



GC0030 09

**OREGON WATER RESOURCE DEPARTMENT
WATER CONSERVATION, REUSE AND STORAGE
GRANT PROGRAM**

RECEIVED

SEP 02 2008

WATER RESOURCES DEPT
SALEM, OREGON

I. Grant Information

Project Name: Keating Valley Water Conservation Assessment

Type of Grant Requested: Water Conservation Reuse Above Ground Storage
 Storage Other Than Above-Ground [Including Aquifer Storage and Recovery (ASR)]

Program Funding Dollars Requested: \$ \$42,500 Total cost of planning study: \$ \$85,000
Note: Request may not exceed \$500,000

II. Applicant Information

Applicant Name: <i>Lower Powder Irrigation District</i>	Co- Applicant Name:
Organization:	Organization:
Address <i>44238 Jury Road</i>	Address:
<i>Baker City, OR 97814</i>	
Phone <i>541-523-6747</i>	Phone:
Fax:	Fax:
Email:	Email:

Fiscal Officer Name: <i>Joyce Bornstedt</i>	Principle Contact: <i>Walt Jury</i>
Organization: <i>Lower Powder Irrigation District</i>	Organization: <i>Lower Powder Irrigation District, pres.</i>
Address: <i>2550 Broadway</i>	Address: <i>44238 Jury Road</i>
<i>Baker City, OR 97814</i>	<i>Baker City, OR 97814</i>
Phone: <i>541-523-6471</i>	Phone: <i>541-523-6747</i>
Fax:	Fax:
Email:	Email:

Certification:

I certify that this application is a true and accurate representation of the proposed work for a project planning study and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant certifies that they are aware of the requirements of an Oregon Water Resources Department grant and are prepared to implement the project if awarded.

Applicant Signature: *Walt Jury* Date: *27 Aug 08*
Print Name: *Walt Jury* Title: *LPID, president*

III. Planning Study Summary

Please give a brief summary of the planning study using no more than 150 words.

The Keating Valley Water Conservation Assessment is a cooperative, multiphase project that will produce a plan to assess current conditions, determine desired future conditions, and identify opportunities for water conservation and storage in the Lower Powder Irrigation District. The first phase, the assessment, is the focus of this application. The assessment will gather data from agency partners and map all existing ditches, headgates, and other structures from Thief Valley Reservoir to the junction of Highway 86 and Powder River at the south end of the valley. The project will gather data on irrigation system types, soils, locate headgates and other structures in the ditch system, and put it into digital format. The gathered data will be used to determine individual site improvements, priority improvement areas, priority water loss areas, water storage sites, condition of current irrigation delivery system, agricultural wetland areas, energy needs for improvements, and capacity of the system for efficiency improvements, both structural and social. In addition, the study will address the potential benefits to fish, wildlife, and recreationists. The assessment will be conducted by a professional consultant that has the experience, staff, and capacity to complete the project in a minimal timeframe.

IV. Grant Specifics

Section A. Common Criteria

Instructions: Answer all questions in this section by typing the answer below the question. It is anticipated that completed applications will result in additional pages.

1. Describe how the planning study will be performed. Include:

- a. A description of the planning schedule/timeline, which includes identifying all key tasks. (Section VI provides an opportunity for a “graphical” representation of the schedule.)

Proposed Scope of Work:

A. Consultant Selection

The Lower Powder Irrigation District (LPID) will select the Consultant by issuing a "Request for Qualifications" to no less than three firms. Ranking and project criteria will follow Oregon Contracting Law.

B. Outreach and Public Involvement

In cooperation with Lower Powder Irrigation District (LPID), the consultant will prepare, plan and schedule a stakeholder and public meeting to solicit input into the project. The goal of the public outreach will be to elicit community/stakeholder participation and identify public values and concerns associated with the Powder River and the multiple ditches, including environmental, aesthetic, irrigation, private property interests, public lands interest and access, water quality and quantity, and fish and wildlife habitat.

Activities will include:

** Identify and engage stakeholders*

** Conduct ongoing public outreach and involvement activities for the project. Activities shall include at least two open-house workshops for the entire system and one workshop for each individual ditch, to inform, engage, and encourage community input into the process and study results.*

** Gather, document, and assess input from stakeholders and the general public regarding public values, interests, and concerns for the project.*

** Communicate results of the public outreach, data collection, existing river and irrigation system conditions, and proposed future plan for public awareness, education, and support.*

C. Develop a baseline assessment of system condition

** Identify and collect existing data relevant to the effort.*

** Evaluate existing data and determine additional data needs.*

** Characterize the irrigation system using ditch names and delineating distinct reaches relative to existing conditions, uses, soils, terrain, impacts and ditch function for environmental impacts, and water quality and quantity.*

** Characterization will consider and evaluate ditch condition, function, hydraulics, and stability under low flow and high flow conditions.*

** Develop GIS based mapping of ditch system.*

** Conduct field analysis to supplement existing data and provide ground-truthing for irrigation system conditions.*

** Provide preliminary table and map display of current (baseline) conditions to interested parties.*

D. Develop Best Management Practices

** Assess the capacity of each ditch reach for improvement and need for stabilization or rehabilitation.*

** Identify each reaches' potential and desired future conditions with input from LPID, irrigators, community and other interested parties.*

** Identify administrative, management, and physical improvements required to meet desired future conditions and BMP's.*

** Identify viable projects and funding for those projects to reach the desired condition*

** Determine, with LPID, community and stakeholder input, the value of each project and establish priorities for completion.*

** Propose improvements with associated cost estimates.*

E. Management Plan

** Prepare an irrigation system management plan, including recommended Best Management Practices for achieving desired future conditions, and ditch maintainance.*

b. When the planning study could begin.

The assessment can begin as soon as funds become available to contract with a consultant.

2. Provide a description of the relevant professional qualifications and/or experience of the person(s) that will play key roles in performing the planning study. If the personnel have not been decided upon, include a description of the professional qualifications and/or experience of the person(s) you anticipate will play key roles in performing the planning study.

The Consultant will be selected through a Request for Qualifications that will insure a significant degree of technical and engineering competence.

Competencies

Professionalism: The ability to coordinate with multiple agencies, water users, and other interested entities.

Communication: Highly developed communication skills (spoken, written, public speaking and presentational), including the ability to present sensitive issues/positions. The ability to listen to stakeholder and community input is necessary.

Teamwork: Ability to work collaboratively to achieve organizational goals in a multiphase, multi-partnership situation with sensitivity and respect for diversity of social, financial, and environmental issues. Planning and organizing: Ability to identify priorities, work to tight deadlines, handle concurrent projects, and coordinate the work of others.

Qualifications

Education: A graduate in Agricultural Engineering, Environmental Science or other comparative university degree with a relevant combination of academic and professional qualifications.

Work experience: At least 5 years of relevant agricultural water management experience in assessments and/or implemented projects. Priority will be given to qualified applicants that have implemented similar projects in the area.

Other skills: The qualified consultant will be familiar with federal and state water quality laws, understand water resource laws, and know about permitting issues that will need to be addressed prior to implementation. The consultant will have knowledge of, and access to, data that can be downloaded from agency partners. Significant GIS work is needed, so the qualified consultant will have working knowledge of gps systems and digital cartography. Because this position is located in eastern Oregon, the applicant must be able to work outside in harsh weather conditions including heat and cold.

3. What local, state or federal project permitting requirements/issues do you anticipate in order for the planning study to be conducted?

None.

4. Are permits/governmental approvals required for the planning study? If yes, indicate whether you have obtained the necessary permits/governmental approval. If you have not obtained the necessary permits/governmental approval, describe the steps you have taken to obtain them.

No.

5. Describe your goal (which must be based on evaluating the feasibility of developing a water conservation, reuse or storage project) and how this study helps to achieve the goal.

The goal of this project is to develop a long-term plan that will be used to cooperatively improve agricultural/irrigation water management. Water conservation will be a result of the minimization of water through ditch loss, an increase in water storage, on-farm irrigation efficiency improvements, and a host of potential Best Management Practices (BMP).

This application is for the study of downstream water conservation through improved irrigation efficiencies. Although it sites a previous BOR study to increase the storage capacity at Thief Valley Reservoir, an additional study of the Dam is not being requested.

6. Describe the technical aspects of the planning study and why your approaches are appropriate for accomplishing the goal of the planning study.

This project is complex technically, administratively, and socially. It is the first time that this area has been interested in this kind of whole system approach. Historically, any modifications to the system were done on a site-by-site basis, and often impacted other water users. LPID is committed to

this project and will be a firm partner, as well as a water user liaison, as this project progresses and the next phases of implementation begin.

The technical aspects of this project will not only involve the analysis of the current irrigation system, including storage, conveyance and distribution, but will also include environmental considerations such as agricultural produced wetlands, effects to Powder River, and impacts to fish and wildlife. Data collection must support this and provide the goal of system improvement and water conservation.

Data collection will include the following key elements:

A. Keating Valley Irrigation System Inventory

** Irrigation System Description.*

This will include existing storage structures such as Thief Valley Reservoir, existing surface and groundwater availability, and a conveyance (ditch or pipeline) system components. Water application methods to individual fields will be collected and analyzed for potential efficiency improvement projects.

B. Existing Irrigation Ditch System Conditions

** Analyze and map existing ditches, headgates and other structures*

** Document physical barriers in the ditch system (bridges, culverts, etc)*

** Identify and evaluate impact of irrigation conveyance system (irrigation outfalls, diversion structures, etc)*

C. General Water Characteristics

** Analysis, mapping and documentation of hydraulic function within the ditch system and Powder River as well as a review of water quality and quantity impacts, and potential causes of any impairments*

** Evaluate diversion structure condition, fish passage, fish screening, and local diversion effects*

D. Agricultural Wetland Delineation

** Identify and delineate agriculturally induced wetlands adjacent to the ditch systems.*

** Analyze and map water sources (ditch leakage, springs, etc.) Methodology must satisfy protocol of the U.S Army Corps of Engineers and the Oregon Department of State Lands*

E. Habitat Evaluation

** Identify threatened and/or endangered fish and wildlife within the system*

** Determine what impacts existing operations and future water conservation will have on fish and wildlife.*

Recommended Irrigation System Assessment Methodology

Historic and current data may be found to be incomplete or inaccessible. Where historic and current data is insufficient to establish adequate baseline information, selected methodologies for supplemental data collection must be based on objective, quantifiable criteria that are readily observable and measurable in the field and that will produce consistent, reproducible data acceptable to the industry. Data collection and analysis will be performed in a GIS based format. Information to be determined by GIS field analysis and existing data (topographic, aerial photos, etc)

Data collection and irrigation system characterization should be focused and limited to those efforts that support the goals of this project. Data collection shall be conducted with respect for public and private property rights, and be conducted in a professional manner acting as an agent for LPID.

7. Describe the level of involvement, interest and/or commitment of different entities associated with the planning study (attach letters of support). Describe how these entities will benefit or be impacted by the planning study.

Lower Powder Irrigation District: LPID will act as the project manager for the assessment. They will work closely with the Consultant and be a liaison between the Consultant and the water users. The impact of this assessment to LPID will be significant. Not only will it allow them to modernize the current system, but it will reduce their overall management and operation costs.

Oregon Water Resources Department: OWRD is a primary stakeholder in this application. They will benefit from the assessment by knowing the location of the ditches, headgates and other structures.

Oregon Department of Agriculture: ODA is important to this group as water quality advisory and coordination of BMP to comply with water quality laws. Some of the worst water quality in the state is at the Powder River and Hwy 86 junction.

Oregon Department of Fish and Wildlife: ODFW will be consulted for fish passage, screening and habitat needs.

Bureau of Reclamation: Thief Valley Reservoir is a BOR project. Their interest has also extended into the Valley as the funding source of a measuring device grant.

US Fish and Wildlife Service: USFWS will be consulted for fish passage, screening and habitat needs.

Section B. Unique Criteria

Instructions: Answer the set of questions below that applies to the type of planning study that this grant will fund.

Water Conservation or **Reuse**

1. Water Conservation or Reuse projects that may result from this planning study are requested to be included in the Water Resources Department's "Inventory of Potential Conservation Opportunities". Though you may have already submitted this information earlier in the year through a separate survey, we ask that all applicants complete the information on the form provided at the end of this application.
 I have filled out the application or I have not filled out the application.

2. Describe the water supply need(s) that the project associated with the planning study is intended to meet. Applicant should reference supporting documentation that would be available upon request.

Water supplied by the Lower Powder Irrigation District irrigates 8,085 acres. Due to ditch loss, and unmeasured diversions, the downstream users only receive a portion of their allocated water rights. During drought years, the system dries up early in the production season. Record of total volume used and total number of irrigation acres is available from the Lower Powder Irrigation District.

3. Explain how the associated project will mitigate the need to develop new water supplies and/or use water more efficiently. Reference documentation and/or examples of the success of similar or comparable water conservation/reuse projects that would be available upon request.

By reducing water needs and increasing storage at existing sites, the development of new water supplies should not be necessary. Potential associated projects include installing a six-foot air bladder onto the spillway at Thief Valley Dam, creating a surge pond at the Dolby Dam, lining or piping several miles of open ditches, and conversion from flood to sprinkle irrigation.

In 2001, BOR provided an Appraisal Report (TVD-RVI-APPRAISAL-2001-1) regarding a reservoir volume increase at Thief Valley Dam. It concluded that, "A 6.3-foot-high rubber dam installed in the spillway at Thief Valley Dam is a viable option to increase the reservoir storage space by 4,600 acre-feet". This volume of water will allow irrigation to continue an additional 30 days on an average water year.

4. Explain how the project associated with the planning study will meet the water supply need(s), and indicate what percentage of that need will be met. (For example: If your water supply need is 20,000 acre-feet of additional water and the project will supply 10,000 additional acre-feet, 50% of your need will be met).

The goal of the project is to provide 2.5 - 3.0 acre feet of water per acre, for a total of 24,255 acre-feet to irrigate 8,085 acres. Currently, Thief Valley Reservoir impounds approximately 13,000 acre-feet. The additional storage supplied by the proposed spillway structure is 4,600 acre-feet, or 40% of additional water needed. Improvement in on-farm irrigation efficiencies will also increase the amount of water available for irrigation.

Specifically:

Irrigation Water Management: The practice of controlling the volume, frequency, and application rate of water to conserve irrigation water, reduce soil erosion, and reduce

agricultural runoff. Irrigation water management may include delivery system rehabilitation (ditch liner, pipe), conversion from flood to sprinkle systems, and/or timing and duration of application. Currently there is very little sprinkle irrigation in the study area. Flood irrigation is only 25% to 60% efficient, whereas sprinkle irrigation is 60% to 85% efficient. Conversion of a few hundred acres of irrigated land will result in a drastic reduction in water needed to produce healthy crops.

Additional storage at Thief Valley Reservoir: A 6.3 -foot-high rubber dam installed in the spillway at Thief Valley Dam is a viable option to increase the reservoir storage space by 4,600 acre-feet. The additional water would extend current irrigation by nearly 30-days. Compounded with an increase in irrigation efficiency, additional storage would not only supply irrigation water, but also leave more water in the river for fish and aquatic life year-round.

5. Provide data and information on the associated project and the project's sources of water supply:
- The location of the associated project. (Include the basin, county, township, range and section.)

All of the associated projects will be in Baker County in the Powder Basin, HUC 17050203, and occur between the Thief Valley Dam (45.012883N, 117.780819W) and the junction of Highway 86 and Powder River (44.818536N, 117.468311W).

- The name(s) and river mile(s) of the source water and what they are tributary to, if applicable.

The source water is from Powder River. The river miles associated with the historical and current water distribution system are from RM 69 to RM 37. Powder River is a tributary to the Snake River. The upper 11.7 miles from the Dolby Dam to Thief Valley Reservoir are a BLM 'Wild and Scenic' River.

- Environmental flow needs and water quality requirements of supply source water bodies and water bodies downstream of associated and/or affected return flows.

Beneficial Uses: Water contact recreation, Resident fish and aquatic life, Salmonid fish rearing, Salmonid fish spawning, and Anadromous fish passage (at Thief Valley Dam). (ODEQ 2004/2006 Integrated Report)

303(d) listed parameters for RM 0-69: Fecal coliform, temperature, and E.coli

DEQ Laboratory and USBR routinely monitor the Powder River at Highway 86. High levels of total phosphates, fecal coliform, and biochemical oxygen demand impact water quality at this monitoring site. The intensity and frequency of the impacts are much greater than at a monitoring site in Baker Valley. Moderately high levels of total solids were detected in conjunction with these impacts, indicating fine sediments and other suspended materials in the water. Eutrophication is active towards the end of summer when flow is low and water temperature is high. On the average, Oregon Water Quality Index scores at this site were very poor in the summer and poor in the fall, winter, and spring. (OWQI Report, Water Years 1986-1995)

Removal of streamside vegetation, among other factors, influences high stream temperature, and via erosion increase sedimentation of streams.

Irrigation water diversions placed in Powder River deplete the amount of water flowing in channel. This escalates the potential for water temperature increase, reduces the amount of water available for fish and other aquatic life, and allows eutrophication.

A significant priority associated with this Assessment will be the evaluation of the need for and feasibility of using stored water to augment in-stream flows to conserve, maintain and enhance aquatic life, fish and other ecological and social values. Additional storage will be evaluated at Thief Valley Reservoir and Dolby Dam.

d. Reliance on return flows by downstream water right holders.

Downstream water right holders are not completely burdened by the reliance on return flow in Powder River. Many users in the Eagle and Pine Valleys have water rights from tributary streams rather than Powder River. At the conclusion of project(s) implementation, those who do have Powder River rights will experience not only more reliable flow throughout the year, but also an improvement in water quality.

VII. Project Planning Study Budget

Section A

Please provide an estimated line item budget for the project planning study. An example would include: labor, materials, equipment, contractual services and administrative costs.

Line Items <i>Note: Administrative costs may not exceed 10% of the total funding requested by the Department.</i>	Unit Number (e.g. # of hours)	Unit Cost (e.g. hourly rate)	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Consultant	405 hours	\$185.00	\$5,000	\$35,000	\$40,000	\$80,000
Administrative Costs	Job	\$5,000		\$2,500	\$2,500	\$5,000
Total for Section A			\$5,000	\$37,500	\$42,500	\$85,000
Percentage for Section A			6	44%	50%	100%

Section B

If Grant amount requested is \$50,000 or greater, you **MUST** complete Section B. Elements (key tasks) in Section B should be the same as the elements (key tasks) in Section VI (Project Planning Study Schedule).

Project Planning Study Element (Key Tasks)	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Total for Section B				

Totals in Section B must match the totals in Section A

Request to be added to the Oregon Water Resources Department's
Inventory of Potential Conservation Opportunities

The purpose of this inventory is to catalogue potential conservation projects that water users themselves have identified but not yet pursued because of financial, institutional, or other barriers. For the purpose of this application, water storage other than above-ground are included as conservation opportunities and are most likely capital conservation projects.

As a water provider or user, you know your water demands and water conservation opportunities better than anyone. We would appreciate your assistance with this important data collection effort by completing this survey. Your participation will help provide the building blocks we need to begin to identify and achieve potential future water supplies. Please answer the questions as completely as possible, to the best of your ability. We appreciate your help with this important effort.

This inventory of already-identified, potential conservation projects includes both capital and programmatic projects. Capital projects are defined as one-time, large investments resulting in water savings. Examples include reclaimed water plants, reservoir covering, transmission line upgrades reducing leaks, or industrial engineering modifications to re-use process water. Programmatic projects are defined as ongoing investments resulting in water savings. Examples include facilitating upgrades to more efficient water using devices (e.g., distributing free showerheads, toilet rebates) and distribution system leak detection programs. The conservation inventory is primarily intended to include “planned” projects rather than projects that are currently being implemented. However, currently active programmatic projects may be listed if they will continue or expand in future years. The inventory of projects submitted will be compiled by county or basin.

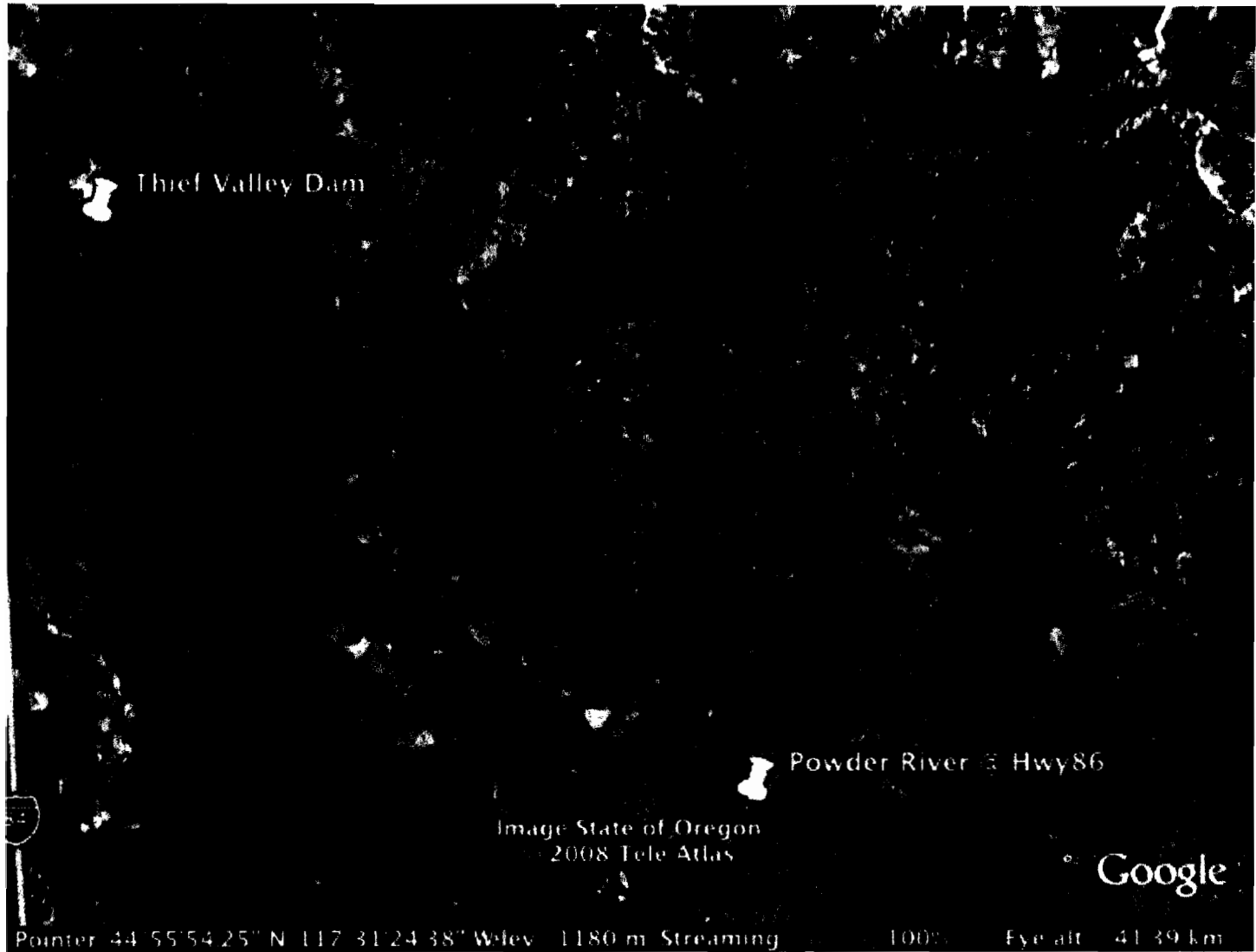
Examples are provided below.

	Example Capital Conservation Project	Example Programmatic Conservation Project
Project Description Provide brief sentence	Line 3 miles of unlined ditch.	Toilet rebate program for residential customers
Estimated Future Savings Provide brief sentence, including information regarding savings seasonality.	20 acre feet of water per year	If we spend our full budget each year, we estimate 50,000 gallons of water save per year
Seasonality Indicate what part of the year savings are generated (e.g. year-round; summer only; etc.).	Peak (irrigation) season savings.	Savings should occur throughout the year.
Estimated Future Costs Provide brief sentence.	\$500,000 total project costs.	\$40,000 a year.
Implementation Schedule Provide brief sentence.	Not set. Have conducted cost and savings estimate, but still seeking funding.	We started the program in 2005 and plan to implement until 2015.
Project Funded? Designate either “yes”, “no”, or provide brief sentence if necessary	No. Pursuing grant funding.	Yes. IN our CIP through the next 5 years.

To add a project to the inventory of potential conservation opportunities, please provide the following information for each conservation project.

This is a <input checked="" type="checkbox"/> Capital Conservation Project <input type="checkbox"/> Programmatic Conservation Project	
Project #/Name	Keating Valley Water Conservation Assessment
Project Description	Assess and evaluate the existing irrigation system and provide Best Mgt. Practices
Estimated Future Savings	40% water savings when on-farm irrigation efficiency is implemented
Seasonality	irrigation season
Estimated Future Costs	\$3M
Implementation Schedule	2010 - 2020
What are the barriers to implementation, e.g. funding?	funding, permitting, social
This is a <input type="checkbox"/> Capital Conservation Project <input type="checkbox"/> Programmatic Conservation Project	
Project #/Name	
Project Description	
Estimated Future Savings	
Seasonality	
Estimated Future Costs	
Implementation Schedule	
What are the barriers to implementation, e.g. funding?	

- Include this form with your application -



Thief Valley Dam

Powder River & Hwy86

Image State of Oregon
2008 Tele Atlas

Google

Pointer 44 55 54.25" N 117 31 24.38" W elev 1180 m Streaming 100% Eye alt 41.39 km

BUREAU OF RECLAMATION
 Technical Service Center, Denver, Colorado
 and the
 Snake River Area Office

Technical Memorandum No. TVD-RVI-APPRAISAL-2001-1

APPRAISAL STUDY

**RESERVOIR VOLUME INCREASE
 AT
 THIEF VALLEY DAM, OREGON**

**Baker Project, Oregon
 December 19, 2001**

The Technical Service Center (TSC) and the Snake River Area Office (SRAO) of the Bureau of Reclamation prepared this Appraisal Report to document studies to evaluate increasing the normal operating reservoir elevation at Thief Valley Reservoir using a rubber dam in the spillway.

TSC Team Leader: *Larry K. Muss* 12/19/2001
Date
 Larry K. Muss

We have reviewed this Appraisal Report and believe it to be in accordance with the standards of the profession and Reclamation policy:

TSC Peer Review: *Gregg A. Scott* 12-19-2001
Date
 Gregg A. Scott

SRAO Review: *Joseph M. Spinazola* 12/19/2001
Date
 Joseph Spinazola

Revisions:

Date	Description	Prepared	Checked	Peer Review	Team Leader



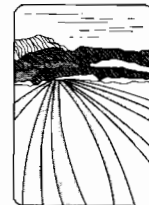
Oregon

Theodore R. Kulongoski, Governor

Celebrating 75 years!

Department of Agriculture

635 Capitol Street NE
Salem, OR 97301-2532



August 26, 2008

Oregon Water Resources Department
Attn: Bob Rice
725 Summer St., NE, Suite A
Salem, OR 97301

Re: Keating Valley Water Conservation Assessment

Dear Sir,

As the Water Quality Specialist for eastern Oregon, I support Lower Powder Irrigation District's (LPID) application for the Keating Valley Water Quality Assessment. It is representative of LPID's progressive actions towards water conservation.

Currently, the Powder River at the downstream end of the valley is severely water quality limited. It is hoped that by improving irrigation efficiencies, implementing BMPs, and educating water users on water issues, the water quality will improve.

Thank you for your consideration of the application.

Sincerely,

Doni Clair
ODA Water Quality Specialist, Eastern Region
3000 Broadway
Baker City, OR 97814
541-523-4924
dclair@oda.state.or.us

From: Nancy_Lull@blm.gov
Subject: **Letter of support**
Date: August 28, 2008 4:24:47 PM PDT
To: dclair@oda.state.or.us

Doni Clair
Water Quality Specialist
Oregon Department of Agriculture
Natural Resources Division
3000 Broadway
Baker City, Oregon
Phone - 523-4294
dclair@oda.state.or.us

Dear Doni,

Thank you for including the Bureau of Land Management in your stakeholders field review yesterday on the Keating Valley Water Conservation Assessment for the Lower Powder Irrigation District. Kevin McCoy of my staff informed me of the first phase of your project as well as the general discussions you had on possible directions the project might go in the future.

As you are well aware, the BLM manages the Powder Wild and Scenic River which begins at Thief Valley dam and continues downstream to the 203 Highway bridge. The administrative boundary of Wild and Scenic river encompasses the beginning of the irrigation system of your project area which will fall under the regulations associated with this special designation. The BLM appreciates and looks forward to being involved with your project to ensure the protection of the resources of the area as well as assisting with your endeavors. Kevin McCoy will be your primary contact for information regarding the BLM lands and Wild and Scenic River regulations of this area.

As the manager for the Baker Field Office, I fully support your desire to develop a baseline assessment of the system condition. Please consider this email as our official letter of support for the development or your assessment plan.

Sincerely,

Nancy K. Lull
BLM - Baker Field Office Manager

OREGON WATER SUPPLY and CONSERVATION INITIATIVE



STATEWIDE WATER DEMAND FORECAST and INVENTORY of POTENTIAL CONSERVATION OPPORTUNITIES SURVEY

The Oregon Water Supply and Conservation Initiative (OWSCI) represents a significant data-gathering effort that will help the State begin to develop a long-term water supply strategy. OWSCI has five components that: (1) assess water demands statewide, (2) identify potential conservation opportunities, (3) inventory potential water storage sites, (4) provide grant funding to communities engaged in long-term water supply planning, and (5) conduct basin-yield analysis. OWSCI is a project of the Oregon Water Resources Department. For more details, visit: www.wrd.state.or.us/OWRD/LAW/owsci.shtml.

This survey focuses on the first two components and is designed to gather information that will help the State develop two web-based tools for county planners and other water supply planners in the community. The first component is a demand forecasting tool that will estimate water demands through 2025 and 2050 at the county or basin level. Users will be able to construct different demand scenarios by modifying assumptions to the model input such as population growth rate, irrigated acreage, and level of conservation. The second component is an inventory that will catalogue potential conservation projects that water users themselves have identified but not yet pursued because of financial, institutional, or other barriers.

As a water provider or user, you know your water demands and water conservation opportunities better than anyone. We would appreciate your assistance with this important data collection effort by completing this survey. Your participation will help provide the building blocks we need to begin to identify our future water demands, our potential future water supplies, and the efforts that will be required to meet those future needs. Please answer the questions as completely as possible, to the best of your ability. We appreciate your help with this important effort.

Please return the completed survey by **March 31, 2008** to the address at the end of the survey. The survey can also be completed online at: www.wrd.state.or.us/OWRD/LAW/owsci.shtml.

ABOUT YOU

PLEASE PRINT CLEARLY

Name: Walt Jury Title: Lower Powder Irrig. Dist - President
 Affiliation: Lower Powder Irrigation Dist.
 Email or mailing address: 44238 Jury Rd, Baker City, OR 97814
 Phone: 541-518-6747 or 541-523-6747

Check the category that applies:

(This survey is focused on Municipal and Agricultural water users. We will be contacting other types of water users, e.g. industrial, hydropower and self-supplied, later in the process.)

- Municipal Water Supplier Agricultural Use
 Other (please specify) _____

1a. Please identify any qualifiers or clarifying information related to the data in the table on the previous page.

1b. Please Indicate what kinds of accounts are included in the single-family sales listed above:

- Detached Attached Single Family Duplex Triplex Other (specify) _____

1c. What is the population of your retail service area? _____

1d. How much population growth do you anticipate in your service area in the next 20 years?

- less than 5% less than 10% 11-50% 51-100% >100%

2. Agricultural Water Use

The table below is to obtain use data for agricultural water uses. It should be completed by individual irrigators or, for irrigators within an existing irrigation district, by the irrigation district manager for the entire irrigation district.

Please provide monthly and total yearly numbers for:

- 1) total irrigated acres
- 2) type of crop(s) irrigated
- 3) maximum instantaneous pumping rate in cfs or gpm
- 4) total volume of water used for each of the last two years in gallons, million gallons, or acre-feet, as outlined in the table below. If monthly amounts are not available, please provide annual totals. For the non-irrigation season, please show as N/A or leave blank.

Month	2006				2007			
	Total Irrigated Acres	Primary Crop(s) Irrigated (Indicate %)	Maximum Instantaneous Pumping rate	Total Volume of Water Used	Total Irrigated Acres	Primary Crop(s) Irrigated (Indicate %)	Maximum Instantaneous Pumping rate	Total Volume of Water Used
	Units: acres	Units: percent	Indicate Units: (cfs or gpm)	Units: acre-feet	Units: acres	Units: percent	Indicate Units: (cfs or gpm)	Units: acre-feet
Jan	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0
Apr	8085		125	2905	8085		50	884
May	8085		125	9405	8085		90	3819
Jun	8085		125	8505	8085		75	2213
Jul	8085		125	8795	8085		125	7136
Aug	8085		125	9350	8085		0	33
Sep	8085		125	5779	8085		0	261
Oct	0	0	0	0	0		0	0
Nov	0	0	0	0	0		0	0
Dec	0	0	0	0	0		0	0
Annual Totals	N/A	N/A	N/A	44739	N/A	N/A	N/A	14346

(Continued)

3. Capital Conservation Projects

(Space is provided for up to 4 projects; please copy in order to submit information on additional projects.)

Project # <u>1</u> / Name	Keating Valley Irrigation Systems Assessment
Project Description	Study of existing system to develop feasible irrigation
Estimated Future Savings	water conservation with a future savings
Seasonality	April - Sept (irrigation season)
Estimated Future Costs	\$ 5 M
Implementation Schedule	to begin after assessment - approx. 2010
What are the barriers to implementation, e.g. funding?	funding
Project # <u>2</u> / Name	Dolby Dam Replacement
Project Description	Replace an old dam for water saving + fish passage
Estimated Future Savings	This will provide a better system for water control
Seasonality	Year-round
Estimated Future Costs	\$ 3 M
Implementation Schedule	2010
What are the barriers to implementation, e.g. funding?	funding; environmental regulations
Project # <u>3</u> / Name	Thief Valley Dam Improvement
Project Description	Engineer + implement an air bladder on dam to
Estimated Future Savings	increase capacity - future savings will be significant
Seasonality	Run-off through irrigation season
Estimated Future Costs	\$ 5 M
Implementation Schedule	2011
What are the barriers to implementation, e.g. funding?	funding; environmental regulations
Project # <u> </u> / Name	
Project Description	
Estimated Future Savings	
Seasonality	
Estimated Future Costs	
Implementation Schedule	
What are the barriers to implementation, e.g. funding?	

(Continued)

OTHER INFORMATION

5. If you have submitted a Water Management and Conservation Plan (WMCP) since 2000, is the conservation information in that WMCP still accurate? Yes No
6. Please provide any additional information or comments that you feel may be helpful in preparing the water demand forecast and inventory of conservation opportunities.

Water supply limitations, both structural and non-structural, affect all agricultural producers and recreationists in this area. Because of its location, Heating Valley is extremely sensitive to variations in the weather and water conditions. Run off is highly variable and summer flows are often low, and in drought years, non-existent. While the area makes considerable use of waters stored in Thief Valley Reservoir, capacity limitations curb the use of supplemental water, often ending irrigation significantly short of the end of the growing season.