

**Deschutes River Conservancy  
Deschutes Water Planning Initiative**

**Reclamation WaterSMART Water and Energy  
Collaborative Watershed Management Program - Task Area B  
Grant Proposal**

**July 6, 2012**



**DESCHUTES RIVER  
CONSERVANCY**

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## **2 TECHNICAL PROPOSAL**

### **2.1 Overview**

The Deschutes River Conservancy (DRC) proposes to expand the geographic scope of its restoration efforts and the diversity of stakeholder participation in its activities by developing a comprehensive water management strategy for the upper Deschutes River basin in coordination with the Deschutes Water Alliance (DWA). The Deschutes Water Planning Initiative seeks to build the capacity necessary to implement long-term collaborative flow restoration in the upper Deschutes River. A highly altered flow regime caused by the seasonal storage and release of water for irrigation has limited water quality, fish habitat, and geomorphic integrity along many miles of stream in the upper Deschutes Basin. Furthermore, current water management arrangements often leave the basin's most economically viable farmers with inadequate water supplies. The DRC and its partners seek to address both of these overarching water management issues through a consensus based planning process.

To date, the DRC has proven its ability to restore streamflow to individual stream reaches on a project-by-project basis. This approach benefits the Deschutes River and its tributaries downstream from the city of Bend. It does not benefit the Deschutes River and its tributaries upstream from Bend or junior agricultural water users. The Initiative will expand the DRC's efforts to include these uses of water. Specifically, the Initiative will engage Deschutes River stakeholders in a collaborative process to design water management scenarios that restore streamflows while enhancing Central Oregon's agricultural and recreation/tourism economies and opportunities for hydropower production.

### **2.2 Eligibility**

The DRC is a 501c(3) organization founded in 1996 and incorporated in Oregon. The DRC's mission is to restore streamflow and improve water quality throughout the Deschutes River basin. The DRC accomplishes its mission by utilizing incentives and markets to encourage farmers, irrigation districts, cities and private water companies to engage in mutually beneficial, voluntary water management projects. The DRC Board of Directors makes decisions based on consensus and is comprised of 30 members, representing every major public and private water-related interest in the Deschutes Basin. They include:

- Irrigated Agriculture (2)
- Environment (2)
- Confederated Tribes of Warm Springs (2)
- Portland General Electric
- US Department of Interior – Bureau of Reclamation
- US Department of Agriculture – Forest Service
- Oregon Department of Fish and Wildlife
- Oregon Water Resources Department
- Deschutes County
- Crook County
- Sherman/Wasco County
- Jefferson County
- Central Oregon Cities Organization
- Recreation/Tourism
- Livestock/Grazing
- Timber
- Land Development
- Private Business (10)

Since its formation in 1996, the DRC has used its consensus-based approach to water management to restore over 70,000 acre-feet of water to streams and rivers throughout the Deschutes Basin. As a result, measurable improvements have been made in water quality and fish habitat in over 225 miles of stream. This work has

been accomplished in close partnership with irrigation interests and has resulted in substantial benefits to local producers. The DRC estimates that flow restoration efforts have improved the efficiency of water deliveries to over 100,000 acres of irrigated land, helped to construct three in-conduit hydroelectric facilities, and provided pressurized water to over 2,000 acres of commercial farmland. In addition to strengthening agriculture in the basin, the DRC has also helped municipal water providers by operating a groundwater mitigation bank and by coordinating long-range water supply planning efforts.

### **2.3 Goals**

The proposed initiative will increase the DRC's capacity to engage Deschutes River stakeholders in a collaborative process to design water management scenarios that restore streamflow while enhancing Central Oregon's agricultural and recreation and tourism economies. This collaborative work creates the critical foundation of trust to work together to design and implement innovative and creative water management solutions in the short and long term, unlocking the key to watershed-scale restoration in the Deschutes River upstream of the city of Bend.

The ultimate goal is the development of a water management plan that meets the needs of multiple stakeholders and restores flows in the upper Deschutes River basin through changes to reservoir management. In turn, these new agreements will pave the way for a restored "blue ribbon" trout fishery, and provide increased water security for Central Oregon's commercial farmers as well as greater opportunity for hydropower production.

### **2.4 Approach**

The development of a strategy to restore streamflow in the upper Deschutes River while enhancing agricultural water supplies and hydropower generation opportunities will require the support of all major water-related stakeholders. The proposed workplan described in this section will convene partners, establish individual and collective goals, develop water supply options, and evaluate water supply options through hydrologic modeling. The process is meant to be iterative.

The DRC will serve as the project manager and fiscal administrator for the Initiative. The DRC anticipates contracting with outside firms to perform three tasks, including: 1) Evaluation of needs and development of goals for basin irrigation districts; 2) Modeling of water management scenarios; and 3) Professional facilitation of all stakeholder workshops. Partner organizations will contribute their staff time to the process on an in-kind basis.

#### **2.4.1 Deschutes Water Planning Initiative Work Plan**

This proposal supports Phases II and III of the Deschutes Water Planning Initiative. As described in the following work plan, the DRC launched Phase I of this initiative in January 2012. The DRC expects to launch Phases II and III in November 2012 and June 2013, respectively.

### **Phase I - Needs Assessment and Goal Setting**

#### **Step 1: Evaluate Opportunity and Determine DRC Role (January – March 2012)**

In March of 2012, the DRC Board of Directors convened in a two-day retreat to discuss the need for a water management planning process that would address flow and other concerns in the upper Deschutes River basin. The Board heard presentations from a variety of stakeholders including state and federal agencies, irrigators, environmental interests and hydropower representatives. The Board considered the issues affecting the health of the upper Deschutes River and what role the DRC might be able to play in addressing those issues. The DRC Board voted unanimously to pursue the development and implementation of a planning process that would seek consensus on a water management scenario for the upper Deschutes River basin.

#### **Step 2: Develop a Coordination Agreement with the Deschutes Water Alliance (April – July 2012)**

The Deschutes Water Alliance (DWA) represents twenty-six distinct interests including municipal and county governments, irrigation districts, Native American Tribes, private water companies and federal agencies. While there is some overlap between the membership of the DWA and the DRC, combining the two organizations in a water management process will ensure the broadest possible stakeholder participation and result in a final product that will be broadly acceptable to stakeholders in the Deschutes Basin. The DRC will develop a Governance and Coordination Agreement with the DWA to guide the planning process.

**Step 3: Assess the Needs of Partner Organizations (April – October 2012)**

The DRC will hire a water resources planning consultant to work with each of the major water right holders participating in the planning process to help define their water management needs. The contractor will assess the key issues they face in order to create appropriate incentives for them to participate in new water allocation scenarios. These issues include the threats of urbanization (erosion of district assessment base), infrastructure problems (leaky canals and flumes), and federal regulatory threats (Endangered Species Act, Clean Water Act). In addition to threats, there are hydropower production opportunities to evaluate.

The DRC will work simultaneously with agencies and non-governmental organizations to assess potential fisheries benefits generated by meeting instream needs. Quantifying the relationship between environmental flows and fish habitat will inform the collaborative process outlined in this proposal.

**Step 4: Convene Workshop to Share Goals (October 2012)**

Once instream and out of stream needs have been defined and aggregated, the DRC will convene a professionally facilitated workshop to share the results with the partner organizations.

**Phase II – Identifying Water Supply Options**

**Step 1: Develop and Evaluate Water Supply Options (November 2012 – May 2013)**

The DRC will develop water supply options and costs to meet partner goals. Over the past decade, the DRC has made considerable investments in the development of water supply options. We have focused on water rights transactions that meet multiple needs including water leasing, water transfers, and the allocation of conserved water from canal piping. In addition to these approaches, the DRC will have to work on new methods including water controls and management technology, forbearance agreements, inter-district agreements and reservoir management agreements. Once options have been developed, DRC will evaluate the options based on their ability to achieve the goals of partner organizations and then rank them based on cost.

**Step 2: Convene Workshop to Refine Water Supply Options (May 2013)**

All participating organizations will be invited to a professionally facilitated workshop to review and refine water supply options.

**Phase III – Develop Water Management Scenarios**

**Step 1: Prepare Preliminary Water Management Scenarios (June – July 2013)**

Using the water supply needs and options developed in the first two phases, the DRC will prepare a series of preliminary water management scenarios that optimize water supply outcomes for participating organizations. Each scenario will be evaluated for its ability to achieve the goals of participants' and the associated costs. The DRC will prepare summaries of the selected scenarios.

**Step 2: Convene Scenario Development Workshop (August 2013)**

All stakeholders will be invited to participate in a workshop to evaluate and refine the preliminary scenarios. Based on participants' feedback, several scenarios will be selected for modeling. The workshop will be professionally facilitated.

**Step 3: Model Impacts of Scenarios (September 2013 – January 2014)**

Once preferred alternatives are agreed upon by the partners, the DRC will use existing hydrologic models to evaluate the impacts of these scenarios. We will be modeling the surface water and groundwater impacts on the Deschutes River, irrigation district water reliability, and the potential for hydropower production. The Bureau of Reclamation, Oregon Water Resources Department, and other agencies are currently updating the Deschutes surface and groundwater model as part of a collaborative process led by the Pacific Northwest National Laboratories. The DRC will not finance model development but expects to invest in modeling alternative water management scenarios once model development has been completed. The implementation plan will be refined and revised with partners as needed, based on modeling results.

**Step 4: Convene Scenario Optimization Workshop with All Partners (February 2014)**

A professionally facilitated workshop will be convened to consider modeling results and scenario refinements to optimize a water management scenario. Steps 1 through 5 of this phase will be repeated as necessary -- an iterative process of scenario development, modeled impacts, and scenario optimization -- until a consensus is reached on a water management scenario.

**Step 5: Reassess Scenarios Based on Model Results (March – May 2014)**

The DRC will use the modeling results to refine the scenarios and prepare a summary report on the modeled impacts.

**Step 6: Present Chosen Water Management Scenario to Partner Groups for Ratification (June 2014)**

The DRC will take the scenario that achieved the greatest level of support amongst participants and seek ratification by participating entities.

**Step 7: Prepare Final Report and Close Out Grants (July – September 2014)**

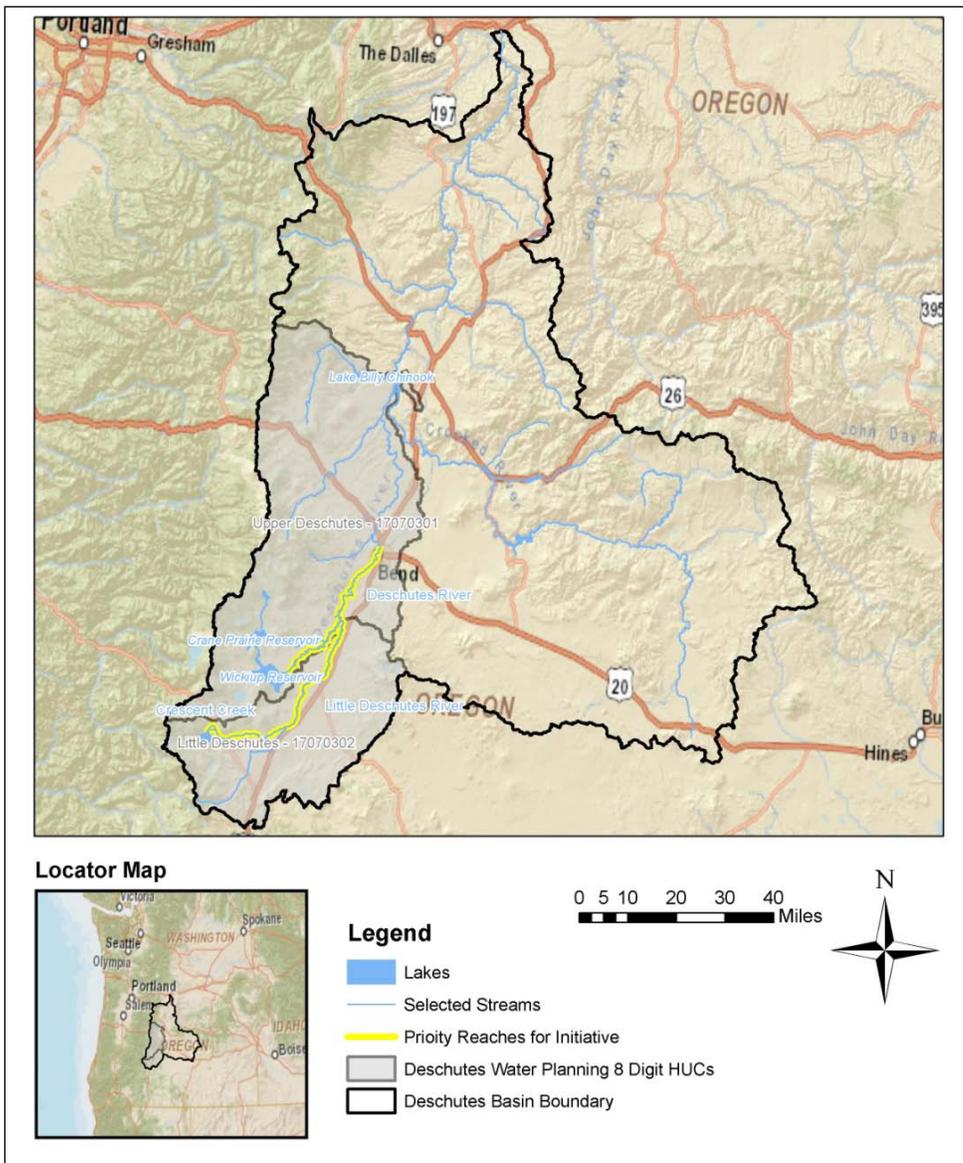
**2.4.2 Duration of Project**

The DRC began implementing the Initiative in January of 2012 and anticipates it will be completed in September 2014. See Appendix 1 for a detailed timeline. The DRC is implementing Phase I with private funding. Successfully completing Phases II and III will require additional support from the WaterSMART program as well as other pending grant requests.

**2.5 Background Data**

**2.5.1 Geographic Scope**

The geographic scope of the Initiative includes both the stream reaches where flow will be improved and the lands served by the irrigation districts that store and divert water along those reaches. The Deschutes River begins at Little Lava Lake in the Cascades, runs from north to south for to Crane Prairie Reservoir, east through Wickiup Reservoir, north through Bend to Lake Billy Chinook, and on 120 miles to its mouth at the Columbia River. This Initiative focuses on the 61-mile reach between Wickiup Reservoir (river mile 226) and the City of Bend (river mile 165), which will be referred to as the upper Deschutes River. In addition to the upper Deschutes River, the Initiative includes Crescent Creek from Crescent Lake Reservoir (river mile 28) to its confluence with the Little Deschutes River (river mile 57.25) and the Little Deschutes River from the Crescent Creek confluence (river mile 28) to its confluence with the Deschutes River (river mile 0; Figure 1).



**Figure 1. Deschutes Mainstem Initiative Map**

Five irrigation districts store and divert along the upper Deschutes River and its tributaries. As described in 1.6.3, these districts include Arnold Irrigation District, Central Oregon Irrigation District, Lone Pine Irrigation District, North Unit Irrigation District, Swalley Irrigation District, and Tumalo Irrigation District. These districts include lands in Crook, Deschutes, and Jefferson Counties. This Initiative expands regional water planning efforts to include the needs of junior water users, particularly North Unit Irrigation District, who have not been closely involved in prior project planning and implementation.

## 2.5.2 Hydrology

### Historic Flows

The Deschutes River is a spring-fed system that historically had very stable flows. A 1914 U.S. Reclamation Service report referred to the Deschutes River as “one of the most uniform of all streams in the United States, not only from month to month, but also from year to year” (USDA 1996a). The basin’s porous volcanic soil allows surface water to infiltrate into the subsurface and recharge groundwater aquifers. This connectivity aids in maintaining a stable flow regime. (Gannet et al. 2001).

Under natural conditions, unregulated flows in the Deschutes River were near-constant. Summer flows below Wickiup Reservoir averaged 730 cubic feet per second (cfs) and winter flows averaged 660 cfs with extremes in flow varying only by about a factor of two (Hardin-Davis 1991). Prior to the completion and operation of Wickiup Dam in 1947, the lowest flow recorded at a gage at Pringle Falls (River Mile 217) from the years 1916-1940 was 395 cfs. The average yearly minimum flow was 554 cfs and the mean daily flow was 710 cfs.

### Current Flows

As a result of water storage and diversion for irrigation, the stable natural flows of the Upper Deschutes have been replaced by lower flows during the winter storage months and higher flows during the summer irrigation season. This difference is most significant between Wickiup Dam and Fall River, and is moderated as tributaries and springs augment the flow downstream of the confluence with Fall River. The minimum legal flow requirement below Wickiup during the storage season from November through March is 20 cfs, or 4% of natural low-flow levels. The median wintertime flow between 1981 and 2011 was 37 cfs. The median summertime flow was 1,150 cfs with median flows in July and August at 1,410 and 1,450 cfs (Oregon Water Resources Department streamflow data from the WICO gage).

### 2.5.3 Water Management - Irrigation

#### District Water Rights

Seven irrigation districts store and divert water from the upper Deschutes River and its tributaries (Table 1). The altered streamflow regime in the upper Deschutes River is largely due to irrigation storage and delivery for the four irrigation districts in Central Oregon with storage rights in Crane Prairie and Wickiup Reservoir.

**Table 1. Irrigation districts with diversions along the upper Deschutes River**

Irrigation District	Priority Date	Point of Diversion	Storage Right	Max Rate (cfs)	Acres Served
COID	1900/1907	Deschutes River at Bend (PB) and above Bend (CO)	Crane Prairie: 26,000 AF	1,382	44,784
Lone Pine	1900	Deschutes River at Bend	Crane Prairie: 10,500AF	42	2,369
Arnold	1905	Deschutes River above Bend	Crane Prairie: 13,500 AF	150	4,384
North Unit	1913	Deschutes River at Bend (and Crooked River above Smith Rock)	Wickiup: 200,000 AF	1101	58,868
Tumalo	1900/1905/1907/1913/1961	Tumalo Creek and Middle Deschutes at Bend	Crescent: 86,050 AF	214	7,381
Swalley	1899	Deschutes River at Bend	n/a	87	4416
Walker Basin	1897/1900/1902	Little Deschutes above LaPine	n/a	28	1,132

The storage provided by the reservoirs of the upper Deschutes Basin is an integral part of irrigation in Central Oregon. Irrigated agriculture in Central Oregon has had a significant role in shaping Central Oregon's physical and cultural landscape over the last century, and is a significant part of the local and regional economy. Oregon State University Extension values agricultural products in Deschutes and Jefferson Counties in 2011 at approximately \$99 million. Oregon State University multiplies by an economic factor of 3.5 to determine the economic impact to the community to be approximately \$350 million. Generally, Jefferson County has larger, more profitable farms, and agricultural productivity is on an upward trend. Updated agricultural statistics for 2011 show direct sales from agriculture in Jefferson County to be \$74 million, with a total economic contribution of \$250 million to the economy (OSU Extension 2011). Deschutes County has more numerous, smaller, less productive farms, with agricultural productivity on a downward trend. Challenges and opportunities associated with each irrigation district also vary by location. For example, Central Oregon Irrigation District faces challenges with urbanization due to the proximity of its lands to Bend and Redmond, but it holds reliable senior water rights. North Unit Irrigation District, on the other hand, has a relatively stable base of production agriculture, but is challenged by water reliability due to its junior water rights.

The irrigation season extends from April 1 through October 31. Water rights of irrigation districts vary and maximum demand is from May 15 through September 15, peaking in July and August. Rights above the river's natural flow are satisfied by drawing from water stored in reservoirs. Historically, natural streamflow largely satisfies water rights with priority dates through 1905 in typical water years. Water diversions above this level are obtained from water stored in Crescent Lake and Crane Prairie and Wickiup Reservoirs (USDA 1996a).

### **Storage Facilities**

Crane Prairie Reservoir is situated several miles downstream from the headwaters of the Deschutes River. Local irrigation districts built the reservoir originally in 1922, and Reclamation rehabilitated it in 1940. Crane Prairie is a relatively shallow lake that holds 55,300 acre-feet (AF) at a maximum and has water rights for the storage of 50,000 AF. Crane Prairie water rights are held by Lone Pine Irrigation District (10,500 AF), Central Oregon Irrigation District (26,000 AF) and Arnold Irrigation District (13,500 AF). Although Reclamation holds the title to the reservoir, the reservoir has been paid off and Central Oregon Irrigation District is the operator and the primary name on the water right certificate. Crane Prairie is federally-authorized for irrigation only, but the State of Oregon authorized Crane Prairie for multiple purposes, including instreamflows for fish and wildlife, in 2000.

Wickiup Reservoir is located two miles downstream of Crane Prairie and is the primary supplemental storage facility for North Unit Irrigation District. Wickiup was completed in 1949. Wickiup holds 200,000 AF at full capacity, all of which is permitted for North Unit Irrigation District to use for irrigation. Reclamation holds title to Wickiup and North Unit Irrigation District is the operator. Wickiup is only authorized for irrigation water uses, although recent legislation enables North Unit Irrigation District to participate in conserved water projects that transfer saved water instream for fish and wildlife consistent with Oregon's Conserved Water Statute (ORS 537.470).

Crescent Lake Reservoir is a moderate-sized reservoir located on Crescent Lake, headwaters of Crescent Creek and tributary of the Little Deschutes River. The reservoir holds approximately 86,900 in active storage, provides a supplemental source of irrigation water for Tumalo Irrigation District and is privately owned and operated by the district. It was established in 1922 and rehabilitated in 1954. While Crescent Lake operations affect streamflows in Crescent Creek and the Little Deschutes, a tributary of the Upper Deschutes, the scope of this paper at this time does not include extensive information on its operations or the Little Deschutes system.

### **Reservoir Management**

A 1938 Inter-District Agreement signed by the irrigation districts and the Bureau of Reclamation dictates how Crane Prairie and Wickiup reservoirs are filled and managed. The agreement describes in detail the accounting methods to be used to fill the reservoirs during the storage season, which generally occurs between mid-October and early April. The terms of the agreement account for years of shortage such that, at capacity, Wickiup receives 80 percent of the inflow and in dry years Wickiup receives 85.7 percent of the inflow. The interconnected nature of the agreement means that any change in reservoir management (and thus instreamflow restoration) will impact all of the parties to the agreement, necessitating close collaboration with all parties.

Wickiup operations currently require a minimum outflow of 20 cfs. The Oregon Water Resources Department (OWRD) tries to comply with target ramping rates set by the Upper Deschutes Wild and Scenic River Management Plan, adopted by the USDA Forest Service in 1996. In most years, natural inflow into the reservoirs is steady and the State Watermaster tries to keep a constant outflow below Wickiup throughout the storage season. In above average to wet years when the reservoirs are expected to fill, the Watermaster estimates the additional water that can be released throughout the storage season and sets the outflow from Wickiup accordingly. Due to imperfect forecasting, the outflow in some years has fluctuated from the minimum of 20 cfs to nearly 500 cfs by the end of March over the course of a storage season (Fitzpatrick, Gorman, and Aylward 2006).

## Shortfalls in Water Supply

In 2006, the Deschutes Water Alliance published a series of studies analyzing current water supplies and forecasting future growth in water demand. The study did not anticipate an increase in agricultural water usage but did identify a current agricultural water supply shortfall of approximately 33,000 acre-feet.

### 2.5.4 Water Management - Hydropower

Hydropower generation plays a role in the water management system for some districts in Central Oregon and can provide an additional source of revenue. The facility directly affected by the flow regime in the Upper Deschutes River is Central Oregon Irrigation District's Siphon Power Project (SPP). The SPP is located two miles south of the city of Bend. The facility is a 5.5 MW powerhouse that commenced commercial operation on October 16, 1989. The powerhouse draws water directly from the Deschutes River at river mile 170.9, generates hydro power from the water, and then returns the water back to the river. It operates on 640 cfs of water to generate an estimated 9,804 hp. The SPP has a FERC license (FERC P-3571) issued September 29, 1987. A minimum of 400 cfs is required to stay in the river past the intake, and due to minimum operational requirements of 70 cfs to run the plant, Central Oregon Irrigation District is able to start diverting into the facility when there is 470 cfs in the river. Increased winter flows have the potential to boost power generation and revenue (Johnson, Personal Communication, February 22, 2012).

In 2011, Symbiotics LLC filed an application with FERC for the Wickiup Dam Hydroelectric Facility. The application proposes to build a 7.15 megawatt facility that would generate energy based on releases from Wickiup Reservoir as managed by the State, the districts, and the Bureau of Reclamation. Changes in releases from Wickiup could affect hydropower generation and revenue.

### 2.5.5 Water Management – Instreamflows

The State of Oregon certificated instream water rights on the Upper Deschutes River in 1983 (Table 2). These rights were based on minimum instreamflows previously recommended by the Oregon Department of Fish and Wildlife based on a flow recommendation methodology called the Oregon Method. The instream water rights are only met in exceptionally-high water years due to the junior priority date of the water rights. In five months of the year flows are well below the instream water right (Figure 2). In five months the flows well exceed it, contributing to the impacts of both low and high flows described above (Figure 2).

**Table 2. Instream water rights in the upper Deschutes River**

Source	From	To	Certificate	Priority Date	Rate
Deschutes R	Wickiup Reservoir	Little Deschutes	59776	1983	300
Deschutes R	Little Deschutes	Spring River	59777	1983	400
Deschutes R	Spring River	North Canal Dam (Bend)	59778	1983	660

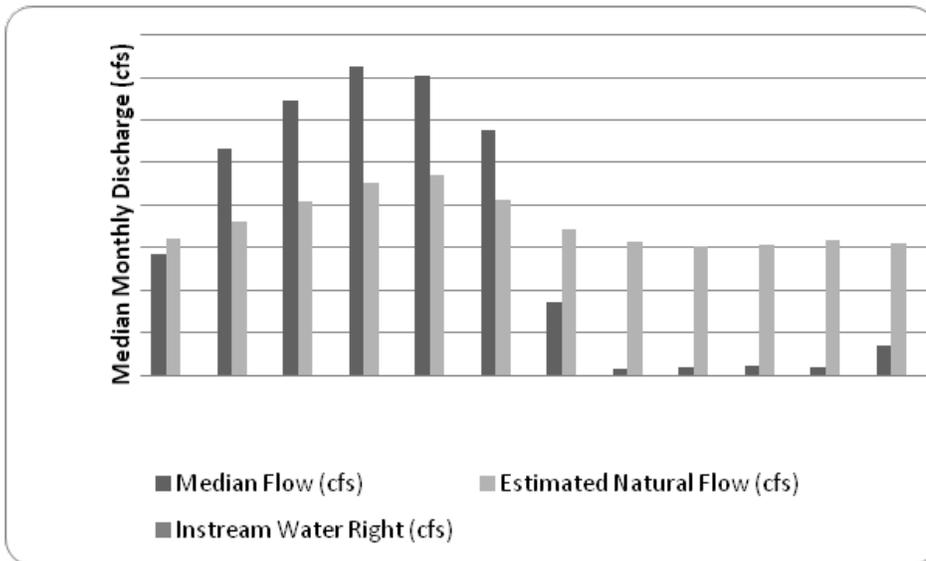


Figure 2. Median discharge below the reservoirs as compared with the instream water right and estimated natural discharge, 1981-2011

### 2.5.6 Management Plans

#### *Wild and Scenic Management Plan*

The Upper Deschutes River from Wickiup Reservoir to the southern boundary of the city of Bend was designated as a Wild and Scenic River under the Federal Wild and Scenic Rivers Act of 1968, amended by Omnibus Oregon Wild and Scenic Rivers Act of 1988. It was also designated as a State Scenic Waterway in 1987. The goals of these designations are to protect and enhance Outstandingly Remarkable Values. The US Forest Service and the State collaborated to create a joint planning process that resulted in the Upper Deschutes Wild and Scenic River and State Scenic Waterway Comprehensive Management Plan. This plan provides programmatic management direction to relevant agencies and partners.

As part of this planning effort, an Adaptive Flow Management Team was established to address the flow issue in the Upper Deschutes and to recommend a plan to improve instreamflows while protecting out-of-stream uses. This team included all major stakeholders, including USFS, ODFW, and the irrigation districts. It identified and assessed flow scenario alternatives, and recommended flow targets that were incorporated into the management plan, including both incremental flow targets of 20, 50, 100, and 200 cfs, and a long-term target of achieving 300 cfs 90% of the time (USDA 1996b).

#### *Additional Plans*

The following local and regional management plans identify flow as a limiting factor and priority:

- Upper Deschutes River Basin Water Conservation Study (Reclamation 1997)
- Upper Deschutes Subbasin Assessment (UDWC 2003)
- Deschutes Subbasin Plan (NPCC 2004)
- Upper Deschutes River Subbasin Fish Management Plan (ODFW 1996)
- Upper Deschutes River Restoration Strategy (ODFW, UDWC, DRC 2008)
- US Forest Service Upper Deschutes Roadmap to Restoration Project (draft 2012)

### 2.5.7 Documentation of Length of Time of Existence

Congress originally authorized the Deschutes River Conservancy in 1996 as the Deschutes Ecosystem Restoration Project. The DRC has been re-authorized several times since 1996 and continues to operate as a 501(c)3 non-profit in the State of Oregon. See Exhibit A for a copy of the DRC’s Articles of Incorporation filed with the State of Oregon at the time of establishment.

## **2.6 Letters of Support**

The following agencies and organizations have submitted letter of support, included as Appendix 2 to the Technical Proposal, for this Initiative.

- Central Oregon Irrigation District
- North Unit Irrigation District
- Confederated Tribes of the Warm Springs Reservation
- Oregon Water Resources Department
- Portland General Electric
- Upper Deschutes Watershed Council
- Deschutes County

## **2.7 Board Resolution**

The DRC's Board of Directors passed a resolution, included as Appendix 3 to the Technical Proposal, authorizing the DRC to apply to Reclamation's Collaborative Watershed Management Program for funding in support of the Deschutes Water Planning Initiative.

## **2.8 Evaluation Criteria**

### **2.8.1 Evaluation Criteria A: Watershed Group Diversity and Geographic Scope**

#### **Subcriterion No. A1 – Watershed Group Diversity**

The DRC proposes to expand the diversity of its planning efforts by collaborating with the Deschutes Water Alliance and other basin entities on the Deschutes Water Planning Initiative. The proposed planning effort seeks to address flow management issues in the upper Deschutes Basin that currently affect irrigation districts, environmental health, recreation opportunities, and hydropower production. The DRC Board is comprised of 30 stakeholders that represent every major water-related constituency in the Deschutes River basin, including but not limited to irrigated agriculture, Native American Tribes, environmental interests, recreation and tourism, livestock and grazing, timber, hydropower production and federal, state and local governments. See Section 2.2 for a complete list of interests represented on the DRC Board. The Board makes decisions based on consensus and therefore places an emphasis on balancing competing demands for water by implementing strategies and projects that provide benefits for multiple interests while avoiding third-party impacts.

To bolster the number of participating stakeholders and ensure that the planning process is inclusive of all needs, the DRC is engaging in a formal partnership with the Deschutes Water Alliance to implement the Initiative. The Deschutes Water Alliance's mission is to secure and maintain adequate water supplies for the environmental, agricultural and municipal uses of water. Deschutes Water Alliance member organizations include:

Confederated Tribes of Warm Springs  
Deschutes County  
Crook County  
Jefferson County  
Central Oregon Irrigation District  
North Unit Irrigation District  
Ochoco Irrigation District  
Three Sisters Irrigation District  
Tumalo Irrigation District  
Swalley Irrigation District  
Arnold Irrigation District  
Crook County Improvement District  
City of Bend

City of Redmond  
City of Madras  
City of Sisters  
City of Culver  
City of La Pine  
Avion Water Company  
Deschutes Valley Water District  
Deschutes River Conservancy

Advisory members of the Deschutes Water Alliance include:

Oregon Water Resources Commission  
Oregon Water Resources Department  
Oregon Department of Fish and Wildlife  
Oregon Department of Environmental Quality  
US Bureau of Reclamation

In addition to the members of the DRC and Deschutes Water Alliance, the DRC has also identified several other water related interests groups that will be included in the planning process. They include:

US Fish and Wildlife Service  
Oregon State Parks  
WaterWatch  
American Rivers  
Trout Unlimited  
Upper Deschutes Watershed Council  
Upper Deschutes River Coalition

#### **Subcriterion No. A2 – Geographic Scope**

The DRC’s mission is to restore streamflow and water quality throughout the Deschutes Basin. The Deschutes Basin covers 10,700 square miles and is Oregon’s second largest river basin. Due to the size of the basin, the DRC initially chose to focus its resources on smaller watersheds where restoration targets were achievable in a shorter timeframe and institutional complexity was relatively low. Because of this strategic approach, the DRC has achieved major success in the restoration of tributaries such as Whychus and Tumalo Creeks and on the middle reach of the Deschutes River. The DRC also piloted the use of innovative flow restoration tools and built resilient partnerships with irrigation districts, agencies and non-profit organizations.

With a strong foundation of successful restoration, the DRC Board has now chosen to implement a planning effort that will, when implemented, address the most complex and severe flow restoration problem in the Deschutes Basin – management of flows in the upper Deschutes Basin. The proposed planning effort represents a new strategic direction for the organization that will result in the development of water management scenarios that will allow the DRC and its partners to address instreamflow problems in a new stream reach while also benefiting agricultural water supplies and hydropower production.

#### **Subcriterion No. A3 – Increasing/establishing diversity or geographic scope**

##### *Increasing Diversity*

By working with the Deschutes Water Alliance and other stakeholders to develop the Deschutes Water Planning Initiative, the DRC is more than doubling the number of interests that will be represented during the planning process. The DRC is formalizing its partnership with the Deschutes Water Alliance by entering into a Governance and Coordination Agreement. Under the terms of the Agreement, the DRC and Deschutes Water Alliance boards will have shared authority for decisions regarding the development of the Initiative. In

practical terms, this will mean holding joint meetings of the DRC Program Committee and the Deschutes Water Alliance Steering Committee to review and guide staff work. The joint Deschutes Water Alliance/DRC committee will meet at least quarterly to receive progress reports, review performance of the approved workplan, and to guide the process. Matters that need broader deliberation or require a board decision will be forwarded to the respective Deschutes Water Alliance and DRC boards.

### *Increasing Geographic Scope*

Restoring flows and improving water management in the upper Deschutes River basin represents a new geographic and strategic focus for the DRC. Prior efforts have focused on individual streamflow restoration projects in the Deschutes River between the City of Bend (river mile 165) and Lake Billy Chinook (river mile 125), Tumalo Creek, and Whychus Creek. This Initiative expands on these individual efforts to create a comprehensive plan that includes the reaches identified above (Figure 1). With this new Initiative, the DRC will work to resolve longstanding flow issues in the upper Deschutes Basin while seeking to provide a more reliable water supply for junior water right holders and hydropower producers.

While the DRC mission and Board representation is meant to cover the entire Deschutes River basin. The Initiative will emphasize the development of the first water management plan for the upper Deschutes River basin, which encompasses several 8 digit HUCs. The plan focuses on water management in HUCs 17070301 (Upper Deschutes) and 17070302 (Little Deschutes).

## **2.8.2 Evaluation Criteria B: Addressing Critical Watershed Needs (30 points)**

### **Subcriterion No. B1 – Critical Watershed Needs or Issues**

This proposal seeks to address three critical watershed needs.

#### ***Critical Issue #1 – Flow Management Impacts***

The altered flow regime in the Upper Deschutes River, characterized by high and low flow extremes, impacts the geomorphology, water quality and the biological integrity of the river.

Geomorphology - Streambeds and stream banks are dewatered and exposed during the winter. When water is released from Wickiup Reservoir in the spring, sedimentation and turbidity increase due to erosion from freeze and thaw action on the exposed stream banks. Riparian vegetation loses its connection to a continuous water source during low winter flows. Fish and macroinvertebrate habitat conditions are diminished during low flows and fish redds can be exposed to near freezing temperatures (USDA 1996a). Bank erosion also occurs from increased shear stress on the upper end of the hydrograph, and rotational failure from negative pore pressure on the receding limb of the hydrograph. This is compounded by lack of riparian vegetation (Gritzner, personal communication).

The range of fluctuation caused by the reduction of flows during the winter storage season and increased flows during a spring and summer release season result in an increased rate of change in channel morphology characterized by steep unstable cutbanks on the outside of bends, more rapid creation of point bars on the inside of bends, and more rapid creation of meander cut-offs. These changes in channel morphology release sediment into the river and result in high levels of turbidity, the filling of interspaces of cobble and gravel bottoms with fine sediment (USDA 1996a).

Other effects of high flows in combination with decreased channel and riparian complexity include large areas within the river in which water velocity is too high to support resident aquatic populations.

Water Quality - Water quality monitoring by DEQ, Forest Service and the Upper Deschutes Watershed Council indicate that two water quality parameters, turbidity and dissolved oxygen, do not consistently meet DEQ standards on the upper Deschutes (DEQ 2002). Turbidity, a measure of water clarity, is largely a result

of the large fluctuation in flow levels. During the storage season little water is released from upstream reservoirs, leaving much of the channel exposed. Frost action loosens the exposed channel and bank material, which is eroded by the increased flow in the spring. The absence of large woody material and the difficulty of establishing riparian vegetation within this flow regime, contributes to the erosion rate.

In addition, the reservoirs contribute to mid and late-season turbidity by enhancing the growth of micro-organisms (such as algae), which get washed down the river starting in mid-summer. Increased levels of primary producers can lead to decreased water quality including low dissolved oxygen (USDA 1996a).

**Fish Habitat** - Native redband trout populations and other aquatic species are adversely impacted by high levels of turbidity. Turbidity can have negative effects on aquatic invertebrates and newly emerged trout fry by interfering with their food supply and ability to feed efficiently. Gravel that houses trout eggs can become plugged with fine sediments, consequently suffocating the eggs or forming a sediment cap over redds which can prevent trout from emerging (ODFW 1996). Increased sediment/bedload also inundates complex habitat (bedrock and wood formed pools) used for foraging and holding (Gritzner, personal communication).

Additionally, high concentrations of dissolved oxygen (DO) in the water column are essential to support fish species. Salmon and trout, especially in their early life stages, are very susceptible to low DO concentrations. Dissolved oxygen is important to a stream's biological community and to the breakdown of organic material.

Low flows in the winter have a significant impact on fish populations. Low flows reduce available habitat, expose spawning gravels, and can accelerate freezing, furthering reducing available habitat. Reduced habitat increases competition, which often favors non-native brown trout over native species like redband trout. Reduced habitat availability can lead to concentrated fish populations and increased susceptibility to predation and disease. High summer flows without established stream structure such as log jams create velocities too high to support resident aquatic populations. Figure 8 summarizes the impact of different flow scenarios on fish habitat indicators. It identifies that at the minimum flow of 20 cfs below Wickiup, less than 25% of potential fish habitat is available. At 300 cfs, ODFW's minimum instreamflow target, 85% of habitat becomes available (USDA 1996a).

## ***Critical Issue #2 – Agricultural Water Management***

Irrigation water managers face a host of challenges including inadequate water supplies, aging infrastructure, increased regulatory oversight, and urbanization pressures.

**Water Supply** - Based on past assessments of irrigation district water supplies (DWA 2006), junior water right holders need approximately 33,000 acre-feet of additional water. The Deschutes River is over appropriated and no new surface water rights are available. Furthermore, the cost of building new reservoirs and the regulatory complexity of getting them permitted make the possibility of new storage facilities unlikely. New water supplies must be satisfied through conservation, water banking, and/or voluntary water sharing agreements with districts that have surplus water supplies.

**Infrastructure** - Approximately 720 miles of irrigation canals serve 160,000 acres of irrigated agriculture in Deschutes, Crook and Jefferson Counties (USGS 2001). Most of these canals were built in the early twentieth century and convey water at an efficiency rate between 40%-60%. Irrigation districts need to modernize their infrastructure to improve water deliveries to their patrons, help meet future basin water needs, reduce operation and maintenance costs and improve public safety in urbanizing areas of their districts. Irrigation districts alone are often not capable of shouldering the financial burden of upgrading their distribution systems. Public/private partnerships involving non-governmental organizations, agencies and cities will be necessary to help implement these measures on a broad scale.

Urbanization - During the housing boom that took place in Central Oregon from approximately 2000-2006, many irrigation districts saw portions of their jurisdictions convert from rural to urban land uses. This was especially prevalent around the communities of Bend and Redmond. Loss of irrigated acres in an irrigation district can affect infrastructure, raise public safety concerns and reduce the assessment base of the irrigation district. However, reduced demand for irrigation water within a specific jurisdiction can be an opportunity for another interest to acquire new or improved water supplies so long as willing buyer/willing seller arrangements can be reached. Basin water right holders need institutional arrangements that help facilitate the movement of water from areas of excess to areas of high need without creating third-party impacts. The proposed Initiative can help identify areas of opportunity and risk for individual irrigation districts and define options that help resolve water management issues without creating adverse impacts to any particular stakeholder group.

### ***Critical Issue #3- Hydropower Production***

Opportunities in the Deschutes Basin exist to increase hydropower production by installing new facilities and optimizing existing facilities. Both options will require new agreements that will create greater predictability of the magnitude and timing of instreamflows in the Deschutes River. By normalizing and/or increasing flows in the Deschutes River, the DRC and its partners can create greater incentive for private investment in hydropower production while also increasing production at existing facilities. An increase in renewable energy production can potentially help fund infrastructure upgrades and future water supply enhancement projects as well as mitigate impacts to irrigation district budgets as a result of urbanization and future regulatory requirements.

### **Subcriterion No. B2 – Contributions that Address Watershed Needs or Issues**

The Deschutes Water Planning Initiative will convene all of the stakeholders affected by the critical watershed issues described in Subcriterion B1. The goal of the Initiative is to develop water management scenarios that meet multiple needs including instreamflows, agricultural water supply, and hydropower production. The DRC plans to accomplish its goal by working cooperatively with the Deschutes Water Alliance and other agency and non-governmental organizations to implement this project. See Section 2.4.1 for detailed workplan.

### **2.8.3 Evaluation Criteria C: Implementation and Results (30 points)**

#### **Subcriterion No. C1 – Project Planning**

The goals of the Deschutes Water Planning Initiative support the objectives of a host of state and regional watershed plans.

*Deschutes Subbasin Plan, Northwest Power and Conservation Council, 2004*

- Guides Bonneville Power Administration's investments in mitigating the impacts of the Columbia River hydropower system.
- Used by the federal agencies to help meet the requirements of the 2000 Federal Columbia River Power System Biological Opinion and form the underpinnings of NOAA Fisheries and US Fish and Wildlife Service's recovery plans for bull trout and mid-Columbia steelhead.
- Identifies instream and habitat restoration of the middle and upper Deschutes River as a priority action in the Deschutes Basin (MP-6)
- Calls for an improved flow regime by increasing minimum winter flows (MP-80)

*Upper Deschutes River subbasin Fish Management Plan, Oregon Department of Fish and Wildlife, 1996*

- The plan identifies irrigation water management as having the greatest deleterious impact on abundance of native fish (p 25) in the upper basin.
- Identifies working with irrigators to improve instreamflows as key action item (p 99).
- Recommends water leasing, water transfers, off-stream storage and conservation as tools to improve flow management (p 99).

*Upper Deschutes Wild and Scenic River and State Scenic Waterway Comprehensive Management Plan, US Forest Service and State of Oregon, 1996*

- Joint state and federal agency plan to guide the management of the upper Deschutes River.
- Identifies flow modification as a result of water management practices as a key limiting factor for fisheries health.
- Sets interim and long range targets for instreamflow restoration.

*Integrated Water Resource Strategy – DRAFT, Oregon Water Resources Department, 2012*

- Plan seeks to understand current water supplies in Oregon and articulate a strategy for meeting future needs.
- Identifies balancing instream and out of stream water needs as a key water management issue.
- Recommends implementing place based integrated water resource planning.
- Recommends reaching environmental objectives through non-regulatory approaches.
- Identifies the DRC as a key partner in implementing voluntary flow water management projects.

*Reintroduction Plan for Anadromous Fish In the Upper Deschutes River Sub-basin, Oregon – Oregon Department of Fish and Wildlife and the Confederated Tribes of Warm Springs, 2008*

- Identifies the conceptual framework for reintroduction of anadromous fish above the Pelton Round Butte Hydroelectric Project.
- Prioritizes instreamflow restoration as a key restoration action under the Plan.
- The DRC is identified playing a key role in enhancing instreamflows.

#### **Subcriterion No. C2 – Readiness to Proceed**

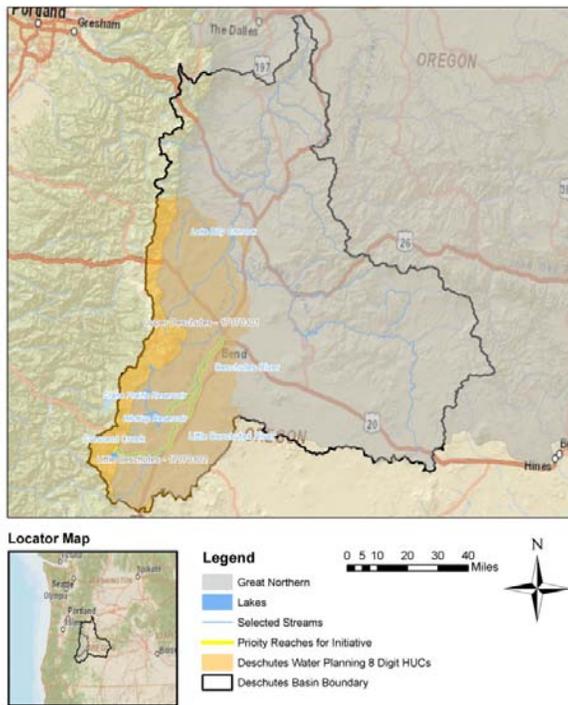
The DRC does not anticipate any problems in implementing this project beyond the inherent challenge of working with diverse stakeholders to achieve a consensus approach to managing water. The DRC believes that the conceptual framework for the proposed planning process will allow for an adaptive and iterative process of securing stakeholder input and feedback on goals and objectives, water supply options, and management scenarios. The DRC proposes to use third-party contractors to assess stakeholder needs and facilitate workshops where decisions will be made. The DRC is confident that stakeholders can reach a consensus decision under the proposed planning model.

Please see Section 2.4.1 for a detailed description of the implementation plan for this proposal

#### **2.8.4 Evaluation Criteria D: Watershed Group/Landscape Conservation Cooperatives Nexus (10 points)**

##### **Subcriterion No. D1 – Active participation in an LCC**

The Great Northern Landscape Conservation Cooperative (GNLCC) encompasses the majority of the geographic area covered by this Initiative (Figure 3). DRC staff and Board Members have not yet directly participated in this LCC. Several of the agencies represented on the DRC's Board of Directors, including the Forest Service, Oregon Department of Fish and Wildlife, and Bureau of Reclamation, have representation on the GNLCC Steering Committee and on the DRC's Board of Directors. The GNLCC is still in development and the DRC expects to have greater participation as the group matures.



**Figure 3. Great Northern Landscape Conservation Cooperative geographic area**

**Subcriterion No. D2 – Direct relationship to LCC activities**

The planning activities and the subsequent project implementation fostered by the Initiative will directly relate to the GNLCC’s strategies. GNLCC’s April 2012 draft strategic framework identifies the group’s goals and strategies. The framework identified the goals of “maintain[ing] hydrologic regimes that support native or desirable plant and animal communities in still and moving water systems.” Strategies to achieve this goal include, among others, “assess (in a spatially explicit way) how climate change... may affect this outcome” and “maintain and restore streamflow conditions necessary to support native and desirable species” (GNLCC April 2012). The modeling work proposed under this initiative and the subsequent streamflow restoration project implementation will directly relate to these GNLCC strategies.

**Subcriterion No. D3 – Goals of Watershed Group Complementary to LCC Goals and Activities**

The GNLCC envisions “a legacy of land, water, and wildlife conservation and sustainable natural resource management through collaboration and coordination” that supports both aquatic systems and traditional land uses (GNLCC 2012). As described in the GNLCC’s April 2012 draft strategic framework, one of the goals of the GNLCC is to “maintain hydrologic regimes that support native or desirable plant and animal communities in still and moving water systems.” The DRC’s goals directly align with this goal. The DRC intends to restore streamflow to the Deschutes River and its tributaries through collaborative approaches that meet the needs of all stakeholders. The activities fostered by the proposed Initiative will ultimately meet environmental and agricultural needs across jurisdictional boundaries. These goals and activities align directly with the GNLCC’s vision and values. The GNLCC encourages collaboration and open communication between agencies and organizations in achieving its goals. These actions are fostered by the DRC, particularly by the DRC’s broad representation on its Board of Directors.

**2.9 References**

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### 3 APPENDICES TO TECHNICAL PROPOSAL

#### 3.1 Appendix 1 to Technical Proposal - Detailed Timeline

	2012												2013												2014											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S			
<b>Phase I - Needs Assessment and Goal Setting</b>																																				
Evaluate Opportunity and Determine DRC Role																																				
Develop DRC/DWA Coordination Agreement																																				
Assess the Needs of Partner Organizations																																				
Convene Workshop to Share Goals																																				
<b>Phase II - Identify Water Supply Options</b>																																				
Develop and Evaluate Water Supply Options																																				
Convene Workshop to Refine Water Supply Options																																				
<b>Phase III - Develop Water Management Scenarios</b>																																				
Prepare Preliminary Water Management Scenarios																																				
Convene Scenario Refinement Workshop																																				
Model Impacts of Selected Scenarios																																				
Convene Scenario Optimization Workshop																																				
Reassess Scenarios Based on Model Results																																				
Ratify Chosen Water Management Scenario																																				
Prepare Final Report and Close Out Grants																																				

### 3.2 Appendix 2 to Technical Proposal - Letters of Support



## CENTRAL OREGON IRRIGATION DISTRICT

1055 SW LAKE COURT, REDMOND, OR 97756

PHONE: 541.548.6047 FAX: 541.548.0243

[www.coid.org](http://www.coid.org)

A MUNICIPAL CORPORATION OF THE STATE OF OREGON

July 2, 2012

Tod Heisler  
Deschutes River Conservancy  
700 NW Hill Street  
Bend, OR 97701

RE: Letter of Support for the Deschutes Water Planning Initiative

The purpose of this letter is to affirm Central Oregon Irrigation District's support for the Deschutes River Conservancy's (DRC) proposed Deschutes Water Planning Initiative. The goals of the Initiative reinforces our objectives by seeking to develop a collaborative water management plan that supports instream water needs as well as improving agricultural water supplies and improving opportunities for hydropower production in the Deschutes Basin. Central Oregon Irrigation District (COID) has agreed to participate with the DRC in this collaborative planning process.

COID has been and remains a major stakeholder and participant in the Deschutes basin's planning and restoration efforts over the past decade. COID has been instrumental with its partners, particularly the DRC, in helping to restore instream flows as well as develop relationships within the basin to foster collaborative efforts with much success. COID is very interested and committed to the proposed Initiative.

Agriculture, hydropower and the environment would all benefit from more water today and their needs are likely to increase as time goes on. Collaborative, consensus based water management planning, like the proposed Deschutes Water Planning Initiative, is the best chance to address these challenges without conflict.

Please let me know if I can be of any further assistance as you work to advance the Deschutes Water Planning Initiative.

Sincerely,



Steven C. Johnson  
District Secretary - Manager



2024 N.W. Beech Street  
Madras, Oregon 97741

(541) 475-3625  
(541) 475-3652  
Fax (541) 475-3905  
nuid@northunitid.com

June 25, 2012

Tod Heisler  
Deschutes River Conservancy  
700 NW Hill Street  
Bend, OR 97701

RE: Letter of Support for the Deschutes Water Planning Initiative

The purpose of this letter is to affirm North Unit Irrigation District's support for the Deschutes River Conservancy's (DRC) proposed Deschutes Water Planning Initiative. The goals of the Initiative reinforces our objectives by seeking to develop a collaborative water management plan that supports instream water needs as well as improving agricultural water supplies and improving opportunities for hydropower production in the Deschutes Basin.

North Unit Irrigation District has worked closely with the DRC on developing and implementing the North Unit Water Supply Initiative. The North Unit Water Supply Initiative supports efforts to restore stream flows while improving agricultural irrigation supply and reliability. The Deschutes Water Planning Initiative builds upon this relationship and further establishes collaborative water management planning in the Deschutes Basin that supports instream water needs while improving agricultural water supplies.

Like many rivers in the arid West, the Deschutes River is over appropriated. Agriculture, hydropower and the environment would all benefit from more water today and their needs are likely to increase as time goes on. Collaborative, consensus based water management planning, like the proposed Deschutes Water Planning Initiative, is the best chance to address these challenges without conflict.

Please let me know if I can be of any further assistance as you work to advance the Deschutes Water Planning Initiative.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Britton".

Mike Britton  
General Manager

"Conserve Water - The Supply Is Limited"



**WARM SPRINGS POWER & WATER ENTERPRISES**

**P.O. BOX 960 · WARM SPRINGS, OR 97761**

**OFFICE: (541) 553-1046**

**FAX: (541) 553-3436**

June 26, 2012

Tod Heisler  
Executive Director  
Deschutes River Conservancy  
700 NW Hill Street  
Bend, OR 97701

Dear Tod:

Warm Springs Power & Water Enterprises, an operating entity of the Confederated Tribes of Warm Springs (CTWS), fully supports the request by Deschutes River Conservancy (DRC) for the WaterSMART Grant.

The Tribes were instrumental in the formation of the DRC and have been involved in the organization ever since. CTWS continues to believe that advancing water management in the basin by multiple interested parties is best carried out with the DRC at the table. Restoring water quantity and quality in the upper basin is in large part because of the efforts of the DRC.

This grant would advance the ability of the DRC to continue its success with organizations that are interested in aligning with the intent and style of the DRC.

Sincerely,

Jim Manion,  
General Manager



# Oregon

John A. Kitzhaber, MD, Governor

June 28, 2012

## Water Resources Department

SOUTH CENTRAL REGION

Watermaster District 11

1128 NW Harriman

Bend, OR 97701

Ph: (541) 388-6669

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[www.wrd.state.or.us](http://www.wrd.state.or.us)

Tod Heisler  
Executive Director, Deschutes River Conservancy  
700 NW Hill ST,  
Bend, OR 97701

RE: LETTER OF SUPPORT - DESCHUTES WATER PLANNING INITIATIVE

Dear Tod,

I am writing this letter of support to you for the implementation of the Deschutes Water Planning Initiative. This effort is critical in moving on to the next level of projects that combine multiple benefactors based on a greater need for scarce dollars to go farther today than ever in the past. The initiative is based on an expanded geographic scope and increased diversity of stakeholder participation and is integrated with the Deschutes Water Alliance. This comprehensive water management plan builds capacity upon the multitude of projects already implemented by the DRC and its partners. The next set of restoration goals will include much more complex transactions and increased number of partners but will effect a long-term collaborative process that will benefit municipalities, sustain agriculture and benefit the recreation and tourism industry that makes up a large part of the economic engine of Central Oregon.

The Department has a strong interest in this very type of process as it is in the final stages of the first ever statewide, comprehensive Integrated Water Resources Strategy which emphasizes local stakeholder involvement in developing the very thing the DRC is proposing here. Being a representative on the Deschutes Water Alliance, a key partner in this initiative, the Oregon Water Resources Department is in full support of the effort.

If I can be of further help, please don't hesitate to ask.

Sincerely,

Kyle Gorman  
Region Manager – Oregon Water Resources Department  
South Central Region





**Confederated Tribes of the Warm Springs  
Reservation of Oregon**

*P. O. Box 960 • Warm Springs, OR 97761*

**June 28, 2012**



**Portland General Electric Company**

*121 S.W. Salmon Street • Portland, OR 97204*

Tod Heisler  
Deschutes River Conservancy  
700 NW Hill Street  
Bend, OR 97701

RE: Letter of Support for the Deschutes Water Planning Initiative – WaterSMART Cooperative Watershed Management Program Grant Proposal

Dear Tod:

The purpose of this letter is to affirm Portland General Electric's (PGE) support for the Deschutes River Conservancy's (DRC) proposed Deschutes Water Planning Initiative. The Initiative will provide a collaborative forum for developing mutually beneficial water management scenarios for the upper Deschutes River Basin.

As you are aware, PGE has a long history of working with stakeholders in the Deschutes Basin to support fisheries, flow and water quality restoration efforts. The development of a water management plan that seeks to balance the needs of farmers, hydropower production and river flows is an important next step in solving the basin's water management issues.

Please let me know if I can be of any further assistance as you work to advance the Deschutes Water Planning Initiative.

Sincerely,

Julie A. Keil, Director  
Hydro Licensing and Water Rights



**UPPER DESCHUTES**  
WATERSHED COUNCIL

June 26, 2012

Tod Heisler  
Executive Director  
Deschutes River Conservancy  
700 NW Hill St.  
Bend, OR 97701

Re: Support for Deschutes Water Planning Initiative

Dear Tod,

I am writing to express support for the Deschutes River Conservancy's Deschutes Water Planning Initiative grant application to the WaterSMART program.

Many local, state and federal management plans have identified collaborative water management as critical to the long-term health of the Deschutes River and its tributaries. Flow modification has brought many changes to local rivers and streams, including changes in water quality and habitat that have affected resident and anadromous fish species.

Lasting solutions to the complex water management challenges in the Deschutes River require the kind of collaborative, multi-stakeholder approach outlined in your Deschutes Water Planning Initiative. This approach ensures that the critical water needs for agriculture, urban development, recreation and the environment are met through creative, sustainable solutions.

I am pleased to have the opportunity to express my support for your proposal and I look forward to the opportunity to assist in any way possible.

Sincerely,

Ryan Houston  
Executive Director  
Upper Deschutes Watershed Council



Deschutes County Board of County Commissioners  
Alan Unger, Commissioner  
1300 NW Wall St., Suite 200, OR 97701-1960  
Desk (541) 388-6569 - Fax (541) 385-3202 Cell: (541) 419-0556  
[alanu@co.deschutes.or.us](mailto:alanu@co.deschutes.or.us) [www.deschutes.org](http://www.deschutes.org)

July 2, 2012

Tod Heisler  
Deschutes River Conservancy  
700 NW Hill Street  
Bend, OR 97701

RE: Letter of Support for the Deschutes Water Planning Initiative –  
WaterSMART Cooperative Watershed Management Program Grant Proposal

Dear Tod:

As a member of the Deschutes County Board of Commissioners, I would like to offer my endorsement of the DRC's WaterSMART Cooperative Watershed Management Program grant proposal. As you are aware, in my time on the Commission, I have been a vocal supporter of collaborative water management planning efforts. Water supplies in the Deschutes Basin are over-appropriated today and scarcity is only likely to increase in the future. I believe the DRC's efforts to work in partnership with the Deschutes Water Alliance to develop a joint water management plan for the upper Deschutes Basin is critical to resolving pressing water management issues cooperatively and cost-effectively.

If I can be of assistance as you advance this important effort, please let me know.

Sincerely,

Alan Unger  
Deschutes County Commissioner

**3.3 Appendix 3 to Technical Proposal - Board Resolution**

**DESCHUTES RIVER CONSERVANCY**

**RESOLUTION NO. 2012-01**

**WHEREAS**, the Deschutes River Conservancy (DRC) Board of Directors has approved the implementation of the upper Deschutes River basin planning initiative for the purpose of developing and implementing a coordinated planning effort to establish goals and evaluate scenarios for meeting instream and out of stream water supply needs; and

**WHEREAS**, the DRC can provide the necessary non-federal match for the planning effort; and

**WHEREAS**, DRC wishes to apply to the Bureau of Reclamation's (Reclamation) WaterSMART Cooperative Watershed Management Program (CWMP) to support the initiative; and

**WHEREAS**, the DRC work with Reclamation to meet all established deadlines for entering into a cooperative agreement.

**BE IT RESOLVED**, by the Deschutes River Conservancy Board of Directors that Tod Heisler, DRC Executive Director, is hereby authorized to submit a proposal to Reclamation's CWMP in support of the DRC's planning efforts.

**CERTIFICATION**

The undersigned, Tod Heisler, certifies that the Deschutes River Conservancy Board of Directors is composed of 26 members, of whom 16 constituting a quorum were present at a meeting thereof, duly and regularly called, noticed, convened and held this 15<sup>th</sup> day of June, 2012; and the foregoing resolution was passed by the affirmative vote of 16 members, the Chairman voting; and that the said resolution has not been rescinded or amended in any way.

  
\_\_\_\_\_  
DRC Officer

  
\_\_\_\_\_  
Attested By

#### **4 ENVIRONMENTAL COMPLIANCE**

*1) Will the proposed activities impact the surrounding environment?*

The proposed planning activities will not impact the surrounding environment. The proposed activities include only planning work and do not include any surface disturbing activities.

Actions recommended at the completion of the planning activities may ultimately require environmental compliance work prior to implementation. This subsequent environmental compliance work will occur as part of action-specific design and implementation efforts.

*2) Are you aware of any endangered or threatened species in the work area? If so, would they be affected by any activities associated with the proposed work?*

This question is not applicable to the proposed project. The proposed planning work does not include an associated work area.

*3) Are there wetlands inside the project boundaries? If so, please estimate how many acres of wetlands there are and describe any impact the proposed activities will have on the wetlands.*

This question is not applicable to the proposed project. The proposed planning work encompasses the Upper and Little Deschutes 8 digit HUCs but will not implement any on-the-ground or management activities. It will not impact wetlands.

*4) Are there any known archeological sites in the proposed work area?*

This question is not applicable to the proposed project. The proposed planning work does not include a proposed work area.

*5) Will the proposed activities result in any modification of, or effects to, individual features of a water delivery system (e.g., headgates, canals)?*

The proposed planning activities will not modify or affect individual features of a water delivery system.

#### **5 REQUIRED PERMITS AND APPROVALS**

The proposed Initiative will not require any permits or approvals. DRC expects that actions recommended through the Initiative may require permits prior to implementation. If required, subsequent permitting work will occur as part of action-specific design and implementation efforts.

## 6 FUNDING PLAN

### 6.1 Other Federal Funding

DRC has not requested or received other federal funding for this Initiative.

### 6.2 Applicant Funding

DRC, a 501(c)3 non-profit, does not expect to contribute any funds from sources such as a reserve account, assessments, or tax revenues.

### 6.3 Costs Incurred Prior to the Project Start Date

As described in Section 1, DRC does not seek to include any costs incurred prior to the project start date as project costs.

### 6.4 Funding Partners

DRC has secured \$56,932 from the Bella Vista Foundation for activities funded under this proposal over two years. Funding is currently available. A letter of commitment from this funding partner appears as Exhibit B

### 6.5 Summary of Non-Federal and Federal Funding Sources

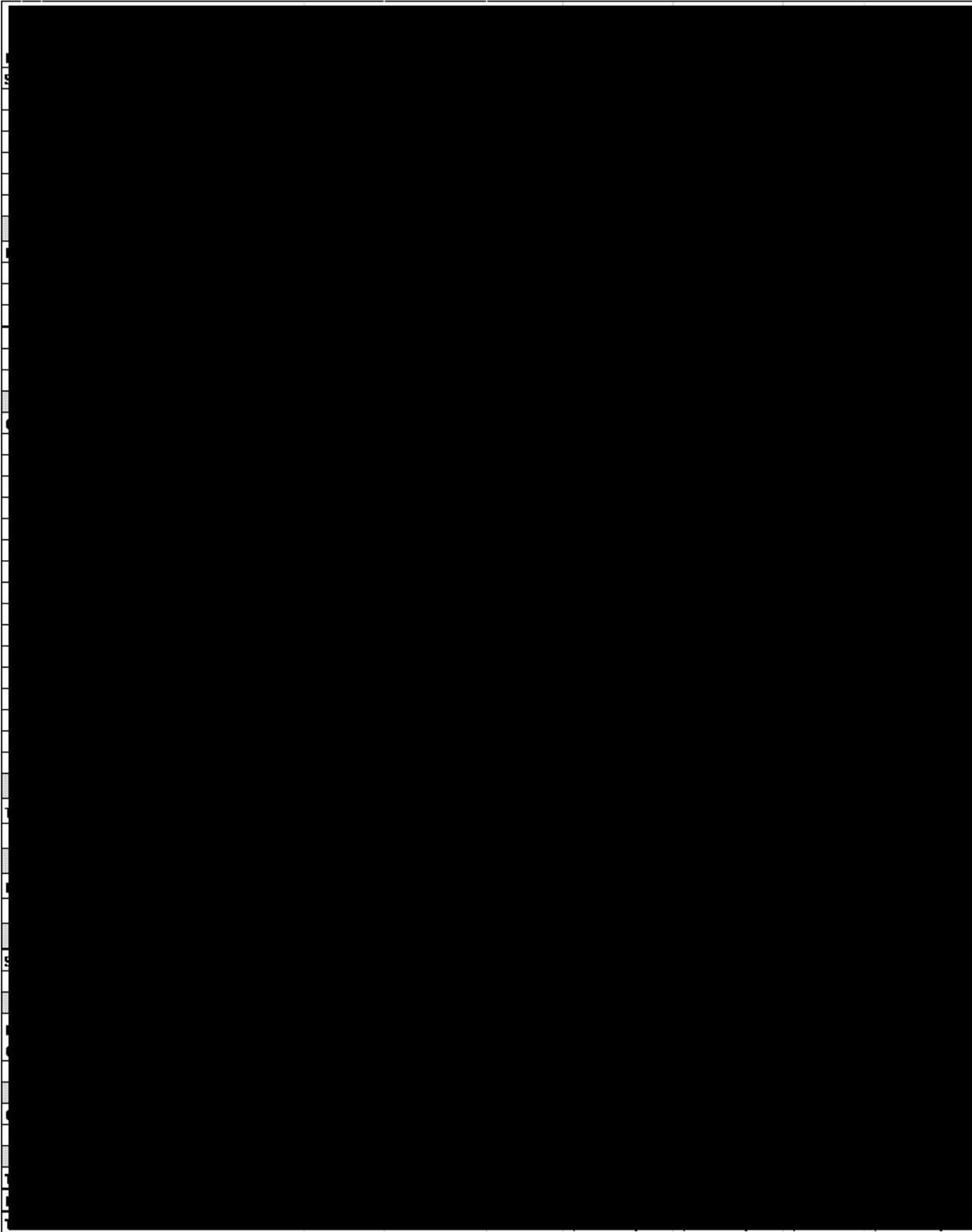
The proposed budget includes \$156,932 for the Deschutes Water Planning Initiative (Table 3). DRC has secured \$56,932 of match through a grant from the Bella Vista Foundation (Table 3). DRC requests \$100,000 from Reclamation over two years, with \$50,000 requested for each of FY13 and FY14.

**Table 3. Funding Sources**

<b>Funding Sources</b>	<b>Funding Amount</b>
Non-Federal Entities	
1. Bella Vista Foundation	\$ 56,932
<i>Non-Federal Subtotal</i>	<i>\$ 56,932</i>
Other Federal Entities	
None	\$ -
<i>Other Federal Subtotal</i>	<i>\$ -</i>
<i>Requested Reclamation Funding</i>	<i>\$ 100,000</i>
<b>Total Project Funding</b>	<b>\$ 156,932</b>

## 7 PROJECT BUDGET APPLICATION

### 7.1 Budget Proposal



**7.2 Budget Narrative**

The activities supported by this grant will cost \$156,932 over two years. Funding will provide for staff time, water resource planning, engineering, and mediation professionals. DRC assembled these costs with the intent for grant funded activities to begin in November 2012 and to complete in September 2014. DRC requests \$100,000 from Reclamation over two years, with \$50,000 requested for each of FY13 and FY14.

**7.2.1 Salaries and Wages**

These investments support grant management, project management, and tasks specific to the proposed Initiative. The budget includes \$35,895 of non-federal funding for salaries and wages.

Table 4. Salaries and Wages.

	COMPUTATION			RECIPIENT	RECLAMATION	OTHER FEDERAL	TOTAL
	\$/Unit	Unit	Quantity	FUNDING	FUNDING	FUNDING	COST
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

**7.2.2 Fringe Benefits**

[REDACTED]

Table 5. Fringe Benefits.

STAFF	COMPUTATION			RECIPIENT	RECLAMATION	OTHER FEDERAL	TOTAL
	\$/Unit	Unit	Quantity	FUNDING	FUNDING	FUNDING	COST
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	\$ [REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

**7.2.3 Travel**

This budget item includes \$275 invested in local travel of 500 miles at 0.55 \$/mile. DRC estimated these costs based on past experience and expected future travel to meet with stakeholders across the upper Deschutes Basin.

#### **7.2.4 Equipment**

None

#### **7.2.5 Materials and Supplies**

This line item includes \$250 for miscellaneous office supplies will be used up over two years in the course of the grant funded activities. DRC estimated these costs based on past experience.

#### **7.2.6 Contractual**

Contracted services comprise a majority of the investments of this Initiative. The proposal supports \$98,058 of contracted services during Phase II and III of the Initiative. DRC expects to invest a portion of these funds with Newton Consultants for services provided by their Senior Water Resources Planner, Water Resources Engineer, and CAD/GIS Specialist. Newton Consultants has completed extensive water resources planning work with both the DRC and the DWA through prior work funded by non-federal sources. They have the consent of municipal governments, irrigation districts, and other interested parties. Selection of a different service provider would require substantial duplication of costs and obtaining the consent of a large range of partners, substantially delaying the Initiative. The DRC has not yet selected entities to provide facilitation or hydrologic modeling services. These services will be supported by non-federal funds.

DRC developed these costs based on extensive past experience in the region and in consultation with Newton Consultants.

#### **Stakeholder Meetings**

Newton Consultants will meet with individual stakeholders to develop and review goals, water supply options, infrastructure options, and scenarios developed throughout this Initiative. Participation by federal, state, local, irrigation district, and tribal staff and elected officials will be critical to the success of this initiative.

#### **Partner Workshops**

As described in Section 1.4, DRC proposes to convene three regional partner workshops during this Initiative. The two workshops occurring during Phases II and III are included in the proposed budget. Newton Consultants will prepare information gleaned from stakeholder meetings and planning work for these meetings. A professional facilitator will lead these three regional partner workshops. DRC developed facilitation costs based on past experience with facilitators in the region.

#### **Options Development & Evaluation**

These funds will support Newton Consultants in the development of water supply and infrastructure options that meet stakeholder needs. This project will build on Newton Consultant's extensive past experience in water resources planning in the upper Deschutes Basin. They will provide both water resources management and water resources engineering expertise. Section 1.4 describes these activities

### **Scenarios Development & Evaluation**

As described in Section 1.4, DRC expects to work with contractors to develop and evaluate scenarios that incorporate multiple water supply and infrastructure options. DRC proposes to work with Newton Consultants to develop these options. DRC expects to contract with a hydrologic modeler to evaluate the hydrologic outcomes of different scenarios. DRC developed modeling costs based on past experience with facilitators in the region.

### **Stakeholder Report Preparation**

These funds will support Newton Consultant’s preparation of a final report to stakeholders documenting the planning process, its outcomes and a proposed scenario for implementation.

### **Mapping**

These funds will support mapping in support of this planning process.

### **7.2.7 Environmental and Regulatory Compliance**

DRC has not budgeted funds for Environmental and Regulatory Compliance. Activities under the proposed Initiative will involve only administrative actions and will not involve on-the-ground work for project development, monitoring or evaluation. These activities will not require any permits or approvals.

### **7.2.8 Reporting**

The proposed budget includes \$6,000 to support DRC’s grant reporting throughout this initiative. DRC estimated these costs based on previous experience with Reclamation WaterSMART grants.

### **7.2.9 Other**

None

### **7.2.10 Indirect Costs**

None

### **7.2.11 Total Costs**

**Table 6. Total Costs**

<b>Source</b>	<b>Amount</b>	<b>Proportion</b>
Federal	\$ 100,000	0.64
Non-Federal	\$ 56,932	0.36
Total	\$ 156,932	

### **7.3 SF-424A Form**

Please see attached SF-424A Form.

8 EXHIBITS

8.1 Exhibit A - Articles of Incorporation

575 504-86

ARTICLES OF INCORPORATION  
OF  
DESCHUTES BASIN WORKING GROUP

FILED  
NOV 13 1996  
SECRETARY OF STATE

ARTICLE I

The name of this Corporation is: **DESCHUTES BASIN WORKING GROUP**

ARTICLE II

This Corporation is a public benefit corporation.

ARTICLE III

The name of the registered agent is James D. Neteboom. The address of the registered agent is: 1201 N.W. Wall Street, Suite 300, Bend, Oregon 97701.

ARTICLE IV

The address where the Division may mail notices is:

60440 Woodside Road  
Bend, Oregon 97702

ARTICLE V

The Corporation shall not have members.

ARTICLE VI

The Corporation is organized exclusively for charitable purposes within the meaning of Section 501(c)(3) of the Internal Revenue Code of 1986, as amended, including but not limited to, proposing ecological restoration projects on federal and non-federal lands and waters within the Deschutes River Basin.

ARTICLE VII

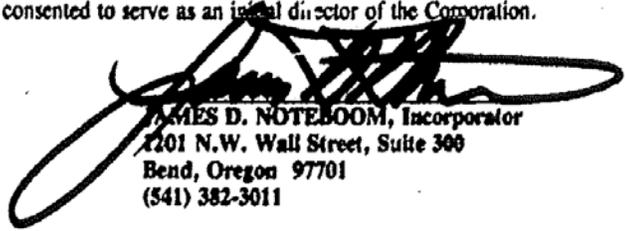
The assets of the Corporation are irrevocably dedicated to charitable purposes and no part of the net earnings or assets of the Corporation shall inure to the benefit of, or be attributable to its members, officers, directors or to the benefit of any other private persons, except that the Corporation shall be authorized and empowered to pay reasonable compensation for services

NOV 13 1996

545309-86

**ARTICLE XI**

For the purposes of organizing this Corporation under the laws of the state of Oregon, I signed these Articles of Incorporation in duplicate this 12th day of November, 1996. Each of the directors set forth in Article X has consented to serve as an initial director of the Corporation.



**JAMES D. NOTEBOOM, Incorporator**  
1201 N.W. Wall Street, Suite 300  
Bend, Oregon 97701  
(541) 382-3011



Phone: (503) 946-2200  
Fax: (503) 378-4381

Articles of Amendment—Business/Professional/Nonprofit

Secretary of State  
Corporation Division  
25A Capitol St. NE, Suite 151  
Salem, OR 97310-1327

Check the appropriate box below:  
 BUSINESS/PROFESSIONAL CORPORATION  
(Complete only 1, 2, 3, 4, 6, 7)  
 NONPROFIT CORPORATION  
(Complete only 1, 2, 3, 5, 6, 7)

FILED For office use only

APR 27 2001

OREGON  
SECRETARY OF STATE

Registry Number: 545309-86

Attach Additional Sheet if Necessary  
Please Type or Print Legibly in Black Ink

- 1) NAME OF CORPORATION PRIOR TO AMENDMENT Deschutes Basin Working Group
- 2) STATE THE ARTICLE NUMBER(S) AND SET FORTH THE ARTICLE(S) AS IT IS AMENDED TO READ. (Attach a separate sheet if necessary.)  
"Article I The name of this corporation is: Deschutes Resources Conservancy."
- 3) THE AMENDMENT WAS ADOPTED ON: \_\_\_\_\_  
(If more than one amendment was adopted, identify the date of adoption of each amendment.)

BUSINESS/PROFESSIONAL CORPORATION ONLY

NONPROFIT CORPORATION ONLY

- 4) CHECK THE APPROPRIATE STATEMENT
- Shareholder action was required to adopt the amendment(s). The vote was as follows:
- | Class or series of shares | Number of shares outstanding | Number of votes entitled to be cast | Number of votes cast FOR | Number of votes cast AGAINST |
|---------------------------|------------------------------|-------------------------------------|--------------------------|------------------------------|
|                           |                              |                                     |                          |                              |
- Shareholder action was not required to adopt the amendment(s). The amendment(s) was adopted by the board of directors without shareholder action.
- The corporation has not issued any shares of stock. Shareholder action was not required to adopt the amendment(s). The amendment(s) was adopted by the incorporators or by the board of directors.

- 5) CHECK THE APPROPRIATE STATEMENT
- Membership approval was not required. The amendment(s) was approved by a sufficient vote of the board of directors or incorporators.
- Membership approval was required. The membership vote was as follows:
- | Class(es) entitled to vote | Number of members entitled to vote | Number of votes entitled to be cast | Number of votes cast FOR | Number of votes cast AGAINST |
|----------------------------|------------------------------------|-------------------------------------|--------------------------|------------------------------|
|                            |                                    |                                     |                          |                              |

6) EXECUTION

Printed Name Gail L. Achterman Signature Title President/Executive Director

7) CONTACT NAME Brent S. Kinkade DAYTIME PHONE NUMBER - INCLUDING AREA CODE (541) 382-3011

**FEE'S**

Mail check for \$30 payable to "Corporation Division"

NOTE: Filing fees may be paid with VISA or MasterCard. The card number and expiration date should be submitted on a separate sheet for your protection.

48



Phone: (503) 906-2200  
Fax: (503) 378-4381

Articles of Amendment—Business/Professional/Nonprofit

Secretary of State  
Corporation Division  
255 Capitol St. NE, Suite 151  
Salem, OR 97310-1327  
FilingInOregon.com

Check the appropriate box below:

- BUSINESS/PROFESSIONAL CORPORATION  
(Complete only 1, 2, 3, 4, 6, 7)
- NONPROFIT CORPORATION  
(Complete only 1, 2, 3, 5, 6, 7)

FILED

DEC 09 2004

OREGON  
SECRETARY OF STATE

REGISTRY NUMBER: 545309-86

In accordance with Oregon Revised Statute 192.410-192.490, the information on this application is public record.  
We must release this information to all parties upon request and it will be posted on our website.

For office use only

Please Type or Print Legibly in Black Ink.

- 1) NAME OF CORPORATION PRIOR TO AMENDMENT: Deschutes Resources Conservancy
- 2) STATE THE ARTICLE NUMBER(S) AND SET FORTH THE ARTICLE(S) AS IT IS AMENDED TO READ. (Attach a separate sheet if necessary)  
"Article 1. The name of this corporation is: Deschutes River Conservancy."
- 3) THE AMENDMENT WAS ADOPTED ON: November 18, 2004  
(If more than one amendment was adopted, identify the date of adoption of each amendment.)

BUSINESS/PROFESSIONAL CORPORATION ONLY

4) CHECK THE APPROPRIATE STATEMENT

- Shareholder action was required to adopt the amendment(s). The vote was as follows:

Class or series of shares	Number of shares outstanding	Number of votes entitled to be cast	Number of votes cast FOR	Number of votes cast AGAINST

- Shareholder action was not required to adopt the amendment(s). The amendment(s) was adopted by the board of directors without shareholder action.
- The corporation has not issued any shares of stock. Shareholder action was not required to adopt the amendment(s). The amendment(s) was adopted by the incorporators or by the board of directors.

NONPROFIT CORPORATION ONLY

5) CHECK THE APPROPRIATE STATEMENT

- Membership approval was not required. The amendment(s) was approved by a sufficient vote of the board of directors or incorporators.
- Membership approval was required. The membership vote was as follows:

Class(es) entitled to vote	Number of members entitled to vote	Number of votes entitled to be cast	Number of votes cast FOR	Number of votes cast AGAINST

6) EXECUTION  
Signature

Printed Name

James D. Noteboom

Title

Secretary

7) CONTACT NAME (To resolve questions with this filing)

James D. Noteboom

DAYTIME PHONE NUMBER (include area code)

(541) 382-3011

FEEES

Required Processing Fee \$50  
**No Fee for Nonprofit Type Change Only**  
 Confirmation Copy (Optional) \$5  
 Processing Fees are non-refundable  
 Please make check payable to "Corporation Division."  
 NOTE:  
 Fees may be paid with VISA or MasterCard. The card number and expiration date should be submitted on a separate sheet for your protection.

113 (Rev. 3/04)

12-7-04

58

13

\$55.00

12-9-04  
JS



1660 Bush Street, Suite 300, San Francisco, California 94109, (415) 561-6540

[www.bellavistafoundation.org](http://www.bellavistafoundation.org)

May 14, 2012

Mr. Tod Heisler  
Executive Director  
Deschutes River Conservancy  
700 NW Hill Street  
Bend, OR 97709

*Sheri - Grant report  
due 2/7/13.*

Dear Mr. Heisler:

On behalf of the Board of Directors of the Bella Vista Foundation, I am pleased to inform you that a grant in the amount of \$72,700 has been approved for Deschutes River Conservancy.

Deschutes River Conservancy agrees to:

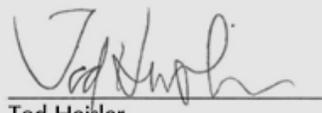
- Use the grant amount for the Upper Deschutes River Streamflow Restoration Initiative.
- Sign and return to our office a copy of this grant agreement, acknowledging your receipt of enclosed check #7067. (Attention: **Sunnie Kaufmann-Paulman, Program Coordinator**);
- Only use the grant funds for purposes that are consistent with the federal and state rules for tax exempt status and not for purposes other than those specified in your proposal, unless you receive specific instructions otherwise from foundation staff;
- Submit a report on the use of the grant funds to the Bella Vista Foundation no later than **2/7/2013**.

For your convenience, a copy of the ecosystem restoration progress report form can be downloaded from our website at <http://www.bellavistafoundation.org>.

Compliance with these requirements may have a bearing on future funding. Should you have any questions regarding this grant, please don't hesitate to be in touch.

Sincerely,

  
Annie Yates  
Program Director  
Bella Vista Foundation

  
Tod Heisler  
Executive Director  
Deschutes River Conservancy