642,000
Average annual water yield of project (acre-feet)	5,380	5,171	4,930
Capital cost per acre-foot of yield	\$7,584	\$7,447	\$7,825

¹ Cost estimates have been inflated from July 2003 to 2006.

2.2.3.2.2.7 Recreation Facilities.—For this alternative, public recreation facilities would be similar to those provided for in the Proposed Action. The facilities would include a boat ramp, boat slips, and a day-use area. The day-use area would include 8 picnic sites, restroom facilities, and a 50-unit campground. USDA Forest Service would participate in the recreation facility design, and the facilities would be constructed to their standards. USDA Forest Service would operate and maintain the facilities under agreement with SWCD and Reclamation. Title to the recreation facilities would remain in the name of the United States.

2.2.3.2.3 Fishery Measures

A total of 11 fishery measures have been included in the project to mitigate for adverse impacts that have been identified with the project. To the extent possible, an attempt was made to mitigate "in place" and "in kind." Under this alternative, these measures are identical to the same measures as those described in the Proposed Action.

2.2.3.2.4 Wetlands Measures

Wetlands measures would be included in the project to mitigate for unavoidable adverse impacts to wetlands that have been identified with the project. Four alternative wetland mitigation sites have been identified. The natural mitigation that is implemented could be from one alternative or a combination of alternatives. Proposed wetland mitigation areas have been shown previously in figures 2-8, 2-9, and 2-10. A complete description of each alternative was provided in the discussion of the Proposed Action. Modifications unique to the Mid-Sized Reservoir Alternative are discussed below.

2.2.3.2.4.1 Wetlands Adjacent to Mud Creek Near Scofield.—This measure would entail purchasing about 190 acres of private

land adjacent to Mud Creek, south of the town of Scofield, rather than the 220 acres described in the Proposed Action.

2.2.3.2.4.2 Area West of Lower Gooseberry Reservoir.—Under this alternative, about 105 acres of private land west of Lower Gooseberry Reservoir would be acquired, rather than the 120 acres under the Proposed Action. This land would be treated in the same manner as in the Proposed Action.

2.2.3.2.4.3 New Wetlands Adjacent to Narrows Reservoir.—This alternative would be identical to that described in the Proposed Action, except that the target acreage for mitigation would be reduced from 100 to 81 acres.

2.2.3.2.4.4 Manti Meadows.—This alternative would be identical to that described in the Proposed Action, except that the target acreage for mitigation would be reduced from 100 to 81 acres.

Wetlands measures would be needed to provide similar wildlife values as those in the 81 acres of wetlands that would be inundated by the reservoir. Careful monitoring of the mitigation sites would be conducted to ensure that the value of the mitigation sites was at least equal to the value of the wetlands lost. This determination would be accomplished by performing HEP analyses of the sites and comparing habitat values.

SWCD would have primary responsibility for implementing the wetlands measures described above and would assume all other responsibilities associated therewith, as described in connection with the Proposed Action.

2.2.3.2.5 Wildlife Measures

The wetlands measures described above would offset any losses to wetland habitat caused by inundation. Impacts to upland

these acres are not on forest service lands

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sprinklers. About 75% of the land is served by improved conveyance facilities such as pipelines and lined canals and ditches. Based upon these conditions, the diversion requirement was computed to be an average of about 62,900 acre-feet per year for the 15,420 acres of project-eligible lands (see section 1.4.2). With average annual water supplies of 34,200 acre-feet per year, this would leave a shortage of about 28,700 acre-feet per year.

Because of this shortage, certain individuals and canal companies were planning to install, or were currently installing, a variety of efficiency improvements on much of the unimproved portions of project lands. These improvements would be expected to be in place by the projected date of completion for the proposed Narrows Project. These improvements would consist mainly of additional pipe delivery and sprinkler irrigation systems. Land leveling is often used as a technique to improve onfarm efficiency; however, due to the topography and shallow depth of soil, land leveling is generally not practical or economically feasible in the project area. Drip irrigation systems, which are highly efficient, are not considered practical for the alfalfa/grain rotation crops that are grown in the project area. With completion of these improvements, most of the cost-effective measures would have been implemented. There still could be limited opportunities for some localized improvements.

As a result of these efficiency improvements, diversion demands would be expected to be reduced from an average of 62,900 to about 51,700 acre-feet per year. This would be an average reduction in diversion demand of about 11,200 acre-feet per year. (In previous documents, this reduction has been reported to be 8,000 acre-feet per year but now has been revised based upon updated crop consumptive use data.) Even with these

improvements in place, remaining shortages would be estimated at about 15,250 acre-feet per year. With this amount of shortage, significant soil moisture deficits would continue to seriously impact crop growth and production.

It should be noted that the 11,200-acre-foot reduction in diversion demand is not new water. New water would become available only if demands could be reduced below available supplies. In this case, efficiency improvements would make more use of the existing water supply available to the plants by reducing the amount of water lost to the plants because of evaporation, seepage, and spills from the carriage system; deep percolation through the root zone; and runoff from the ends of the fields. There would be two consequences of implementing efficiency improvements:

1. More of the existing water supplies would become available to support plant growth and development. Here, an additional 3,500 acre-feet per year of existing water supplies would be available to the plants.
2. Conversely, 3,500 acre-feet per year, less the amount previously lost by evaporation, no longer would be available as return flows to support wetlands, aquatic habitat, and downstream users.

As mentioned previously, most of the remaining cost-effective efficiency improvements would be implemented within a relatively short timeframe independent of the Narrows Project or any other organized program. In essence, their implementation would be a component of the No Action Alternative and would not satisfy the need for additional supplemental water.

Author: kareynolds Subject: Comment on Text Date: 5/21/2010 1:57:39 PM
What's the anticipated date for having all of these improvements that are currently in the works completed?

Author: kareynolds Subject: Comment on Text Date: 5/21/2010 2:00:06 PM
If this statement is true, then it should be analyzed as part of the no action alternative and the analysis should be changed to reflect this information. In other words, the short-fall needed is significantly reduced from what has been analyzed.

What's the anticipated date for having all of these improvements that are currently in the works completed?

If this statement is true, then it should be analyzed as part of the no action alternative and the analysis should be changed to reflect this information. In other words, the short-fall needed is significantly reduced from what has been analyzed.

2.3.3.1 Reasons Eliminated from Further Consideration

This is an ongoing activity that is a component of the No Action Alternative, the Proposed Action, and any other alternative that might be considered.

Implementing efficiency improvements does not adequately satisfy the need for additional supplemental irrigation water.

Efficiency improvements do not provide significant relief for water shortages during the late irrigation season when supplemental water is needed the most.

With implementing the planned efficiency improvements, the opportunity for additional large-scale conservation programs is nonexistent.

2.3.4 Mammoth Damsite Alternative

Several alternative dams site locations were evaluated and studied during the early stages of project planning. Because of the topography of many of these alternative dams sites and technical difficulties relating to dam length and height and storage capacity, only two of the sites were further evaluated. The first of these is the dams site contemplated in the original Gooseberry Project.

The original Gooseberry Project transmountain diversion plan contemplated a reservoir site generally located in the south half of section 6 and part of sections 7 and 18, T. 13 S., R. 6 E., Salt Lake Base and Meridian, commonly referred to as the Mammoth reservoir site (figure 2-15). Through direct diversions and storage in the Mammoth reservoir, the original project plan contemplated a transmountain diversion of up to 30,000 acre-feet of water per year.

Through public reviews, the Service, among others, requested moving the Gooseberry dams site from the proposed Mammoth site to the proposed Narrows site to protect fishery values. In 1984, UDWR made a similar request and specifically requested the exclusion of Cabin Hollow Creek from the Gooseberry Project. Next, using Brooks Canyon Creek water became impractical because the existing wetlands are dependent upon its water supply. The amount of water available from this source did not justify the impact on the wetlands.

In 1984, Reclamation, SWCD, the Price River Water Users Association, and the Carbon Water Conservancy District entered into a Compromise Agreement that set forth conditions upon which water rights for both the Scofield Project and the Narrows Project would be established. The 1984 Compromise Agreement established priorities, quantities of flow, storage capacities, location of storage facilities, and points of diversion for these projects. The agreement recognized the above environmental concerns and expressly excluded the Mammoth dams site as a location for project storage facilities. The 1984 Compromise Agreement was a resolution of many years of disagreement between Carbon and Sanpete water interests over the Gooseberry Project. In 1985, the Utah State Engineer approved both the Narrows portion and the Scofield portion of the Gooseberry Project Plan water rights. Both approvals were expressly made subject to terms of the 1984 Compromise Agreement. Thus, no water right is now or likely would be approved in the future for a project constructed at the Mammoth dams site without amendment to the compromise agreement and approval of associated water right changes.

See my comment above. The alternatives and existing condition information need to be revised to reflect this.

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Table 2-8.—Comparison of the Narrows Project Alternatives and the Project Issues (Continued)

Issues	No Action	Proposed Action	Mid-Sized Reservoir	Small Reservoir
WATER QUALITY				
Change in Scofield Reservoir Trophic State Index	0	+3.5	+3.5	+3.5
Change in average phosphorus level in Scofield Reservoir based on external phosphorus loading (milligrams per liter)	0	0.0026	+0	+0
WETLANDS				
Acres of wetlands lost	0 acres (without mitigation) 0 acres (with mitigation)	100 acres (without mitigation) 0 acres (with mitigation)	81 acres (without mitigation) 0 acres (with mitigation)	72 acres (without mitigation) 0 acres (with mitigation)
RIPARIAN AND AQUATIC HABITATS				
Miles of stream lost due to inundation of the reservoir	0	5.3 miles	4.8 miles	4.8 miles
Number of miles of stream affected by flow:				
▪ Increase in flow	0	4.9 miles	4.9 miles	4.9 miles
▪ Decrease in flow	0	16.1 miles	16.1 miles	16.1 miles
RECREATION AND VISUAL				
Change in projected fisherman days in Scofield	0	-6,800	-5,400	-5,800
Increase in developed recreation visitor days at Narrows (including fishing)	0	+46,400	+37,600	+27,600
Increase in dispersed recreation visitor days at Narrows (including fishing)	0	+910	+740	+560
Change in visual quality objective	Partial retention	Partial retention	Partial retention	Partial retention
CULTURAL RESOURCES				
Sites inundated or otherwise impacted	0	3	3	3
SOCIAL AND ECONOMIC				
Number of jobs (Carbon, Sanpete) created during construction	0	50-100	50-100	50-100
Change in farm income	0	11% increase	10% increase	10% increase
Change in available water supply				
▪ Sanpete County	0	+5,318 acre-feet	+5,157 acre-feet	+4,935 acre-feet
▪ Carbon County	0	-439 acre-feet	-457 acre-feet	-457 acre-feet

Author: kareynolds Subject: Comment on Text Date: 5/21/2010 2:31:03 PM
How is this number known if the entire area has not been surveyed?

Author: kareynolds Subject: Comment on Text Date: 5/21/2010 2:39:08 PM
What's the change for Carbon County?

How is this number known if the entire area has not been surveyed?
What's the change for Carbon County?

CHAPTER 3

Affected Environment/Predicted Effects

3.0 INTRODUCTION

This chapter discusses the affected environment and predicted effects that would result from the construction, operation, and maintenance of the project features associated with the Proposed Action and alternatives of the Narrows Project. The affected environment discussions describe existing conditions for resources within the project area. The impact analyses focus on potential direct, indirect, total, and cumulative impacts on these resources. Potentially significant impacts, together with criteria developed at the beginning of this study for assessing the significance of potential impacts, are identified. Resource specialists reviewed all data and results of the March 1998 DEIS analysis and updated where appropriate in the SDEIS. Mitigation measures that would reduce or avoid certain adverse impacts or would compensate for some unavoidable adverse impacts also are identified. The final section of this chapter describes the irreversible and irretrievable commitment of resources associated with the Proposed Action.

3.1 THREATENED AND ENDANGERED SPECIES

3.1.1 Affected Environment

No plant species currently receiving protection under the Endangered Species Act are known to exist in the project area.

A biological assessment of potential effects on endangered, threatened, and candidate wildlife and fish species was conducted in October 1991 (three amendments—July

1994, March 1997, and February 1999) for the Narrows Project in accordance with Section 7(c) of the Endangered Species Act of 1973 (appendix C). Federally listed or otherwise protected species addressed in the assessment included: bald eagle (*Haliaeetus leucocephalus*); Colorado pikeminnow, (*Ptychocheilus lucius*); bonytail chub (*Gila nigricans*); lampbrush chub (*Gila cyprin*); and razorback sucker (*Xylocodon texanus*).

The bald eagle, now delisted by the Service, was listed as an endangered species in 1967. Historically, the bald eagle was a resident of Utah but currently occurs primarily as a winter visitor. Of the 10 known historic nest sites (4 sites currently occupied), none are in the vicinity of the proposed Narrows Project.

The Colorado pikeminnow evolved as the main predator in the Colorado River system. Larval pikeminnow measuring less than 40 millimeters (mm) subsist on diets of plankton and macroinvertebrates; pikeminnow between 40 and 80 mm begin to become piscivorous (fish eating); and those measuring more than 80 mm are entirely piscivorous. Fish less than 80 mm are considered larval or young-of-the-year (YOY) fish. The Colorado pikeminnow is the largest cyprinid fish (minnow family) native to North America and, during the predevelopment period, may have grown as large as 6 feet in length and weighed nearly 100 pounds. The Colorado pikeminnow currently occupies about 1,600 river miles in the Colorado River system and is presently found only in the Upper Colorado River Basin above Glen Canyon Dam. Since 1995, as many as 20 adult pikeminnow, 1 in breeding condition, have been caught in the Price River and individually marked. It is

currently unknown whether Colorado pikeminnow use the Price River year round. Colorado pikeminnow have been located in the Price River from April to October. Their known range in the Price River extends from the confluence with the Green River upstream almost 90 miles to the Farham Diversion near Wellington. Further study is needed to determine the pikeminnow's seasonal use of the Price River and to identify the extent to which pikeminnow use the Price River.

Little is known about the biological requirements of the bonytail chub, as the species greatly declined in numbers in the Upper Colorado River Basin shortly after 1960. Bonytail are considered extremely rare or functionally extirpated from the Upper Colorado River Basin. Occasional captures of *Gila* individuals show bonytail characteristics; however, no known populations exist.

The humpback chub generally does not make migrational movements in the Upper Colorado River and tends to reside throughout the year within a limited reach of river. The species is found in narrow, deep canyon areas and is relatively restricted in distribution, seldom leaving its canyon habitat. None have been found in the Price River.

Historically, the razorback sucker was abundant throughout the Colorado River Basin. At present, the only concentrations occur in the Green River in the upper basin and Lake Mojave in the lower basin. Catch-effort estimates suggest that adult razorback suckers are rarer than other native suckers and the endangered Colorado pikeminnow. An immediate goal for razorback sucker recovery is to prevent the species' extinction in the wild. A draft recovery plan has been developed for the razorback sucker.

The Service wrote to Reclamation, identifying the southwestern willow

flycatcher (SWWF) as an additional endangered species present at a site known as Fish Creek, in the proximity of the Narrows Project, and advised Reclamation that an amendment to the biological assessment would be necessary. An amended biological assessment was submitted to the Service on February 3, 1999. A final *Recovery Plan for the Southwestern Willow Flycatcher* was prepared by Region 2 of the Service and signed August 30, 2002.

Based on recent information, the Service "believes that the willow flycatcher found at the Fish Creek site is not the endangered subspecies, the southwestern willow flycatcher." No discussion was offered specifically in reference to the endangered subspecies, *E. t. extimus* from the Service. To date, the following information was used to identify the subspecies:

- ♦ The willow flycatcher subspecies inhabiting the riparian corridor in the proposed Narrows Project proximity is located at the extreme northern boundary of *E. t. extimus* but within the range of *E. t. adustus*, an unlisted species. Experts suggest that the central part of the State of Utah is more likely an area of intergradation between *E. t. extimus* and *E. t. adustus* (Behle, 1985).
- ♦ Research data confirms that this willow flycatcher population is not likely the endangered *E. t. extimus* subspecies but is more likely to be *E. t. adustus* (Eben Paxton et al., 2008). In 2000, Eben Paxton finalized a thesis covering this work entitled "Molecular Genetic Structuring and Demographic History of the Willow Flycatcher."
- ♦ Vocalization analysis has determined the population to be *E. t. adustus* (personal communication, Dr. Jim Sedgwick, spring 1999). However, these results have yet to be published or peer reviewed.

Where are your citations for this data? Does this reflect the most recent surveys?

3.1.3 Predicted Effects

3.1.3.1 No Action Alternative

There would be no endangerment to the bald eagle, Colorado pikeminnow, bonytail chub, humpback chub, razorback sucker, or the SWWF under the No Action Alternative. Contributions to the Recovery Program would not be required.

3.1.3.2 Proposed Action Alternative

Project impacts to threatened or endangered species were evaluated by Reclamation in a biological assessment and submitted to the Service. Subsequently, the Service issued a final biological opinion on August 24, 2000, (appendix C) that found that the proposed project would have no effect upon the bald eagle, which was subsequently delisted in 2007. The Service believes that the willow flycatcher found at the Fish Creek site is not the endangered subspecies; therefore, no discussion was offered specifically in reference to the SWWF. The Service concluded, however, that the project and associated depletion of water from the Colorado River system may affect the four endangered Colorado River fishes. While the opinion concluded that the proposed project may affect the four endangered fishes, it also stated that the project is not likely to jeopardize their continued existence, provided measures are implemented to offset project impacts (i.e., payment of a one-time financial contribution by SWCD to the RIP). The current depletion charge is \$18.29 per acre-foot (2009 figure); and when multiplied by the project's 5,597-acre-foot average, annual depletion of flows to the Colorado River system amounts to a financial contribution of \$102,369 to the RIP. The Service will notify SWCD of the current depletion charge by September 1 each year. On July 13, 1995, SWCD made a partial payment of \$7,063,

10 percent of the total depletion charge as identified in the January 9, 1995, Biological Opinion.

Reliance on the RIP to serve as the reasonable and prudent alternative for project impacts is dependent upon sufficient progress toward recovery being made by the RIP. In the event sufficient progress is not made by the RIP, re-initiation of consultation would be required. Payment of the depletion charge would be made by SWCD prior to beginning construction.

Initially, the Service issued a biological opinion in March 1992. Consultation was re-initiated in 1994 as a result of the Service's designation of critical habitat for the four endangered Colorado River fishes and again in 1995 after new information arose about the presence of Colorado pikeminnow in the Price River. The Service issued a biological opinion in January 1995, an amended biological opinion in October 1995, a biological opinion on December 13, 1999, and the final biological opinion on August 24, 2000, which addresses project impacts to designated critical habitat and the Price River. As an element of the reasonable and prudent alternative to the Narrows proposal, the Recovery Program was directed under the 2000 biological opinion to fund a study to determine seasonal endangered fish use in the Price River and develop recommendations for year-round instream flow requirements in the Price River for Colorado pikeminnow. The Recovery Program has completed field investigations to address this element of the reasonable and prudent alternative and is planning to release a summary of flow requirements for internal committee review and approval during autumn 2009.

Because the project would result in a depletion of water to the Price River and reduced spills from Scofield Reservoir, there is, at this time, some uncertainty about what effect the project would have on the timing,

This would result in a one-time contribution of \$88,542 (4,841 acre-feet multiplied by 2009 depletion charge of \$18.29) to the Recovery Program. Other conservation measures described for the Proposed Action also would be implemented under this alternative.

Under provisions of the Endangered Species Act, there would be no irreversible impacts to endangered species as a result of implementing the Small Reservoir Alternative. In the event sufficient progress was not achieved under the RIP, re-initiation of consultation would be required to discuss additional conservation measures.

The impacts to the SWWF under the Small Reservoir Alternative would be the same as with the Proposed Action but proportionately reduced.

3.1.4 Conservation Species Impacts

The spotted frog is not a federally listed species. However, potential project impacts to the species have been considered. A survey of historic spring and wetland habitat along the San Pitch River was conducted, and spotted frogs were found to be present within the project area. Increased flows in the San Pitch River associated with any of the construction alternatives of the project could benefit the springs and wetlands that comprise spotted frog habitat along the San Pitch River by increasing water quantity. On the other hand, if spotted frog habitat receives return flows from irrigation, habitat quality could be diminished by virtue of the conservation measures. If a construction alternative is implemented, the net effect of the project, together with the conservation measures, would likely be a slight net reduction dispersed over a large area.

Three fish species, including roundtail chub, bluehead sucker, and flannelmouth sucker,

are Utah State-listed sensitive species. Although roundtail chub historically inhabited the Price River, they have been extirpated from the system. 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.

3.2 WILDLIFE

3.2.1 Affected Environment

The wildlife species found in the general project area are common in the Great Basin Desert valleys and Rocky Mountain Range. There are about 364 species of terrestrial vertebrates that may inhabit the project area. Approximately 88 bird species and 33 mammal species may use the habitats that would be disturbed by the proposed project.

3.2.2 Methodology and Impact Indicators

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.

Where is the citation for this information?

Under the Small Reservoir Alternative, wetland and upland wildlife habitat mitigation measures would be similar to those described under the Proposed Action, except that the amount of acreage would be smaller, as described in chapter 2. The proposed wetland mitigation areas are in kind, and a detailed mitigation plan would be developed and designed in conjunction with the Section 404 permitting process.

Because the wetland and upland wildlife mitigation measures are intended to provide full mitigation for project impacts, there would be no residual impacts.

3.3 WATER RESOURCES

3.3.1 Affected Environment

Gooseberry Creek and its three unnamed tributaries are located high in the Price River drainage. This tributary of Fish Creek flows directly into Scofield Reservoir (see the location map at the front of this document). Other tributaries to Scofield Reservoir include Mud Creek and Pondtown Creek. The Price River, which flows out of Scofield Reservoir, is a tributary of the Green River—a tributary of the Colorado River. These three rivers are all located in the Colorado River Basin.

Cottonwood Creek, located in the San Pitch River Basin, is located on the opposite side of the divide from Gooseberry Creek.

Cottonwood Creek and the San Pitch River are located in the Sevier River subbasin of the Great Basin.

Typical of Wasatch Mountain streams, flows in these creeks are greatest in the spring, when snowmelt runoff is peaking. Peak flows during May and June are estimated to range from 15 to over 100 cfs in Upper Gooseberry Creek near the proposed damsite. The flow declines considerably in late

summer and reaches a minimum in late fall or winter. Late-season flows are estimated to be 1.5 to 5 cfs in Upper Gooseberry Creek.

The average annual natural runoff volume of Upper Gooseberry Creek, near the proposed damsite, is 9,032 acre-feet. Of this amount, an average of 1,815 acre-feet presently is stored in Fairview Lakes and diverted transmountain to Cottonwood Creek through the Narrows Tunnel. The remaining water continues down Gooseberry Creek to Fish Creek. An average of 35,800 acre-feet per year enters Scofield Reservoir from Fish Creek. The total annual inflow to Scofield Reservoir from all tributaries averages 57,500 acre-feet. The average total contents of Scofield Reservoir are about 42,360 acre-feet. All of these values are for the 1960–2002 hydrologic period.

The Price River below Scofield Reservoir, referred to as lower Fish Creek, has a wide range of flows that vary according to downstream water demands and hydrologic conditions. Releases consist of direct flow right bypasses and Scofield Reservoir storage deliveries for Scofield Project users. Spills occur when the reservoir is full and water flows over the spillway or when releases are made in excess of downstream demands. These total releases and spills have averaged 51,815 acre-feet for 1960–2002 but historically have varied from 13,762 to 154,475 acre-feet. Low flow conditions generally occur from November through March. There are no minimum flow requirements in the Price River, and it is not unusual for the flow below the dam to be completely shut off during winter months. Peak flows below the dam occur in wet years when the reservoir spills. While normal dam releases in June are about 150 cfs, the total releases with these spills have ranged up to more than 1,100 cfs. Since spills are in excess of downstream consumptive use requirements, they usually increase river

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Author: richardk... Subject: Water Resources Date: 5/22/2013 9:13:07 AM
It appears that there wasn't a survey done to identify springs and other ground water resources.
Are there concerns or needs to address water rights by private citizens and the Forest Service?

It appears that there wasn't a survey done to identify springs and other ground water resources. Are there concerns or needs to address water rights by private citizens and the Forest Service?

average reservoir storage. Impacts to regulated releases from Scofield Reservoir for Scofield Project use would occur only during multiple successive drought years, such as occurred in the early 1960s, 1990s, and 2000s. Impacts to the Price, Green, and Colorado Rivers would result primarily in reduced spills from Scofield Reservoir.

The impacts of the Narrows Project on water resources are most pronounced near the reservoir. About 1 mile of Upper Gooseberry Creek and 4.3 miles of small streams in the proposed reservoir basin would be inundated by the reservoir. In addition, annual flows in the middle 3 miles of Gooseberry Creek between Narrows Reservoir and inflow into Lower Gooseberry Reservoir would be reduced by about 74%. Under the Proposed Action, a 1.0-cfs minimum flow would be made from Narrows Reservoir to Gooseberry Creek to provide a 1.5-cfs minimum flow at the USDA Forest Service campground $\frac{1}{4}$ mile downstream from the proposed damsite. If the 1.5-cfs flow at the campground is not met, up to an additional 0.25 cfs would be released from the reservoir to meet the required flow. Minimum streamflow releases from Narrows Reservoir would eliminate periodic dry stream channels in the Middle Gooseberry Creek segment. An average of 300 acre-feet per year also would be released for channel maintenance or other instream flow purposes.

Flows in Cottonwood Creek would increase during the irrigation season, with the import of project water through Narrows Tunnel. However, during the irrigation season, these flows would be less than peak flows that occur naturally during the spring snowmelt period. The Upper Cottonwood Creek Pipeline would convey these increased flows outside the stream channel between the tunnel outlet and the confluence with Left Hand Fork. About 300 feet below the Left Hand Fork confluence, the project flows would be discharged to the stream. At this point, the

increase in average July and August flows from current conditions would be about 200%.

Depletions to the Price River drainage would average 5,597 acre-feet per year. This amount would consist of 5,227 acre-feet of transbasin diversions and 370 acre-feet of increased evaporation in the Price River Basin. When measured in Gooseberry Creek below Narrows Reservoir, the reduction in annual streamflow varies between 1,760 and 10,200 acre-feet, depending on the storage level of Narrows Reservoir and the magnitude of the streamflow into the reservoir. As shown in table 3-2, the greatest impact would occur during the spring snowmelt runoff period. Releases from Narrows Reservoir to Gooseberry Creek would remain at a minimum of 1.0 cfs; and when the reservoir is spilling or when flushing releases are made, the flow would be greater.

As a result of constructing Narrows Reservoir, the operation of Scofield Reservoir would be altered within the normal historic range. Scofield Reservoir would operate at a lower level with implementing the Proposed Action as shown in figure 3-1. Under project conditions, the average total contents of Scofield Reservoir would be reduced from about 42,360 acre-feet to about 31,500 acre-feet. Average reduction in storage releases to irrigators in the Price area would be about 753 acre-feet per year. Total depletions to the Price River drainage would average 5,597 acre-feet per year. Both the volume and frequency of spills from the reservoir would be reduced. With the No Action Alternative, the average reservoir surface area would be reduced from 2,370 acres to about 2,125 acres. This is about a 10% reduction or about 245 acres of the surface area of the No Action Alternative.

Since Scofield Reservoir would operate at a lower level, there is an increased potential for the reservoir to be drained to the bottom of its

How will this increase effect fish and macoinvertebrates in Cottonwood? Need some more data to support this.

would be greater. These differences in streamflows are shown in table 3-2.

As shown in figure 3-1, Scofield Reservoir Operation Comparison, Scofield Reservoir would operate at a slightly higher level than under the Proposed Action. The average contents would be about 13,049 acre-feet. Average reductions in storage releases to irrigators in the Price area would be about 732 acre-feet per year, rather than 753 in the Proposed Action. Total depletions to the Price River drainage would average 4,841 acre-feet per year as compared to 5,597 acre-feet under the Proposed Action and 5,298 acre-feet under the Mid-Stage Alternative.

Streamflow mitigation measures under the Small Reservoir Alternative would be the same as those described for the Proposed Action, with the exception that no year-round flows would be provided in the tributaries to Gooseberry Creek above the proposed Narrows Reservoir site, and no flushing flows would be provided to Gooseberry Creek.

Under the Small Reservoir Alternative, water supplies in the San Pitch River Basin would increase by an average of 4,315 acre-feet per year due to releases from the proposed Narrows Reservoir. Irrigation water shortages would be reduced to about 11,290 acre-feet per year or about 21.8% of the diversion demand.

The residual impacts of the Small Reservoir Alternative would be similar to those of the Proposed Action, except that slightly fewer miles of stream would be inundated, and Scofield Reservoir would operate at a slightly higher level. Annual reductions in storage releases to irrigators in the Price area would occur only after several successive drought years and would average about 21 acre-feet less than under the Proposed Action (i.e., 732 acre-feet, rather than 753 acre-feet as in the Proposed Action).

3.4 FISHERIES

3.4.1 Affected Environment

Most of the Narrows Project alternatives have the potential to affect aquatic resources in Gooseberry Creek, Fish Creek, three unnamed headwater tributaries to Gooseberry Creek, Cottonwood Creek, Lower Gooseberry Reservoir, Fairview Lakes, and Scofield Reservoir (see the location map). Cottonwood Creek is in the San Pitch River Basin, whereas all of the others are in the Price River drainage. Cottonwood Creek flows into the San Pitch River downstream from Fairview, Utah; but the San Pitch River, within the project area, does not support a sport fishery because of low summer flows.

Flows in Gooseberry Creek, its unnamed tributaries, and Cottonwood Creek presently are affected by the operation of Fairview Lakes, which store water during spring runoff. Water from the lakes is delivered during the irrigation season via one of the unnamed tributary streams and a canal to the Narrows Tunnel that discharges into Cottonwood Creek. The released water then is diverted for irrigation in Sanpete County.

Lower Gooseberry Creek and Fish Creek downstream from the confluence with Gooseberry Creek also are affected by the operation and limited regulation offered by Fairview Lakes. If the project is approved, an operating agreement would have to be negotiated between SWCD and CGIC to regulate seasonal releases from Fairview Lakes in connection with downstream discharges from the Narrows Reservoir.

Aquatic resources vary considerably between the different reservoirs and stream segments that could be affected by the Narrows Project. Fish habitat study reaches are shown in figure 3-4. A summary of aquatic resources present in the different stream segments and

The San Pitch River does support Utah species of concern (S. leethcuside chub) which is a FS R4 sensitive species

reservoirs is provided in the following sections of this document.

3.4.1.1 Gooseberry Creek (UDWR Class 3B – Unique)

Class 3 streams support the bulk of the stream fishing in Utah. Gooseberry Creek provides important spawning, nursery and unique habitat for cutthroat trout. The entire length of Gooseberry Creek has the potential to be affected either by reservoir inundation or by flow alterations. For ease of discussion, the stream has been divided conceptually into three segments—Upper Gooseberry Creek, Middle Gooseberry Creek, and Lower Gooseberry Creek.

The Upper Gooseberry Creek segment extends from the confluence of the three unnamed tributaries near SR-264 downstream 1 mile to Narrows Gorge and averages approximately 11 feet in width. Average monthly flows for average, wet, and dry years are shown in table 3-2. This stream segment supports a natural reproducing cutthroat trout population. The population is comprised of adult, juvenile, and YOY fish. The standing crop of cutthroat trout in this stream segment averages about 38 pounds per acre. This stream segment contains numerous riffle areas that provide cutthroat trout spawning habitat. The value of this stream segment in providing yearling habitat is shown in population estimates of over 450 fish per mile (most were YOY) since 1971. The amount of weighted usable area (WUA, the impact indicator used to determine effects on stream fisheries) for the various cutthroat trout life stages in this stream segment is shown in table 3-3. As shown, this stream segment provides only extremely limited overwinter habitat for adult cutthroat trout. Major factors contributing to the poor habitat include low winter flows and limited pool habitat.

Table 3-3.—Weighted Usable Area for Cutthroat Life Stages in Upper Gooseberry Creek with Existing Flows

Month	Life Stage	Average Weighted Usable Area (1,000 units)
January	Adult	8.4
	Juvenile	1.9
February	Adult	8.4
	Juvenile	1.9
March	Adult	8.7
	Juvenile	1.9
April	Adult	11.3
	Juvenile	3.3
May	Adult	11.7
	Juvenile	2.7
	Spawning	6.0
June	Adult	10.7
	Juvenile	2.5
	Spawning	6.6
July	Adult	13.2
	Juvenile	3.5
	Spawning	1.5
August	Adult	12.2
	Juvenile	3.7
	Spawning	1.3
	Fry	4.7
September	Adult	11.1
	Juvenile	3.0
	Fry	4.8
October	Adult	10.2
	Juvenile	2.0
November	Adult	9.9
	Juvenile	2.0
December	Adult	8.7
	Juvenile	1.9

The Middle Gooseberry Creek segment is 3.0 miles in length and extends from the Narrows Gorge downstream to Lower Gooseberry Reservoir. The Middle Gooseberry Creek segment has more flow than the upper segment because of inflow from numerous springs and seeps within and immediately downstream from Narrows Gorge. In addition, this stream segment receives flow from several tributary streams,

Whose data is this and when was it taken?

including Brooks and Charlie Creeks. Average monthly flows that presently occur at the upper end of this stream segment are shown in table 3-2. This stream segment also supports a self-reproducing population of cutthroat trout.

Aquatic habitat studies have been conducted on this stream segment, and the total amount of WUA for the segment is provided in

table 3-4. As shown, the amount of adult and juvenile cutthroat trout habitat available in this stream segment during the September-March period is extremely limited.

The Lower Gooseberry Creek segment is the longest of the three segments and extends downstream 7.1 miles from Lower Gooseberry Reservoir to the confluence with Fish Creek. Vehicle access to this segment is

Table 3-4.—Monthly Preproject and Postproject Yellowstone Cutthroat Trout Habitat in Middle and Lower Gooseberry Creek During Average Water Year¹

Month	Life Stage	Middle Gooseberry Creek			Lower Gooseberry Creek		
		Preproject	Postproject	Change (%)	Preproject	Postproject	Change (%)
January	Adult	62.9	57.6	-8.4	355.4	344.7	-3.0
	Juvenile	18.0	16.7	-7.2	61.6	60.9	-1.1
February	Adult	62.9	57.6	-8.4	359.0	348.5	-2.9
	Juvenile	18.0	16.7	-7.2	63.0	61.1	-3.0
March	Adult	54.7	57.6	-11.0	359.0	344.7	-4.0
	Juvenile	18.3	16.7	-8.7	62.6	60.9	-2.7
April	Adult	106.2	57.6	-45.8	404.9	393.1	-2.9
	Juvenile	30.1	16.7	-44.5	73.2	68.7	-6.1
May	Adult	205.8	57.6	-72.0	562.1	548.3	-2.5
	Juvenile	91.0	16.7	-81.6	75.0	56.0	-25.3
	Spawning	1.5	0.1	-93.3	0.0	0.0	-
June	Adult	202.6	57.6	-71.6	553.2	548.1	-0.9
	Juvenile	88.7	16.7	-81.2	79.6	56.1	-29.5
	Spawning	0.4	0.1	-75.0	0.0	0.0	-
July	Adult	144.4	57.6	-60.1	430.6	405.3	-5.9
	Juvenile	42.7	16.7	-60.9	71.3	73.4	+2.9
	Spawning	0.9	0.1	-88.9	0.0	0.0	-
August	Adult	127.4	57.6	-54.8	413.9	398.7	-3.7
	Juvenile	36.6	16.7	-54.4	73.0	70.4	-3.6
	Spawning	2.8	0.1	-96.4	0.0	0.0	-
	Fry	57.3	28.1	-51.0	65.3	73.1	+11.9
September	Adult	100.2	57.6	-42.5	397.3	355.4	-10.5
	Juvenile	28.4	16.7	-41.2	69.8	61.6	-11.7
	Fry	44.5	28.1	-36.9	73.6	67.1	-8.8
October	Adult	75.4	57.6	-23.6	362.2	327.4	-9.6
	Juvenile	20.9	16.7	-20.1	63.2	58.0	-8.2
November	Adult	66.4	57.6	-13.3	341.5	323.9	-5.2
	Juvenile	18.8	16.7	-11.2	60.0	57.5	-4.2
December	Adult	64.7	57.6	-11.0	348.5	330.9	-5.1
	Juvenile	18.3	16.7	-8.7	61.1	58.5	-4.3

¹ The amount of WUA is expressed in 1,000 units. Average water year is defined as 1968 flows.

Table 3-8. Monthly Preproject and Postproject Rainbow Trout Habitat in Cottonwood Creek During Average Water Year¹

Month	Life Stage	Pre Q	Preproject	Post Q	Postproject	Change (%)
January	Adult	0.98	1,832	2.98	2,910	+58.9
	Juvenile	0.98	1,456	2.98	1,928	+32.4
February	Adult	1.12	1,926	3.12	2,980	+53.7
	Juvenile	1.12	1,509	3.12	1,943	+28.7
March	Adult	1.4	2,106	3.4	3,056	+45.1
	Juvenile	1.4	1,609	3.4	1,971	+22.5
April	Adult	2.59	2,728	2.59	2,728	+0.0
	Juvenile	2.59	1,864	2.59	1,864	+0.0
May	Adult	31.56	4,254	31.56	4,254	+0.0
	Juvenile	31.56	2,093	31.56	2,093	+0.0
	Spawning	31.56	204	31.56	204	+0.0
June	Adult	33.59	4,202	33.89	4,185	-0.2
	Juvenile	33.59	2,079	33.89	2,077	-0.1
	Spawning	33.59	206	33.89	206	+0.1
July	Adult	17.57	4,481	48.17	4,158	-7.2
	Juvenile	17.57	2,167	48.17	1,953	-9.9
	Spawning	17.57	180	48.17	210	+16.6
August	Adult	15.12	4,448	45.25	4,141	-6.9
	Juvenile	15.12	2,172	45.25	1,977	-9.0
	Spawning	15.12	171	45.25	209	+21.9
	Fry	15.12	2,822	45.25	2,034	-27.9
September	Adult	2.79	2,821	18.56	4,473	+58.5
	Juvenile	2.79	1,897	18.56	2,164	+14.1
	Fry	2.79	2,915	18.56	2,761	-5.3
October	Adult	0.91	1,774	2.91	2,877	+62.2
	Juvenile	0.91	1,418	2.91	1,916	+35.1
November	Adult	1.12	1,926	3.12	2,980	+53.7
	Juvenile	1.12	1,509	3.12	1,943	+28.7
December	Adult	0.98	1,832	2.98	2,910	+58.9
	Juvenile	0.98	1,456	2.98	1,928	+32.4

¹ Weighted usable area (square feet per 1,000 feet). Average water year is defined as 1968 flows.

Author: michael.davis Subject: Sticky Note Date: 5/28/2010 10:51:21 AM
PJ - Whose data is this. Is there more recent data besides 1968?

Table 3-11.—Fishery Impacts and Mitigation Measures: Proposed Action

Impacts	Mitigation Commitment
Stream Fisheries	
Gooseberry Creek tributaries - Loss of 4.3 miles (spawning Yellowstone cutthroat).	Restore year-round flows in 2.3 miles of tributaries and stabilize 3.0 miles of Middle Gooseberry Creek.
Upper Gooseberry Creek - Loss of 1.0 mile (all life stages Yellowstone cutthroat).	Acquire, fence, and improve fishery habitat on the following stream segments:
Middle Gooseberry Creek - 74% reduction in average annual flow for 3.0 miles (all life stages Yellowstone cutthroat).	Mud Creek 4.0 miles
Lower Gooseberry Creek - 43% flow reduction for 7.1 miles. (Decrease of 5% adult and 4% juvenile low flow habitat for Yellowstone cutthroat).	Winquarters Creek 2.5 miles
Fish Creek - Average 17% flow reduction of 6.0 miles. (Decrease of less than 1% adult and juvenile low flow habitat for Yellowstone cutthroat. Overall increase of 15% spawning and 3% fry habitat for Yellowstone cutthroat. Decrease of 1.3% adult and 0.5% juvenile low flow habitat for rainbow. Overall decrease of 16% spawning and 2% fry habitat for rainbow.)	Upper Fish Creek 1.0 mile
Upper Cottonwood Creek - No summer flow increase, 2-cfs winter flow provided.	Pondtown Creek 2.0 miles
Lower Cottonwood Creek - Average 162% annual flow increase. Average 200% summer flow increase. Overall increase in habitat of 10 to 20% for rainbow trout adult, juvenile, and spawning. Increase in Yellowstone cutthroat smolt adult habitat of about 20%. Little change for Yellowstone cutthroat juvenile habitat. Average of 41% decrease in Yellowstone cutthroat spawning habitat and decrease of 14% for Yellowstone cutthroat fry habitat. Increase in habitat for all life stages of brown trout.	Price River below Seaford Reservoir 2.0 miles
The number of miles of stream affected by increase in flow is 4.9 miles. The number of miles of stream affected by decrease in flow is 16.1 miles.	Provide 1.0 cfs minimum year-round release into Gooseberry Creek to provide 1.5-cfs flow at Gooseberry Campground. Provide temperature control for releases to Gooseberry Creek.
Reservoir Fisheries	
Seaford Reservoir - Increased potential for poor water quality resulting in habitat loss of some natural reproduction in rainbow trout. Reduced surface area of 274 acres, resulting in reduced standing crop of fish.	Construct Upper Cottonwood Creek Pipeline and provide 2-cfs winter release. Provide 2-cfs minimum flow during irrigation season in Lower Cottonwood Creek.
Lower Gooseberry Reservoir - Increased potential for poor water quality resulting in fish kills.	Reduce external phosphorus loading by improving riparian areas along Mud Creek, Winquarters Creek, Upper Fish Creek, and Pondtown Creek. These measures also will improve habitat for all life stages of Yellowstone cutthroat and rainbow trout including spawning. Lost angler days would be replaced by new fishery in Narrows Reservoir.
Fairview Lake - Lower fishing pressure; less severe drawdown during fishing season and winter.	Provide 300 acre-feet of water from Narrows Reservoir to be used for instream flow augmentation in consultation with UDWR.
Narrows Reservoir - New reservoir fishery (overage).	Beneficial impact. No mitigation required. Would provide approximately 454 acres of flat water fishery.

5-58

5-59

Author: michaelsdavis Subject: Study Note Date: 5/31/2016 11:25:56 AM

49 - What fish populations reside in these creeks?

Author: michaelsdavis Subject: Study Note Date: 5/31/2016 11:26:37 AM

49 - How do you know that this will be sufficient? What research are you basing this statement on?

What fish populations reside in these creeks?
How do you know that this will be sufficient? What research are you basing this statement on?

5-60

For a map showing the wetland communities within the basin study area, refer to figure 3-8.

3.6.2 Methodology and Impact Indicators

A wetlands delineation for the reservoir site was completed in 1991-92 following the procedures outlined in the USACE manual. In 2003, a wetlands delineation verification was performed for a portion of the area within the proposed Narrows Reservoir. This redelineation met the request of USACE that further studies be conducted to bring the original delineation up to the minimum standards set by the Utah Regulatory Office for the acceptance of wetlands delineations. The 2003 delineation was verified by the USACE on January 13, 2004, and was valid until January 13, 2009. Re-verification for this site was performed in 2009.

Approximately 349 acres of the proposed reservoir were verified, which represents 45% of the overall reservoir area.

It was found that the wetlands map, generated in 1992, was generally accurate, but because of methods used to create the map, the actual wetlands acreage was overstated at 100 acres. The original wetlands area within the verification area was shown as 34.78 acres, but the wetlands area in the wetlands delineation verification in 2003 was only 24.53 acres or 71% of the original acreage mapped. The 2003 verification estimated 71 acres of wetland. This 29% reduction in wetlands area is due to the methods used to map the delineation.

In 2009, the overall estimated wetlands were re-verified at approximately 89 acres. It is believed wetlands at the Narrows Reservoir project site may have shrunk from the 1992 to 2008. Because the original wetland delineation of 100 acres was generally accurate, data from that delineation was used

in this SDEIS for mitigation, understanding that it is somewhat conservative compared to the verified delineation of 89 acres.

Because the primary function of wetlands is wildlife habitat, HEP was used to evaluate the wetland values. This is a "species habitat" approach to impact assessment of habitat quality. The program uses selected species for indicators to evaluate habitat for a host of other species, with the assumption that these indicator (evaluation) species are functioning units of part of an ecosystem. Impact to a particular indicator species assumes that there also would be impacts to the group of other species it represents.

HSI were calculated for each evaluation (indicator) species. These indices range from 0.0 to 1.0, with each increment of change identical to the next. An HSI value is linearly related to the carrying capacity of the species. An HSI of "1.0" would represent the optimum habitat for the particular evaluation species, whereas "0.0" would represent habitat that is unsuitable.

HEP analysis is an indicator of the function and value of wetlands lost. Another important impact indicator is the total number of acres of wetlands lost as a result of the Narrows Project. Based on this criterion, all impacts on wetlands would be important because of the loss of acreage and function prior to implementing mitigation measures.

3.6.3 Predicted Effects

3.6.3.1 No Action Alternative

Wetland conditions are expected to remain the same as baseline conditions if the project were not constructed and if there were no future developments.

How can the surveys continue to be so inadequate? We have gone from 100 acres to 71 acres to 89 acres. Which one is it?

What will be the reasoning or logic that we use to choose the number of acres that will be mitigated?

3.6.3.2 Proposed Action Alternative

The proposed Narrows Reservoir would inundate 89 acres of wetlands.

Hydrologic and hydraulic studies were conducted to determine the potential impacts to the riparian and wetlands vegetation of Gooseberry Creek resulting from decreased flows. Flow measurements conducted by the Utah Division of Water Rights indicate that the stream is a "gaining stream." This means that the streamflow increases as it moves downstream because the stream is being fed by the adjacent ground water aquifer. Because the stream is serving as a drain for the ground water system, an increase or decrease in stream water level would result in a corresponding increase or decrease in the elevation of the ground water table adjacent to the stream.

Water surface profile studies were conducted to determine the depth of flow in Gooseberry Creek between the Narrows damsite and Lower Gooseberry Reservoir. The studies indicated that, with the reduced flows proposed by the Proposed Action and with the existing stream cross section, the depth of flow would decrease by 6 to 11 inches under worst-case conditions. However, the project plan includes proposed modifications to this portion of the Gooseberry Creek channel. These modifications include narrowing the channel to maintain the depth of flow. In designing the stream channel modifications, the intent would be to create a stream channel that is more naturally suited to the new flow regime and that will have the same depth of flow as under baseline conditions. Therefore, the depth of ground water adjacent to the stream would not decrease, nor would there be any adverse effects on riparian and wetland vegetation adjacent to the stream. If anything, it is entirely possible that the wetland communities would be enlarged as a result of the project impacts; the current outer bounds of those communities likely would be

unchanged as a result of the shallow ground water flowing toward the stream, but the wetlands likely would be increased precisely to the degree that the stream channel itself (or at least, the open water surface of the stream) narrows.

The process of narrowing the stream, as described in the SDEIS is planned so that the configuration of the narrowed streambanks would conform to that of the original streambank with respect to slope, materials, material size, and frequency as well as the water depth. The only change would be in the width of the channel and available open water surface. The result is that the same opportunity for overbank flows and wetted perimeter would exist as in the natural configuration. The gaining nature of the stream in this reach means that ground water is flowing toward and into the stream channel and that the stream does not provide the primary supply for the riparian community. The "wetted perimeter," therefore, should continue to be supplied from this source; and the stream will continue to gain as it flows. Bank saturation will not be affected here, as it would on many streams, because the direction of the ground water flows into the stream, rather than away from it. While overbank flows may be reduced in frequency, such flows, for this same reason, also are not critical to the bank saturation that supports the riparian community.

About 160 square feet (0.004 acre) of wetlands adjacent to Cottonwood Creek would be impacted by constructing the discharge structure at the end of the Upper Cottonwood Creek Pipeline. The remainder of the stream channel would not be affected. The channel presently is stable and adequately protected by natural cobble armoring.

Author: michaelidavis Subject: Study Note Date: 5/28/2010 11:34:00 AM

PJ - I do not agree. Seems that the BOR action will lead to the loss of wetlands. The BOR action will result in the change in the stream morphology that is presented as an attempt to keep from losing the wetlands completely.

3.6.3.3 Mid-Sized Reservoir Alternative

Impacts to wetlands resulting from implementing the Mid-Sized Reservoir Alternative would be similar to those resulting from construction of the Proposed Action. The primary difference would be the smaller amount of acreage (81 acres of wetlands) that would be inundated by Narrows Reservoir.

3.6.3.4 Small Reservoir Alternative

Impacts to wetlands resulting from implementing the Small Reservoir Alternative would be similar to those resulting from constructing the Proposed Action. The primary difference would be the smaller amount of acreage (72 acres of wetlands) that would be inundated by Narrows Reservoir.

3.6.4 Mitigation

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.

3.6.4.1 Proposed Mitigation - Mud Creek Area

The proposed mitigation would restore and create wetlands adjacent to Mud Creek near Scofield. This measure would entail purchasing about 220 acres of private land adjacent to Mud Creek, south of Scofield Reservoir. Portions of this land contain wetlands that have been severely damaged by past livestock grazing practices. The remaining portions are upland. It is anticipated that, by removing livestock, the wetland vegetation would return on its own with little or no other outside measures. Stream channel improvements on the Mud Creek channel would create additional

wetlands adjacent to the stream. Some earthwork would be needed to create small berms and swales, which would create cells of new wetlands. These wetlands would be fed by the discharge from existing springs in the area (additional details found in section 2.2.2.2.4). Flows from Mud Creek also could be used to supply water for these wetlands. All or a portion of the required wetland mitigation could be performed at this site. The wetland area would be maintained by SWCD under a MOA with UDWR.

3.6.4.2 Alternative Mitigation - Area West of Lower Gooseberry Reservoir

Water would be diverted from an existing diversion structure in Cabin Hollow and would be transported through an existing open ditch to the 120-acre mitigation site. The water would be diverted from the ditch at several locations and allowed to flow across the uplands and to the surrounding wetlands. The existing wetlands on this site appear to have been created and maintained by the existing irrigation system. Some earthwork would be needed to create small berms and swales, creating cells of wetlands. The area around the perimeter would be excavated somewhat deeper and to a 20-foot minimum width, wider in some areas so that the edge of the swale is not abrupt but serpentine. This deeper area would allow for willows and other shrubs to be planted to create a vegetation barrier to the interior wetlands. The area would still be available for grazing, and wildlife would use the area; however, sheep would be deterred from entering the wetland by the perimeter swale, unless forced to cross the deeper water. The above perimeter swale would eliminate the need to fence the area and would allow access for wildlife. At least a portion of the required wetland mitigation could be accomplished at this site.

Not on FS lands - this will not benefit the Forest Service System Lands. It will instead benefit the state of Utah.

Comments 62, 63, and part of 64 begin here due to lack of space on page 3-81.

The third sentence suggests that an MOA will be developed only if historic properties will be adversely affected by the project. Yet many of the proposed protocols to be included in such an MOA include the types of things one would do to identify those historic properties in the first place (such as survey protocols). Are you proposing to do an MOA to cover all actions on the project relating to cultural resources, to be signed at the beginning of the whole Section 106 process, or just an MOA if historic properties are going to be adversely affected?

Would you want to include Native American Tribes as potential signatories on the MOA?

The document assumes that the 1979 survey of the main reservoir impoundment area conducted by Dames and Moore meets current site identifications standards. Their report states that the survey was conducted in 15 m intervals, which is less than the 10 m intervals suggested by the Utah State Historic Preservation Office for complete survey coverage.

Most of all, they are unclear on specifically what criteria they used to identify a "site." They state that, "The latter [a site] refers to an identifiable locus of historic or prehistoric human activity within a reasonably bounded area" (Singer 1979:5). They found several areas with relative concentrations of flakes (see Figure 2 in Singer 1979:7). It is possible that if these areas were revisited, they might meet more recent standards for site identification and actually be documented as archaeological sites.

Predicted Effects

additional pipelines to deliver water to existing water distribution systems. Finally, impacts from the proposed rehabilitation of an existing tunnel to Cottonwood Creek, the development of recreation facilities, staging areas, access roads, borrow areas, and any other ancillary facilities linked to the proposed Narrows Project would be included in the APE.

Reclamation will complete cultural resource compliance, as stated in Appendix F, "Environmental Commitments," of the SDEIS, as a means to fulfill Section 106 of the NHPA. These commitments state that any areas associated with the construction of the proposed project will be subject to Class I and Class III cultural resource inventories to identify and evaluate all cultural resources. If historic properties are located within the APE, and if they will be adversely affected by construction activities associated with the proposed project, an MOA will be developed. The MOA would be among Reclamation; the Utah State Historic Preservation Office; the USDA Forest Service; the Advisory Council on Historic Preservation (ACHP), if it chooses to participate; and SWCD. The MOA would outline cultural survey protocols, report and treatment plan requirements, and procedures for mitigation on potential impacts to identified and unidentified (inadvertent discovery situations) historic properties. The MOA also would include, among other stipulations, a Native American consultation summarization and would identify the cultural resource APE for the proposed project.

Reclamation will complete cultural resource compliance, as stated in Appendix F, "Environmental Commitments," of the SDEIS, as a means to fulfill Section 106 of the NHPA. These commitments state that any areas associated with the construction of the proposed project will be subject to Class I and Class III cultural resource inventories to identify and evaluate all cultural resources. If historic properties are located within the APE, and if they will be adversely affected by construction activities associated with the proposed project, an MOA will be developed. The MOA would be among Reclamation; the Utah State Historic Preservation Office; the USDA Forest Service; the Advisory Council on Historic Preservation (ACHP), if it chooses to participate; and SWCD. The MOA would outline cultural survey protocols, report and treatment plan requirements, and procedures for mitigation on potential impacts to identified and unidentified (inadvertent discovery situations) historic properties. The MOA also would include, among other stipulations, a Native American consultation summarization and would identify the cultural resource APE for the proposed project.

The 1979 Class III inventory identified two prehistoric archaeological sites near the proposed dam and reservoir area. The sites were open lithic scatters with few formal tools. No further evidence of cultural materials was present on these sites. From the limited data available, the proposed project area appears to support the idea that high altitude areas were utilized as temporary, seasonal hunting grounds during the Archaic period, about 2,000 to 4,000 years before present. In addition, a total of 26 isolated artifacts were recorded during the cultural resource inventory.

Also, one historic cultural resource site, a stone structure foundation, was located during the 1979 inventory. The three cultural resource sites were not evaluated for their NRHP eligibility in 1979. As a result, the sites will be revisited and evaluated for eligibility as stated in the environmental commitments for cultural resources.

The design and, therefore, the APE of the proposed project have changed since the 1979 cultural resource inventory. Class I and Class III cultural resource inventories have not been performed for the Upper Cottonwood Creek, Oak Creek, or East Bench Pipeline alignments; new road alignments; borrow areas; staging areas; new campgrounds; marinas; wetland mitigation areas; or haul roads. Class I and Class III inventories covering the entire APE of the proposed project will be conducted prior to initiation of final design and construction in accordance with 36 CFR Part 800.

3.9.2 Methodology

The methods used to identify, assess the

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5-63

5-64

5-65

Author: michaeljavis Subject: Sticky Note Date: 5/28/2010 12:09:36 PM
Charmaine Thompson
Page 3-61

Second paragraph (comment)

The third sentence suggests that an MOA will be developed only if historic properties will be adversely affected by the project. Yet many of the proposed protocols to be included in such an MOA include the types of things one would do to identify those historic properties in the first place (such as survey protocols). Are you proposing to do an MOA to cover all actions on the project relating to cultural resources, to be signed at the beginning of the whole Section 106 process, or just an MOA if historic properties are going to be adversely affected?

Would you want to include Native American Tribes as potential signatories on the MOA?

In the last sentence, there is reference to including a "Native American consultation summarization" in the MOA. Does this mean a summary of consultation conducted with Tribes, or a summary of the types of information that would be included in tribal consultation? I ask this in part because there is no other reference to tribal consultation in the cultural resource sections. This consultation will have to be done in order to meet the requirements of Section 106 of the National Historic Preservation Act, and will be expected by the Utah State Historic Preservation Office. Perhaps it would be useful to include an explicit reference in this discussion to the fact that Tribal Consultation will be completed as part of compliance with Section 106 of NHPA.

Author: michaeljavis Subject: Sticky Note Date: 5/28/2010 12:50:47 PM
Charmaine Thompson

Third paragraph (comment)

The document assumes that the 1979 survey of the main reservoir impoundment area conducted by Dames and Moore meets current site identification standards. Their report states that the survey was conducted in 15 m intervals, which is less than the 10 m intervals suggested by the Utah State Historic Preservation Office for complete survey coverage. Most of all, they are unclear on specifically what criteria they used to identify a "site." They state that, "The latter [a site] refers to an identifiable locus of historic or prehistoric human activity within a reasonably bounded area" (Singer 1979:5). They found several areas with relative concentrations of flakes (see Figure 2 in Singer 1979:7). It is possible that if these areas were revisited, they might meet more recent standards for site identification and actually be documented as archaeological sites.

As a result, we would recommend that selected areas of the previously surveyed impound area be re-surveyed for cultural resources in order to meet today's site identification standards. These could be limited to areas above 42SP97 and the high terrace areas shown in Figure 2 (Singer 1979:7) in which denser areas of isolated artifacts were found.

We also make this recommendation based on the fact that at least two possible Paleo-Indian tools were found during the 1979 survey; one tool at both 42SP95 and 42SP97 (see Singer 1979:12-13). The Wasatch Plateau is known to contain buried archaeological deposits that date to this very early and archaeologically important time period (c. 10,000-8,000 years ago). Specifically, the Huntington Mammoth (which was scavenged by Paleo-Indian hunters) was recovered intact in a buried context at a similar elevation about 5 miles to the south. As a result, even small sites which might have been missed during the initial survey may be archaeologically important because they may contain additional Paleo-Indian materials (or important materials from later time periods).

As a result, we would recommend that selected areas of the previously surveyed impound area be resurveyed for cultural resources in order to meet today's site identification standards. These could be limited to areas above 42SP97 and the high terrace areas shown in Figure 2 (Singer 1979:7) in which denser areas of isolated artifacts were found.

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5-66

J.P. McCalpin of GEO-HAZ Consulting, Inc., Estes Park, Colorado, and S.P. Nishenko, research associate at the University of Colorado Natural Hazards Research Center in Boulder conducted the research. "This is dramatic new information," says Dr. Les Youd, Chairman of the Utah Seismic Safety Commission. "We don't wish to appear to be alarmists, but this study suggests that we are at greater risk than previously thought. We feel so strongly about this information we thought it best to have one of the authors present the results of the study directly to the commission." S.P. Nishenko addressed the Utah Seismic Safety Commission during its regular meeting on January 16, 1996.

52. Fishelson announced the Utah Science Salina Commission during its regular meeting on January 13, 1970.

A major earthquake striking the Wasatch Front is not a question of if, but when. A new study suggests that one may be more likely than previously thought. The study, soon to be published in the February edition of the Journal of Geophysical Research, estimates a 30 percent probability of a magnitude 7 or larger earthquake in the Wasatch Front region in 100 years. Using an alternative calculation considering new fault trenching results by the Utah Geological Survey, the study estimates a probability of such an earthquake on the Wasatch fault in Salt Lake City alone may be as high as 57 percent in 100 years.

3-202



Appendix F

Narrows Project Supplemental Draft Environmental Impact Statement Environmental Commitments

The following list summarizes major environmental commitments for the Narrows Project, Utah. These commitments would be included in construction contracts and other agreements to ensure their implementation. Mitigation measures would be concurrent with project construction. If environmental commitments are not kept, project funding would be withheld by the Bureau of Reclamation. Additionally, the 404 Permit issued by the U.S. Army Corps of Engineers (USACE) could restrict filling of the reservoir if environmental commitments are not met.

1. Prior to initiation of final design and construction, detailed cultural resource surveys would be performed along the proposed alignments of the Upper Cottonwood Creek, Oak Creek, and East Bench Pipelines. If cultural resource sites are found, the pipelines would be re-routed where possible to avoid the impact. If the pipeline cannot be re-routed, appropriate mitigation would be developed through coordination with the State Historic Preservation Office.
2. Contractors would be required to cease work immediately if they should discover prehistoric, historical, or archeological evidence during construction. Work would not be resumed until such evidence is properly evaluated by qualified cultural resources specialists.
3. Evaluate those previously recorded sites in pool area as to the *National Register of Historic Places* (NRHP) eligibility. Limited testing necessary to evaluate the sites will be accomplished through placing auger holes in a pattern on each site or excavating test units.
4. Inventory any of the pool area, dam construction zone, and road realignments not inventoried in 1976, including ¼-mile zone around pool area that would be impacted by recreational use of the reservoir. Inventory the location of all recreational facilities proposed in the project plan, in addition to all areas slated for wetlands enhancement.
5. Inventory and evaluate the existing tunnel delivery system on Gooseberry Creek as to its NRHP eligibility.
6. Conduct a paleontological literature search and survey of the project area and its immediate vicinity with the particular view of assessing the likelihood of recovering Pleistocene fauna during the project.

F-1

Page: F-1

Author: mchadwick Subject: Narrows Date: 5/22/2013 12:25:19 PM
Summary: Narrows

General comment: do you want to explicitly add a statement similar to, "Conduct consultation on project effects with interested Native American Tribes, as part of Section 106 of NHPA Consultation" to the list of commitments? It might help clearly document that you will be doing this aspect of Section 106 compliance. This might be helpful both to Tribes and any others who read the EIS who have an interest in making sure this aspect of Section 106 compliance is completed.

Author: mchadwick Subject: Narrows Date: 5/22/2013 12:25:19 PM

Again, we would recommend adding a statement to the effect of "[inventory any of the] high site potential areas within the area previously surveyed in 1979, to make sure that the entire project cultural resource inventory meets current site identification standards."

Author: mchadwick Subject: Narrows Date: 5/22/2013 12:25:19 PM

Christine Thompson

FYI...as you probably know, the Narrows Tunnel was constructed in 1968. As such, it is not old enough (and not historically important enough) to be considered for inclusion on the National Register of Historic Places until 2018.

General comment: do you want to explicitly add a statement similar to, "Conduct consultation on project effects with interested Native American Tribes, as part of Section 106 of NHPA Consultation" to the list of commitments? It might help clearly document that you will be doing this aspect of Section 106 compliance. This might be helpful both to Tribes and any others who read the EIS who have an interest in making sure this aspect of Section 106 compliance is completed. Again, we would recommend adding a statement to the effect of "[inventory any of the] high site potential areas within the area previously surveyed in 1979, to make sure that the entire project cultural resource inventory meets current site identification standards." FYI....as you probably know, the Narrows Tunnel was constructed in 1968. As such, it is not old enough (and not historically important enough) to be considered for inclusion on the National Register of Historic Places until 2018.

Comments specific to the FEIS:

Overall:

Most of the comments submitted to the BOR from the Forest Service regarding the last FEIS review (letter dated September 21, 2001) remain the same. In other words, the BOR has not addressed issues and concerns regarding mitigation and downstream effects of the reservoir.

To quote that letter: "There has been continuing concern regarding appropriate off-site mitigation, the need for on-Forest mitigation for on-Forest effects,....We now feel the best procedure would be to have a mitigation fund established that could be used cooperatively by both the Forest Service and Division of Wildlife Resources over a period of time, to identify and fund mitigation if the Narrows Project is undertaken. This would allow us the flexibility to ensure that necessary mitigation measures are implemented and coordinated with our ongoing programs of work." This concern continues to be valid for the Narrows Project Supplemental Draft Environmental Impact Statement June 2009.

Chapter 2

The Alternatives Considered including the Proposed Action

- 5-70 None of the action alternatives have explored different operational or release strategies to mitigate downstream effects on fisheries, riparian areas and wetlands. It appears that 'fill and spill' reservoir management would be applied to all alternatives. For this reason, the different size reservoirs analyzed in the action alternatives do not result in differences for key resources such as fisheries, riparian area and wetlands located on Forest Service Lands. An alternative should be developed including a reservoir release scenario that mimics the natural flow regime.

Utah Rivers Council submitted an alternative proposal for the Narrows Project. This Alternative should also be included in the analysis.

- 5-71 The FEIS proposes mitigating effects on fisheries, riparian areas, and wetlands primarily on adjacent private lands. While these proposals (e.g., below Scofield reservoir - 640 acres, south of Scofield town - 220 acres, easement around the narrows reservoir - 150 acres, etc) may have merit, they remain unacceptable to the Forest Service. Effects on National Forest System lands must be mitigated within the National Forest boundary, and preferably on National Forest System lands. If any mitigation is to be satisfied by the purchase of private land, especially for wildlife habitat loss and terrestrial habitat, a higher priority should be to purchase private land around the Narrows Reservoir and downstream on Gooseberry Creek (i.e., Kristine Lee property). This would more closely

fulfill the desires for "in place - in kind" replacement. Title to all lands purchased must be in the name of the United States.

- 5-72 It is expected that spawning habitat will be significantly impacted in several streams (Middle Gooseberry-cutthroat trout, Lower Gooseberry-rainbow trout, Fish Creek-rainbow trout, Cottonwood Creek-cutthroat trout). A mitigation account/collection agreement must be established and funded prior to site development for stream channel and streamside riparian restoration and improvement. Specific projects would be designed based on monitoring of effects following construction and filling of the reservoir.
- 5-73 A fish screen would need to be installed in the Narrows Reservoir outlet entering the diversion to Cottonwood Canyon. Without this mitigation measure fish may be lost from Narrows Reservoir.

Fishery Measures.

- 5-74 *Restore Streamflow in Gooseberry Creek Tributaries* - The measure does not affect National Forest System lands and does not adequately mitigate effects anticipated on National Forest System lands. In addition, these drainages are very different from Gooseberry (at the proposed dam site and below) and do not provide equivalent habitat benefits.
- 5-75 *Provide Minimum Flows below Narrows Dam* - The 1.0 cfs release combined with natural accretion of flow may approximate baseflow. However it does not mitigate for the loss of the range of flows presently occurring in the stream system.
- 5-76 *Stabilize Stream Banks Along Middle Gooseberry Creek* - We agree that the dewatered stream channel will narrow naturally. We propose the establishment of a mitigation account for localized stream stabilization and habitat improvement on an as-needed basis. Since the majority of the affected area is National Forest System lands, the Forest Service must have an approval role for any contracted design and construction and should have the option of doing design and project implementation in-house using the mitigation account. Examples of additional mitigation include:
- Fish Creek from Forest boundary to Gooseberry Creek – improve stream habitat with placement of boulder, log deflectors, spurs and cover structures (2.9 miles) and mitigate expected temperature increases by planting of narrow-leaf cottonwood (*Populus angustifolia*) and Engelmann spruce (*Picea engelmannii*) seedlings along the stream banks in natural appearing clusters (56.3 acres).
- Gooseberry Creek from Fish Creek to Mill Creek – improve stream habitat with placement of boulder, log deflectors, spurs and cover structures (2 miles) and

mitigate expected temperature increases by planting of narrow-leaf cottonwood (*Populus angustifolia*) and Engelmann spruce (*Picea engelmannii*) seedlings along the stream banks in natural appearing clusters (16.3 acres).

Gooseberry Creek at Mammoth Dam site – reduce sediment loads from bare and unstable slopes by planting with an appropriate native seed mix and stabilizing with erosion control matting (6 acres).

Pontown Creek from the Forest boundary up to the old coal prospect – reduce sediment loads by closing and rehabilitating unneeded roads (0.65 miles), improving the main roads (4.4 miles) up Bear Ridge and Fish Creek Ridge, restabilizing the coal prospect (2 acres), and repairing the fence (1 mile) along the Forest boundary to reduce cattle trespass problems, leading to better bank stability.

- 5-77 *Provide Flushing Flow and Other Releases to Gooseberry Creek* - While the 300 acre feet proposed in this document might usefully mitigate oxygen depletions during critical winter periods, it is inadequate as a flushing flow.. Current research is clear that a range of flows that exceeds the average annual event ($Q_{1.5}$) is necessary for long-term maintenance of aquatic habitat. Duration of these flows must be comparable to naturally occurring durations. This has been summarized in *Attributes of an alluvial river and their relation to water policy and management* by Trush, McBain and Leopold (PNAS, 2000 available at www.pnas.org/cgi/reprint/97/22/11858.pdf). Based on an analysis of stream gage records, flows into the upper portion of Lower Gooseberry should periodically exceed 170 cfs for a period of eight to ten days; this is approximately 3300 acre-feet. Occasionally, there should also be flows comparable to the Q_5 and Q_{10} events.

The 300 acre-feet currently proposed as a short-duration flushing flow is inadequate for long-term habitat maintenance. Therefore, this measure is misleading in that it appears to provide the necessary stream functions associated with higher ranges of flow.

- 5-78 *Acquire and/or Improve Stream Segments* - Three miles of stream improvement on National Forest System lands does not adequately mitigate for eight miles of stream to be affected. Mileage equal to that affected must be restored or enhanced on adjacent National Forest System lands. Funding of a mitigation account to be used for projects identified by the Forest Service and UDWR over a period of five to ten years following site development would ensure adequate mitigation. This approach allows mitigation projects to be developed from priority areas that change or evolve over time and also allows monitoring of effects from the Narrows Dam and a chance to identify new or unexpected problems in site-specific areas that have feasible solutions.

- 5-79 *Provide Winter Releases to Cottonwood Creek and Provide Summer Flows in Lower Cottonwood Creek* - These measures do not occur on National Forest System lands and

would not adequately mitigate the effects of dewatering on National Forest System Lands.

Construct Upper Cottonwood Creek Pipeline - This seems to be a necessary part of the project and has little benefit for fisheries. It should not be listed under Fisheries Mitigation Measures.

- 5-80 *Provide a Minimum 144-acre Conservation Pool* - The conservation pool must be expressed in terms of acre feet only; surface acreage will change as the topography of the lake bottom changes. In addition, this document or subsequent agreements must include a provision that no assessments, fees, or other duties will be assessed against the conservation pool or the conservators/administrators of the conservation pool.

5-81 Wetland Measures

There is a concern on the part of the Forest Service regarding the effects of flow depletion and the reduction in the higher ranges of flows on the riparian/wetland complexes that occupy the lower portions of the Gooseberry and Fish Creek valleys.

It is the Forest's policy that adverse effects on National Forest System lands not within the BOR withdrawal should be mitigated on National Forest System lands. This is based on Forest Plan requirements that adverse effects on fisheries and riparian areas or wetlands be mitigated, on the Corps of Engineers' in-kind in-place policies, and on our determination that the appropriate watershed scale for the effects of concern is the Gooseberry/Fish Creek watershed upstream of Scofield Reservoir. The measures proposed in this section do not occur on National Forest System lands and would not adequately mitigate the effects anticipated on National Forest System lands in the area of inundation and down-valley. These measures are unacceptable to the Forest Service. We proposed the funding on a mitigation account similar to that described above. The two funds could be combined to allow for more comprehensive riparian/wetland/aquatic habitat projects.

In addition, creating a wetland area west of Lower Gooseberry Reservoir (p 2-30) would not create an equivalent wetland to what is lost either with inundation at the reservoir site or downstream on FS lands. That site is an upland sagebrush bench with very small stringer wetlands. This site is neither similar to valley bottom willow vegetation community that would be lost with reservoir construction nor would it have the potential to develop a similar soil/water/vegetation community.

Chapter 3

Affected Environment and Environmental Consequences

- 5-82 **Page 3-1 through 3-10.** As a Cooperating Agency, we must ensure the Biological Assessment (Threatened, Endangered and Proposed Species), and Biological Evaluation

(R4 Sensitive Species) meet Forest Service agency requirements in order to make subsequent decisions associated with this project on National Forest System lands outside the BOR withdrawal. Otherwise, we will need to revisit the consultation process prior to authorizing activities outside the withdrawal area.

5-83 Water Resources Section

The analysis is completed using average monthly flows to determine changes under each alternative. This analysis leaves out important components of the flow or flood regime such as magnitude, frequency, duration, timing and rate of change. There is a growing body of literature (Poff et al. 1997; Stromberg 2001; Nilsson and Svedmark 2002; Whiting 2002) that the variation in flows including large flood events (20-year or greater peak flow) are critical to maintaining the integrity of the stream system. Therefore, this analysis does not adequately display potential changes to the stream system on Gooseberry and Fish Creek with the implementation of any of the action alternatives.

5-84 Fisheries Section

IFIM analysis should be completed and analyzed using current methods and the latest and best scientific literature concerning the effects of flow regulation on fishery habitat. It is unclear how old the analysis is that is used in the Narrows FEIS since no dates are provided. It could be ten years old and quite stale.

In the 'Flow Alternation Effects' for Middle and Lower Gooseberry Creek as well as Fish Creek, the document refers to changes in average monthly flows. Analysis of flow effects on fisheries should be based on low flows, usually the seven day low flow is used. Average monthly flows do not reflect critical flow levels for fish or fish habitat. For example, a flow of '0' can be hidden in an average monthly flow and fish prefer to be wet.

5-85 Wetland Resources Section

The analysis does not include an analysis of the possible changes to wetland areas associated with Fish Creek and lower Gooseberry due to the altered flow regime associated with operation of the proposed Narrows Reservoir.

The following excerpt is from a analysis and white paper on the effects of the proposed Narrows Project completed by Katherine Foster, former Manti – La Sal Forest Hydrologist (May 2004):

“natural flood regimes create a variety of microhabitats along and across a floodplain and provide a variety of recruitment opportunities (Stromberg 2001). The ‘frequency and magnitude of physical disturbance determine patterns of succession and rates of species turnover’ (Nilsson and Svedmark, 2002).

Variation in the types of disturbances is important in maintaining diverse riparian communities and to avoid favoring any single species...Large floods (the 20-year or greater peak flow) rejuvenate floodplain wetlands (Poff et al. 1997). Large floods may fire-proof a riparian area by removing debris and maintaining moist conditions in plants and soils (Stromberg 2001). Intermediate size floods (10 to 20 –year peak

flows) affect ecosystem components like plant community patches; minor floods (1.5 to 3.3 – year peak flows) affect individual species or plants (Nilsson 2002)...In constrained channels, such as portions of Lower Gooseberry, loss of high flows could result in increased cover by plants that would otherwise be removed by flood scour. In alluvial valleys, such as Fish Creek, loss of high flows could result in modified plant communities by causing plant desiccation, poor growth, poor seed dispersal, or poor seedling establishment (Poff et al. 1997).. the duration of high flows affects the balance between species tolerant of flooding and high water tables and those that are more intolerant, including upland species that may have become established in riparian areas during drier periods between floods. Decreasing the duration of high flows increases opportunities for early seral species to move into areas normally flooded and/or scoured while decreasing opportunities for those species needing inundation or higher water tables...In order to maintain the quality and diversity of the willow complex in Lower Gooseberry and Fish Creek over the long-term, sexual reproduction is essential. Although some regeneration occurs from root sprouting of existing clones...without sexual reproduction, willow populations would become more homogeneous and decadent and the quality of the habitat would degrade over time...based on willow studies from other rivers, an adequate flood recurrence interval for the creation of regenerative habitat for willow is on the order of 10-20 years (David Merritt, personal communication)."

The effects of an altered flow regime on downstream wetland resources needs to be completed and displayed by alternative.

**6. U.S. GEOLOGICAL SURVEY, JAMES F. DEVINE, SENIOR ADVISOR OF
SCIENCE APPLICATIONS**



United States Department of the Interior

U. S. GEOLOGICAL SURVEY

Reston, VA 20192

In Reply Refer To:
Mail Stop 423

May 19, 2010

Bureau of Reclamation
Attention: Peter Crookston, PRO-774
302 East 1860 South
Provo, UT 84606-7317

Subject: Review of the Supplemental Draft Environmental Impact Statement for the Narrows
Project, Sanpete Co., Utah

Dear Mr. Crookston,

As requested by your correspondence of March 29, 2010, the U.S. Geological Survey (USGS) has reviewed the subject draft environmental impact statement (EIS) and offers the following comment.

6-1 COMMENT

I was unable to find where the following reference is used in the SEIS, and I was unable to verify the existence of this publication on the Utah Water Science Center publications page or the USGS publications page. Suggest that if it is not referenced in the text it should be removed from the reference list.

Stephens, D. Not dated. *Why Scofield Reservoir Is Eutrophic, Effects of Nonpoint Source Pollutants on a Water Supply Reservoir in Utah*. U.S. Geological Survey. Salt Lake City, Utah.

Thank you for the opportunity to review and comment on the DEIS. If you have any questions concerning our comment, please contact Gary LeCain, USGS Coordinator for Environmental Document Reviews, at (303) 236-5050 (x229) or at gdlecairn@usgs.gov

Sincerely,

/Signed/

James F. Devine
Senior Advisor for Science Applications

7. **U.S. HOUSE OF REPRESENTATIVES, REPRESENTATIVE JASON CHAFFETZ,
UTAH, 3RD DISTRICT**

AL

JASON CHAFFETZ
3RD DISTRICT, UTAH

COMMITTEE ON
NATURAL RESOURCES

COMMITTEE ON
THE JUDICIARY

COMMITTEE ON OVERSIGHT
AND GOVERNMENT REFORM

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www.chaffetz.house.gov

May 26, 2010

Bureau of Reclamation
Attn: Peter Crookston, PRO-774
302 East 1860 South
Provo, Utah 84606-7317

Re: Narrows Project

Dear Mr. Crookston,

- 7-1 I am writing to comment on the recently-released Supplemental Draft Environmental Impact Statement for the Narrows Project (Narrows) in Sanpete County. I strongly urge the Bureau of Reclamation to come to a favorable Record of Decision for the Narrows as soon as possible.

Water is a scarce commodity in the western United States. As the second driest state in the country, this is especially true for Utah. Central Utah has been a prime beneficiary of the Bureau's water development resources.

Neighboring Scofield Dam was created by a Bureau project in 1925. The Bureau then oversaw construction projects at Scofield in 1943, 1997, and 2007. Despite these successful efforts, a 2006 study by Fransen Noble Engineering found that roughly 9,733 acre-feet of water continues to flow from Gooseberry and Fish Creeks, through Scofield Reservoir, and on to the Colorado River.

Agreements were reached during the 1930's between water-weary Carbon and Sanpete Counties to increase water for the area and to capture this lost water. Carbon County has already received the water they were promised from the deal and Sanpete is closer than ever to receiving theirs.

The Narrows project will allow Sanpete County to access their legally-guaranteed 5,400 acre-feet of water, prevent regional water loss, and continue the successful local/federal partnership in central Utah.

The original agreement between Carbon and Sanpete Counties allocated 30,000 acre-feet to Carbon and 17,000 acre-feet to Sanpete. In an effort to resolve the conflict, Sanpete reduced their water right from 17,000 acre-feet down to 5,400 acre-feet. Despite this sacrifice, opponents still insist the Narrows will create a regional water shortage. I disagree with this assertion. The Narrows will capture roughly 4,234 out of the 9,733 acre-feet of water that is currently lost. This means in non-drought years 5,499 acre-feet of water will continue to be lost to the Colorado

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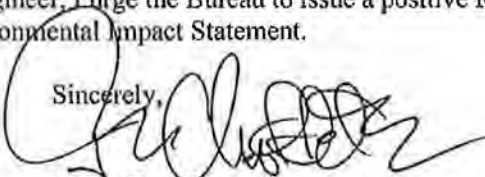
River. Thus, the region will have access to this 5,499 acre-feet. The claim that the Narrows will create a water shortage is overstated.

The three Bureau projects at the Scofield Dam have been funded under a federal-local cost share agreement. Under these agreements, 85% of the work has been covered by federal taxpayers and 15% by the water users. As noted above, Sanpete County is seeking assistance for the Narrows through the Bureau's Small Reclamation Projects Act loan program. The US taxpayer will be repaid under this arrangement.

The Colorado River Basin Salinity Control Program has invested nearly \$20 million in the Price/San Rafael Rivers region (Emery, Carbon, Wayne, and Garfield Counties). As a result, approximately 36,050 acre-feet of water rights in the region have been enhanced. Alfalfa production in the area is enjoying a rising trend. Recent surveys show 95% of people in the Price/San Rafael Rivers region believe the salinity control program has had a positive impact on local economies. This is yet another example of successful local/federal partnership in the region. It would be hypocritical for beneficiaries of the Salinity Program to criticize federal investment in the Narrows project.

The Bureau of Reclamation's mission is to assist western communities in their struggle with the arid West. Sanpete County was promised this water storage project over 80 years ago. Federal investment in the area has proven successful. And in the case of the Narrows, the initial federal investment will be paid back. With support from the Utah House of Representatives, Utah State Senate and the State [Water] Engineer, I urge the Bureau to issue a positive Record of Decision on the Supplemental Draft Environmental Impact Statement.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jason Chaffetz', written over a large, stylized circular flourish.

Jason Chaffetz
Member of Congress

8. U.S. HOUSE OF REPRESENTATIVES, REPRESENTATIVE JIM MATHESON,
UTAH, 2ND DISTRICT

JIM MATHESON
2ND DISTRICT, UTAH
<http://matheson.house.gov>

Congress of the United States
House of Representatives
Washington, DC 20515-4402

ENERGY AND COMMERCE
COMMITTEE
SUBCOMMITTEES:
HEALTH
ENERGY AND AIR QUALITY
COMMERCE, TRADE AND
CONSUMER PROTECTION
SCIENCE AND TECHNOLOGY
COMMITTEE

June 4, 2010

Bureau of Reclamation
Peter Crookston, PRO-774
302 East 1860 South,
Provo, Utah 84606-7317

Dear Mr. Crookston,

I am writing to provide comments to the Supplemental Draft Environmental Impact Study (SDEIS) for the Gooseberry Narrows Project located in Utah that was published in the Federal Register on March 29, 2010.

I have reviewed the SDEIS and unfortunately, I believe it is insufficient in regards to its analysis regarding cost, the alternatives and savings to the taxpayers, effect to neighboring Carbon County, and the implications on the Gooseberry Narrows - one of Utah's premier trout fishing streams in Utah.

8-1 The SDEIS notes that this project would be funded using the Small Reclamation Projects Act (SRPA). The Small Reclamation Projects Act was established to encourage State and local participation in the development of projects under Federal reclamation laws. According to the SDEIS, SanPete Water Conservancy District would apply for a SRPA loan for construction of the dam and reservoir for this project. However, I have great concern over use of SRPA. The last time Congress appropriated money for SRPA was in 2002. It is my understanding that this loan is no longer utilized due to our severe budgetary constraints. In fact, there were several proposals in the 106th, 107th, and 108th Congress to re-establish the loan program and none were enacted.

8-2 The cost estimates of this project were between \$41 million for the proposed action to \$37 million for a small reservoir dam according to the SDEIS. A study completed by CH2M Hill in August of 2008 projected the cost to be \$60-80 million dollars. The Environmental Impact Study (EIS) that was completed, but later rescinded in 1998 listed the cost of the dam and reservoir to be about \$17 million. The SRPA loan has a maximum of \$50 million dollars. Given the large cost discrepancy, I am hopeful that this cost issue will be resolved before the EIS is finalized.

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- 8-3 Additionally, the SDEIS fails to note recognition of savings, both financial and water value, through conservation. The cost is estimated at \$40.3 million dollars but does not list the cost savings by rehabilitating tunnels and what that impact might be to constituent tax payers.
- 8-4 Gooseberry Narrows is long recognized as one of Utah's premier Blue Ribbon Trout Fishing stream systems. The impact of depleted flow rates would have a negative affect on tourism for both Carbon and Sanpete communities. I believe that this potential impact to both the industry and neighboring businesses needs to be more thoroughly analyzed in the SDEIS.

I understand that there are many stakeholders who are engaged in this process. It is my hope that my comments, along with others, will be taken into consideration when finalizing the EIS for this project. If you have any questions, please feel free to contact Kristen Lingley of my staff at 202-225-3011

Sincerely,

A handwritten signature in black ink that reads "Jim Matheson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Jim Matheson
MEMBER OF CONGRESS

STATE AGENCIES

- 9. Utah Department of Transportation, Monet Aldridge, P.E., Region 4, Preconstruction Engineer**
- 10. Utah Division of Water Quality, John Harja, Director, Public Lands Coordination Office**
- 11. Utah Farm Bureau Federation, Leland J. Hogan, President**
- 12. Utah General State Senate, 2009, Resolution, Ralph Okerlund, Sponsor**
- 13. Utah State House of Representatives, Representative Bradley Daw, District 60**
- 14. Utah State House of Representatives, Representative Kay L. McIff, District 70**
- 15. Utah State House of Representatives, Representative Michael Morley, District 66**
- 16. Utah State House of Representatives, Representative Bill Wright, District 68**
- 17. Utah State Engineers Office, David Marble, P.E., Assistant Utah State Engineer – Dam Safety**
- 18. Utah State Senate, Senator John L. Valentine, District 14**
- 19. Utah State Senate, Ralph Okerlund, District 24**
- 20. Utah State University Agriculture Extension, Matthew Palmer, Utah State Agriculture Extension Agent, Sanpete County**

6/15/1972

H-103

Beneficial Uses, Standards (numeric and narrative), and the Antidegradation policies in UAC R317-2 comprise the Standards. The Supplemental Draft Environmental Statement (SDEIS) is deficient in addressing whether the Narrows Dam project will comply with the Standards of waters downstream of the proposed reservoir. These deficiencies must be addressed for DWQ to certify the project.

As stated in DWQ's 2001 comments on the previously released draft EIS to Mr. Kerry Schwartz, Bureau of Reclamation, DWQ's primary concern is the potential effect of the Narrows Project on Scofield Reservoir. A TMDL for the reservoir was approved by EPA in September 2000 of 4,842 kg/year total phosphorus that identified a load reduction of 1,881 kg/year from an annual average of 6,723 kg/year. Additional targets of Scofield Reservoir's TMDL include a shift in phytoplankton dominance away from blue-green algae, dissolved oxygen concentrations of no less than 4.0 mg/L in the upper 50% of the water column and a trophic state index value between 4050 (mesotrophic). The TMDL includes an implementation strategy with the primary recommendation being restoration of tributary streambanks to reduce sediment and nutrient loading and elimination of livestock grazing below the high water line of the reservoir.

- 10-3 The SDEIS proposes mitigation to maintain phosphorus at pre-Narrows Dam concentrations in Scofield Reservoir. The state requests that the SDEIS evaluate additional alternatives or mitigation to further reduce phosphorus loading to Scofield Reservoir as is required by the TMDL process. More details are necessary for DWQ to concur with the conclusions regarding potential changes to the trophic status of Scofield Reservoir should the Narrows project occur. Potential impacts to the aquatic food chain, such as macroinvertebrates, also require evaluation.
- 10-4

The state requests that the following comments be addressed by the project sponsors, as follows:

- 10-5 1) Further mitigation, beyond proposed pre-project levels, should be implemented in order to reduce the 1,881 kg/year or 28% of total phosphorous called for by U.S. EPA approved Scofield Reservoir TMDL.^{3,4} Since load reduction estimates in the Scofield TMDL were calculated almost 10 years ago and many improvement projects have been implemented since, a determination of total phosphorus loads based on current data and watershed modeling is needed.
- 10-6 2) Reduction in flow downstream of the proposed Narrows project will negatively impact aquatic life beneficial use designated for Gooseberry Creek, Gooseberry Reservoir and Blue Ribbon Fishery in Lower Fish Creek by reducing the extent of aquatic habitat and increasing stream water temperatures. These waters are Class 3A (R317-2-6.3), "Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain." The CWA expressly requires that states that have adopted water quality standards must take into consideration the use of waters for the "propagation of fish and wildlife."^{3A} The severity of these impacts to the cold-water fisheries and their necessary food chain must be explicitly addressed and understood to fully evaluate the environmental impacts of this project.⁵ More details are necessary for DWQ to concur with the conclusions regarding potential changes to the

- 10-7 trophic status of Scofield Reservoir should the Narrows Project occur. In addition, potential impacts to undesirable cyanobacteria should be explicitly evaluated in the SDEIS. At high concentrations, cyanobacteria have the potential to impair the beneficial use Classes 1C, 2B, and 4 (drinking water source, secondary contact recreation, and agricultural uses, respectively) in Scofield Reservoir.
- 10-8 3) The project sponsors should provide reasonable assurance that any mitigation actions will be monitored for effectiveness and maintained with enforcement to meet State Water Quality Standards into the foreseeable future.
- 10-9 4) The SDEIS should address the impacts of construction activity and document that they will be limited to sediment and turbidity and fish spawning will not be impaired (UAC R317-2-3.5.b.4).
- 10-10 The following permits, certification and review from the DWQ are required prior to the construction phase of the project:
- a. All activities regulated under Clean Water Act §404 must require a State Antidegradation Review. A Level II Antidegradation Review (UAC R317-2-3) will be required for the 401 Certification of the Narrows Dam project. The Narrows Dam will not qualify for the temporary and limited exemption in UAC R317-2-3.5.b.4.
 - b. A State Water Quality Certification of the project pursuant to § 401 of the Clean Water Act, 33 U.S.C. § 1341.
 - c. Construction activities that disturb one acre or more are required to obtain coverage under the Utah Pollutant Discharge Elimination System (UPDES) Storm Water General Permit for Construction Activities, Permit No. UTR300000. The permit requires the development of a storm water pollution prevention plan (SWPPP) to be implemented and updated from the commencement of any soil disturbing activities at the site until final stabilization of the project. A fact sheet describing the permit requirements and application procedures are located on our website <https://secure.utah.gov/stormwater/main.html>.
 - d. Dewatering activities, if necessary during the construction, may require coverage under the UPDES General Permit for Construction Dewatering, Permit No. UTG070000. The permit requires water quality monitoring every two weeks to ensure that the pumped water is meeting permit effluent limitations, unless the water is managed on the construction site.
 - e. A construction permit will be required if a permanent or temporary wastewater treatment facility is constructed on the site to collect and/or treat sewage effluent. A biosolids permit will be required if biosolids (sewage sludge) is treated on-site.

Division of Water Resources

10-11 The Narrows Project estimated evaporation depletion of 370 acre-feet per year appears to be high for a lake at 8,690 feet elevation. Utah Division of Water Resources has developed a method for determining reservoir depletion and evaporation of high altitude lakes. The results of the method are shown in Attachment A. The net depletion is calculated by multiplying the difference in evapotranspiration between native vegetation versus a water surface and subtracting the evapotranspiration that would have occurred in the area above the water surface and below the line stripped of vegetation. The method produced an estimate of a little more than 130 acre-feet of project evaporation depletion (see Attachment A). Since native vegetation depletes water pre-project, this could also reduce the estimated 90 acre-feet of depletions estimated for other project components such as new wetlands.

10-12 The estimates in Attachment A also indicate that since precipitation is greater than evaporation, the water impounded in the reservoir at this location will increase in volume since rainfall likely exceeds evaporation. Since the report indicated that there would be an additional 370 acre-feet of increased evaporation in the Price River Basin (pg S-11), the model used for this study likely applied an annual evaporation depletion to the reservoir because that assumption would be conservative. A month and year PRISM estimate of rainfall, temperature and wet-bulb temperature available through the University of Oregon could allow a more realistic estimate of evaporation and a better understanding of how Narrows Reservoir evaporation may affect downstream flows of the Price River.

As the reservoir will not be providing water to Sanpete County during periods of peak flow in the Sanpitch River, this allows the reservoir to potentially bypass sediment laden inflow waters. A sediment management plan to facilitate avoidance or removal for the reservoir is important for the sustainability of the project and is therefore highly recommended. Guidance for such a plan can be found in Water Resources' recent publication, "Managing Sediment in Utah's Reservoirs." This is available as a free download at www.water.utah.gov, or Water Resources can provide the project designers a hard copy.

10-13 Although Sanpete County is sponsoring the project, they will not be the only ones affected by increased flow in the Sanpitch River. Water in the Sevier River Basin is diverted and re-diverted throughout the Sevier River system. While salinity impacts of the project have been examined in detail for the Colorado River basin, this does not seem to be the case for the Sevier River basin, which will also be impacted by the salinity of Narrows Project return flows. The state request the SDEIS include analysis on how the Narrows Project is anticipated to impact Sevier River water quality and salinity. Although there is a comment in the report of how the Manti Meadows Alternative may help mitigate salinity impacts to the lower Sevier River Basin (S-20), the magnitude of this benefit and the resulting salinity decrease or increase to the Sevier River is not stated.

Division of Wildlife Resources

10-14 There have been several emerging wildlife issues in the ensuing decades since the first draft EIS was developed for this project. Several terrestrial and aquatic wildlife species, which previously did not warrant concern, are now under review for listing under the federal Endangered Species Act (ESA) in the project area. The Utah Division of Wildlife Resources personnel have not been contacted for several years about the Narrows project. It is surprising that a new scoping process was not utilized to ensure that all fish and wildlife concerns were adequately addressed in this SDEIS.

10-15 Several species of concern are found in the project area that were not included in the original DEIS or this SDEIS. One species, the northern leopard frog, was recently petitioned for listing under the Endangered Species Act and Wildlife Resources has historical records of leopard frogs in the project drainage. Another species, the greater sage-grouse was petitioned for protection under the ESA and was considered by the U.S. Fish and Wildlife Service (USFWS) to be "warranted but precluded" from listing status. The Gooseberry drainage and proposed reservoir site contains summer habitat for this species. Wildlife Resources has documented sage-grouse in this area for at least the past two years. The state requires the SDEIS analyze potential impacts from this project to sage-grouse and the northern leopard frog.

10-16 Aquatic species that may be impacted by this project have also been identified as Utah sensitive species since the original DEIS. There are two paragraphs in section 3.1.1.1 that acknowledge the existence of two species in the Price River below Farnham Diversion Dam that the State of Utah has entered into a conservation agreement for: the bluehead sucker and flannelmouth sucker. Impacts to these species are not included in the final 2000 biological opinion issued by the USFWS, and the impacts to these species are essentially overlooked in the SDEIS. Because these species are involved in a conservation agreement, the state considers the SDEIS an inadequate evaluation of the environmental consequences of this project and requires a revised biological opinion be conducted for this project. Wildlife Resources would also advocate for mitigation if impacts were revealed.

10-17 The 2000 biological opinion also directed the Upper Colorado River Endangered Fish Recovery Program to perform a study and make recommendations on flow regimes for the Price River. The SDEIS refers to the study but does not incorporate any of its findings in this SDEIS. Wildlife Resources recommends incorporating the findings of that study into the SDEIS.

10-18 The SDEIS lists the water resources of three tributaries to Gooseberry Creek, Lower Gooseberry Reservoir, the stream segments from the project to Scofield Reservoir, Scofield Reservoir, Lower Fish Creek, the Price River and several streams in the San Pitch Valley, as being affected by this project in Section 3.3.1. In section 3.4.1 the SDEIS precludes listing Lower Fish Creek and the Price River fisheries as affected by this project without substantiation. The state considers Lower Fish Creek an important Blue Ribbon Fishery and any negative impacts to it would result in an economic loss. Since the project will affect the flow regime of stream sections below Scofield Reservoir the state recommends the SDEIS also address the affects of this project on the fishery's and riparian habitat of stream segments below Scofield Reservoir to the Green River.

10-19 Most of the proposed mitigation for this project is from Appendix D, the Fish and Wildlife Coordination Act Report (Coordination Act), which was written in 1994. Again, land ownership and management have changed and the information about fish and wildlife species gained since 1994 in this watershed is considerable. Specifically the Coordination Act and the SDEIS proposes acquiring two miles of stream bank and a section of School and Institutional Trust Lands Administration (SITLA) property for mitigation on lower Fish Creek for mitigation purposes. Wildlife Resources now owns two miles of streambank along lower Fish Creek and manages grazing on nearly one additional square mile of SITLA property. Therefore, purchase or enhancement of this property is no longer a possibility for mitigation of the Narrows Project. Other private lands adjacent to lower Fish Creek below Scofield reservoir may be purchased or enhanced as alternative mitigation for this project. Furthermore, the Coordination Act noted that depredation by mule deer and elk to farmland in Sanpete Valley will increase as a result of this project. In the 1994 report, the cost estimate to Wildlife Resources will be an additional \$2,000 per year. The cost of inflation would put that figure much higher today and the neither the original DEIS nor this SDEIS proposes any mitigation for this direct and perpetual impact to Wildlife Resources. Wildlife Resources recommends updating Appendix D, the Coordination Act.

10-21 Statements in several places in the SDEIS appear to be contradictory and clarification or further information would be necessary to determining the effects of the project. In Section 3.4.3.2.2.3 the SDEIS states flows will be reduced in Fish Creek above Scofield Reservoir during the cutthroat trout spawning and rearing period from April through July. Reduced flows could imply a reduction in aquatic habitat. However, the Instream Flow Incremental Methodology (IFIM) modeling referenced in the SDEIS indicates that spawning habitat will be increased by 15%. Furthermore, this section indicates that reduction in high flows would reduce the sediment transport capacity of the stream and could reduce its spawning value but does not attempt to quantify or measure the post-project effects of reduced high flows. Wildlife Resources recommends further explanation in this section on how spawning habitat will be increased and a determination of the post-project effects on sedimentation in Fish Creek.

The State of Utah appreciates the opportunity to review this proposal and we look forward to working with you on future projects. Please direct any other written questions regarding this correspondence to the Public Lands Policy Coordination Office at the address below, or call Judy Edwards at (801) 537-9023.

Sincerely,



John Harja
Director

¹ 33 U.S.C. § 1341(a)(1).

² 40 C.F.R. § 121.2(a)(4).

³ *Friends of Pinto Creek v. EPA (Pinto Creek)*, 504 F.3d 1007, 1012 (9th cir. 2007)

^{3A} 33 U.S.C. § 1313(c)(2) (A)

⁴ Utah Admin Code R317-2-13

⁵ *OPINION OF THE COURT S.&NBSP;D. WARREN CO. V. MAINE BD. OF ENVIRONMENTALPROTECTION* 547 U. S. (2006), SUPREME COURT OF THE UNITED STATES NO. 04-1527

ATTACHMENT A

Narrows Reservoir Net Evaporation Estimate

SCOFIELD DAM

Narrows Project Reservoirs
Nearest Bob Hill Station

14.07 Station Annual Precipitation (inches)**
36.95 Station Annual Temperature (degrees Fahrenheit)**
25.95 Station Annual Gross E-Lake (inches)**
14.14 Station Annual Net E-Lake (inches)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Percent Daylight Hours**	6.74	6.68	8.28	8.93	10.03	10.11	10.27	9.59	8.39	7.73	6.71	6.54	100.0
E-Lake K**	1.78	2.00	1.98	1.68	1.52	1.21	0.96	1.02	1.20	1.41	1.80	1.58	
Sage Brush K*	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82 (83% of basin)
Effective Basin K	0.98	1.02	1.02	0.97	0.94	0.89	0.84	0.85	0.88	0.92	0.99	0.95	
Difference K	0.80	0.98	0.96	0.71	0.58	0.32	0.12	0.17	0.32	0.49	0.81	0.63	
Average Narrows Surface	454 (Average surface area in acres during recreation season, pg S-26)												
Av Res Area Exposed	150 (Difference in acres between full area and average surface area from pg S-26)												
Net Reservoir Depletion	133 (Difference ET)*(Average Reservoir Area)-(Nat. Vegetation ET June-Sep)*(Av Res Area Exposed)												
BUREC Res. Depletion	370 acre-feet/year												
Difference	237 acre-feet/year or 64% Less												
Elevation (feet)													
Narrows Reservoir	8,690												
Scofield Reservoir	7,622												
Temperature (From PRISM 1971-2000 averages)													
Narrows Reservoir	20.28	22.55	27.46	35.47	43.47	52.3	59.36	57.73	49.46	39.81	28.18	21.85	38.16
Scofield Reservoir	15.82	18.81	25.53	35.17	44.98	52.85	59.95	58.33	50.37	40.09	27.23	17.89	37.25
Average	18.05	20.68	26.50	35.32	44.23	52.58	59.66	58.03	49.92	39.95	27.71	19.87	37.71
Precipitation (From PRISM 1971-2000 averages)													
Narrows Reservoir	3.00	2.92	3.15	2.39	2.22	1.32	1.27	1.93	2.16	2.36	2.88	2.39	27.98
Scofield Reservoir	1.22	1.29	1.34	1.09	1.06	0.73	1.00	1.13	1.42	1.43	1.11	0.98	13.80
Average	2.11	2.10	2.24	1.74	1.64	1.03	1.14	1.53	1.79	1.89	1.99	1.69	20.89
Evaporation (open water-inches)													
Narrows Reservoir	0.68	0.78	1.24	1.74	2.75	3.42	3.95	3.64	2.36	1.63	0.99	0.70	23.85
Scofield Reservoir	0.67	0.77	1.24	1.76	2.80	3.48	4.01	3.69	2.39	1.63	0.98	0.70	24.12
Average	0.67	0.77	1.24	1.75	2.77	3.45	3.98	3.67	2.37	1.63	0.98	0.70	23.99
Net Evaporation (inches)													
Narrows Reservoir	-2.32	-2.14	-1.91	-0.65	0.53	2.10	2.68	1.71	0.19	-0.72	-1.90	-1.70	7.20
Scofield Reservoir	-0.54	-0.52	-0.09	0.67	1.74	2.75	3.01	2.56	0.98	0.20	-0.13	-0.28	11.80
Average	-1.43	-1.33	-1.00	0.01	1.13	2.42	2.84	2.13	0.58	-0.26	-1.01	-0.99	8.09
Nat. Vegetation ET (inches)													
Narrows Reservoir	0.40	0.46	0.69	0.92	1.79	2.77	3.67	3.24	1.99	1.06	0.56	0.41	17.96
Scofield Reservoir	0.31	0.38	0.65	0.91	1.97	2.84	3.76	3.32	2.08	1.08	0.54	0.33	18.18
Average	0.36	0.42	0.67	0.91	1.88	2.81	3.71	3.28	2.04	1.07	0.55	0.37	18.07
Difference ET (inches)													
Narrows Reservoir	0.33	0.44	0.66	0.68	1.11	1.01	0.51	0.63	0.71	0.56	0.46	0.27	7.36
Net Difference ET (inches)													
Narrows Reservoir	-2.67	-2.47	-2.49	-1.71	-1.11	-0.31	-0.77	-1.30	-1.45	-1.79	-2.42	-2.12	0.00

Python script h:\qrolet\LeeSporleder\ProcessPondWea.py

Results in h:\qrolet\LeeSporleder\NarrowsEvap.dbf

Temperature and precipitation extracted from PRISM 30-year normal grids, 1971-2000

Excel Workbook: O:\users\cmiller\qpro\ET\Lee Sporleders Ponds\ET estimates for Lee.xls worksheet Narrows

* Crop Coefficients for Rangeland, Journal of Range Management, Vol 43, No. 6 (Nov 1990), pp. 482-485

** Consumptive Use of Irrigated Crops in Utah, Research Report 145

Sum of evaporation for positive months only
Sum of evaporation for all months
Natural vegetation ET, June through September

Assumptions:

1. The undeveloped reservoir basin is either covered with vegetation or snow.
2. The use of a constant KC during the year is conservative when estimating ET for this situation.
3. The basin KC coefficient is derived using 83% sagebrush and 17% open water KC.
4. The reservoir basin has been stripped of vegetation during construction.
5. The reservoir basin is covered by snow from October to May.

11. UTAH FARM BUREAU FEDERATION, LELAND J. HOGAN, PRESIDENT

HL


Utah Farm Bureau Federation
 9865 South State Street, Sandy • Utah 84070-3205 • Fax: (801) 233-3030
 www.fb.com/utfb

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MAY 04 '10

LELAND J. HOGAN
PRESIDENT
(801) 233-3040

ORIGINAL

Reply Date		
Date	Initials	Code
5/4	ECF	100
	PC	105
	KE	107
		200
5/7/10	ECF	770
5/10/10	PC	77408

April 29, 2010

Peter Crookston, PRO-774
Bureau of Reclamation
302 East 1860 South
Provo, Utah 84606

Action:
Classification: ENV-6.00
Project: Narrows
Classification: 10029195
ID: 1122816

Dear Sir:

- 11-1 The Utah Farm Bureau Federation is an organization of farmers and ranchers in the state of Utah. We represent the interests of agriculture and develop policy through a grassroots process that is representative of our membership. There are more than 27,000 member families who belong to Farm Bureau in Utah.

Through our annual policy development process, current policy in support of the Gooseberry Narrows Project has been analyzed, debated and adopted over the past several decades. We have watched this issue for many years as the water rights have been determined and attempts have been made to move the project to completion. We would like to offer the following regarding the SDEIS (Supplemental Draft EIS).

Our support of the project is based upon the following factors:

1. Sanpete County clearly owns the water rights involved. The Utah Supreme Court and the Department of Justice have both acknowledged this.
2. Sanpete County has a demonstrable need for the water. Water storage is limited so agriculture and community development is limited. Once runoff has occurred this is no water available. Storage of the approximately 5500 acre feet of water in this project is imperative for Sanpete County.
3. The Narrows project fulfills the intent of a project that was initiated more than 70 years ago. The original plan provided water storage of 30,000 acre feet for Carbon County. Carbon County received their water over 50 years ago and Sanpete has not received its water storage that it was promised.

Gooseberry Narrows Project
Page 2

4. Construction of the project will have a favorable jobs impact, creating 369 job years of employment. These jobs will in turn create a positive impact the local economy and tax revenues.
5. Mitigation concerns are outlined in the SDEIS that will address impacts made to the environment. Mitigation dollars of approximately \$4 million (which is over 10% of the project) has been budgeted to address environmental concerns.
6. Efforts to complete this project have begun and been halted several times in recent years. Contracts have been signed and broken. Public dollars have been wasted and the integrity for the process has been questioned. Integrity and trust must be solidified and to provide fairness to the affected parties.

Countless hours invested by individuals, organizations and government have been wasted during the past several decades not to mention the amount of money that has been expended without results. We ask the Bureau of Reclamation along with our state and national political leaders to bring this project to completion. The project has legitimacy and will be beneficial to those holding the water rights. It will bring produce positive results, with the benefits far outweighing any suggested adverse impacts to the environment.

Farm Bureau was in attendance at the hearing held in Manti on April 28th at the Manti City Hall. All of those who spoke to the issue were in support of the project with two speakers mentioning some minor concerns but they did not express opposition to the project.

We appreciate the opportunity to provide comments.

Sincerely,



Leland Hogan
President

**12. UTAH GENERAL STATE SENATE, 2009, RESOLUTION,
RALPH OKERLUND, SPONSOR**

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12-1 Enrolled Copy

S.R. 2

1 **SENATE RESOLUTION SUPPORTING THE**
2 **NARROWS WATER PROJECT IN CENTRAL**
3 **UTAH**

4 2009 GENERAL SESSION

5 STATE OF UTAH

6 **Chief Sponsor: Ralph Okerlund**

8 **LONG TITLE**

9 **General Description:**

10 This resolution of the Senate urges Congress and the United States Bureau of
11 Reclamation to support development of the Narrows Water Project in Central Utah.

12 **Highlighted Provisions:**

13 This resolution:

- 14 ▶ recognizes the need for adequate water storage for economic viability in the
15 communities of Central Utah, and the decades-long effort to develop the Narrows
16 Water Project;
- 17 ▶ acknowledges the Narrows Water Project as the least expensive, most cost-
18 effective, and most environmentally sound means of storing water in Sanpete County;
- 19 ▶ recognizes that the water rights relative to the Narrows Water Project have been
20 legally defined; and
- 21 ▶ expresses support for the development of the Narrows Water Project in Central
22 Utah.

23 **Special Clauses:**

24 None

26 *Be it resolved by the Senate of the state of Utah:*

27 WHEREAS, water is fundamental to the economic base of Central Utah communities,
28 and reliable water storage is necessary for both agricultural and municipal development;

S.R. 2

Enrolled Copy

29 WHEREAS, agricultural and municipal interests in Central Utah, including Sanpete
30 County, suffer substantial economic hardship because of the lack of water storage facilities;

31 WHEREAS, in the early 1900s, local, state, and federal government officials
32 acknowledged the need for water storage in Sanpete County and began efforts to develop the
33 Narrows Water Project;

34 WHEREAS, reliable studies by multiple expert water engineering firms have
35 determined the Narrows Water Project to be the least expensive, most cost-effective, and most
36 environmentally sound means of storing water for Sanpete County;

37 WHEREAS, various studies, including a recent independent study by Utah State
38 University, show Sanpete County to be among Utah's most effective users of modern
39 conservation methods to conserve the water that is presently available to the county;

40 WHEREAS, the Bureau of Reclamation recognized the need for water storage in
41 Sanpete County, and as early as the 1930s proposed a plan that would provide water storage
42 for both Sanpete and Carbon Counties;

43 WHEREAS, the component of the Bureau of Reclamation's plan that would provide
44 water storage for Sanpete County was never implemented, initially due to a disruption caused
45 by World War II, and more recently by various questions regarding ownership of the water;

46 WHEREAS, numerous judicial decisions have now clearly established and defined the
47 water rights involved in the Narrows Water Project;

48 WHEREAS, legal agreements between Sanpete County, Carbon County, the state of
49 Utah, and various federal entities have recognized Carbon and Sanpete Counties' water rights
50 from Gooseberry Creek; and

51 WHEREAS, the residents of Sanpete County, at great financial sacrifice, have waited
52 for almost a century for the Narrows Water Project water storage facility that was promised to
53 them:

54 NOW, THEREFORE, BE IT RESOLVED that the Senate of the state of Utah
55 expresses support for the Narrows Water Project in Central Utah.

56 BE IT FURTHER RESOLVED that the Senate urges Congress and the United States

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S.R. 2

57 Bureau of Reclamation to support the development of the Narrows Water Project in Central
58 Utah.

59 BE IT FURTHER RESOLVED that a copy of this resolution be sent to the Bureau of
60 Reclamation and to Utah's congressional delegation.

13. UTAH STATE HOUSE OF REPRESENTATIVES,
REPRESENTATIVE BRADLEY DAW, DISTRICT 60

AL

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HOUSE OF REPRESENTATIVES
STATE OF UTAH
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REPRESENTATIVE
BRADLEY M. DAW
DISTRICT 60
UTAH COUNTY



Bureau of Reclamation
Peter Crookston, PRO-774
302 E 1860 S
Provo, UT 84606

13-1 Mr. Crookston:

I am writing in strong support of moving ahead with the Narrows Water Storage project in Sanpete County. This is a project of great importance to the residents and farmers of the area and is also a project that is very long overdue.

The fact is that water is the lifeblood of any community and in the case of a farming community this is even more true. For years the farmers in the region have struggled to make ends meet while the water that is clearly owned by them flows downstream. This needs to end and all of us need to give farmers in the region the chance to make a good living by having sufficient water to generate a good harvest. Having been reared on a farm myself, I am sensitive to just how vital a good water supply is to a farm. It is the difference between profit and loss.

This is a project that has been promised to the people of Sanpete for nearly 80 years. That's an incredibly long time to wait for the fulfillment of a promise and I hope that you can bring that promise to fruition.

Please let me know how I can be of service at the state level and what resources would assist in bringing this project forward.

Thank you for your time.

A handwritten signature in black ink, appearing to read "Brad Daw".

Representative Brad Daw

Reply Date	Initial	842 E. 280 S. OREM, UTAH 84097 HOME (801) 226-8079 Mail: brad@leg.utah.gov
4/19	[Signature]	105
4/20/10	[Signature]	107
4/20/10	[Signature]	700
4/20/10	[Signature]	770
4/20/10	[Signature]	774 cy

Action: _____
Classification: E141-10.00
Project: Narrows
Committee: 10024846
File ID: 1122816

14. UTAH STATE HOUSE OF REPRESENTATIVES,
REPRESENTATIVE KAY L. MCLEFF, DISTRICT 70

AL

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HOUSE OF REPRESENTATIVES
STATE OF UTAH

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APR 29 '10

REPRESENTATIVE
KAY L. MCLEFF
DISTRICT 70
EMERY, SANPETE AND
SEVIER COUNTIES



April 28, 2010

Reply Date	225 N. 100 E.
Date	RICHFIELD, UTAH 84701
	PHONE (435) 608-4461
	CELL (801) 608-4331
	E-Mail: kaym@utah.gov
4/25	108
	105
	107
	700
5/14/10	770
5/27/10	77404

Action:

Classification: ENV-6.00

1122816

Bureau of Reclamation
Attn: Peter Crookston, PRO-774
302 East 1860 South
Provo, UT 84606

Re: Narrows Project

14-1 To the Decision Makers:

The long delayed Narrows Project should move to fruition as rapidly as possible. This project has been the subject of discussion, debate, studies and litigation. Everyone has had fair opportunity for input and agreements and decisions have been reached. The passage of time has served only to make the project more costly.

I have personally reviewed prior agreements and legal decisions. As always, there are those who would like to start over. As the chief justice of the supreme court once told me, "Sometimes you just have to move on to the next case." That is my honest assessment of the Narrows Project. There will always be plenty of new things about which we will want and need to debate, discuss, and perhaps even litigate, but it shouldn't be the Narrows Project. That one simply needs to be completed. It is now time to encourage affirmative action by the Bureau in a timely manner.

Sincerely,

Representative Kay L. McLiff

KLM:kt

Cc: Sanpete Water Conservancy District

HOUSE OF REPRESENTATIVES
STATE OF UTAH
REP. KAY L. MCLEFF
DISTRICT 70
225 N. 100 E.
RICHFIELD, UTAH 84701

15. UTAH STATE HOUSE OF REPRESENTATIVES,
REPRESENTATIVE MICHAEL MORLEY, DISTRICT 66

REPRESENTATIVE
MICHAEL MORLEY
DISTRICT 66
UTAH COUNTY

April 18, 2010

Peter Crookston
Bureau of Reclamation
302 East 1860 South
Provo, UT 84606

Re: Comments on Narrows Project SDEIS

Dear Peter:

15-1

I am writing to encourage the Bureau of Reclamation to proceed with The Narrows Project in Sanpete County. It will be a significant economic benefit to the county, based both on the increased agricultural production it will provide and on the economic benefits inherent in the project's construction. Now, of all times, we need the jobs the project will create.

I have owned and managed a commercial construction firm for many years. While my firm would not be a candidate for any of the work involved in creating the Narrows, I have a strong sense of the favorable economic impact building the Narrows will have on Sanpete and surrounding counties. The Narrows will be a significant economic asset to the area for many decades to come. We need the jobs and increased commerce it will help create.

Based on what I understand from the Reclamation's SDEIS and other sources, it appears that one of the reasons the Narrows has not yet been built is because of various objections for many years from Carbon County. I was born and raised in Carbon County. My family and I have deep roots there. It's my sense that many people in Carbon would be bothered, if not appalled, if they were aware that their elected officials and others were objecting to Sanpete's water project, particularly if they understood the relationship between the expansion of Scofield many years ago and the fact that the Scofield expansion was part of a "package" that included a commitment to build the Narrows.

I can't speak for Carbon County, but I know many people there and know of their desire to do the right thing. If they were aware of the relationship between Scofield and the Narrows, that Carbon received the water storage that was promised to it and that Sanpete is having difficulties getting the water storage that was promised at the same time, many would be very uncomfortable about Carbon County hindering the Narrows.

These are some of the reasons the Utah House of Representatives passed (by a very wide margin) a resolution in 2008 favoring construction of the Narrows. The Senate did the same the following year.

I encourage you to move the Narrows project ahead as soon as reasonably possible. It's the right thing to do. We need the jobs and we need to keep our promises to Sanpete County.

Sincerely,


Rep. Mike Morley

ORIGINAL

HOUSE OF REPRESENTATIVES
STATE OF UTAH

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APR 23 '10

678 W. 350 N.
SPANISH FORK, UTAH 84660
Date: 5/3/10
E-Mail: mikemorley@utah.gov

5/3/10	PC	100
5/7/10	PC	105
5/10/10	PC	107
5/10/10	PC	100
5/10/10	PC	770
5/10/10	PC	774cy

Amigos:
Classification: ENV-10-00
Project: Narrows
Case No: 10052793
Date: 11/28/10

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ATIVES MAY 26 '10.

Reply Date		
Date	Initials	Code
5/27/10	123	P.O. BOX 126
5/27/10	123	HOLDEN, UTAH 84636
5/27/10	123	HOME (435) 864-4887
5/27/10	123	CELL (801) 404-7066
5/27/10	123	email: billwright@utah.gov

Action:

Classification: ENV - 1200

Project: APPROVALS

Control Plan

Order ID: 10035766
1122816

Re: Narrows Project

16-1

I'm writing to comment on the recently-released Supplemental Draft Environmental Impact Statement for the Narrows Project in Sanpete County. I strongly urge the Bureau of Reclamation to come to a favorable Record of Decision for the Narrows as soon as possible.

As I review the history of the Narrows, particularly in relationship to water storage provided to Carbon County in the form of Scofield Reservoir, it seems to me that Sanpete County has been significantly underserved by federal actions for many decades. For reasons of coincidence, bad timing, Sanpete's willingness to take a soft approach to negotiations, or for whatever other reasons, Sanpete appears to have become the "poor boy" between it and its neighbors for a lot of years.

In attempting to quantify that, I've identified eleven major events (I suspect there are more), dating back to 1943, in which it appears that Sanpete has conceded to other interests. They are:

Concession #1, 1943: Put the Narrows on hold. Reconstruct Scofield First.

In 1943, Sanpete County agreed to put their own water interests aside and support the decision to reconstruct Scofield first. This was done as a good-faith effort to avoid potential failure of Scofield Dam which would have hindered America's war effort.

Concession #2, 1944: Agree to pay for part of the Scofield Rehabilitation.

Sanpete agreed to pay for a portion of the Scofield Dam reconstruction, even though Sanpete would not benefit from Scofield's enlargement until the Narrows is built. None of the benefits for the 1943 enlargement/strengthening of Scofield accrued to Sanpete.

Sanpete's payment obligation is still in effect and will begin when the Narrows is complete.

Concessions 3-7, 1984: The "Compromise Agreement."

By 1984, Carbon County's objections to the Narrows Project had become so fierce and obstreperous (even though Carbon had enjoyed several decades of enlarged/enhanced water storage in Scofield), that Sanpete consented to numerous major compromises, simply to end the arguments and make way for Sanpete's badly-needed water storage project.

Bureau of Reclamation
Page 2

Compromises by Sanpete included:

#3: Relinquishing and withdrawing portions of its water rights.

#4: Agreeing to reduce the amount of water Sanpete would be able to store and use from Bureau of Reclamation's originally proposed 11,700 acre-feet to 5,400 acre feet.

#5: Restricting sources of water supply by excluding several stream sources.

#6: Limiting the amount of water that could be stored in the Narrows Reservoir.

#7: Relinquishing the historic "Mammoth" dam site (the originally-intended site of Sanpete's water storage) and locating the proposed dam/reservoir to the current Narrows site.

In exchange for these compromises, Carbon agreed (in writing) to cease its objections to the Narrows. As of the April 29, 2010, comment meeting in Price, Carbon had surely not ceased its objections.

Concession #8, 1994: Additional mitigation measures.

In spite of its contract not to, Carbon continued to object. Based largely on complaints by Carbon County, Sanpete agreed in 1994 to provide numerous additional fish, wildlife, wetlands and water quality mitigation, to plans that already included generous allotments of those and other mitigation items. The estimated cost (including in the current Narrows budget) of these additional items is \$3.7 million.

Concession #9, 1995: Agree to prepare a new Environmental Impact Study.

In 1995, after numerous years of effort, Sanpete had fully complied with the required Environmental Impact Study procedure. The Bureau of Reclamation had prepared an independent EIS on the Narrows Project (which Sanpete County was required to pay for), and the EIS process had worked its way through the highly-bureaucratic (and expensive) process to a Record of Decision that favored moving ahead with the Narrows.

In yet another effort to thwart the Narrows, Carbon County challenged the EIS in court, threatening what would surely have been lengthy and expensive litigation.

In another capitulation, Sanpete agreed to have Reclamation rescind the Record of Decision, and prepare a new EIS--at Sanpete's repeated expense.

Bureau of Reclamation

Page 3

Concession #10, 2006: Extend the proverbial "olive branch."

In an effort to resolve differences and be good neighbors, a delegation of Sanpete County and Narrows Project representatives initiated a meeting with Carbon County and went to them on March 15, 2006, to discuss the Narrows Project and to find areas of mutual agreement and cooperation. The meeting was held at Sanpete's suggestion, at Carbon's offices in Price.

Concession #11, 2006: Agree to an independent third party review.

Five months after the meeting referenced above (Concession #10), Carbon County suggested that an independent third party be hired to review alternatives to the Narrows Dam proposed by Carbon. Did Carbon offer to help pay for the study? No. Payment for the expensive study became Sanpete's responsibility, taking away dollars that were earmarked for other badly needed water projects in Sanpete.

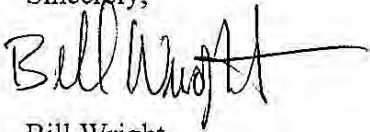
Sanpete agreed, hoping that perhaps a responsible, unbiased third-party arbitrator could bring agreement on the Narrows matter. The third-party review was commissioned and delayed completion of the new SDEIS by nearly four years, at substantial expense to Sanpete.

This third-party report was completed in the fall of 2008. It observed that the alternative project configuration proposed by Carbon is not feasible (which is what Sanpete's engineering studies indicated over ten years earlier).

Sanpete has waited far beyond a reasonable amount of time to get the water storage they were promised. Enough is enough, and the scales of fairness need to balance. The question of integrity also arises. At what point do various levels of government need to make good on promises made decades ago to Sanpete? It seems we owe the Narrows to Sanpete on the basis of honesty, if nothing else (and there are surely many more reasons beyond honesty).

From my perspective as a second-time member of Utah's House of Representatives (and former member of Utah's State Senate), it seems to me that Reclamation should make every effort to move the Narrows Project ahead as soon as possible. I strongly urge you to complete the process and come to a favorable Record of Decision for the Narrows; and do so quickly.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Wright", with a long horizontal flourish extending to the right.

Bill Wright
Representative

**17. UTAH STATE ENGINEERS OFFICE, DAVID MARBLE, P.E.,
ASSISTANT UTAH STATE ENGINEER – DAM SAFETY**

Thu 4/22/2010 5:10 PM

My name is David Marble. I administer the Dam Safety and Stream Alteration programs in the Utah State Engineers Office. I appreciate receiving a copy of the Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Narrows Project.

I wish to comment on section 1.8 - "Permits, Authorizations, and Agreement"

- 17-1 As indicated in the report, this will be a non-federal project owned by the Sanpete Water Conservancy District. As such, a State Dam Safety permit will be required to build the structure. This requirement was not included in the referenced section. Also, this section indicates that a USACE Section 404 or State Stream Alteration Permit will be required. Whether or not USACE requires an Individual permit under Section 404 or not, the State will still require a Stream Alteration Permit.

David Marble

David K. Marble, P.E.
Assistant Utah State Engineer / Dam Safety
(801) 538-7376
davemarble@utah.gov

18. UTAH STATE SENATE, SENATOR JOHN L. VALENTINE, DISTRICT 14

716

ORIGINAL

SENATE
STATE OF UTAH

SENATOR JOHN L. VALENTINE

HOME:

857 East 970 North
Orem, UT 84057
(801) 224-1693

OFFICE:

120 East 300 North
Provo, Utah 84603-1248
(801) 373-6345

Fax: (801) 377-4991

E-MAIL: (through website: www.leg.state.ut.us)

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		167
		700

SENATE COMMITTEES

PRESIDENT OF THE SENATE (2004-2008)

Business and Labor Committee, Chairman

Revenue and Taxation Committee

Ethics Committee

Action: Higher Education

Appropriation Subcommittee

Co-Chairman

Committee on

ID: 1122816

ENV-16.00
NARROWS

June 1, 2010

Bureau of Reclamation

Attention: Peter Crookston, PRO-774

302 East 1860 South

Provo, Utah 84606

Re: Comment on SDEIS Narrows Project, Sanpete County, Utah.

- 18-1 Thank you for considering comments on the Supplemental Draft Environmental Impact Statement for the Gooseberry Creek, Narrows Project.

I have watched the Narrows Project process for a number of years with considerable interest from my perspective as a Utah State Senator. I was President of the Utah State Senate in 2008 when a strong majority of the Senate passed Senate Resolution 2, favoring the Narrows Project.

Decades of fights over the Sanpete County portion of the original Gooseberry Project Plan were presumably resolved on June 8, 1984. It troubles me that those agreements were broken and 26 years after the 1984 Agreement, we are still attempting to resolve the competing interest of two drainage basins in Utah. The promises made in the 1984 comprehensive Settlement Agreement resulted in the 1998 Final Environmental Impact Statement, which this SDEIS supplements. It is now time to end the controversy between the two basins and allow the people of Sanpete County to use their water. The "Do Nothing" option is simply not acceptable.

There is no question that Carbon County interests will not be happy when the Narrows Project is instituted. Given the tenure of disagreements on this issue and the many compromises that have been made in Carbon's favor, Reclamation, the State of Utah, and others may simply have to accept the fact that Carbon is not going to be happy. But they have what was promised to them; Sanpete

Bureau of Reclamation
June 1, 2010
Page 2

needs to be given what was promised to them. There is no breach of integrity by granting Sanpete the use of its water. Failing to do so is a breach of integrity.

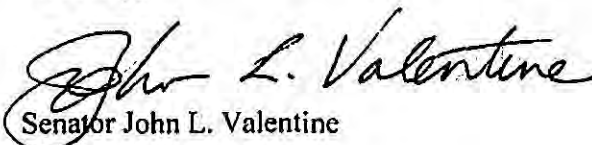
Many have commented on the fact that Scofield Reservoir will have a loss of water flowing into it if the Narrows Project is completed. The SDEIS acknowledges this fact, but the water "loss" to Scofield Reservoir and its water users, is water that rightfully belongs to the water users of Sanpete County. In other words, the Carbon County water users have been using the water legally owned by the water owners in Sanpete County due to the construction and then renovation of Scofield Reservoir. It is now time for the Sanpete County water owners to be able to use their water.

Another criticism focuses on the number of alternatives considered by the SDEIS. The SDEIS expands the number of alternatives presented in the original DEIS, including three alternative reservoirs of varying sizes, complimenting water conservation efforts. Some of the alternatives proposed by the critics of the SDEIS appear to be nothing but a new effort to repudiate the 1984 agreement. Alternatives, however, are probably not even required. The purpose of the project is to integrate delivery of water to both basins. NEPA does not require consideration of alternatives which substantially alter that goal.

My final observation is purely environmental in its nature. I am an avid outdoorsman. I have backpacked, fished and hunted many of the lands of this state. I have protected the land through multiple public-private partnerships, including my present project in Rock Canyon, Utah County. Protecting our lands, rivers, streams, wildlife and other God-given assets is a moral imperative with me. The small Narrows Reservoir will be a beautiful improvement to the existing basin; the new recreational potential will be an asset to our state, and the minor problems enumerated in the SDEIS are an acceptable trade for the assets the Narrows Project will create.

Thank you for considering these comments. I would urge you to proceed with the Proposed Action Alternative for the Gooseberry Creek Narrows Project, and resolve once and for all this "water war" in Utah.

Sincerely,



Senator John L. Valentine

(Not Printed or Mailed at State Expense)

19. UTAH STATE SENATE, RALPH OKERLUND, DISTRICT 24

SENATOR
RALPH OKERLUND
TWENTY-FOURTH DISTRICT



ORIGINAL

UTAH STATE SENATE

320 STATE CAPITOL • P.O. BOX 145115 • SALT LAKE CITY, UTAH 84114
801-538-1035 • www.utahsenate.org

248 S. 500 W.
MONROE, UT 84754
(H) 435-527-3370
(C) 435-979-7077
(F) 435-527-3370
rokerlund@utahsenate.org

May 26, 2010

Bureau of Reclamations, Attn: Peter Crookston, Pro-774
302 East 1860 South
Provo, UT 84606

Dear Sir,

- 19-1 I am writing today to confirm my support for the Narrows Dam and Reservoir and to emphasize the need and benefits of this long-promised project for the entire State of Utah. Northern Sanpete County has suffered for many years from water shortage while waiting for this important project to move forward. Other projects that benefit from this drainage have greatly blessed the lives of people and added tremendously to the economies of Carbon and other counties. It is only fair that Sanpete County may, finally, get its project.

The Utah State Legislature recognized the importance of this project by passing HR1 and SR2 in the 2009 legislative session. After debate in committees and on the floor of both Houses, the resolutions passed with overwhelming support for the project. The Legislature obviously understands the great benefit to the economy of the entire Central Region of the State. Sanpete County is growing in population as it is close enough to the Wasatch Front for commuting or for business interaction. This water storage will support this growth and greatly enhance the opportunities and tax-base that Sanpete County has waited for many decades to realize.

The water ownership issues have been negotiated, litigated, and adjudicated. The only issue remaining is how to allow this important area of our State to best use their extremely valuable resource. After years of study and negotiation, it is obvious that the answer is to move forward with the Narrows Project which is critical to the development of Sanpete County and the State of Utah.

Sincerely,

Senator Ralph Okerlund
Utah State Senate – District 24

**20. UTAH STATE UNIVERSITY AGRICULTURE EXTENSION, MATTHEW PALMER,
UTAH STATE AGRICULTURE EXTENSION AGENT, SANPETE COUNTY**

Crookston, Peter L

ORIGINAL

From: Matthew Palmer [matt.palmer@usu.edu]
Sent: Wednesday, April 21, 2010 9:53 AM
To: PRO NarrowsEIS
Subject: Sanpete County Narrows Project

Dear Bureau of Reclamation Representative:

20-1 I am the Utah State University Agriculture Extension Agent in Sanpete County. As an Agriculture Extension Agent I develop research and educational programs to improve farm and ranch production and quality of life. The best way to improve farm and ranch productivity and quality of life is to reduce input costs and increase income. Late season water provided through the Narrows Project would reduce input cost and increase farm income.

The Narrows project would give producers enough water to produce 3 crops of hay instead of 1.5. This would lower the input cost by spreading the farm equipment expenses over more crops while improving the quality and price of forage that would be produced. This would increase farm revenues and improve the local economy.

In looking at communities though out Utah and the Western United States, most communities have water storage facilities to increase the supply of water later in the season and reduce the effect of extended droughts. Government agencies have helped these communities to have reservoirs for this purpose. Sanpete County Water Conservancy District has been working to develop the Narrows Dam and Reservoir to improve the lives of the residents for 40 years. Why has it not been complete?

Sanpete County owns the water for the Narrows Project (as proven in court), has completed the Environmental Impact Statement and the Engineering documents. The Narrows Dam and Reservoir needs to be complete this year without further delay. Please follow through with 40 years of promises and complete the Narrows Dam.

Matthew Palmer
USU Extension Agent
Sanpete County

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	MS	107
	KS	106
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