

**Record of Decision  
for the  
Utah Lake Drainage Basin Water Delivery System**

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**I. Introduction**

This Record of Decision (ROD) documents the selection of the Spanish Fork Canyon–Provo Reservoir Canal Alternative (Proposed Action) as presented in the Utah Lake Drainage Basin Water Delivery System (Utah Lake System or ULS) 2004 Final Environmental Impact Statement, FES 04-41, (ULS FEIS) filed with the Environmental Protection Agency on September 30, 2004. The ULS FEIS meets the requirements of the National Environmental Policy Act (NEPA); serves as the compliance document for the Clean Water Act as provided in section 404(r); provides compliance for the withdrawal and revocation of National Forest System lands; provides compliance with Section 7 of the Endangered Species Act, the Historic Preservation Act, and the Fish and Wildlife Coordination Act; and provides compliance to enter into contracts, agreements and permits that would be required for the construction and operation of the Utah Lake System. The Department of the Interior (Interior), the Central Utah Water Conservancy District (District), and the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission) are the Joint-Lead Agencies responsible for NEPA compliance and implementation of the Utah Lake System. The public review process is summarized in this ROD.

The Proposed Action has an average annual transbasin diversion of 101,900 acre-feet, which consists of a delivery of: 30,000 acre-feet of M&I water for secondary use in southern Utah County and 30,000 acre-feet of M&I water to Salt Lake County water treatment plants; 1,590 acre-feet of M&I water already contracted to southern Utah County cities, and 40,310 acre-feet of M&I water to Utah Lake for exchange to Jordanelle Reservoir. The 30,000 acre-feet (less the water returned to Interior under the Section 207 Program) of M&I water utilized in southern Utah County would be used in the cities' secondary water systems. Use of this water as a potable supply in the future would require additional NEPA compliance. Interior would acquire all of the District's secondary water rights in Utah Lake. These rights would amount to 57,073 acre-feet. The acquired water rights would be used to exchange water to Jordanelle Reservoir.

The Proposed Action includes the following features: 1) Sixth Water Hydropower Plant, Substation, and Transmission Facilities, 2) Upper Diamond Fork Hydropower Plant and Underground Transmission Facilities, 3) Spanish Fork Canyon Pipeline, 4) Spanish Fork–Santaquin Pipeline, 5) Santaquin–Mona Reservoir Pipeline, 6) Mapleton–Springville Lateral Pipeline, and 7) Spanish Fork–Provo Reservoir Canal Pipeline. These features would deliver ULS M&I water to southern Utah County cities for use in secondary water systems, deliver

water to Hobble Creek to provide June sucker spawning flows and supplemental flows during other times of the year, deliver water for supplemental flows in the lower Provo River, and deliver ULS M&I water to the Provo Reservoir Canal and the Jordan Aqueduct for conveyance to water treatment plants in Salt Lake County. It would also provide water to generate electric power at two hydropower plants in the Diamond Fork System, with associated substation and transmission facilities. The Spanish Fork Canyon Pipeline, Mapleton-Springville Lateral Pipeline and Spanish Fork–Santaquin Pipeline would convey, on a space-available basis, up to 10,200 acre-feet of Strawberry Valley Project (SVP) water shares contractually assigned or made available to South Utah Valley Municipal Water Association (SUVMWA) or its member cities/municipalities in southern Utah County.

The Assistant Secretary - Water and Science (Assistant Secretary), through this ROD, selects the Proposed Action as presented in the ULS FEIS and approves the completion of the Utah Lake System through the combined efforts of Interior, the District, and the Mitigation Commission. This ROD explains the basis for this decision and establishes certain parameters under which the Utah Lake System will be constructed and operated.

The ULS FEIS concludes that of all the alternatives the Proposed Action provides the most economical water supply, the most fish and wildlife benefits, and is the environmentally preferable alternative.

## **II. Background**

The Central Utah Project (CUP) was authorized for construction as a participating project under the Colorado River Storage Project Act of 1956 (CRSPA). The CUP, as originally authorized, consisted of six individual units: 1) the Vernal Unit; 2) the Jensen Unit; 3) the Upalco Unit; 4) the Uintah Unit; 5) the Ute Indian Unit; and 6) the Bonneville Unit.

The Bonneville Unit of the Central Utah Project (CUP) is located in central and northeastern Utah. The unit includes facilities to develop and more fully utilize waters tributary to the Duchesne River in the Uinta Basin of Utah, to facilitate a transbasin diversion from the Colorado River Basin to the Bonneville Basin, and to develop and distribute project water in the Bonneville Basin. For planning and coordination purposes the Bonneville Unit was initially divided into six systems according to location and function. These systems are 1) the Starvation Collection System, 2) the Strawberry Collection System, 3) the Ute Indian Tribal Development, 4) the Diamond Fork System, 5) the Municipal and Industrial System (M&I System), and 6) the Irrigation and Drainage System (I&D System).

The Central Utah Project Completion Act (CUPCA) of 1992 (Titles II through VI of P.L. 102-575), as amended, authorized funding for the completion of the Bonneville Unit, established the Utah Reclamation Mitigation and Conservation Commission, de-authorized the Ute Indian Unit and other project facilities, required local cost sharing, and established various environmental commitments. Pursuant to CUPCA, the I&D System was replaced with the Spanish Fork

Canyon-Nephi Irrigation System (SFN System) in 1995 when Sevier and Millard Counties chose to withdraw from the District and were removed from the service area. However, planning on the SFN System was discontinued in 1998, and a new planning process was initiated in 2000 on the Utah Lake System.

## **A. Authorization**

The Utah Lake System was authorized in Section 202(a)(1)(B)(iii) of CUPCA, as amended. It is the last of the six original systems of the Bonneville Unit of the Central Utah Project and provides project water for municipal and industrial purposes, irrigation, fish and wildlife, and recreation. The Utah Lake System evolved from and would replace the I&D System, which was first identified in the Bonneville Unit Final Environmental Impact Statement in 1973. The other five Bonneville Unit systems are complete and operating. The Utah Lake System is now proposed to deliver the remaining uncommitted Bonneville Unit water as a municipal and industrial water supply directly to the Wasatch Front communities.

## **B. Physical Layout**

As documented in the ULS FEIS, the Proposed Action consists of the following seven features: 1) Sixth Water Hydropower Plant, Substation, and Transmission Facilities, 2) Upper Diamond Fork Hydropower Plant and Transmission Facilities, 3) Spanish Fork Canyon Pipeline, 4) Spanish Fork–Santaquin Pipeline, 5) Santaquin–Mona Reservoir Pipeline, 6) Mapleton–Springville Lateral Pipeline, and 7) Spanish Fork–Provo Reservoir Canal Pipeline. The following narrative describes each of these seven features.

***Sixth Water Hydropower Plant, Substation, and Transmission Facilities*** - The Sixth Water Hydropower Plant would be located adjacent to the Sixth Water Flow Control Structure. A 45 megawatt (MW) generator would be installed in a building to generate power from water flowing through the Syar Tunnel and the Sixth Water Aqueduct. A fenced substation would be constructed near the powerplant. The existing 15.5-mile long wood pole transmission line from the Sixth Water Flow Control Structure through Rays Valley and along Sheep Creek to Highway 6 would be upgraded from 46 to 138 kV, requiring new steel poles. The transmission line would be connected to the Utah Power grid at U.S. Highway 6 through a new switching substation.

***Upper Diamond Fork Hydropower Plant and Transmission Facilities*** - The Upper Diamond Fork Hydropower Plant would be located adjacent to the Upper Diamond Fork Flow Control Structure. A 5 MW generator would be installed in a building to generate power from water flowing through the Tanner Ridge Tunnel and Upper Diamond Fork Pipeline. Water passing through the generator would return to atmospheric pressure before continuing down the existing Diamond Fork Vortex Structure connecting to the Upper Diamond Fork Tunnel. The power generated would be transmitted through an existing 25 kV cable buried along the existing Upper Diamond Fork Pipeline and located in the existing Tanner Ridge Tunnel.

***Spanish Fork Canyon Pipeline*** - The Spanish Fork Canyon Pipeline would connect to the existing Diamond Fork Pipeline at the mouth of Diamond Fork Canyon and follow the U.S. Highway 6 alignment to the mouth of Spanish Fork Canyon near the intersection with U.S. Highway 89. The 84-inch-diameter pipeline would be about 7.0 miles long, with a design capacity of 365 cfs. If possible, this pipeline should be constructed concurrently with Utah Department of Transportation's reconstruction of U.S. highway 6.

***Spanish Fork–Santaquin Pipeline*** - The Spanish Fork–Santaquin Pipeline would connect to the Spanish Fork Canyon Pipeline near the mouth of Spanish Fork Canyon and mostly run adjacent to existing roads and adjacent to the Union Pacific Railroad right-of-way southwest to Santaquin in southern Utah County. The steel pipeline would range in size from 60- to 36-inch-diameter for 17.5 miles, with capacity ranging from 120 to 50 cfs. The pipeline would be buried in rights-of-way along existing roads and U.S. Highway 6 about 12.1 miles and adjacent to the Union Pacific Railroad right-of-way through fruit orchards near Santaquin for about 3.6 miles. The remainder of the pipeline segments would be buried in non-road, open or farmed areas where necessary rights-of-way would be acquired. The cities in southern Utah County would receive the ULS water via pipeline turnouts.

***Santaquin–Mona Reservoir Pipeline*** - The Santaquin–Mona Reservoir Pipeline would connect to the Spanish Fork–Santaquin Pipeline and run parallel along the Union Pacific Railroad alignment south to Mona Reservoir in Juab County. The 30 to 24-inch-diameter pipeline would be about 7.7 miles long, with design capacity to deliver 20 cfs to Mona Reservoir. The purpose of the pipeline would be to provide a water supply for a conservation pool so that Mona Reservoir could be utilized as a refugia for the endangered June sucker. Before the pipeline could be constructed, a secure water supply would need to be identified, acquired, and a carriage contract for such water executed by the June Sucker Recovery Implementation Program. A supplemental NEPA compliance document would be required to address the June Sucker Recovery Implementation Program's water supply, pipeline operational plan for the conservation pool in Mona Reservoir, and a determination that the pipeline is economically justified.

***Mapleton–Springville Lateral Pipeline*** - The existing Mapleton–Springville Lateral, which is a Strawberry Valley Project (SVP) facility, would be replaced with a pipeline throughout most of its length. This new pipeline would be a Bonneville Unit facility that would result in conserved water by conveying annually an average of 8,831 acre-feet of SVP storage water that has been historically delivered to the Mapleton and Springville Irrigation Districts through the existing lateral. The pipeline would connect to the Spanish Fork Canyon Pipeline and extend northward to Hobble Creek, which will convey project water to the cities, irrigators, and to Provo Bay (Utah Lake). The steel pipeline would be 48 inches in diameter, with a design capacity of 125 cfs. The first 4.7 miles of pipeline would be buried in the existing Mapleton–Springville Lateral. The last mile of the existing lateral would be reconstructed and retained to convey the Maple Creek flows to Hobble Creek. The remaining one mile of the 48-inch pipeline would be constructed parallel to the retained canal to convey water to the existing Hobble Creek siphon for the Springville Irrigation District.

***Spanish Fork–Provo Reservoir Canal Pipeline*** - The Spanish Fork–Provo Reservoir Canal Pipeline would be constructed from the Spanish Fork Canyon Pipeline along U.S. Highway 89 through Mapleton, 400 East in Springville, back on Highway 89 to Provo, on residential streets in Provo, and discharge to the Provo Reservoir Canal at 800 North in Orem. The pipeline would continue along the Provo Reservoir Canal to 1200 North in Orem and then connect to the Jordan Aqueduct near the Utah Valley Water Treatment Plant. This would allow conveyance of ULS water to Salt Lake County water treatment plants through the Jordan Aqueduct. Construction of the connection to the Provo Reservoir Canal would be accomplished in such a manner as to avoid any disruption in the operation and maintenance of the canal. The canal would convey ULS water to Salt Lake County water treatment plants when there is not enough capacity in the existing Jordan Aqueduct. The steel pipeline would range in size from 60- to 48-inches diameter for 19.7 miles, with capacity of 120 to 90 cfs. The pipeline would have a turnout for discharging in-stream flow water to the lower Provo River at the crossing site near Heritage Park.

### **C. Relationship of Utah Lake System NEPA Compliance to the rest of the Central Utah Project**

In August 1973, the U.S. Bureau of Reclamation (Reclamation) issued the Bonneville Unit Final EIS. That document was a programmatic EIS for the Bonneville Unit, and provided specific NEPA compliance for construction of the Strawberry and Starvation Collection Systems. Several environmental organizations initiated a legal challenge to that document's adequacy (i.e., *Sierra Club v. Stamm*). In 1974, the U.S. District Court for the State of Utah ruled that the Bonneville Unit Final EIS was in compliance with NEPA (Ritter 1974). The decision was upheld by the United States Tenth Circuit Court of Appeals. At that time, Reclamation committed to prepare a site-specific EIS for each of the remaining Bonneville Unit Systems (i.e., the M&I System, the Diamond Fork System, and I&D System<sup>1</sup>) before initiating construction. A draft EIS for the M&I System was issued in April 1979, and a Final EIS was issued in October 1979. A supplement to the M&I System's Final EIS was issued in March 1987.

The Diamond Fork System also has been the subject of previous NEPA compliance activity. A Draft EIS was prepared for the Diamond Fork Power System in June 1983 and a Final EIS in October 1984. Further refinements in the project plan prompted supplemental environmental analyses. The 1990 Supplement was issued as a Draft on April 26, 1989, and the Final Supplement was issued on February 22, 1990. A Draft EIS was prepared on the SFN System which replaced the I&D System. The SFN DEIS, released for public review on March 31, 1998, included the Proposed Action Alternative that was covered in the 1999 Diamond Fork System FS-FEIS.

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<sup>1</sup> Section 202(a)(1)(B)(iii) of CUPCA authorizes "...the construction of alternate features to deliver irrigation water to lands in the Utah Lake drainage basin and municipal and industrial water..." Pursuant to this authorization, the Utah Lake Drainage Basin Water Delivery System would replace the systems previously studied: the Irrigation and Drainage System and the Spanish Fork Canyon -Nephi Irrigation System.

A notice of intent was published in the Federal Register (FR Doc. 98-27484) on October 14, 1998 to announce a future planning process, with public involvement, for the facilities authorized in Section 202(a)(1)(B)(iii) of CUPCA, the Utah Lake System. A draft EIS (DES 04-16) for the Utah Lake System was filed with EPA on March 25, 2004, and a Final EIS (FES 04-41) was filed with EPA on September 30, 2004.

### **III. Purpose and Need, the Proposed Action, and Alternatives**

#### **A. Purpose and Need**

Following a September 2000 public meeting, and after requests for project water were received and analyzed, the Joint-Lead Agencies developed an initial purpose and need statement. This purpose and need statement and the results of the water needs analysis were presented at a public meeting on October 17, 2001, where additional public comment was solicited. Based upon this additional public input, the purpose and need statement was modified to include project power. This statement defines the underlying needs to which the selected plan and any alternatives must respond, and the attendant purposes of the Utah Lake System. As such, it has served as a guide throughout the planning/NEPA process.

The Proposed Action and other action alternatives respond to the following needs:

1. To complete the Bonneville Unit by delivering 101,900 acre-feet on an average annual basis from Strawberry Reservoir to the Wasatch Front Area and project water from other sources to meet some of the municipal and industrial (M&I) demand in the Wasatch Front Area.
2. To implement water conservation measures.
3. To address all remaining environmental commitments associated with the Bonneville Unit.
4. To maximize current and future M&I water supplies associated with the Bonneville Unit.

The purposes of the project that have been identified are:

1. To protect water quality of surface and underground water resources that may be affected by Bonneville Unit completion.
2. To provide creative methods, facilities and incentives to implement water conservation measures, reuse and conjunctive use of water resources.
3. To participate in the implementation of the June Sucker Recovery Implementation Program.
4. To provide previously committed in-stream flows within the Bonneville Unit area and statutorily mandated in-stream flows, and assist in improving fish, wildlife and related recreational resources.

5. To provide for the United States to acquire adequate District water rights in Utah Lake to implement the ULS and other water rights as authorized by CUPCA.
6. To continue to provide Bonneville Unit water in accordance with existing contracts.
7. To develop project power.

## **B. Proposed Action Alternative**

The Spanish Fork Canyon–Provo Reservoir Canal Alternative has an average transbasin diversion of 101,900 acre-feet, which consists of a delivery of: 30,000 acre-feet of M&I water for secondary use to southern Utah County and 30,000 acre-feet of M&I water to Salt Lake County water treatment plants; 1,590 acre-feet of M&I water already contracted to southern Utah County cities, and 40,310 acre-feet of M&I water to Utah Lake for exchange to Jordanelle Reservoir. The 30,000 acre-feet (less the water returned to Interior under the Section 207 Program) of M&I water utilized in southern Utah County would be used in the cities' secondary water systems. Use of this water as a potable supply in the future would require additional NEPA compliance. Under this alternative, Interior would acquire all of the District's secondary water rights in Utah Lake. These rights would amount to 57,073 acre-feet. The acquired water rights would be used to exchange project water to Jordanelle Reservoir.

The Proposed Action Alternative would include the following features: 1) Sixth Water Hydropower Plant, Substation, and Transmission Facilities, 2) Upper Diamond Fork Hydropower Plant and Transmission Facilities, 3) Spanish Fork Canyon Pipeline, 4) Spanish Fork–Santaquin Pipeline, 5) Santaquin–Mona Reservoir Pipeline, 6) Mapleton–Springville Lateral Pipeline, and 7) Spanish Fork–Provo Reservoir Canal Pipeline. These features would deliver ULS M&I secondary water to southern Utah County cities, deliver water to Hobble Creek to provide June sucker spawning flows, and supplemental flows during other times of the year, deliver water for supplemental flows in the lower Provo River, deliver M&I raw water to the Provo Reservoir Canal and the Jordan Aqueduct for conveyance to water treatment plants in Salt Lake County, and provide water to generate electric power at two hydropower plants in the Diamond Fork System with the associated transmission facilities. Three pipelines (Spanish Fork Canyon, Spanish Fork – Santaquin, and Mapleton-Springville) would convey up to 10,200 acre-feet of Strawberry Valley Project (SVP) water shares contractually assigned or made available to South Utah Valley Municipal Water Association (SUVMWA) or its member cities/municipalities in southern Utah County on a space-available basis.

The land that will be required to construct and operate the features of the Proposed Action Alternative consists of National Forest System lands, State of Utah Department of Transportation lands, City and County lands, and privately owned lands. Permanent rights-of-way will be required for the features, and temporary rights-of-way will be required during construction to provide space for equipment operation and staging areas. Some of the National Forest System lands that will be required have previously been withdrawn. As legally required, Interior is working with the Forest Service and the Bureau of Land Management (BLM) to withdraw the

additional lands required for the project and to revoke previous withdrawals that are not needed for the project.

### **C. Bonneville Unit Water Alternative**

The Bonneville Unit Water Alternative would convey an average transbasin diversion of 101,900 acre-feet consisting of: 15,800 acre-feet of M&I water to southern Utah County to be used in secondary water systems; 1,590 acre-feet of M&I water already contracted to the southern Utah County cities; and 84,510 acre-feet of M&I water delivered to Utah Lake for exchange to Jordanelle Reservoir. It would conserve water in the Provo River basin and deliver it along with acquired water to assist June sucker spawning and rearing, conserve water in a Mapleton-Springville Lateral Pipeline and convey water to support in-stream flows in Hobble Creek to assist recovery of the June sucker; and generate electric power at two hydropower plants in the Diamond Fork System. It would involve construction of three new pipelines and two new hydropower plants with associated transmission facilities. Under this alternative, Interior would acquire up to 15,000 acre-feet of the District's secondary water rights in Utah Lake to provide a firm annual yield of 15,800 acre-feet of M&I water for secondary water systems.

The Bonneville Unit Water Alternative would include the following features: 1) Sixth Water Hydropower Plant, Substation, and Transmission Facilities, 2) Upper Diamond Fork Hydropower Plant and Transmission Facilities, 3) Spanish Fork Canyon Pipeline, 4) Spanish Fork-Santaquin Pipeline, and 5) Mapleton-Springville Lateral Pipeline. These features would deliver ULS M&I secondary water to southern Utah County cities, deliver Bonneville Unit water to Hobble Creek to provide June sucker flows, and generate and deliver electric power from two hydropower plants. Three of the pipelines would convey up to 10,200 acre-feet of Strawberry Valley Project (SVP) water shares contractually assigned or made available to SUVMWA or its member cities/municipalities in southern Utah County on a space available basis.

### **D. No Action Alternative**

No new water conveyance features would be constructed under the No Action Alternative. The 15,800 acre-feet of available Bonneville Unit water would remain in Strawberry Reservoir to provide a firm supply without any shortages. Some of the Bonneville Unit M&I exchange water would be routed through the Strawberry Tunnel to meet in-stream flow needs in Sixth Water and Diamond Fork creeks. The remaining Bonneville Unit M&I exchange water would be conveyed through the Syar Tunnel and Diamond Fork System and discharged into Diamond Fork Creek at the outlet near Monks Hollow for in-stream flows or discharged from the Diamond Fork Pipeline and Spanish Fork River Flow Control Structure into Diamond Fork Creek at the mouth of Diamond Fork Canyon. If the No Action Alternative was selected, the privately owned irrigation diversions on lower Spanish Fork River would be modified to bypass and measure the 86,100 acre-feet of project water delivered to Utah Lake, and to allow fish passage as previously agreed by Interior and the District in the 1999 Diamond Fork FS-FEIS and ROD. These modifications to the privately owned irrigation diversions would not be required under the Proposed Action

Alternative. The No Action Alternative would conserve water in the Provo River basin and deliver it along with acquired water to assist June sucker spawning and rearing in the lower Provo River. Interior would not acquire any of the District’s secondary water rights in Utah Lake and no water would be conveyed to Hobble Creek. The No Action Alternative would be operated the same as the Interim Proposed Action described in the Diamond Fork 1999 FS-FEIS.

**E. Other Alternatives**

While considering the various methods to distribute the ULS water supply, numerous alternatives were identified and studied that would develop and deliver the remaining Bonneville Unit water supply plus District-owned water in Utah Lake that would be acquired by Interior. These alternatives that were considered may have met the need and some of the purposes, but were eliminated because of one or more of the following reasons: 1) it would not be economically acceptable, 2) the construction and long-term maintenance would be technically difficult and pose long-term operation and maintenance unknowns, 3) it would not be reliable over the project life, 4) it would be unacceptable to the public and resource management agencies, and 5) it would have had unacceptable adverse impacts on environmental resources. The following table lists the eight alternatives that were eliminated from detailed analysis and summarizes information related to the estimated construction and water costs for each alternative.

<b>Alternatives Considered but Eliminated from Detailed Analysis and Estimated Construction and Water Costs</b>			
<b>Alternative</b>	<b>Construction Cost (\$1,000,000)</b>	<b>Volume of Water (acre-feet)</b>	<b>Estimated Cost of Water (\$/acre-foot)</b>
Spanish Fork-Bluffdale Alternative	658.9	60,000	\$352
Bonneville Shoreline Trail Pipeline Alternative	520.7	60,000	\$336
Provo Canyon-American Fork Tunnel Alternative	705.7	60,000	\$359
Provo City-Orem City Pipeline Alternative	591.2	60,000	\$341
Utah Lake Perimeter Alternative	619.7	60,000	\$346
Strawberry Reservoir-Daniels Summit Alternative	499.3	60,000	\$335
Upper Strawberry River Pipeline Alternative	505.7	60,000	\$335
Strawberry Reservoir-Deer Creek Reservoir Alternative	604.7	60,000	\$343

#### **IV. Decision**

It is the decision of the Assistant Secretary to select the Proposed Action as presented in the Utah Lake System September 2004 Final Environmental Impact Statement. The Assistant Secretary also approves Interior's cooperation with the District and the Mitigation Commission, to execute the necessary contracts and agreements, and to construct and operate the Utah Lake System in accordance with statutory and environmental commitments. During the design, specification, and construction process, and in accordance with Public Law 104-106, value engineering studies will be completed. In making this decision, the Assistant Secretary has reviewed all the alternatives and their predicted environmental, economic, and social impacts, and considered the comments submitted by interested parties. The negative impacts of the Proposed Action are minimal while the water benefits including the water conservation and recycling measures, the mitigation and enhancement provided, and the hydropower benefits are substantial. Therefore, the Proposed Action is adopted. Under the Proposed Action, some SVP water will still be conveyed through the ULS pipelines and facilities for conservation measures and to more efficiently deliver water to the cities in south Utah County.

In selecting the Proposed Action, Interior has made specific commitments, including environmental commitments, which by agreement and statutory provision, are binding on the District, Interior, and the Mitigation Commission. The environmental commitments are referenced in section VIII of this ROD and are partially documented in Volume 2, Appendix A on pages A-1 through A-15 of the ULS FEIS. Attachment 1 to this ROD lists all the commitments, including the environmental commitments, and is included and made a part of this ROD. The Joint-Lead Agencies will implement these commitments including the environmental commitments as quantified and documented in this ROD. If the recommendations made by the value engineering studies provide significant project and/or environmental benefits, or reduce project costs, the Joint-Lead Agencies by mutual agreement will modify the Proposed Action accordingly with additional NEPA compliance.

In the future, the Utah Lake System will be operated so as to provide the statutorily mandated minimum flows, the flows committed to for the endangered June sucker, the assistance flows in the lower Provo River identified in the ULS FEIS, the water conservation and recycling measures contractually committed to by the District and its petitioners, and Interior will continue to be an active partner with the other Joint-Lead Agencies, U.S. Fish and Wildlife Service (USFWS), and Utah Division of Wildlife Resources. In addition, this ROD also reiterates the Joint-Lead Agencies' previous commitment to operate the Bonneville Unit in a manner that is equal to or less than the hydrologic regime for Sixth Water and Diamond Fork Creeks that is described and documented in detail in the "Draft Water Supply Appendix - March 1998, Supplement to the 1988 Bonneville Unit Definite Plan Report"<sup>2</sup>. However, the conveyance of

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<sup>2</sup> Section 205 of CUPCA requires a Definite Plan Report to be prepared by the District. In compliance with this requirement, in November 2004, a Supplement to the 1988 Definite Plan Report was finalized, approved, and made available.

project water through the Diamond Fork System tunnels and pipelines will be as described in the ULS FEIS and the 2004 DPR Supplement.

The Assistant Secretary has also determined that the Proposed Action provides the maximum benefits and enhancements within the project area by: delivering an average of 101,900 acre-feet of project water annually from Strawberry Reservoir and project water from other sources to meet some of the municipal and industrial (M&I) demand in the Wasatch Front Area; implementing significant water conservation and recycling measures; addressing all the remaining Bonneville Unit environmental commitments; maximizing current and future M&I water supplies; protecting water quality; participating in the implementation of the June Sucker Recovery Implementation Program; providing previously committed in-stream flows, statutorily mandated in-stream flows, and assist in improving fish, wildlife and related recreational resources; acquiring adequate District water rights in Utah Lake; and developing Federal project power. Prior to initiating construction of the Sixth Water and Upper Diamond Fork Hydropower Plants and Transmission Facilities, the necessary contracts identified in the ULS FEIS must be executed.

## **V. Basis for Decision**

The Assistant Secretary has reviewed all of the alternatives that were considered, their predicted environmental, economic, and social consequences, and the risks and safeguards inherent in them. The Assistant Secretary has considered the comments received on the ULS DEIS and ULS FEIS; the technical documents; the authorizing legislation; the policy recommendations from Interior's staff; the prerequisites required in the August 11, 1993, Cost Sharing and Compliance Agreements; and other relevant materials.

The Proposed Action is the only alternative that meets all of the "purposes and needs" for the project identified in section III. A. of this ROD. As documented in the following resources summary (sections V.A. through V.Q.) of this ROD, section VIII. of this ROD, and the ULS FEIS, the Proposed Action not only fulfills previous environmental commitments and mitigates significant impacts, it provides the largest project M&I water supply for the least cost per acre-foot to the petitioners, provides full repayment of the reimbursable costs of the M&I water, and provides for up-front cost sharing by the District.

In addition, the following summary compares the impacts of the Proposed Action Alternative with the Bonneville Unit Water Alternative and the No Action Alternative for the various resources involved.

### **A. Surface Water Hydrology**

***Proposed Action Alternative*** - Significant streamflow and river stage changes associated with the Proposed Action Alternative would be confined to general increases on the lower Provo River, and on Hobble Creek, and decreases on the Spanish Fork River.

***Bonneville Unit Water Alternative*** - Significant stream flow and river stage impacts associated with this alternative are confined to general increases on the lower Provo River below Olmsted Diversion, increases on Hobbler Creek, and decreases on the Spanish Fork River.

***No Action Alternative*** - Streamflow and river stage changes associated with the No Action Alternative are confined to general increases on the lower Provo River from the Olmsted Diversion to Utah Lake.

## **B. Surface Water Quality**

***Proposed Action Alternative*** - The primary impacts on surface water quality would occur in Utah Lake, the Provo River, Hobbler Creek and the Spanish Fork River. Total phosphorus load in Utah Lake would decrease by 3.2 tons per year (-1.1 percent) from baseline conditions. Total dissolved solids concentrations in Utah Lake would increase slightly and remain below the water quality standard for agricultural use. Total dissolved solids load to Utah Lake would decrease by 11,486 tons per year (-3.3 percent) from baseline. Water quality conditions in the lower Provo River would improve, with increased dissolved oxygen, lower summer water temperatures, and lower total dissolved solids. Total phosphorus concentrations in the lower Provo River would remain unchanged. Water quality conditions in Hobbler Creek would improve as well, with increased dissolved oxygen, lower summer water temperatures, and lower total dissolved solids. Total phosphorus concentrations in Hobbler Creek would increase under the Proposed Action. Water quality conditions in the Spanish Fork River would slightly degrade, with decreased dissolved oxygen, higher summer water temperatures, increased total dissolved solids, and increased total phosphorus. These impacts would occur because Bonneville Unit exchange flows to Utah Lake would be removed from the Spanish Fork River and discharged into Hobbler Creek and the lower Provo River. Impacts on water quality would not exceed the significance criteria developed using state and Federal standards.

***Bonneville Unit Water Alternative*** - The primary impacts on surface water quality would occur in Utah Lake, Hobbler Creek and the Spanish Fork River. Total phosphorus load in Utah Lake would increase by 1.0 ton per year (+0.3 percent) from baseline conditions. Total dissolved solids concentrations in Utah Lake would change slightly but remain below the water quality standard for agricultural use. Water quality conditions in Hobbler Creek would improve, with increased dissolved oxygen, lower summer water temperatures, and lower total dissolved solids. Total phosphorus concentrations in Hobbler Creek would increase under the Bonneville Unit Water Alternative. Water quality conditions in the Spanish Fork River would include increased dissolved oxygen, decreased summer water temperatures, increased total dissolved solids concentrations above Moark Junction and lower total dissolved solids concentrations below Moark Junction, and slightly increased total phosphorus concentrations above Moark Junction. Impacts on water quality would not exceed the significance criteria developed using state and Federal standards.

***No Action Alternative*** - The primary impacts on surface water quality would occur in Utah Lake and the Spanish Fork River. Total phosphorus load in Utah Lake would increase by 2.5 tons per year from historic baseline conditions. Total dissolved solids concentrations in Utah Lake would generally decrease from historic values and would remain below the water quality standard for agricultural use. Water quality conditions in the Spanish Fork River would include decreased summer water temperatures, increased dissolved oxygen concentration, decreased total dissolved solids and total phosphorus concentrations and unchanged to slightly increased selenium concentrations. Impacts on water quality would not exceed the significance criteria developed using state and Federal standards.

### **C. Groundwater Hydrology**

***Proposed Action Alternative*** - Under the Proposed Action a total of 27,000 acre-feet (30,000 acre-feet minus 3,000 acre-feet returned to Interior under 207 projects) of secondary M&I water would be delivered to southern Utah County. It is estimated that approximately 9,660 acre-feet would return to Utah Lake as groundwater. The change in groundwater levels from baseline conditions as a result of this 9,660 acre-feet over such a large area could cause a slight increase in groundwater levels; however this increase would be so small it would not be considered significant.

***Bonneville Unit Water Alternative*** - A total of 12,800 acre-feet (15,800 acre-feet minus 3,000 acre-feet returned to Interior under 207 projects) of secondary M&I water would be delivered to southern Utah County on an annual basis. It is estimated that approximately 4,660 acre-feet would return to Utah Lake as groundwater. The change in groundwater levels from baseline conditions as a result of this 4,660 acre-feet over such a large area could cause a slight increase in groundwater levels; however this increase would be so small it would not be considered significant.

***No Action Alternative*** - Under this alternative no additional Bonneville Unit M&I water would be delivered. It is reasonable to estimate that without additional Bonneville Unit M&I water the cities in southern Utah County would rely heavily upon additional groundwater pumping. The increased pumping by the cities would cause a drawdown in groundwater levels. Model studies indicate that groundwater levels could decrease by up to 26 feet in part of the impact area of influence (Woodland Hills).

### **D. Groundwater Quality**

***Proposed Action Alternative*** - No significant impacts are expected from construction and operation.

***Bonneville Unit Water Alternative*** - No impacts are expected from construction and operation.

**No Action Alternative** - No impacts are expected from construction and operation.

## **E. Aquatic Resources**

**Proposed Action Alternative** - Estimated change in habitat is variable for the areas of impact and by habitat type. In the Provo River slow and backwater habitats generally would decrease while moderate and fast water habitats would increase. One notable exception is the lowest reach of the Provo River where large increases in all habitats would be expected especially the critical habitat related to the recovery of the endangered June sucker. Projected increases in habitat likely would provide a significant benefit to aquatic species in Hobbie Creek. Projected flow decreases in the Spanish Fork River would be expected to decrease habitat complexity for fishes and macroinvertebrates.

Game fish biomass and total biomass are projected to increase substantially because of reduction in stream flow variation on the Provo River downstream of the Olmsted Diversion Dam to Utah Lake. Trout total biomass are projected to decrease compared to baseline conditions in two of four reaches in the Spanish Fork River. Impacts on game fish in the Spanish Fork River would be compounded by a loss in available habitat and would likely have a significant impact on trout populations and biomass. In Hobbie Creek, game fish populations are estimated to experience significant long-term increases. Total biomass was estimated to increase in Hobbie Creek. Overall the game fish biomass would experience an increase of 19,496 pounds.

Macroinvertebrate populations may potentially increase in the Provo River downstream of the I-15 Bridge. Habitat change in Hobbie Creek associated with enhanced flows has a moderate to high potential to benefit macroinvertebrates. In the Spanish Fork River, macroinvertebrate populations may experience a low to moderate negative impact because flow would be decreased in all months.

**Bonneville Unit Water Alternative** - Large increases in habitat availability would be expected for the lower Provo River. The greatest increases would be expected to occur downstream of the Murdock Diversion Dam reach and should improve game and non-game fish habitats. In the Spanish Fork River habitat is projected to increase and decrease seasonally. The greatest potential loss would occur during summer months and could have significant impact on non-game spawning habitat. Hobbie Creek habitat is projected to increase significantly under the Bonneville Unit Water Alternative.

Game fish biomass may be expected to increase as a result of reduction in streamflow variation in the Provo River downstream of the Olmsted Diversion Dam to Utah Lake. Game fish populations in the Spanish Fork River are projected to decrease because of changes in late summer flows, nitrate-nitrogen, and cover. In Hobbie Creek, game fish populations and total biomass are estimated to experience significant long-term increases. Overall the Bonneville Unit Water Alternative would result in an increase of 10,220 pounds of fish biomass.

Macroinvertebrate populations are expected to experience habitat changes that range from low to moderate potential and moderate to high benefit for populations in the Provo River downstream of the Murdock Diversion Dam. Flow decreases in the Spanish Fork River are not expected to result in significant impacts to macroinvertebrates. There is a low to moderate potential for benefits to macroinvertebrates in Hobble Creek.

**No Action Alternative** - There would be no change in habitat, total biomass, and macroinvertebrate populations and communities from baseline in the following reaches:

- Spanish Fork River from Diamond Fork to Utah Lake
- Hobble Creek from Mapleton-Springville Lateral discharge to Utah Lake
- Provo River from Deer Creek Reservoir to Olmsted Diversion

The change in habitat, total biomass, and macroinvertebrate populations and communities would be the same as under the Bonneville Unit Water Alternative for the following reach:

- Provo River from Olmsted Diversion to Utah Lake

The No Action Alternative would result in an increase of 9,703 pounds of fish biomass.

## **F. Wetlands Resources**

**Proposed Action Alternative** - A total of 0.27 acres comprised of 12 small, scattered non-jurisdictional wetlands would be temporarily lost, but then restored upon completion of construction; 1.03 acres comprised of 16 small, scattered, non-jurisdictional wetlands would be permanently lost from construction of the Mapleton-Springville Lateral Pipeline, and drain/discharge structures associated with other pipelines. The permanent loss of 1.03 acres of wetlands would be a significant impact.

Construction of the Mapleton-Springville Lateral Pipeline would cause permanent conversion of 0.3 acre of riparian forest and 0.7 acres of scrub-shrub wetland to upland vegetation. Construction of drain or discharge structures would result in the loss of 0.04 acres of riparian forest, scrub-shrub and emergent marsh wetlands. Soils would be restored after pipeline construction disturbance, but hydrology would be permanently affected within the pipeline corridor. The changes associated with the construction of pipelines would be a significant impact.

Wetland functions would be permanently lost on 1.03 acres of riparian forest, scrub-shrub and emergent marsh wetlands that would be converted to upland vegetation from construction of the Mapleton-Springville Lateral Pipeline and drain or discharge structures on other pipelines. Wetland functions would be temporarily lost on 0.27 acres until restoration was completed. Proposed mitigation for the ULS project would include 10 acres of the 85.5-acre Mona Springs

Unit. This would result in a mitigation ratio of approximately 9.7 to 1. This is substantial mitigation for both temporary and permanent loss of small, scattered, non-jurisdictional wetlands that currently have low functional value and do not support any threatened, endangered, or sensitive (TES) species.

***Bonneville Unit Water Alternative*** - One acre of wetland habitat would be lost from construction of the Mapleton-Springville Lateral Pipeline and 0.02 acres from construction of drain or discharge structures. The Spanish Fork-Santaquin Pipeline would cause a temporary loss of 0.18 acres during construction and until restoration was completed. The permanent loss of wetland associated with construction of pipelines would be a significant impact. Mitigation for wetland impacts would be the same as described for the Proposed Action in Section S.5.1.6.

Construction of the Mapleton-Springville Lateral Pipeline would permanently convert 0.3 acres of riparian forest and 0.7 acres of scrub-shrub wetland to upland vegetation, while 0.02 acres of riparian wetlands would be converted from construction of drain or discharge structures. Soils would be restored after pipeline construction disturbance, but hydrology would be permanently affected. The changes associated with construction of pipelines would be a significant impact.

Wetland functions would be permanently lost in 1.0 acre of riparian forest and scrub-shrub wetland converted to upland vegetation from construction of the Mapleton-Springville Lateral Pipeline and 0.04 acres of riparian wetlands from construction of drain or discharge structures. Wetland functions would be temporarily lost on 0.18 acres until restoration was completed. The temporary and permanent loss of wetland functions associated with construction would be a significant impact.

***No Action Alternative*** - Wetlands that could be potentially impacted are those that occur in the area where the wetland water supply may decline because of groundwater drawdown of one foot or more relative to baseline conditions. The wetland area and specific locations of potential wetland impacts relative to baseline, are not measurable based on the information available for use in the analysis (see Section 3.4.8.5 Groundwater Hydrology). However, it is expected that a considerable amount of wetland area could potentially change under the No Action Alternative. Potential increased pumping resulting from continued population growth would cause the drawdown of groundwater levels relative to baseline and the potential effect on wetlands.

There is potential for change in plant communities, soils and hydrology in areas affected by groundwater drawdown, however the specific location and amount of change can not be determined based on the available information. Wetland functions would be potentially reduced or lost in wetland areas in southern Utah County that are affected by groundwater drawdown.

## **G. Wildlife and Habitat**

***Proposed Action Alternative*** - The Proposed Action would result in a loss of 2.4 acres of wildlife habitat scattered throughout the impact area of influence. This habitat has marginal

wildlife values and abundant equivalent or higher value habitat is available adjacent to all features constructed for this alternative. Impacts on game and non-game wildlife home ranges would be minimal. Construction and operation of the alternative would not cause a substantial disturbance to wildlife habitats; habitat disturbance would not exceed the significance criteria.

***Bonneville Unit Water Alternative*** - Construction would eliminate 1.8 acres of wildlife habitat scattered throughout the impact area of influence. These acres have marginal wildlife values and abundant equivalent or higher value habitat is available adjacent to all features constructed for this alternative. Impacts on game and non-game wildlife habitat and home ranges would not be significant. The alternative would not cause a substantial disturbance to wildlife habitats; habitat disturbance would not exceed the significance criteria.

***No Action Alternative*** – Under the No Action Alternative the cities in south Utah County could pump groundwater supplies at a much higher rate, therefore, this alternative could cause significant impacts on wetland wildlife habitats in southern Utah County. Local sub-populations of wetland-associated wildlife could be adversely impacted, although it is unlikely that any regional species population would have impacts that would exceed the significance criteria.

## **H. Threatened and Endangered Species**

***Proposed Action Alternative*** - Flows in the Provo River would provide a 192 percent increase in weighted usable area (WUA) in May and a 122 percent increase in WUA in June for the moderate flow – mid-depth habitat on an annual basis for June sucker specific spawning habitat between the Tanner Diversion and Interstate 15 compared to baseline conditions. Proposed flows would provide a 181 percent increase in WUA in May and a 96 percent increase in WUA in June for the moderate flow – mid-depth habitat on an annual basis for June sucker specific spawning habitat in the Provo River between the Interstate 15 and Utah Lake compared to baseline conditions. Backwater/edge habitat niche would decrease by 61 percent and slow flow/shallow habitat would decrease by 8 percent from baseline from Tanner Diversion to Interstate 15. Backwater/edge and slow flow/shallow habitat would not change from Interstate 15 to Utah Lake. The small amount of projected habitat decreases for early life stages would be offset by large predicted habitat gains for spawning June sucker. July flow increases in both reaches of the Provo River would provide a benefit to young-of-year June sucker by restoring the hydrograph to a more natural condition. Changes in predation on June sucker from increased populations of predator fish were not analyzed.

Decreased flows in the Spanish Fork River are not likely to adversely affect Ute ladies'-tresses individuals or habitat.

***Bonneville Unit Water Alternative*** - Proposed flows in the Provo River would provide a 134 percent increase in WUA in May and a 64 percent increase in WUA in June for the moderate flow – mid-depth habitat on an annual basis for June sucker specific spawning habitat between the Tanner Diversion and Interstate 15 compared to baseline conditions. Proposed flows would

provide a 111 percent increase in WUA in May and a 64 percent higher WUA in June for the moderate flow – mid-depth habitat on an annual basis for June sucker specific spawning habitat in the Provo River between the Interstate 15 and Utah Lake compared to baseline conditions. Backwater/edge habitat niche would decrease by 55 percent and slow flow/shallow habitat would increase by 10 percent from baseline from Tanner Diversion to Interstate 15. Backwater/edge habitat would increase by 160 percent and slow flow/shallow habitat would increase by 324 percent over baseline from Interstate 15 to Utah Lake. The large predicted habitat gains for spawning June sucker would provide a benefit to young-of-year June sucker by restoring the hydrograph to a more natural condition. Changes in predation on June sucker from increased populations of predator studies were not analyzed.

Decreased flows in July through September in the Spanish Fork River are not likely to adversely affect Ute ladies'-tresses individuals or habitat.

**No Action Alternative** – Proposed flows in the Provo River would provide a 134 percent increase in WUA in May and a 64 percent increase in WUA in June for the moderate flow – mid-depth habitat on an annual basis for June sucker specific spawning habitat between the Tanner Diversion and Interstate 15 compared to baseline conditions. Proposed flows would provide a 111 percent higher WUA in May and 64 percent higher WUA in June for the moderate flow – mid-depth habitat on an annual basis for June sucker specific spawning habitat in the Provo River between the Interstate 15 and Utah Lake compared to baseline conditions. Backwater/edge habitat niche would decrease by 55 percent and slow flow/shallow habitat would increase by 10 percent from baseline from Tanner Diversion to Interstate 15. Backwater/edge habitat would increase by 160 percent and slow flow/shallow habitat would increase by 324 percent over baseline from Interstate 15 to Utah Lake. The large predicted habitat gains for spawning June sucker would provide a benefit to young-of-year June sucker by restoring the hydrograph to a more natural condition. Changes in predation on June sucker from increased populations of predator species were not analyzed. There would be no effect in the Spanish Fork River, as flows would be the same as under baseline.

## **I. Sensitive Species**

**Proposed Action Alternative** – The Leatherside chub would be significantly impacted in the Spanish Fork River. Although the change in habitat is not expected to be substantial (i.e., greater than 25 percent of habitat in the eco-region), the impact can be considered significant. To offset potential impacts on Leatherside chub, the Joint-Lead Agencies commit to supporting the Utah Division of Wildlife Resources in evaluating population and habitat status, or determining threats and/or identifying conservation actions that could protect, and where appropriate, enhance Leatherside chub. This would occur first in the Spanish Fork River, but if necessary, in other streams of the Utah Lake drainage. No other sensitive species would be significantly impacted by the Proposed Action.

**Bonneville Unit Water Alternative** – The Leatherside chub would be significantly impacted in

the Spanish Fork River. Although the change in habitat is not expected to be substantial (i.e., greater than 25 percent of habitat in the eco-region), the impact can be considered significant. Mitigation for Leatherside chub impacts would be the same as described for the Proposed Action. No other sensitive species would be impacted.

**No Action Alternative** – No impact on the Leatherside chub. Wetland habitat loss could impact local populations of wetland-associated species (long-billed curlew), but would not place regional populations at risk.

## **J. Agriculture and Soils**

**Proposed Action Alternative** - There would be a temporary loss of production on 43.1 acres of rotational crop land, and 16.7 acres of orchard land. There would be a permanent loss of 15.4 acres of orchard land. The significance of these impacts would depend on each farmer's operation and can not be determined with the data available for analysis.

**Bonneville Unit Water Alternative** - There would be a temporary loss of production on 14.3 acres of rotational crop land, and 16.7 acres of orchard land. There would be a permanent loss of 15.4 acres of orchard land. The significance of these impacts would depend on each farmer's operation and can not be determined with the data available for analysis.

**No Action Alternative** – There would be no loss of production associated with construction of ULS project features. Factors not associated with the ULS project, such as population growth, would continue to impact agriculture, resulting in loss of agricultural land and associated production.

## **K. Socioeconomics**

**Proposed Action Alternative** - Construction activities would create about 800 to 1,190 jobs (annual equivalent). Most jobs are expected to be filled by the existing construction force labor pool located within the impact area of influence. These impacts would not be significant.

Construction activities would result in an increase of approximately \$72 million in direct income impacts. The additional indirect income that would be generated by construction activities is estimated to be about \$79 million. Total direct and indirect income impacts would equal approximately \$151 million. Construction activities would result in \$270 million in new equipment and materials purchases spread throughout the local, state, and national economies. Operations would not create any measurable income impacts. Some construction and operation impacts would occur on local businesses and landowners, but the magnitude of such impacts would be minimized by the Standard Operating Procedures. However, some disruptions of public and business services would occur, and would be of short duration. There would likely be an increase in the water rates, which would be a significant impact.

Strawberry Water Users Association power generation revenue from the Upper Generator would be about \$502,342 per year, which would be a decrease of about \$6,125 per year from baseline conditions.

Physical construction activities would temporarily reduce annual crop revenues by only \$77,300, with a permanent annual reduction of about \$34,600. Peak decreases in regional household income for the construction phase would be less than \$100,000, with permanent decreases being less than \$50,000.

Operations would result in increased recreational fishing that would generate an additional \$1,288,083 in direct net value annually, and about \$4,770,483 in total regional/state expenditures. This impact represents about a 27 percent increase above baseline conditions and would be a significant impact.

***Bonneville Unit Water Alternative*** - Construction activities would create about 620-930 jobs (annual equivalent). Most jobs would be filled by the existing construction force labor pool located within the impact area of influence. Project operations would slightly increase District operations staff. Construction activities would result in an increase of approximately \$37 million in direct income impacts. The additional indirect income that would be generated by construction activities is estimated to be about \$41 million. Total direct and indirect income impacts would equal approximately \$78 million. Construction activities would result in \$147 million in new equipment and materials purchases spread throughout the local, state, and national economies. Operations would not create any measurable income impacts. There would likely be an increase in the water rates which would be a significant impact.

Some construction and operation impacts would occur on local businesses and landowners throughout the impact area of influence, but the magnitude of such impacts would be minimized by the Standard Operating Procedures. However, some disruptions of public and business services would occur, and would be of short duration.

Strawberry Water Users Association power generation revenue from the Upper Generator would be \$502,342 per year, which would be a decrease of about \$6,125 per year from baseline conditions.

Physical construction activities would temporarily reduce annual crop revenues by only \$75,800, with a permanent annual reduction of about \$34,600. Peak decreases in regional household income for the construction phase would be less than \$100,000, with permanent decreases being less than \$50,000.

Operation of the Bonneville Unit Water Alternative would result in increased recreational fishing that would generate an additional \$638,208 in direct net value annually, and about \$2,708,100 in total regional/state expenditures. This impact represents about a 13.4 percent increase above

baseline conditions and would be a significant impact.

**No Action Alternative** – Water resource agency officials and local water delivery providers have determined that future population and economic growth would place new demands on water supply resources. This analysis concludes that adequate water supply resources are available to meet projected needs, but the new resource alternatives would be more expensive than existing resources, and water delivery customers would bear higher water service taxes and rates.

Future water rates would be determined by increasing marginal resource costs. A review of the existing and marginal costs for new water supply delivery under the No Action Alternative is displayed in the following table. These cost estimates cover several water supply options that have been identified for the general impact area of influence. The reason for the higher cost in converting an existing irrigation supply to an M&I supply is because it could involve water recycling, reverse osmosis, new distribution lines, pumping plants and energy for pumping.

<b>Estimated Costs for New Water Resources</b>			
<b>Water Resource</b>	<b>Volume (acre-feet)</b>	<b>Annual \$/acre-foot</b>	<b>Purpose/Use</b>
<b>Salt Lake County</b>			
Bear River Water	50,000	\$417	Municipal
Efficiency Measures	12 to 25 percent of Existing Supplies	<\$300	Municipal
Groundwater Wells	50,000	\$460 to \$522	Municipal
Water Recycling	18,000	\$450 to 600	Secondary/Irrigation
Utah Lake RO Plant	50,000	\$700 to \$1,000	Municipal
<b>Southern Utah County</b>			
Efficiency Measures	12 to 25 percent of Existing Supplies	<\$300	Municipal
Irrigation Private Wells to M&I	Undetermined	<\$200	Municipal
Water Recycling	Undetermined	>\$300	Secondary/Irrigation
Irrigation Surface Water to M&I	Undetermined	>\$600 to 1,000	Municipal

## **L. Cultural Resources**

**Proposed Action Alternative** - This alternative would adversely affect the Castilla Warm Springs Spa historic archaeological site, two farmsteads in Salem, the Summit Creek Reservoir Drain Structure, the Mapleton-Springville Lateral, and two historic canals: the West Union Canal in

Provo, and the Provo Reservoir Canal (PRC), commonly known as the Murdock Canal in Orem.

***Bonneville Unit Water Alternative*** - This alternative would have an adverse impact on the Castilla Warm Springs Spa historic archaeological site, two historic farmsteads in Salem, the historic Summit Creek Reservoir drain structure, and the Mapleton-Springville Lateral.

***No Action Alternative*** – There would not be any adverse impacts on cultural resources.

## **M. Visual Resources**

***Proposed Action Alternative*** - The Sixth Water Transmission Line, Substation and the Upper Diamond Fork Power Plant Facility would be inconsistent with the Uinta National Forest Plan of partial retention because slope cuts, site grading and buildings would result in dominant elements in the foreground view from Sheep Creek-Rays Valley Road and the Diamond Fork Road. These Forest access routes are used by a large number of users.

***Bonneville Unit Water Alternative*** - The Sixth Water Transmission Line, Substation and the Upper Diamond Fork Power Plant Facility would be inconsistent with the Uinta National Forest Plan of partial retention because slope cuts, site grading and buildings would result in dominant elements in the foreground view from Sheep Creek-Rays Valley Road and the Diamond Fork Road. These Forest access routes are used by a large number of users.

***No Action Alternative*** – There would not be any adverse impacts on visual resources.

## **N. Recreation Resources**

***Proposed Action Alternative*** - There would be a significant impact on angler day use on the Provo River. It is estimated that the Proposed Action would increase angler day use by 36,342 days per year in reaches with public access. Total net angler-days per year would increase by 36,438 (+27 percent) under the Proposed Action.

***Bonneville Unit Water Alternative*** - There would be a significant impact on angler day use on the Provo River. It is estimated that the Bonneville Unit Water Alternative would increase angler day use by 19,716 days per year. Total net angler-days per year would increase by 18,054 (+13.4 percent) under the Bonneville Unit Water Alternative.

***No Action Alternative*** – There would be an estimated increase of 19,716 (+14.6 percent) angler days per year over baseline on the Provo River from Deer Creek Dam outlet to Utah Lake under this alternative.

## **O. Public Health and Safety**

***Proposed Action Alternative*** – The following table shows only high-risk urban areas by feature,

number of miles, and towns and cities where impacts would occur. Potential public exposure to air quality, traffic and noise impacts would occur on a short-term basis along 30.9 miles of construction corridors.

<b>Location of High-Risk Urban Areas for Significant Air Quality, Traffic and Noise Impacts</b>		
<b>Feature</b>	<b>Miles</b>	<b>Towns/Cities Affected</b>
Spanish Fork-Santaquin Pipeline	7.4	Spanish Fork, Salem, Payson
Mapleton-Springville Lateral Pipeline	4.9	Spanish Fork, Mapleton
Spanish Fork-Provo Reservoir Canal Pipeline	18.6	Spanish Fork, Mapleton, Springville, Provo, Orem

**Bonneville Unit Water Alternative** – The following table shows only high-risk urban areas by feature, number of miles, and towns and cities where impacts would occur. Potential public exposure to air quality, traffic and noise impacts would occur on a short-term basis along 9.9 miles of construction corridors.

<b>Location of High-Risk Urban Areas for Significant Air Quality, Traffic and Noise Impacts</b>		
<b>Feature</b>	<b>Miles</b>	<b>Towns/Cities Affected</b>
Spanish Fork-Santaquin Pipeline	5.0	Spanish Fork, Salem, Payson
Mapleton-Springville Lateral Pipeline	4.9	Spanish Fork, Mapleton

**No Action Alternative** – There would not be any adverse impacts on public health and safety.

**P. Paleontology**

**Proposed Action Alternative** - Approximately 34 miles of pipeline features would be constructed on Condition 1 formations (areas that are known to contain vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils) and 13 miles on Condition 3 formations (areas that are very unlikely to produce vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils based on their surficial geology, igneous or metamorphic rocks, extremely young alluvium, colluvium, or Aeolian deposits or the presence of deep soils). Until construction occurs it is not possible to estimate if any paleontological resources would be impacted.

***Bonneville Unit Water Alternative*** – Approximately 20 miles of pipeline features would be constructed on Condition 1 formations (areas that are known to contain vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils) and 3.2 miles on Condition 3 formations (areas that are very unlikely to produce vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils based on their surficial geology, igneous or metamorphic rocks, extremely young alluvium, colluvium, or Aeolian deposits or the presence of deep soils). Until construction occurs it is not possible to estimate if any paleontological resources would be impacted.

***No Action Alternative*** – There would not be any adverse impacts on paleontology.

## **Q. Transportation Networks and Utilities**

***Proposed Action Alternative*** - The following would experience a temporary (short term) 10 percent or greater increase in Annual Average Daily Traffic flow which would be a significant impact: Foothill Drive in southeast Provo, and rural, county, and residential streets and roads associated with constructing the Sixth Water Power Facility, Substation and Transmission Line, Spanish Fork-Santaquin Pipeline, Santaquin-Mona Reservoir Pipeline, Mapleton-Springville Lateral Pipeline, and Spanish Fork-Provo Reservoir Canal Pipeline.

***Bonneville Unit Water Alternative*** – The following would experience a temporary (short term) 10 percent or greater increase in Annual Average Daily Traffic flow which would be a significant impact: rural roads and residential streets associated with construction of the Sixth Water Power Facility, Substation and Transmission Line, Spanish Fork-Santaquin Pipeline, and Mapleton-Springville Lateral Pipeline.

***No Action Alternative*** – There would not be any adverse impacts on transportation networks and utilities.

## **R. Air Quality**

***Proposed Action Alternative*** - National Ambient Air Quality Standards (NAAQS) standards for PM<sub>10</sub>, NO<sub>2</sub>, and SO<sub>2</sub> would be exceeded. Exceedences would be temporary and localized. See Section 3.20.8.3.9 of the ULS FEIS for detailed amounts, locations, and timeframes.

***Bonneville Unit Water Alternative*** – National Ambient Air Quality Standards (NAAQS) standards for PM<sub>10</sub>, NO<sub>2</sub>, and SO<sub>2</sub> would be exceeded. Exceedences would be temporary and localized. See Section 3.20.8.4.1 of the ULS FEIS for detailed amounts, locations, and timeframes.

***No Action Alternative*** – There would not be any adverse impacts on air quality.

## **S. Minerals and Energy**

***Proposed Action Alternative*** - There would be a loss of 76,560 kwhr per year in power produced by the Upper Generator at the Strawberry Water Users Association power plant. New power generation (average annual water-year conditions) would be provided by the Sixth Water Power Facility (about 134,269,000 kwhr) and Upper Diamond Fork Power facility (about 30,874,000 kwhr). The Western Area Power Administration has agreed to initiate a process whereby it would market Federal project power developed under ULS.

***Bonneville Unit Water Alternative*** – There would be a loss of 76,560 kwhr per year in power produced by the Upper Generator at the Strawberry Water Users Association power plant. New power generation (average annual water-year conditions) would be provided by the Sixth Water Power Facility (about 134,269,000 kwhr) and Upper Diamond Fork Power facility (about 30,874,000 kwhr). The Western Area Power Administration has agreed to initiate a process whereby it would market Federal project power developed under ULS.

***No Action Alternative*** – There would not be any adverse impacts on minerals and energy.

## **VI. Implementation**

The construction and operation of the Proposed Action by the District will be pursuant to and in accordance with this ROD which includes the commitments listed in Attachment 1, the ULS FEIS, the 2004 Supplement to the Definite Plan Report (2004 DPR Supplement), the August 11, 1993 Compliance and Cost Sharing Agreements, Repayment Contract No. 04-WC-40-120, the D&MC Funding Contract Nos. 04-WC-40-180, 04-WC-40-190, 04-WC-40-200, and 04-WC-40-250, the additional contracts, agreements, permits, and approvals enumerated in Tables 1-36 and 1-37 of the ULS FEIS, and such written approvals as required by Interior.

## **VII. Environmentally Preferable Alternative**

The Proposed Action is the Environmentally Preferable Alternative. It provides the greatest environmental benefits and least impacts of all the alternatives.

Regulations promulgated by the Council on Environmental Quality require an agency that has prepared an EIS to identify in the ROD the alternative or alternatives considered to be environmentally preferable (40 CFR §1505.2(b)). The environmentally preferable alternative is the alternative that would promote the national environmental policy as expressed in §101 of NEPA. Typically this means the alternative that causes the least damage to the biological and

physical environment, and best protects, preserves, and enhances historic, cultural and natural resources.

The Proposed Action would have the greatest benefits on aquatic resources and aquatic recreation resources by increasing fish biomass and angler days. The Proposed Action would provide the most benefits for threatened and endangered aquatic species and would have the least adverse impact on the aquatic ecosystem by increasing flows in the Provo River. Overall game fish biomass would increase by 19,496 pounds (+30 percent) over baseline conditions. June sucker spawning habitat in the Provo River between the Tanner Race Diversion and Interstate 15 would increase by 122 percent to 192 percent over baseline conditions because of increased water volume and stream surface area. June sucker spawning habitat from Interstate 15 to Utah Lake would increase by 86 percent to 181 percent over baseline conditions. Hobble Creek aquatic habitat would be benefited by a 53 percent increase in flow over baseline conditions. Leatherside chub populations in the Spanish Fork River could have adverse impacts from a 32 percent to 66 percent decrease in flows.

The Proposed Action would permanently remove 1.0 acre of low-value wetlands and would temporarily impact 0.3 acre of low-value wetlands that would be restored after construction. All wetland impacts will be mitigated and there would be “no net loss of wetlands”. The potential continuation of groundwater pumping to support population growth would cause drawdown of groundwater levels relative to baseline and a potential impact on existing wetlands. Wetlands that could be potentially impacted are those that occur in the area where the wetland water supply may decline because of groundwater drawdown of one foot or more relative to existing conditions. The wetland acreage and specific locations of potential wetland impacts compared to existing conditions is not measurable based on the available information. However, it is expected that a considerable amount of wetland area could be potentially affected. The delivery of M&I water could have some benefit on these wetlands. Some increased level of groundwater recharge resulting from the application of the M&I secondary use water would provide a wetland benefit. The quantity and location of the wetlands that could benefit from the secondary use water is not measurable based on available information.

The Proposed Action would reduce total phosphorus (TP) concentrations in Utah Lake from existing conditions, would not change the net TP load into Utah Lake, would cause slight increases and decreases in cumulative total dissolved solids (TDS) concentrations in Utah Lake, and would decrease the net TDS load into Utah Lake. The Proposed Action would have the least water quality impact on the aquatic ecosystem in Utah Lake. The change in TP concentrations in Hobble Creek would be the same for the practicable alternatives. In the Spanish Fork River, there would be no exceedences of water quality standards under the Proposed Action.

The entire list of project purposes and needs is set out in section III.A. above. The Proposed Action is the only alternative that meets all of these purposes and needs. The Proposed Action

meets all the previous and additional environmental commitments and does so in a more environmentally acceptable way than the other alternatives that were considered.

Given the water and hydropower benefits, fish and wildlife benefits, habitat improvements, measures to recover the endangered June sucker, and other measures to protect other threatened, endangered, and sensitive species that are provided by the Proposed Action, it is the environmentally preferable alternative as well.

### **VIII. Commitments including Mitigation/Environmental and Monitoring Commitments**

This ROD documents the considerations which led the Assistant Secretary - Water and Science to choose to proceed with the Proposed Action Alternative. When implementing that action, certain specific requirements must be set out which govern implementing activities including the Standard Operating Procedures that were incorporated into the description of the Proposed Action Alternative. However, in choosing to proceed, it is impossible to know in detail, every aspect of the contracting, construction, or other activities necessary to implement the Proposed Action Alternative. Therefore, certain overarching commitments must be made which guide the agency in carrying out these aspects of the selected alternative. The Assistant Secretary's adoption of the Proposed Action is contingent upon the fulfillment of all previous as well as new commitments contained in or referenced in this ROD.

Attachment 1 to this ROD lists all the specific commitments, including the environmental commitments, and is included and made a part of this ROD.

### **IX. Public Involvement**

The EIS public involvement process consisted of several phases. Public participation began with scoping. During the scoping period, the Joint-Lead Agencies conducted meetings, workshops, and other public forums to help identify issues and alternatives before making initial decisions about the scope of alternatives which could be considered in the ULS DEIS. The Joint-Lead Agencies, then, analyzed the information gathered during the scoping phase and used it to determine the issues and alternatives that they would consider and address in the ULS DEIS.

The ULS DEIS received further public review and comment. During the review period for the ULS DEIS, a public meeting, or formal hearing, was convened to seek oral and written comments from the affected interest groups and individuals. Following the comment period the Joint-Lead Agencies analyzed and responded to comments and revised the ULS DEIS as necessary to develop the ULS FEIS. Finally, a ROD was prepared documenting and explaining the final decision. The ROD is provided to all the cooperating agencies and entities who commented on the ULS FEIS and is available to the public.

Public involvement throughout the EIS process ensured that the process was open and that the Joint-Lead Agencies considered information from all interested persons, including other Federal agencies, Indian Tribes, State and local government, the scientific community, professional organizations, environmental organizations, and citizens at large.

Public involvement for the Utah Lake System is detailed in Chapter 4 of the ULS FEIS which contains copies of public comments received on the ULS DEIS, and the responses thereto. A notice of intent to prepare an EIS for the Utah Lake System and initiate scoping was published in the Federal Register on August 23, 2000 (FR 00-21458). The Joint-Lead Agencies initiated the public process by conducting four scoping meetings. Two of these were conducted as informal open houses – one in September 2000 provided background information on the Central Utah Project and received initial requests for Bonneville Unit water, and the other in October 2001 provided information on the Utah Lake System, presented the results of the water needs analysis, and accepted public comments. Formal scoping meetings held in February 2002 were planned to provide specific information on ULS water delivery concepts and solicit specific responses on those concepts from the public and agency representatives.

Public and agency input at the scoping meetings from interested citizens, organizations and government agencies was carefully reviewed and analyzed by the Joint-Lead Agencies to identify and determine any issues, concerns, or opportunities. The identified issues and concerns were divided into 23 resource disciplines representing distinct aspects of the human and natural environment. These issues and concerns were used to determine the scope of the impact analysis within each resource discipline.

The ULS DEIS was filed with the U.S. Environmental Protection Agency on March 25, 2004. A notice announcing the availability of the ULS DEIS was published in the Federal Register on March 30, 2004 (FR 04-7034). The notice invited the public to review and comment on the ULS DEIS during a 78-day comment period from March 25, 2004 until June 11, 2004. The notice also announced that public hearings would be held on April 28 and 29, 2004, for the purpose of receiving comments on the ULS DEIS. The District provided any person or entity not on the mailing list with a copy of the ULS DEIS and its supporting documents upon request, and made copies available for inspection at Interior's local office in Provo, Utah, at the District office in Orem, and at the Mitigation Commission office in Salt Lake City, Utah.

Two public hearings were held on the ULS DEIS, one in Sandy City and one in Spanish Fork City, Utah. Table 4-5 in the ULS FEIS summarizes the hearing details. A total of 28 comment letters on the ULS DEIS were received. These letters are identified in Table 4-6 of the ULS FEIS. The comments have been extracted from each comment letter and retyped, with each comment followed by a response. The complete comment letters listed in Table 4-6 are reprinted in Appendix I of the ULS FEIS. On September 30, 2004, Interior filed the 2004 ULS FEIS with the EPA. Copies of the ULS FEIS were sent to Federal agencies, State and local governments, environmental organizations, and the general public, including all people and organizations who

commented on the ULS DEIS.

Two letters of comment were received on the ULS FEIS. One letter was received from the Strawberry Water Users Association (SWUA) and one from the Environmental Protection Agency.

In its comment letter dated October 28, 2004, the SWUA requested that two issues be addressed: 1) the feasibility of providing a falling water charge to SWUA from the ULS powerplants in the Diamond Fork System; and 2) issues associated with SVP return flows be addressed in the ROD. In a response to SWUA dated November 16, 2004, the Joint Lead Agencies indicated that 1) redirecting Colorado River Storage Project revenues to SWUA would require additional legislation and since power generation is a matter of pending litigation, it would be premature to respond further; and 2) although response 14.17 in the ULS FEIS fully addressed this issue, Interior agreed to consider documenting it in the ROD. After careful consideration, Interior has determined that: 1) because of pending litigation and the need for additional legislation, providing a falling water charge to SWUA should not be addressed in this ROD; and 2) the issues related to SVP return flows has been adequately addressed in the ULS FEIS and requires no further documentation in this ROD.

In a letter dated November 5, 2004, EPA issued its determination “that the FEIS...contains sufficient information to make a determination that the proposed project is consistent with the 404(b)(1) Guidelines of the Clean Water Act.” CEQ requires EPA to review the EIS for Federal projects with CWA section 404(r) exemptions for compliance with the Guidelines for section 404(b)(1).

EPA also provided comments on the FEIS in this letter. EPA indicated that while its view of the basic project purpose “differs slightly from that presented in the FEIS”, its conclusion is “that all alternatives presented in detail in the FEIS, including the no-action alternative meet the basic project purpose.” EPA also questioned the determination of baseline conditions in the FEIS, but concluded it was “able to extract sufficient information to allow an evaluation of alternatives sufficient for the CWA [Clean Water Act] requirements.” EPA also questioned “the rationale used to conclude that cost is so great for any alternative that the alternative should be eliminated from consideration, and determined to be impracticable for purposes of the 404(r) review.” In particular, EPA questioned the cost and logistics rationale for eliminating the Bonneville Shoreline Trail Pipeline, but agreed that “the technology rationale may be sufficient to determine that this alternative is not practicable.” EPA also questioned the cost rationale for elimination of the Upper Strawberry River Basin Pipeline Alternative. While we understand EPA’s question of the cost, the Upper Strawberry Basin Pipeline Alternative also has logistical issues that made it not practicable (as described in Appendix C of the FEIS).

Although its determination of compliance with CWA was not contingent upon the Lead Agencies participation, EPA suggested “that the Lead Agencies participate closely with UDEQ [Utah Department of Environmental Quality] in the TMDL [Total Maximum Daily Load]

process as it moves forward, particularly to prevent increased pollutant loadings or address any uncertainties related to the Utah Lake analysis.” Even though we are not required to do so, the District and Interior have committed to participate in this process as documented in Commitment No. 63 of Attachment 1 of this ROD.

EPA indicated that its determination of compliance with the CWA requirements “is contingent on mitigation conditions contained in the [ULS] FEIS....being in-place”, and therefore, should be incorporated into this ROD as enforceable project conditions. As documented in section VIII. of this ROD, Attachment 1 to this ROD lists all these commitments, and by reference is included in this ROD.

EPA also indicated that water conservation is critically important to avoid the aquatic impacts resulting from additional stream diversions and recommended that: (1) the water conservation approach in the existing contracts be revisited such that the surcharge ensures that conservation by end users actually occurs; and (2) the ROD document the actual cost per end user which would result from the contract provisions. We agree that water conservation is an important element of the project. The District and its petitioners have contractually obligated themselves to achieve significant reductions in per capita use (12.5 percent reduction by 2020 and 25 percent reduction by 2050), and to pay significant surcharge penalties if such conservation is not achieved. In addition, the District is also required to meet the water conservation goal established in section 207 of CUPCA. As a result, it is not necessary or appropriate to unilaterally revisit the contractual agreements at this time, nor is it necessary in this ROD to document the actual cost of the surcharge penalties per end user. Since the completion and operation of the project is dependent upon the assumption that per capita use would be reduced by 12.5 percent by 2020 and 25 percent by 2050, this ROD requires the Joint-Lead Agencies to implement whatever additional water conservation measures are necessary in the future to achieve this environmental and contractual commitment.

In conclusion, EPA pointed out that the ULS FEIS discusses other “related actions such as future Hobble Creek fish passage and diversion modifications as part of the June Sucker Recovery Plan” which were “not sufficiently addressed in the FEIS”. We agree. The Joint-Lead Agencies did not include these other related actions as part of the ULS, and therefore, a separate CWA Section 404 review for these actions will be required.

## **X. Consultation**

Table 4-3 in the ULS FEIS lists the coordination and consultation meetings that were held in the process of preparing the ULS FEIS. In addition, the following information describes the studies that were completed to comply with Federal laws and executive orders.

***Fish and Wildlife Coordination Act*** - The District coordinated with the Fish and Wildlife Service (FWS) on fish and wildlife resources and habitat that would be affected by the Proposed

Action and other alternatives. The FWS has prepared a Planning Aid Memorandum to comply with the Fish and Wildlife Coordination Act. The recommendations were incorporated into the ULS FEIS.

***Endangered Species Act of 1973 As Amended*** - The District requested a list of threatened and endangered species from the FWS that are located in the impact area of influence, and prepared a draft Biological Assessment and submitted it to the FWS for their review and comment. The FWS has prepared a concurrence letter on the Biological Assessment to provide compliance with Section 7 of the Endangered Species Act of 1973 as amended. The concurrence letter is included in Appendix F of the ULS FEIS.

***National Historic Preservation Act*** - The District consulted with the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Office (SHPO) on cultural resources that could be affected by the ULS Alternatives. The signed MOA with the SHPO is included in Appendix G of the ULS FEIS.

***Clean Water Act*** - A water quality analysis has been prepared and integrated into Chapter 3 of the ULS FEIS. In addition, Appendix C of the ULS FEIS includes a 404(b)(1) analysis and 401 water quality certification as required under the Clean Water Act.

***Executive Order 11988, Floodplain Management*** - Protection of floodplains and their management has been incorporated into the formulation of alternatives described in Chapter 1 of the ULS FEIS and has been integrated into the resource impact analysis in Chapter 3 of the ULS FEIS.

***Executive Order 11990, Protection of Wetlands*** - A detailed wetlands analysis has been performed on wetlands and riparian areas that could be impacted by the ULS Alternatives and has been integrated into Chapter 3 of the ULS FEIS. In addition, a 404(b)(1) analysis has been prepared on all of the alternatives analyzed in this ULS FEIS and is included in Appendix C of the ULS FEIS as part of the requirements for a 404(r) exemption from the 404 permit application process.

***Indian Trust Assets Consultation*** - Consultation with the five Native American tribes by Interior and the District concerning Indian Trust Assets that may be affected by the proposed ULS Alternatives was completed. Formal consultation letters and information were sent to each tribe requesting a meeting with each tribe to discuss the ULS project and answer concerns and questions. Copies of the letters and responses are included in Appendix G of the ULS FEIS and the results of the consultations are documented in Section 3.24 of Chapter 3 of the ULS FEIS.

## **XI. Administrative Review**

This ROD is the final step in the administrative process. There are no further opportunities for

administrative review.

## **XII. Administrative Record**

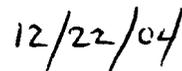
Arrangements for the review of the administrative record for the ULS FEIS can be made by contacting Mr. Jason Peltier, Department of the Interior, Mail Code 6640-MIB, 1849 C Street, NW, Washington, D.C. 20240, or Mr. Ronald Johnston, Department of the Interior, 302 East 1860 South, Provo, Utah 84606-7317. Incorporated by reference in the administrative record are the ULS FEIS, associated comments, responses, and technical memorandums.

## **XIII. Signature**

By signing this Record of Decision, I select the Proposed Action Alternative (Spanish Fork Canyon-Provo Reservoir Canal Alternative) to complete the Utah Lake System, as presented in the ULS FEIS, and approve Federal agency cooperation with the District and the Mitigation Commission as they proceed with the construction and operation of the Utah Lake System, in accordance with statutory and contractual obligations.



R. Thomas Weimer  
Acting Assistant Secretary - Water and Science  
U.S. Department of the Interior



Date

## Utah Lake System Commitments Including Mitigation, Environmental, and Monitoring Commitments

This attachment to the ULS ROD lists all the commitments, including the environmental commitments. The following list of commitments includes information provided in parenthesis at the end of each commitment which lists the responsible entity, the source of the commitment, and the reference number from the 2004 DPR Supplement, Fish and Wildlife Appendix.

### **Strawberry Aqueduct and Collection System (SACS)**

1. Mitigate wildlife losses in accordance with the January 1987 "Wildlife Mitigation Plan for Strawberry Aqueduct and Collection System, Municipal and Industrial System, and Diamond Fork System, Bonneville Unit, Central Utah Project." (Commission, 1988 DPR, 2004 DPR1)
2. Provisions for bypasses of sufficient water to protect 50 percent of historic trout habitat in Strawberry River, Currant Creek, Rock Creek, and West Fork Duchesne River. (District, 1988 DPR, 2004 DPR2)
3. Remaining Acquisition of Angler Access: Acquire remaining 2 miles of access. (Commission, 1988 DPR/1999 Final EA on the Angler Access Mitigation Program/SACS, 2004 DPR4)
4. Develop 140 acres of riparian and marsh vegetation adjacent to Starvation Reservoir to replace habitat losses for the DRACR Program, a part of the Starvation Collection System. (Commission/Interior, 1988 DPR, 2004 DPR7)
5. Six waterfowl management areas will be established along the Duchesne River to mitigate for waterfowl losses resulting from operation of the Strawberry Aqueduct and Collection System. (Commission/Interior, 1988 DPR, 2004 DPR8)
6. Until it is resolved whether existing law will require that said entire 44,400 acre-feet of water remain in the Duchesne River until its confluence with the Green River, the District will re-divert above said confluence in accordance with Section 6 of the 1990 Streamflow Amendment.. (District/Interior, 1990 Streamflow Amendment, 2004 Supplement to 1988 Duchesne River Biological Opinion, 2004 DPR9)
7. A minimum of 25 cfs will be maintained in Rock Creek at the Forest Service/Indian reservation boundary. (District/Interior, 1965 Deferral Agreement, 2004 DPR10)

### **Municipal and Industrial System**

8. Manage Jordanelle Reservoir lands for wildlife within management boundary area. (Commission/Reclamation, 1988 DPR, 2004 DPR16)
9. Fishery mitigation will consist of maintenance of minimum flows of 125 cfs between Jordanelle Dam and Deer Creek Reservoir, 100 cfs between Deer Creek Dam and Olmsted Diversion, and 25 cfs during the winter from Olmsted Diversion to Utah Lake. (District/Interior/Reclamation, 1987 M&I FS-FEIS/1988 DPR/CUPCA, 2004 DPR19)
10. Post-project fishery studies on the Brown Trout will be conducted below Deer Creek Dam. The studies will examine the impacts of summer habitat loss, winter habitat gain, and assess the feasibility of habitat improvement through streamflow modification. (Commission/District, 1987 M&I FS-FEIS, 1988 DPR, 2004 DPR20)
11. Angler access to 10 miles of Provo River downstream of Jordanelle Dam to Deer Creek Reservoir. (Commission, 1988 DPR/1998 PRRP ROD, 2004 DPR21)

12. Replacement of Middle Provo River Diversion Dams. (Commission, 1988 DPR/1998 PRRP ROD, 2004 DPR22)

13. Deer Mortality reduction on highways around Jordanelle Reservoir. (Commission, 1988 DPR/1989 M&I FWCA/1997 FWS Memo, 2004 DPR23)

**Diamond Fork System**

14. A monitoring program would be established to ensure satisfactory water quality in Diamond Fork. The water quality monitoring program committed to in the 1990 final supplement (Reclamation 1990) and Interior 1995 Diamond Fork Pipeline ROD will be continued. (District, DF 1999 ROD, 2004 DPR26)

15. Stream channel rehabilitation work should be accomplished on lower Diamond Fork to ensure that appropriate benefits [attributable to the Diamond Fork Pipeline] are achieved and maintained. (Commission, 1988 DPR/DF 1999 ROD, 2004 DPR28)

16. An interagency team consisting of representatives from the joint-lead agencies (District, Interior, and Mitigation Commission), FS, FWS, and Utah Division of Wildlife Resources should be organized to determine flow needs within Sixth Water and Diamond Fork creeks and the Spanish Fork River to benefit aquatic, terrestrial, and riparian resources. (Commission, DF 1999 ROD, 2004 DPR31)

17. Water quality monitoring will continue downstream of Strawberry Tunnel, Sixth Water Aqueduct, and the Diamond Fork Tunnel Outlet to determine potential DO concentration impacts and how far downstream low DO levels are found. (Commission/District, DF 1999 ROD, 2004 DPR32)

18. If low DO levels are found downstream from tunnel outlets, baffles or oxygen aerators should be installed to bring DO concentrations up to levels that are not detrimental to fish and other aquatic resources. (District/Commission, DF 1999 ROD, 2004 DPR33)

19. Conduct a water quality and temperature-monitoring program throughout the Diamond Fork System. (Commission/District, DF 1999 ROD, 2004 DPR34)

20. Acquire public access to the lower five miles of Diamond Fork Creek. (Commission, 1988 DPR, 2004 DPR35)

21. Provide Diamond Fork recreation facilities compatible with the conservation of natural resources. (Commission, DF 1999 ROD, 2004 DPR36)

22. The joint-lead agencies will plan for a long-term monitoring program to determine the effects on riparian vegetation including species composition, riparian corridor width, and vegetation density; spawning gravels; and leatherside chub habitat and populations from flow modifications within the impact area of influence. (Commission, DF 1999 ROD, 2004 DPR37)

23. The joint-lead agencies will continue to coordinate with the FWS regarding results of the monitoring program and recommendations to mitigate any documented impacts on Leatherside chub habitat. (Commission, DF 1999 ROD, 2004 DPR38)

24. The joint-lead agencies will mitigate any losses or detrimental impacts on wetland and riparian habitats that cannot be restored. (Commission, DF 1999 ROD, 2004 DPR39)

25. The Mitigation Commission will continue to consult with Interior, District, FWS, FS, Utah Division of Wildlife Resources, and others to plan and implement restoration of Sixth Water and Diamond Fork creeks, and to the extent possible, the Spanish Fork River. (Commission, DF 1999 ROD, 2004 DPR40)

26. Monitoring during the construction period prior to project operation will continue to establish a credible baseline for Ute ladies'-tresses. (District/Commission, DF 1999 ROD, 2004 DPR41a)
27. Data collection following project implementation will include measurements of actual stream elevations relative to Ute ladies'-tresses orchid colony locations. If there are significant discrepancies, the model should be modified and a new impact assessment completed. Additionally, the joint-lead agencies should perform aerial mapping at a resolution sufficient to record stream channel geomorphology, vegetation community, and orchid colony locations in several-year intervals to help better understand changes and evaluate their significance in relation to restoration and conservation goals. (Commission, DF 1999 ROD, 2004 DPR41b)
28. Changes in vegetative communities in occupied or potentially suitable orchid habitat will be measured along Diamond Fork Creek and Spanish Fork Canyon. (Commission, DF 1999 ROD, 2004 DPR41c)
29. The natural variation in Ute ladies'-tresses orchid demography, population vigor and habitat will be characterized under baseline conditions and under actual operations. (Commission, DF 1999 ROD, 2004 DPR41d)
30. The Three Forks colony will be monitored to better understand the process of loss of viability and eventual extirpation of colonies. Monitoring should focus on the rate of loss, identifying which parameters are best to measure to determine if loss is occurring. (Commission, DF 1999 ROD, 2004 DPR41e)
31. Conservation measures in addition to altering flows and rescue/transplant should be considered, such as vegetation manipulation, providing supplemental water to colonies, and mechanical reconfiguration of portions of the stream channel or floodplain surfaces, if monitoring data show streamflow hydrology is adversely affecting the Ute ladies'-tresses orchid population. (Commission, DF 1999 ROD, 2004 DPR41f)
32. If pollination is determined to be a limiting factor to long-term orchid viability and successful colonization of new habitats, then the joint-lead agencies will consider actions to enhance pollinator habitat or numbers as appropriate. (Commission, DF 1999 ROD, 2004 DPR41g)
33. A methodology should be developed that will monitor changes in Ute ladies'-tresses orchid habitat quality, and the methodology should be used to establish habitat quality parameters of the population. (Commission, DF 1999 ROD, 2004 DPR41h)
34. Population viability parameters and "red-flag" conditions should be established for the Ute ladies'-tresses orchid habitat quality parameters. (Commission, DF 1999 ROD, 2004 DPR41i)
35. The accuracy of the predicted effects analysis of the Ute ladies'-tresses orchid should be measured. (Commission, DF 1999 ROD, 2004 DPR41j)
36. Timing for performing the most accurate canyon-wide Ute ladies'-tresses orchid counts should be evaluated. (Commission, DF 1999 ROD, 2004 DPR41k)
37. The relationship between river hydrology, depth to soil water, soil moisture, soil characteristics and Ute ladies'-tresses orchid colonies should be correlated. (Commission, DF 1999 ROD, 2004 DPR41l)
38. The joint-lead agencies, in cooperation with the State of Utah and the FWS, will work toward establishment of a refugium in Red Butte Reservoir for June sucker. (District, DF 1999 ROD, 2004 DPR44)

39. Any future development of the Bonneville Unit of CUP will be contingent on the Recovery Implementation Program making “sufficient progress” towards recovery of June sucker. (District/Interior/Commission/FWS, DF 1999 ROD, 2004 DPR45)

**Wasatch County Water Efficiency Project and Daniel Replacement Project**

40. The Mitigation Commission will be signatory to the Conservation Agreements for Colorado River and Bonneville Cutthroat trout and as such will work to implement suitable mitigation for the impact on naturally re-producing cutthroat trout in upper Daniels Creek, within the Provo River drainage if possible. (Commission, 1997 WCWEP-DRP FEIS & ROD/CUPCA, 2004 DPR53)

41. Areas outside the impact area but within Heber Valley that contain populations of leatherside chub that would benefit from habitat enhancement would be enhanced and protected in accordance with an agreement to be finalized with the U.S. Fish and Wildlife Service and Utah Division of Wildlife Resources. (Commission, 1997 WCWEP-DRP FEIS & ROD, 2004 DPR55)

**Provo River Restoration Project**

42. Develop a comprehensive monitoring and reporting program in cooperation with the U.S. Army Corps of Engineers, Utah Division of Wildlife Resources, FWS, recreation groups, and county officials to evaluate and provide information and management guidance on the following: success of revegetation and erosion control measures; control of noxious weeds and undesirable plants; aquatic and terrestrial habitat mitigation; aquatic and terrestrial species responses to the project; and threatened, endangered, and candidate species status and trends. (Commission, CUPCA, 2004 DPR58)

43. The restoration project will be carried out in adherence to the numerous Standard Operating Procedures (SOPs) described in the FEIS and ROD’s. (Commission, 1998 PRRP ROD, 2004 DPR59)

44. Designs for fish passage facilities will be incorporated into plans for all diversion structures that are modified by the Project. (Commission, 1998 PRRP ROD, 2004 DPR61)

45. In order to avoid the likelihood of adverse impacts on Ute ladies’-tresses orchid, several actions identified in the Commission’s 1998 PRRP ROD will be followed. (Commission, 1998 PRRP ROD, 2004 DPR62)

46. In order to avoid, reduce and mitigate potential impacts of the PRRP on spotted frog, several actions identified in the Commission’s 1998 PRRP ROD would be incorporated. (Commission, 1998 PRRP ROD, 2004 DPR63-63g)

**Uinta Basin Replacement Project**

47. In-stream flow commitments by Moon Lake Water Users Association, District, and Interior in the Lake Fork River between Moon Lake Reservoir and the Big Sand Wash Feeder Diversion Structure will be maintained. Providing these in-stream flows is considered project mitigation for the impacts created by the Moon Lake Project. (District/Commission, 2001 UBPR Final EA and FONSI, 2004 DPR64)

48. In-stream flow commitments by Moon Lake Water Users Association, District, and Interior in the Yellowstone River between Yellowstone Feeder Canal Diversion and the Big Sand Wash Feeder Diversion Structure will be maintained. Providing these in-stream flows is considered project mitigation for the impacts created by the Moon Lake Project. (District, 2001 UBPR Final EA and FONSI, 2004 DPR65)

49. Four existing high mountain lakes (Brown Duck, Island, Kidney, and Clements lakes) in the upper Lake Fork River watershed and nine existing high mountain lakes in the upper Yellowstone River watershed (Bluebell, Drift, Five Point, Superior, Farmers, East Timothy, White Miller, Deer, and Water Lilly lakes) that are located in the High Uinta Wilderness will be stabilized as a fish and wildlife/wilderness enhancement measure. (Commission, 2001 UBPR Final EA and FONSI, 2004 DPR69 – DPR69m)

50. Mitigate for impacts to wetlands associated with the UBRP Project. (Commission, 2001 UBRP Final EA and FONSI, 2004 DPR70)

51. Interior and the District will participate in carrying out the reasonable and prudent alternative identified by the U.S. Fish and Wildlife Service in their 1998 Duchesne River Basin Final Biological Opinion [as amended] for the four listed Colorado River fish species. (Interior/District/Commission, 2001 UBRP Final EA and FONSI, 2004 DPR73)

### **Utah Lake System**

52. The District will comply with the State of Utah's water conservation goals of reducing per capita water use within the District's Bonneville Unit service area by 12.5 percent by year 2020 and by 25 percent by year 2050. (District, ULS Repayment Contract/Petitions & 2004 ULS FEIS, 2004 DPR76)

53. Beginning in 2005, the District will prepare an annual report for the Utah Division of Water Resources and Interior on the average annual per capita water use within the District's service area by each of the District's petitioners of ULS water. (District, ULS Repayment Contract/Petitions & 2004 ULS FEIS, 2004 DPR77)

54. The District, working with Interior, and owners/operators of wastewater treatment plants, shall by the year 2033 recycle 18,000 acre-feet of return flows from the Bonneville Unit Project Water and shall continue to maintain recycling the 18,000 acre-feet through water year 2050. (District/Interior, ULS Repayment Contract & 2004 ULS FEIS, 2004 DPR78)

55. Provide 12,165 acre-feet of water in Jordanelle and Deer Creek reservoirs to be used for June sucker spawning and rearing flows in the Provo River. (District/Interior, 2004 ULS FEIS, 2004 DPR80)

56. The Mitigation Commission and the District will continue to acquire water to provide flows in the lower Provo River to meet the 75 cfs target flow. (Commission/District, 2004 ULS FEIS, 2004 DPR81)

57. Provide 3,300 acre-feet of water toward the 75 cfs target flow in the lower Provo River. (Commission/District, 2004 ULS FEIS, 2004 DPR82)

58. An annual average of 16,000 acre-feet of Bonneville Unit water would be delivered to the lower Provo River through the Spanish Fork-Provo Reservoir Canal Pipeline, when water is needed in Utah Lake for exchange to Jordanelle Reservoir, and when the lower Provo River is below the 75 cfs target flow. (Commission/District, 2004 ULS FEIS, 2004 DPR83)

59. An annual average of 12,037 acre-feet of water would be delivered from Strawberry Reservoir through the Mapleton-Springville Lateral Pipeline to Hobble Creek to Utah Lake, of which 4,000 acre-feet will be available annually for June sucker spawning and rearing in Hobble Creek. (Interior/District, 2004 ULS FEIS, 2004 DPR84)

60. The Mitigation Commission will provide 10 acres of the 85 acre Mona Springs Wetland Unit which was acquired for protection of the wetlands complex for mitigation of 1.03 acres of non-jurisdictional permanent wetland loss and 0.27 acres of temporary wetland impacts. (Commission, 2004 ULS FEIS, 2004 DPR85)

61. The District is fully committed to participating with the Utah Division of Water Quality in the state's Total Maximum Daily Load (TMDL) study and has joined the Stakeholders Advisory Committee established by the State to guide the TMDL study. (District, 2004 ULS FEIS, 2004 DPR86)

62. The Joint-Lead Agencies, in cooperation with the June Sucker Recovery Implementation Program (JSRIP) and U.S. Fish and Wildlife Service (FWS), have initiated a study to determine the feasibility of providing fish passage or removing the Fort Field Diversion Dam on the lower Provo River for June sucker spawning and rearing. (Commission, 2004 ULS FEIS, 2004 DPR87)

63. A Ute ladies'-tresses orchid monitoring program should be carried forward for a number of years (to be determined jointly by the District, Mitigation Commission and FWS) similar to the pre-operation study in Diamond Fork. If the changes to the Ute ladies'-tresses orchid population in Spanish Fork Canyon exceed the variation expected from pre-operation analysis and the critical values established, management guidelines presented in the 1999 Diamond Fork Biological Opinion may be implemented to compensate for impacts. (District/Commission, 2004 ULS FEIS, 2004 DPR88)

64. If post-operation monitoring results in measured parameters exceeding pre-set critical values for Ute ladies'-tresses orchid populations in Spanish Fork Canyon, the Diamond Fork System operation has the flexibility to supplement flows in the Spanish Fork River. Other measures, such as a rescue/transplant program, could be initiated. (Commission, 2004 ULS FEIS, 2004 DPR89)

65. To offset potential impacts on leatherside chub, the Joint-Lead Agencies will support the Utah Division of Wildlife Resources in evaluating population and habitat status, or determining threats and/or identifying conservation actions that could protect and where appropriate enhance leatherside chub habitat. (Commission, 2004 ULS FEIS, 2004 DPR90)

66. The District and Interior will re-consult with the Native American Tribes if there are significant changes in ULS Proposed Action facility locations. (Interior, 2004 ULS FEIS, 2004 DPR91)

67. Appropriate Best Management Practices (BMPs) must be incorporated to minimize the erosion-sediment load to any adjacent waters during project activities. Appropriate water quality parameters of adjacent waters should be monitored to determine effectiveness of BMPs. (District/Commission, ULS 401 Water Quality Certification, 2004 DPR92)