OREGON WATER RESOURCE DEPARTMENT
WATER CONSERVATON, REUSE AND STORAGE
FEASIBILTY STUDY GRANT PROGRAM

I. Grant Information

Study Name: *Upper Klamath Basin Irrigation Conservation Assessment*

Type of Feasibility Study: ☒ Water Conservation ☐ Reuse ☐ Above-Ground Storage
☐ Storage Other Than Above-Ground [Including Aquifer Storage and Recovery (ASR)]

Program Funding Dollars Requested: $ $58,000 Total Cost of Feasibility Study: $ $116,000
Note: Request may not exceed $500,000

II. Applicant Information

Applicant Name: *Trout Unlimited*		**Co-Applicant Name: *Klamath Basin Rangeland Trust***	
Address:	*4221 Hollis Street*	Address:	*700 Main St, Suite 201A*
	Emeryville, CA 94608		*Klamath Falls, OR 97601*
Phone:	*(510) 528-4772*	Phone:	*541-273-2189*
Fax:		Fax:	
Email:	*bjohnson@tu.org*	Email:	*nell@kbrt.org*

Principle Contact: *Chrysten Lambert*	
Address:	*633 Iowa St*
	Ashland, OR 97520
Phone:	*541-973-4431*
Fax:	
Email:	*clambert@tu.org*

Certification:

I certify that this application is a true and accurate representation of the proposed work for a project feasibility 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, have read and agree to all conditions within the sample grant agreement and are prepared to conduct the feasibility study if awarded.

Applicant Signature: _____ Date: 7-29-2015

Print Name: *Chrysten Lambert* Title: *Director Oregon Water Project*

III. Feasibility Study Summary

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

This study will evaluate the potential water savings and technical feasibilty of piping two large, unlined irrigation ditches in the Upper Klamath Basin in order to conserve water. The conserved water will be used to improve instream flows in this ecologically critical area to support the recovery of multiple ESA listed species, and to improve irrigation efficiency and effectiveness on the ranches served by these irrigation systems. The project will result in a feasibilty determination, prefered option for the piping design, and estimated cost for project implementation. Preliminary surveys suggest that 12cfs of water could be conserved through completion of the proposed projects.

IV. Grant Specifics

Section A. Common Criteria

Instructions: Please answer all questions contained in this section. It is anticipated that completed applications will result in additional pages.

1. Describe your goal and how this study helps to achieve the goal.

   The goal of this project is to reduce the transmission loss of irrigation water in the Upper Sprague River basin that occurs in two long, unlined ditch systems (the North Fork Ditch and the Campell Reservoir outflow ditch). Reduction of ditch loss in these locations would allow for increased instream flows by reducing the volume of water diverted, and allow for improved irrigation reliability on the irrigated lands. Increasing instream flows and the related water quality improvements that occur from improved flows are critical actions for recovering ESA listed and other sensitive aquatic species in the upper Klamath Basin (including bull trout, Lost River and shortnose suckers, and redband trout). The landowners served by these irrigation ditches, in partnership with Trout Unlimited, are interested in assessing

   (1)the feasbility of piping the ditches,

   (2) the volume of water that could be conserved,

   (3) the cost of completing the project(s),

   (4) the opportunity to tie the piping into on-farm irrigation efficiency projects funded through NRCS.

   If the project is feasible and implemented, the landowners would like to enroll the projects into the Allocation of Conserved Water Program, and would plan to leave a minimum of 50% and a maximum of 75% of the conserved water instream. For the North Fork Ditch, this instream water would be left in the North Fork Sprague River from the current Point of Diversion (river mile 8.5) to the confluence with the Williamson River. For the Campbell Reservoir outflow ditch, conserved water would reduce the amount of water needed to store in the reservoir and the water would left in Deming Creek, a tributary to the South Fork Sprague River.

2. Describe the water supply need(s) that the proposed project addresses. Identify any critical local, regional, or statewide water supply needs that implementation of the project associated with the feasibility study will address. **Responses should rely upon solid water availability and needs data/analysis.** For examples of water supply needs see "Criteria and Evaluation Guidance Document."

   The Klamath Basin water resources, and particularly the Upper Klamath Lake watershed is highly over-appropriated. The completion of the adjudication in 2013, which awarded the Klamath Tribes substantial instream water rights to fulfull Tribal Treaty obligations, has further exacerbated this over-allocation, resulting in a great need to increase water conservation and identify new ways to reduce out of stream water use while sustaining the local agricultural economy. Under these conditions, calls for irrigation water to fulfill the instream flows are now an annual occurance which has created a substantial need to better conserve irrigaton water, and to deliver and apply the water more efficiently.

   In an attempt to address this over-allocation, a historic water settlement was reached in 2013 between the Klamath Tribes and the "off-project" irrigators of the Upper Klamath Lake watershed identifying a number of strategies to equitably share water and other natural resources between the competing demands of native fish recovery, tribal treaty rights, and irrigation. This settlement, known as the Upper Klamath Basin Comprehensive Agreement (UKBCA), requires the irrigators to reduce annual water use by 30,000 acre-feet and to maintain certain Specified Instream Flows (SIFs) which vary through the course of the irrigation season depending on the water year type. The project proposed here is intended to help fulfill the need for 30,000 acre-feet of additional instream flow and also will help to leave more water instream during key parts of the irrigation season to meet the SIFs thereby reducing calls of irrigation water by the Klamath Tribes to meet their instream needs.

   The proposed projects are located in the Upper Sprague River, the headwaters of the Klamath Basin, so the conserved water would benefit all of the downstream water users. The magnitude of conserved water that could

potentially be derived is of particular interest for the community since these projects could result in substantial additional instream flows while still meeting the irrigation needs of the waterusers.

3. Explain how the proposed project 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 percent of your need will be met).

This project proposes to pipe two major unlined irrigation ditches that total more than 8 miles in length, traversing rocky soils, a significant distance from natural streams. As a result of these conditions, the water lost from the ditches is thought to be significant in scale (initial surveys indicate a loss of approximately 10% per mile), and the length of time for that lost water to reach a surface water body is generally greater than the irrigation season. Piping of these ditches should facilitate substantial reductions in diversion rates from the North Fork Sprague and Deming Creek/South Fork Sprague River.

One purpose of the assessment included in this proposal is to determine more accurately the volume of water that could be conserved by piping these irrigation ditches. Initial seepage surveys of the ditches have suggested losses of 20-30% occur in the reaches studied to date. Based on this initial analysis, the water savings potential is:

- North Fork Ditch POD to forks reach: 20-30% loss. Irrigation rights are for 77cfs, but actual diversion rates decline through the season to around 30cfs, so savings would likely range from 19cfs down to 7.5cfs.

- North Fork Ditch forks to Place of Use reach: 20% loss is estimated and would likely result in about 3cfs of additional savings

- Campbell Reservoir Outflow: Loss is estimated at 20-30% because the ditch length, type, soils and terrain are similar to the North Fork Ditch. Diversion rates average around 8cfs, so the potential savings is 2 cfs. Although this savings is more modest than what is expected from the NF Ditch, feasiblity assessment of the project is warranted due to the substantial ecologic value of additional flows in Deming Creek.

If the potential water savings is conservatively rounded to an average of 12cfs during the irrigation season, the annual water savings would be approximately 4350 acre-feet or 15% of the total water reduction required for the upper basin under the terms of the UKBCA.

In addition to the need to increase instream flow as a condition of the UKBCA, there are substantial ecologic needs for the addition flow as well. The water conservation projects proposed here would specifically address recovery actions identified by the U. S. Fish and Wildlife Service (USFWS) Recovery Plan for Lost River and shortnose suckers: 1) Conserve and restore riparian and wetland areas along the Wood, Williamson, and Sprague Rivers and Upper Klamath Lake to improve water quality, and 2) Reestablish stream and river connectivity. While shortnose and Lost River sucker are not known to use the North or South Fork Sprague Rivers, this project will play an important role in providing additional cold water inputs to the Sprague River during the summer period when water quality conditions are most limiting for cool water species. In addition to the water quantity and temperature improvements, reductions of flood irrigation due to on-farm irrigation improvements is also expected to reduce nutrient loading to the Sprague River and ultimately Upper Klamath Lake.

Federally threatened bull trout were once widespread in the Upper Klamath Basin but are now limited to eight small populations in isolated headwater streams, most of which are located in the Upper Sprague River. Factors limiting bull trout recovery include competition and hybridization with non-native brook trout (S. fontinalis), habitat fragmentation causing reduced genetic exchange, and extensive habitat degradation associated with agricultural land use such as flow reduction, lack of complex habitat, bank destabilization, and lack of floodplain connectivity.The projects proposed here would help to improve flow, fish passage, habitat connectivity and genetic mixing for these populations.

4. Describe the technical aspects of the feasibility study and why your approach is appropriate for accomplishing the specific study goals and objectives.

This feasibility study is designed to (1)determine the feasibility of piping the identified ditches, (2) assess which portions of the ditches should be piped to maximize the cost/benefit of the water conservation effort, and

(3) evaluate the feasibility and potential value of connecting the pipe into related on-farm efficiency projects that are currently under development (conversion from wild flood irrigation to gated pipe and/or sprinkler). This feasibility study is expected to result in determination of the preferred piping alternative for each ditch and a 60% engineering design for the preferred alternatives that will be adequate to fully scope, price, and permit the proposed projects. This phased approach to the technical review should result in the most cost-effective project design, and a clear determination of project feasibility so that implementation work can begin immediately at completion.

(1) The first phase of the project will evaluate the volume of water that can be conserved through piping of the open ditches by completing seepage surveys at 2-3 diversion rates. This phase will also include a survey of the ditches to fully determine substrate, construction access (these are very remote systems), grade and potential sediment loads into the pipe that might require cleanout access points, and the potential to deliver pressurized water to the places of use which would facilitate additional on-farm irrigation efficiency projects. Based on the outcome of this work the stakeholders can determine if cost relative to the volume water saved justifies the project.

(2) Once the piping feasibility is determined, the second phase of the study will be to identify the preferred piping alternative. Both irrigation systems will require relative large and expensive pipe, so if some reaches of the ditch system have substantially greater seepage loss than others, it may be preferable to only pipe a portion of the ditch system rather than incur the cost the piping the entire length. Other challenges related to construction access, grade of the terrain, sediment inputs, access easements, and related factors may also impact the preferred alternative.

(3) The final phase of the study will be to evaluate the cost/benefit of extending the pipe to tie into on-farm irrigation efficiency projects. Studies of these projects are expected to be funded through a pending NRCS Resource Conservation Partnership Proposal that will evaluate irrigation efficiency improvements on the lands served by these irrigation systems (which are currently all wild flood irrigated). In particular, the steep grade of the Campbell Reservoir outflow ditch likely makes it possible to deliver pressurized water to the place of use thereby facilitating a cost-effective sprinkler system.Improved irrigation efficiency on the farms would not only facilitate additional water conservation, but also improve crop yield and/or livestock carrying-capacity.

The steps identified in this feasibility study should fully address the project potential based on both the conservation value, the feasibility of the engineering, and fit with the goals and objectives of the landowners served. Given the strong commitment to the project expressed by the landowners and the results of the initial seepage surveys, there is a high likelihood of successful implementation. These projects are located on irrigation ditches in the same geographic area so cost savings can be realized by completing the feasibility studies jointly, and implementing jointly, but the project can be split into two phases if needed based on the funding available.

Finally, the opporunity to reduce transmission loss in the primary irrigation ditches, coupled with improved on-farm irrigation efficiency and effectiveness should provide additional opporunity for these properties to participate in related conservation projects. If the carry-capacity of these fields can be improved by these projects, it will make it economically feasible for these landowners to reduce grazing in critical riparian corridors to support ecologic restoration actions like levee removal and riparian wetland restoration.

5. Describe how the feasibility study will be performed. Include:
    a. General summary statement that describes the study progression.
    b. When the feasibility study will begin.
    c. Listing of key tasks to be accomplished with each task having:
        i. Title
        ii. Timeline for completion
        iii. Description of the activities to be performed in this key task
        iv. Description of the resources necessary for accomplishing the key task

Example:

(i) Streamflow measurement;

(ii) September-April;

(iii) Weekly streamflow measurements will be performed to gather hydrographic data for the hydrologic analysis to take place in May;

(iv) A technician will be hired to perform the streamflow measurements.

(Key tasks listed here are to be placed in Section VI. Project Feasibility Study Schedule for a quick reference "graphical" representation of the schedule.)

The first step in the feasibility study will be a preliminary engineering report to evaluate the potential water savings, on a reach by reach basis, and the best materials and design options for the pipe. The second phase will be to complete a cost-benefit analysis of piping the entire ditch systems or just a shorter reach, and finally the parties will assess the opportunity to tie into on-farm irrigation efficiency projects. Based on this analysis, a preferred alternative for each piping effort will be determined by the stakeholders, and 60% engineering designs will be developed so that the projects can be sent out for bid and accurate cost estimates completed. This work will begin in March 2016 and be completed in full by October 2016. If the projects are determined to be feasible, construction will be targeted for 2017.

A. Seepage Survey:

(i)Detailed seepage surveys of both ditches at 2-3 diversion rates to assess the volume of water that can be saved through piping and to determine which reaches of the ditches have the highest loss rates.

(ii) Surveys will be completed in April, June and August 2015, or as needed to capture variable flow conditions

(iii) Surveys will measure flow in the two irrigation ditches at multiple locations (5-10) to identify the amount and location of seepage losses. The ditches will also be walked in length at least once for visual inspection of loss.

(iv) A technician from TU or an engineering consulting firm will perform the task.

B. Piping Feasibility Assessment:

(i) The entire length of each ditch will be assessed and surveyed (topography, dimensions, substrate,etc) to evaluate the proper piping style, materials, and construction access.

(ii) May to June 2016

(iii) The length of the ditches will be walked and surveyed.

(iv) An engineering consultant with irrigation piping and construction experience will be hired to complete the work.

After completion of steps A and B a preliminiary engineering report will be completed by the contractor to summarize and report on the information obtained.

Development of Alternatives: TU, KBRT, and the landowners will develop potential piping design alternatives including reaches to pipe and pipe design based on the preliminary engineering report and identify a preferred alternative that maximizes water savings while minimizing cost.

C. Evaluate Connection to On-farm Efficiency Efforts

(i) Evaluate if additional piping or design elements would be necessary to connect into efforts at on-farm irrigation efficiency for the landowners served by both ditches.

(ii)September 2016

(iii) Evaluation of results from the related RCPP study of irrigation efficiency upgrades that will look at conversion from wild flood irrigation to gated pipe and/or sprinkler systems. This review may also consider soil moisture monitoring, and other tools.

(iv) A consulting engineer will review this potential and make recommendations in a summary report.

D. Completion of 60% engineering designs

(i) Complete general engineering designs for the preferred alternatives

(ii) October 2016

(iii) The 60% designs will be adequate to get detailed bids for materials, construction and final engineering designs so that total project cost can be fully determined.

(iv) The consulting engineer will complete the 60% designs. TU staff will secure multiple bids for both contractors and engineers to determine total cost.

6. Please provide the following data and information for the proposed project and the project's sources of water supply:

a. The location of the proposed project. Include the basin, county, township, range and section. Attach a **map** that identifies the project's implementation area to this application.

Klamath Basin, Klamath County

T35S R14E Sections 35 and 36, and T36S R14E Sections1, 2, 11, 12, 13, and 14

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

The North Fork Ditch is an existing diversion of up to 77cfs off the North Fork Sprague River which is a tributary to the Williamson River. The POD is located at River Mile 8.5.

The Campbell Reservoir utilizes water from Deming Creek and the surrounding basin catchment. Deming Creek is a tributarty to the South Fork Sprague River, which is a tribuatry to the Williamson River. The instream water would be left instream at the POD from Deming Creek to Campbell Reservoir which is located at River Mile 6 on Deming Creek, while the piping project would be completed on the outflow of the Reservoir.

c. Whether the project will be off-channel or on-channel (for above-ground storage only).

N/A

d. Water availability to meet project storage. For above-ground storage the Department typically evaluates availability using a 50 percent exceedance water availability analysis.

N/A

e. Proposed purposes and/or uses of conserved or stored water.

To augment instream flow.

f. Environmental flow needs and water quality requirements of supply source water bodies.

Environmental flow needs and water quality are not currently met on these systems. Placing the conserved water instream will help to improve environmental flow conditions and reduce temperature and water quality impairments that result from irrigation return flows and low flow conditions.

7. What local, state or federal project permitting requirements/issues/approvals do you anticipate in order for the feasibility study to be conducted? If approvals are required, indicate whether you have obtained them. If you have not obtained the necessary permits/governmental approval, describe the steps you have taken to obtain them. If no permits are needed, please provide explanation.

   No local, state, or federal project permits will be required to complete the feasbility study. All areas that need to be accessed to complete the assessments are public lands (US Forest Service), or owned by landowners that are participating in the project assessment as indicated by the attached support letters. The feasibility study does not include any earth moving activities that require permitting, nor instream work beyond instantaneous flow measurements.

8. Describe the level of involvement, interest and/or commitment of local entities associated with the feasibility study. Describe how the feasibility study and/or proposed project will benefit/impact these entities. Attach letters of support if available.

   This study will assess the potential conservation benefits of piping privately owned irrigation ditches. The landowners that are served by these ditches have all signed letters of support for this feasibilty study, which are attached. In addition, the North Fork Ditch diversion and upper reaches of the ditch are located within the Fremont-Winema National Forest (USFS), and a letter of support from the USFS is also attached. The USFS recently particpated in a related project with many of the same parties to install a fish screen on the North Fork Ditch diversion. This piping effort is a secondary phase of the multi-party effort to protect native fish, and improve water quality and quantity conditions in the North Fork Sprague River while sustaining viable agricultural operations.

   The Landowner Entity (LE) is the organziation charged with providing the 30,000 acre-feet of additional instream flow under the UKBCA. The LE represents the irrigators of the off-project area of the Klamath Basin that is party to the UKBCA. The LE has also provided a letter of support for this feasiblity study.

9. Identify when matching funds will be secured, from whom, and the dates of matching funds availability.

   Match funding for this project is anticipated from four sources:

Oregon Watershed Enhancement Board (OWEB): Pending. Funding through the Klamath Special Investment Partnership. Initial award recommendations will be made by the Klamath Partners in August 2015 ,and OWEB Board approval is expected in October 2015. The funds will be available for use from January-December 2016.

Natural Resource Conservation Service's Regional Conservation Partnership Program (NRCS RCPP): Pending. Decisions on the pre-proposals will be announced on September 4, 2015 and on full proposals December 2015. Funds will be available early in 2016 and will be at least 2 years in duration.

Turner Foundation: Secured. Available to spend through December 2016.

10. Provide a description of the relevant professional qualifications and/or experience of the person(s) that will play key roles in performing the feasibility 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 feasibility study.

    Trout Unlimited (TU) will be responsible for the project coordination, landowner/partner outreach and communication, and fiscal management of the project. TU anticipates contracting the survey and engineering work to Adkins Engineering, an engineering services company in Klamath Falls, but will also seek additional bids from other contractors.

Chrysten Lambert, Director Oregon Water Project, Trout Unlimited: Chrysten has developed and implemented flow restoration projects in the Klamath Basin with a variety of private, state, and federal partners for more than a decade. Chrysten previously worked for the Klamath Basin Rangeland Trust where she developed their Water Transaction Program which has successfully completed several strategic flow restoration

efforts, including the largest private landowner instream transfer in Oregon. Trout Unlimited has completed multiple large irrigation piping projects with landowners and irrigation districts across the west, with particular experience in Eastern Washington. Trout Unlimited's Washington Water Project staff will assist Chrysten with this project to provide piping expertise if it moves to construction.

Adkins Engineering: Principal Jeremy Morris and Project Engineer Dan Scalas will lead the survey and engineering design effort for the feasibility assessment. Both have previously managed and designed multiple irrigation conveyance and on-farm irrigation projects in the Klamath Basin and other regions. Jeremy and Dan are both registered professional engineers and Certified Water Right Examiners in Oregon.

Section B. Unique Criteria

Instructions: Address the set of items below that applies to the type of feasibility study that this grant will fund.

☒ Water Conservation or ☐ Reuse

1. Water Conservation or Reuse projects that are identified by the Department in a statewide water assessment and inventory receive a preference in the scoring process. Contact the Department's Grant Specialist to include your project on the inventory.
   Request form is attached to this application.

2. Explain how the associated project will either: (a) mitigate the need to develop new water supplies and/or (b) 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.

   Piping of unlined irrigation ditches is a commonly recognized and utilized tool to conserve irrigation water by reducing the volume of water lost to seepage and evapotranspiration during transmission through the irrigation ditch. The volume of water conserved through piping is dependent on many factors including substrate of the ditch, evaporative loss from the ditch, length of the ditch, what happens to seepage water lost from a ditch, etc. Since each project is highly dependent on the specific site characteristics, comparisons to other projects are not necessarily relevant and it is essential to perform feasibility studies like the one proposed here to determine the potential water savings and cost of each individual project. Given the results of initial seepage surveys, and general knowledge about the terrain and substrate of these ditches, it is more than likely that the piping will be an effective approach for conserving water at these locations.

   Assuming the projects are feasible and the water savings is confirmed to be of a similar scale to the initial estimates, the project partners plan to enroll the project into the Allocation of Conserved Water program. Enrollment in this program will assure that a portion (or all) of the conserved water will be protected instream for ecologic benefit.

   Examples of similar projects include multiple piping projects completed in the Deschutes Basin by other entities, for example the Central Oregon Irrigation District's Juniper Ridge Piping effort that restored 20cfs to the Deschutes River; the Swalley Irrigation District's Main Canal piping effort that conserved 28cfs of irrigation water.

3. Provide a description of: (a) Local, state and/or federal permitting requirements and issues posed by the **implementation** of the project associated with the feasibility study and (b) property ownership status within the project implementation area. If permitting or other approvals are not needed please indicate and provide an explanation.

   General:
   State and Federal removal-fill permits will not be required because the irrigation ditch is non-jurisdictional. The State Historic Preservation Office and The Klamath Tribes will be consulted to determine the need for archaeological surveys and/or monitors.

   North Fork Ditch:
   The North Fork Ditch traverses through lands owned by multiple private landowners, most of which are served with water from the irrigation ditch and have submitted letters of support and participation for this project (attached). Under Oregon Law, the irrigation ditch owners have the right to upgrade and maintain irrigation ditches through the remaining lands, but out reach to these landowners is planned during this project to assure friendly participation in the project.

The ditch starts on USFS lands in the Fremont-Winema National Forest. A fish screen was recently installed at the POD and the NEPA process for both the screen and proposed piping was completed at that time. No additional Special Use permits are required by the USFS since the construction will be completed within the existing easement of the ditch.

Campbell Reservoir Outflow:
The Campbell Reservoir outflow ditch is located entirely on private lands owned by the two the landowners that receive irrigation water from the ditch. Both landowners have submitted letters of support and participation (attached).

☐ Above-Ground Storage

Please answer the following three questions **BEFORE** proceeding:

Will the project divert more than 500 acre-feet of surface water annually?	☐ Yes	☐ No
Will the project impound surface water on a perennial stream?	☐ Yes	☐ No
Will the project divert water from a stream that supports sensitive, threatened or endangered species?	☐ Yes	☐ No

If you answered "Yes" to any of these questions, by signature on this application, you are committing to include the following required elements in your feasibility study.

Describe how you intend to address the required elements in your feasibility study:

a) Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows.

b) Comparative analyses of alternative means of supplying water, including but not limited to the costs and

benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives.

c) Analyses of environmental harm or impacts from the proposed storage project.

d) Evaluation of the need for and feasibility of using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.

Is the proposed storage project for municipal use?

☐ Yes ☐ No

If "Yes," then please describe how you intend to address the following required element in your feasibility study:

e) For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project's relationship to existing and planned water supply projects.

Proceed in addressing the following items:

1. Describe to what extent the project associated with the feasibility study includes provisions for using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life or other ecological values. Projects that include the above provisions receive preference in the scoring process.

2. Provide a review of: (a) Local, state and/or federal permitting requirements and issues posed by the **implementation** of the project associated with the feasibility study and (b) property ownership status within the project implementation area.

☐ Storage Other Than Above-Ground [Including Aquifer Storage and Recovery (ASR)]

Please answer the following three questions **BEFORE** proceeding:

Will the project divert more than 500 acre-feet of surface water annually?	☐ Yes	☐ No
Will the project impound surface water on a perennial stream?	☐ Yes	☐ No
Will the project divert water from a stream that supports sensitive, threatened or endangered species?	☐ Yes	☐ No

If you answered "Yes" to any of these questions, by signature on this application, you are committing to include the following required elements in your feasibility *study.*

Describe how you intend to address the required elements in your feasibility study:

a) Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows.

b) Comparative analyses of alternative means of supplying water, including but not limited to the costs and benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives.

c) Analyses of environmental harm or impacts from the proposed storage project.

d) Evaluation of the need for and feasibility of using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.

Is the proposed storage project for municipal use?

☐ Yes ☐ No

If "Yes," then please describe how you intend to address the following required element in your feasibility study:

e) For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project's relationship to existing and planned water supply projects.

Proceed in addressing the following items:

1. Underground storage projects that are identified by the Department in a statewide water assessment and inventory receive a preference in the scoring process. Contact the Department's Grant Specialist to include your project on the inventory.

2. Provide a review of: (a) Local, state and/or federal permitting requirements and issues posed by the **implementation** of the project associated with the feasibility study and (b) property ownership status within the project implementation area.

V. Match Funding Information

Applicants must demonstrate a minimum dollar-for-dollar match based on the total funding request. The match may include a) secured funding commitment from other sources, b) pending funding commitment from other sources, and/or c) the value of in-kind labor, equipment rental, and materials essential to the feasibility study. For secured funding, you must attach a letter of support from the match funding source that specifically mentions the dollar amount shown in the "Amount/Dollar Value" column. For pending resources, documentation showing a request for the matching funds must accompany the application.

In the "type" column below matching funds may include:	**In the "status" column below matching funds may have the following status:**
• **Cash** - Cash is direct expenditures made in support of the feasibility study by the applicant or partner*.	• **Secured** - Secured funding commitments from other sources.
• **In-Kind** - The value of in-kind labor, equipment rental and materials essential to the feasibility study provided by the applicant or partner.	• **Pending** - Pending commitments of funding from other sources. In such instances, Department funding will not be released prior to securing a commitment of the funds from other sources. Pending commitments of the funding must be secured within 12 months from the date of the award.

*"Partner" means a non-governmental or governmental person or entity that has committed funding, expertise, materials, labor, or other assistance to a proposed project planning study. OAR 690-600-0010.

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	**Type** (✓ **One)**	**Status** (✓ **One)**	**Amount/ Dollar Value**	**Date Match Funds Available** *(Month/Year)*
Turner Foundation	☒ cash ☐ in-kind	☒ secured ☐ pending	*$5,000*	*June 2015*
NRCS Regional Conservation Partnership Program	☒ cash ☐ in-kind	☐ secured ☒ pending	*$25,000*	*January 2016*
Oregon Watershed Enhancement Board	☒ cash ☐ in-kind	☐ secured ☒ pending	*$28,000*	*January 2016*
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		

VI. Feasibility Study Schedule

Estimated Study Duration: <u>March 1, 2016</u> to <u>November 1, 2016</u>

Place an "X" in the appropriate column to indicate when each Key Task of the project will take place.

	2015			2016				2017 & Beyond
Feasibility Study Key Tasks	**2nd Qtr**	**3rd Qtr**	**4th Qtr**	**1st Qtr**	**2nd Qtr**	**3rd Qtr**	**4th Qtr**	
(i) Seepage survey North Fork Ditch (at 3 diversion rates)					X	X		
(ii) Seepage survey Campbell Reservoir Outflow (at 3 diversion rates)					X	X		
(iii) Survey of North Fork Ditch (slope, topography, soils)					X			
(iv) Survey of Campbell Reservoir Outflow(slope, topography, soils)					X			
(v) Preliminary Engineering Report						X		
(vi) Coordination with OnFarm Project Potential							X	
(vii) 60% Engineering Design and Collection of Cost Bids							X	

- **Please Note**: Successful grantees must include all invoices and identify which key tasks are associated with each invoice when requesting financial reimbursement.

VII. Feasibility Study Budget

Section A

Please provide an estimated line item budget for the proposed feasibility study. Examples would include: labor, materials, equipment, contractual services and administrative costs.

Line Items	Number of Units* (e.g. # of Hours)	Unit Cost (e.g. hourly rate)	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Staff Salary/Benefits	*150*	*$72.00*		*$10,800*		*$10,800*
Contractual/Consulting	*Eng. Services*			*$40,260*	*$52,200*	*$92,460*
Equipment (must be approved)						
Supplies						
Other: Travel	*2000miles*	*$0.57*		*$1,140*		*$1,140*
Administrative Costs**				*$5,800*	*$5,800*	*$11,600*
Total for Section A				*$58,000*	*$58,000*	*$116,000*
Percentage for Section A				***50***	***50%***	***100%***

** Note: The "Unit" should be per "hour" or "day" – not per "project" or "contract."* *Units x Unit Costs = Total Cost*
*** Administrative Costs may not exceed 10 percent of the total funding requested from the Department*

Section B

If grant amount requested is $50,000 or greater, you MUST complete Section B. Key Tasks in Section B should be the same as the Key Tasks in Section VI (Feasibility Study Schedule).

Feasibility Study Key Tasks	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Seepage Surveys (Tasks i and ii from Section VI)		*$2,500*	*$6,500*	*$9,000*
Piping Feasibility Assessment and Prelim Engineering Report (Tasks iii, iv, and v from Section VI)		*$8,000*	*$22,500*	*$30,500*
OnFarm Irrigation Efficiency (Task vi from Section VI)		*$25,000*		*$25,000*
60% Engineering Design and Cost Bids (Task vii from Section VI)		*$22,500*	*$29,000*	*$51,500*
				E FORMTEXT
Total for Section B		*$58,000*	*$58,000*	*$116,000*

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.

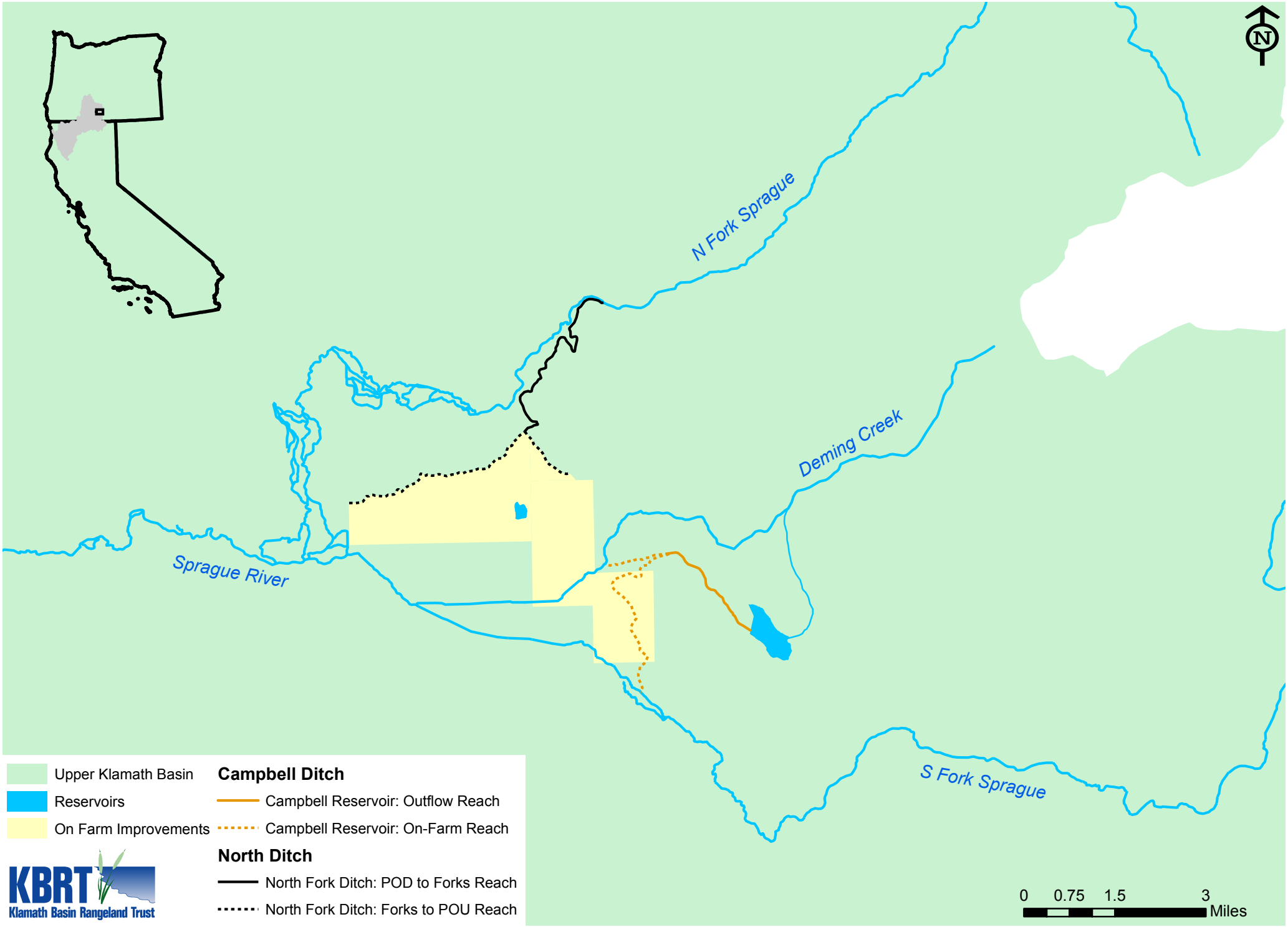
To add a project to the inventory of potential conservation opportunities, please provide the following information for each conservation project.

This is a ☒ Capital Conservation Project ☐ Programmatic Conservation Project	
Project #/Name	**North Fork Ditch Piping**
Project Description	Piping of the open North Fork Ditch, off the North Fork Sprague River to improve efficiency
Estimated Future Savings	5-20cfs during the irrigation season, depending on time of year and diversion rate
Seasonality	Irrigation season is March 1 to October 1, peak savings will occur in May to July, but some savings year round
Estimated Future Costs	$500,000 estimated project cost, engineering work required to determine cost though
Implementation Schedule	Desire to implement in summer/fall 2017
What are the barriers to implementation, e.g. funding?	Need to complete engineering design, cost estimates and secure project funding. Landowners are committed to inkind installation of the pipe and construction support. Match funding for project design phase is secured, but seeking OWRD match.

This is a ☒ Capital Conservation Project ☐ Programmatic Conservation Project	
Project #/Name	**Campbell Reservoir Outflow**
Project Description	Piping of the open ditch that delivers water from the Campbell Reservoir to the place of use for irrigation.
Estimated Future Savings	
Seasonality	Irrigation season is March 1 to October 1 and peak savings will occur in May to July
Estimated Future Costs	
Implementation Schedule	Desire to implement in summer/fall 2017
What are the barriers to implementation, e.g. funding?	Need to complete engineering design, cost estimates and secure project funding. Landowners are committed to inkind installation of the pipe and construction support. Match funding for project design phase is secured, but seeking OWRD match.

- Include this form with your application -

Upper Klamath Basin Irrigation Conservation Assessment



Letters of Support and Participation

1. North Fork Ditch Waterusers
    a. BK Ranch
    b. Obenchain Cattle Company
    c. Wilks Ranch OR, ltd

2. Campbell Outflow Ditch
    a. Deming Land and Cattle
    b. Newman Ranch

3. Upper Klamath Landowner Improvement District

RECEIVED 07/11/2015 11:34 5412730921 KBRT

July 6, 2015

Jon Unger, Grant Program Coordinator
Oregon Water Resources Department
775 Summer Street NE, Suite A
Salem, OR 97301

Dear Mr. Unger

I am writing to express my commitment to evaluating piping options and designs on the North Ditch irrigation canal. I have water rights off the North Fork Sprague River, and the water is conveyed to my ranch via the North Ditch. This ditch is four miles long, flows through rocky ground, and likely loses a significant proportion of flow along its length. I am supportive of the proposal being put forth by Trout Unlimited to fund project assessment and engineering designs, and I understand that if we move forward with implementation, the project will be enrolled in OWRD's Allocation of Conserved Water Program which will require a portion of the conserved water to be dedicated instream. We are considering opportunities to appropriate the remaining conserved water to other lands.

Sincerely,

Sprague River Irrigation Company Member

William R Lindsay
Agent for Vince Hill Signature
William R Lindsay Print Name
BK Ranch Ranch Name

July 6, 2015

Jon Unger, Grant Program Coordinator
Oregon Water Resources Department
775 Summer Street NE, Suite A
Salem, OR 97301

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Sincerely,

Sprague River Irrigation Company Member

Darrell Jacobs Signature
Darrell Jacobs Print Name
OBenchain Cattle co Ranch Name

July 6, 2015

Jon Unger, Grant Program Coordinator
Oregon Water Resources Department
775 Summer Street NE, Suite A
Salem, OR 97301

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Sincerely,

Sprague River Irrigation Company Member

Steve Hartzell _____ Signature

Steve Hartzell _____ Print Name

Wilks Ranch Or LTD _____ Ranch Name

July 10, 2015

Jon Unger, Grant Program Coordinator
Oregon Water Resources Department
775 Summer Street NE, Suite A
Salem, OR 97301

Dear Mr. Unger

I am writing to express my commitment to evaluating piping options and designs on the outflow ditch from Campbell Reservoir as well as opportunities to reduce seepage through the existing headwall of the reservoir. I have water rights off Campbell Reservoir which are conveyed by this system to my ranch.

The outflow ditch from the Campbell Reservoir is more than 4 miles long, flows through rocky ground, and likely loses a significant proportion of flow along its length. I am supportive of the proposal being put forth by Trout Unlimited to fund project assessment and engineering designs for piping of this ditch, and I understand that if we move forward with implementation, the project will be enrolled in OWRD's Allocation of Conserved Water Program which will require a portion of the conserved water to be dedicated instream.

In addition, there appears to be substantial seepage loss through the headwall (dam) of the Campbell Reservoir that is resulting in a loss of stored water on a year round basis. I believe that improvements to that headwall could improve the storage potential of the reservoir. I support Trout Unlimited's efforts to evaluate this potential as well.

Sincerely,

_____ Signature

Dan Kominek, Managing Partner Print Name

Deming Land and Cattle Ranch Name

July 10, 2015

Jon Unger, Grant Program Coordinator
Oregon Water Resources Department
775 Summer Street NE, Suite A
Salem, OR 97301

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Sincerely,

Kevin Newman _____ Signature

Kevin Newman _____ Print Name

Newman Ranch _____ Ranch Name

July 21, 2015
Chrysten Lambert
Director Oregon Water Project
Trout Unlimited
4221 Hollis Street
Emeryville, CA 94608

Dear Ms. Lambert:

The Upper Klamath Landowner Improvement District ("Landowner Entity") understands that Trout Unlimited is working with water users on the North Fork Sprague River and Deming Creek to evaluate options for piping two long, unlined irrigation ditches. The purpose of the potential piping projects is to conserve water in order to provide increased instream flows, as required under the Upper Klamath Basin Comprehensive Agreement, and to provide improved irrigation reliability for the ranching community in these areas.

The Landowner Entity is responsible for assisting the irrigation community with increasing instream flows by 30,000 acre-feet under the terms of the Upper Klamath Comprehensive Agreement (UKBCA), and therefore supports Trout Unlimited's feasibility study for piping of these ditches due to the potential to improve irrigation efficiency on these critical, headwater streams. Implementation of these projects would likely support the instream flow requirements of the UKBCA while sustaining the economic viability of the ranches served by these ditches.

Sincerely,

Randall Kizer
President
Upper Klamath Landowner Improvement District

Match Funding Documentation

1. Turner Foundation – Secured Match Funding of $5,000

   Total Funding Request: $30,000

   Document: Grant Agreement and Cover Letter

2. Oregon Watershed Enhancement Board SIP – Pending Match Funding of $28,000

   Total Funding Request: $28,000

   Document: Grant Program Summary and Project Proposal

3. NRCS Regional Conservation Partnership Program – Pending Match Funding of $25,000

   Total Funding Request: $6,197,000

   Document: RCPP Proposal

   Note: In addition to funding for the feasibility study proposed here, this proposal also includes implementation funding for the projects should the feasibility study be successful. The proposal also includes work outside the scope of the project proposed to OWRD. The $25,000 of match funding identified is the budget specifically allocated to this feasibility work.

TURNER
FOUNDATION
INC.

April 14, 2015

Ms. Chrysten Lambert
Water Transactions Program Director
Klamath Basin Rangeland Trust
700 Main St., #201A
Klamath Falls, OR 97601

Dear Ms. ~~Lambert~~ Chrysten,

I am pleased to inform you that on April 2, 2015 the Turner Foundation Board of Trustees approved a project support grant to the Klamath Basin Rangeland Trust for $30,000.00 in support of the Water Use and Riparian Management Programs.

Enclosed you will find your Grant Agreement and a postage paid return envelope. You should have also received a Grant Execution & Administration Guide Sheet and a Reporting Requirements Sheet via email prior to receiving this letter. If you have not received this information please contact Candy Champion at 404-522-4716. In order to expedite processing your awarded grant, please adhere to the instructions outlined on the Guide Sheet.

This grant is conditional upon your signed acceptance of the terms and conditions listed on the Grant Agreement. The signature on the Grant Agreement of the person authorized to make your legal contracts will represent your organization's acceptance of this award and agreement to comply with the terms and conditions.

You will receive payment contingent upon prompt return of the original signed Grant Agreement. Please do not hesitate to contact Lisa Weinstein with any questions. In future correspondence, please refer to this grant by its ID number, 201500227.

On behalf of the Turner Foundation Board of Trustees, I extend every wish for your group's success.

Sincerely,

Mike

Michael V. Finley
President

Enclosures

133 Luckie Street 2nd Floor Atlanta, Georgia 30303 ph 404.681.9900 fx 404.681.0172 www.turnerfoundation.org

TURNER FOUNDATION, INC.
PROJECT SUPPORT GRANT AGREEMENT
(the "Agreement")

ORGANIZATION:	**Klamath Basin Rangeland Trust (the "Grantee")**
PROJECT:	**Water Use and Riparian Management Programs (the "Project")**
GRANT ID#:	**201500227**
APPROVED AMOUNT:	**For up to $30,000.00**
APPROVAL DATE:	**April 2, 2015**
GRANT PERIOD:	**4/2/2015 - 4/2/2016**

1. This project grant is for the specific purposes set forth in the written proposal to the Turner Foundation, Inc. (the "Foundation") considered at the April 2, 2015 Board Meeting, and payments received by the Grantee may be expended for no other purpose without the prior written consent of the Foundation. Consistent with the foregoing, all payments received by the Grantee may be expended only for charitable, scientific, literary or educational purposes within the meaning of Sections 501(c)(3) and 170(c)(2) of the Internal Revenue Code of 1986, as amended (the "Code").

2. The Grantee agrees none of the funds covered by this Agreement will be used to participate in or intervene in any political campaign on behalf of (or in opposition to) any candidate for public office. The Grantee also agrees none of the funds covered by this Agreement will be used to carry on a voter registration drive.

3. If the Project involves lobbying activities, as defined by the Code, the Grantee represents: 1) this grant is not earmarked for any lobbying activities; and 2) the amount of this grant, together with any other Turner Foundation grants for the same Project and same period, does not exceed the total amount budgeted by the Grantee for non-lobbying activities. If the grant is for more than one year, the preceding sentence applies to each year of the grant with the amount of the grant measured by the amount actually disbursed by the Foundation in each year.

4. In the event the Grantee loses either its tax-exempt or public charity status, this Agreement will be considered null and void and all unexpended funds will be immediately returned to the Foundation.

5. The Grantee agrees to immediately notify the Foundation, in writing, if: 1) Grantee's federal tax status is revoked or altered; 2) Grantee has reasonable grounds to believe its tax exempt or public charity status may be revoked or altered; or 3) Grantee has reason to believe the grant monies cannot be or continue to be expended for the specified purposes.

6. The Grantee understands there is no commitment by the Foundation to supply any further support for this Project. The Foundation considers each request on an individual basis, and this grant is not to be construed as establishing a precedent for further support.

7. In order to ensure there is no misunderstanding by the general public regarding the Foundation's involvement with the Project, the Foundation requests the right to, in advance, review and comment on any statements, announcements or releases proposed to be made by Grantee to the press regarding the Foundation's involvement with the Project.

8. The Grantee will cooperate with the Foundation in supplying any additional information or in complying with any procedures which might be required by any governmental agency in order for the Foundation to establish the fact that it has observed all requirements of the law with respect to this grant.

9. The Foundation may monitor and conduct formal evaluations of operations under this grant. These may include visits from Foundation personnel to observe your projects and programs and review financial and other records and materials connected with activities financed by this grant. The Grantee agrees to keep accurate and complete books and records of receipts and expenditures made using grant funds.

10. Progress Reports are required after each year of grant activity. Your grant period is specified at the top of this Agreement. **Please refer to the attached "Project Support Reporting Requirements" for reporting guidelines.** Please note:

    a. If the Grantee has received a one-year grant, a Final Report is required within one month of grant end date.
    b. If the Grantee has received a multi-year grant (i.e., been approved for subsequent years' funding), annual payments are contingent upon yearly progress reports. A Final Report is also required within one month of grant end date.

11. The Grantee is encouraged to submit intermittent updates of activities. These updates should be selective and succinct, while providing a sense of what the organization is accomplishing with the Foundation grant.

12. The Grantee shall indemnify and hold the Foundation, its directors, officers, employees, consultants, representatives and agents harmless from and against all third party claims, liabilities, suits, demands, losses, judgments, fines, penalties, interest, expenses and costs (including, without limitation, reasonable accounting and attorneys' fees and disbursements) which result from any breach of the Grantees' representation or warranties made in relation to this Agreement, or from any breach of the terms of this Agreement, or from any negligent acts or omissions of the Grantee, its directors, officers, employees, consultants, representatives or agents relating to or in any way connected with activities conduct pursuant to this Agreement.

13. This Agreement constitutes the entire understanding of the Foundation and the Grantee with respect to the subject matter, and supersedes all prior agreements and understandings, whether oral or written. This Agreement may not be amended or modified except in writing and signed by the Foundation. This Agreement shall be deemed to be made under, and in all respects shall be interpreted under and governed by, the laws of the State of Georgia.

The undersigned duly authorized official of the Grantee agrees to these terms and conditions.

FOUNDATION:

Turner Foundation, Inc.

Signature: M.V. Finley

By: Michael V. Finley

Title: President

Date: 4/16/2015

GRANTEE:

Klamath Basin Rangeland Trust

Signature: [illegible]

By: Jared Bottcher

Title: Executive Director

Date: 4/27/2015

PLEASE RETAIN A COPY FOR YOUR RECORDS AND RETURN ALL PAGES OF THE ORIGINAL GRANT AGREEMENT IN THE ENCLOSED ENVELOPE.

Oregon Watershed Enhancement Board

Special Investment Partnership Funding

The Oregon Watershed Enhancement Board (OWEB) provides multi-year funding to specific partnerships for watershed restoration activities through their Special Investment Partnership (SIP) Program. The Klamath Basin is a recipient of this funding through the Upper Klamath Conservation Action Network (UKCAN). The SIP program is being eliminated as OWEB is currently shifting its funding to a new Focused Investment Partnership Program, but during that transition, OWEB has allocated $200,000 of funding to UKCAN to support restoration activities during the transition period. The UKCAN project partners work together to identify the most meaningful restoration activities and projects for each funding allotment, and then submit those projects for final review by OWEB's Board. The UKCAN partners are currently engaged in that effort for the final allotment of transition funding, and support for the conservation piping and irrigation efficiency program is currently under review by that team. Attached is the project description form that UKCAN uses to evaluate potential investments.

The partners are currently completing the project ranking process, and the OWEB Board will provide final approval of the funding requests at their October 2015 meeting.

UKCAN Project Evaluation Form - 2015

General Information

Name of Project: Upper Sprague Water Conservation TA

Applicant Organization: Klamath Basin Rangeland Trust

UKCAN Strategy:
____Channel & Floodplain Restoration
__x_Water Transactions & Management
____Riparian Restoration & Grazing Management
____Passage and Screening
____Diffuse Source Treatment Wetlands
____Spring Restoration & Reconnection
____Land Acquisition
____Monitoring & Evaluation
____Outreach

Seeking funds from:

____NFWF Category (*circle one***):** habitat conservation; habitat restoration; habitat management; outreach, incentives, and capacity; planning, research, and monitoring

__x_SIP Category (*circle one***):** Partnership capacity; outreach; technical assistance; restoration; land acquisition; water acquisition; monitoring

Does the project fall within one of the four OWEB priority subbasins?

_x_Yes ____No Sub Basin: Sprague

Project Location (if more than one, include location/landowner information on each map.)

This project occurs at (check one): ____ A single site __x__ Multiple sites

Township, Range, Section(s): Townships 35S, 36S; Ranges 14E, 15E, 16E

Longitude, Latitude: 42.455, -121.037 (center)

Subbasin(s) HUC: 1801020204, 1801020205

Project Information

1. **Abstract.** In approximately 200 words, 1) identify the project location, 2) describe the watershed issue or problem you are addressing, 3) the proposed solution including the area or other measurable units to be treated, 4) the landowner's involvement, 5) the project time frame, 6) any proposed effectiveness monitoring, and 7) how OWEB and/or NFWF funds will be used.

   This technical assistance project will occur in the Upper Sprague sub-basin within the Upper Klamath Basin, which is highly over-appropriated. Disputes over irrigation water and instream flows have created a substantial need to better conserve irrigation water, and to deliver and apply the water more efficiently. The Upper Sprague Basin is mostly irrigated through unlined ditches and wild flood systems, which have a high potential for water loss and inefficient application. KBRT and TU will work with landowners to identify potential areas for water savings via conveyance or application, and will then work with local engineers to produce preliminary designs for appropriate improvements (piping, gated pipe, sprinklers, etc.). These designs will allow KBRT and TU to prioritize projects and pursue implementation funding. KBRT and TU have already worked with many landowners in the Upper Sprague, particularly water users on the North Fork Ditch and Deming Creek. We anticipate participation from other landowners as well, and will work closely with all irrigators to ensure their needs are being met as project designs are developed. Project plans and designs will be developed in 2016 to allow project managers to apply for implementation funding in late 2016 and early 2017. OWEB funds will be used for KBRT and TU staff time to meet with landowners, develop project options, and apply for implementation funding. Funds will also be used to contract with irrigation engineers to prepare preliminary designs.

Which UKCAN key strategies and metrics will this project affect?

Habitat Conservation

___Protect key habitat

___Establish conservation easements

___Acquire land or water rights

_x_Water use retirement

Habitat Restoration

_____acres of wetlands and lake fringe habitat restored

_____miles/feet of steams with functional processes that will provide and maintain diverse habitats.

_____# of fish passage barriers rectified

_____# of springs restored

Habitat Management

_____# of points of diversion moved to improve irrigation practices

_____miles/feet of fencing installed to improve riparian conditions

Outreach, Policy, Incentives

__10__# of individuals reached by outreach, training, or technical assistance activities

_____# of organizations contributing to the initiative's conservation goals

Research, Monitoring, Evaluation

_____# of plans developed with input from multiple stakeholders

_____# of studies completed whose findings are used to adapt management/inform mgmt. decisions

Timeline (please identify the project's timeframe in the form of a table):

	2016		2017	
Key Tasks	**Q1/Q2**	**Q3/Q4**	**Q1/Q2**	**Q3/Q4**
Landowner Outreach	X			
Seepage Surveys (NF Ditch and Campbell)		X		
Piping feasibility and design surveys		X		
Preliminary Eng Reports		X		
Coordination of on-farm irrigation studies (10 landowners)	X	X	X	
Development of recommendations for irrigation improvements		X	X	
Additional feasibility surveys (as needed)			X	
Landowner Communication during project studies	X	X	X	X
Management of Contractors		X	X	

Monitoring?

In about 100 words and using the table, describe the monitoring plan. What aspects of the project will be monitored pre and post project implementation? If doing outreach, include information on number of people reached, etc.

Who will monitor?	What will be monitored?	How will monitoring take place?	# of years # of times/year
KBRT and TU	Number of landowners reached	Collection of meeting information	1 time per year
KBRT and TU	Amount of conserved water potential	Summary of feasibility and eng. Reports	End of project

Project Partners

Seeking funds from:

____NFWF **Amount $_____**

_x__SIP **Amount $28,000_____**

____USFWS PFW **Amount $_____**

_x___Other **Amount $ 58,000_____**

Total Project Cost Estimate $ 86,000_____
Basis of Estimate:

Show all anticipated funding sources, and indicate the dollar value for cash or in-kind contributions. Be sure to provide a dollar value for each funding source. If the funding source is providing in-kind contributions, briefly describe the nature of the contribution in the Funding Source Column. In the Amount/Value Column, provide a total dollar amount or value for each funding source.

Match Funding Source **Name the partner and contribution**	**Cash**	**In-Kind**	**Amount/ Value**
Oregon Water Resources Department	58,000		58,000
Total Estimated Funds (add all amounts in the far right column)			$58,000

RCPP Narrative Elements for Preproposal (4700 character limit per item)

Project Name:

Water Quality and Quantity in the Klamath Basin

Funding Pool: National State: OR

1. Describe how each partner meets the eligibility criteria in Section III.A. of the announcement.

The four partners, Trout Unlimited (TU), Klamath Lake Land Trust (KLLT), Klamath Watershed Partnership (KWP), and The Nature Conservancy (TNC) are all registered non-profit organizations with a proven track record of implementing innovative conservation projects in the Klamath Basin. They have an established history of working individually and together to cooperatively assist producers on agricultural land in the Basin, both in Oregon and California. Each partner brings a unique set of capabilities and resources to the design and implementation of projects that benefit agricultural producers and provide solutions to critical conservation challenges.

Trout Unlimited's Western Water Project has been working with agricultural producers in the western states since 1998 to support programmatic scale irrigation and agricultural operational improvements that prove both farms and fish can successfully co-exist. In this effort, TU works closely with a local Klamath partner, the Klamath Basin Rangeland Trust (KBRT) to support this work in the Klamath Basin, and KBRT will be merging into TU in 2015. TU will retain the same local KBRT staff and plans to continue KBRT's decade of successful work in the Klamath basin, while providing additional resources. KBRT has worked with private landowners in the Klamath Basin since 2002, with the specific focus of improving water quality, water quantity, and aquatic habitat basin-wide, while simultaneously maintaining viable ranching operations. KBRT has a proven track record collaborating with federal, state, tribal, and private partners to manage and implement restoration projects, and has worked closely with NRCS to successfully manage Agricultural Water Enhancement Program enrollments from 2009 – 2013 and Conservation Reserve Enhancement Program enrollments since 2013. KBRT has pioneered permanent instream water transfers in the Upper Klamath Basin and recently completed the largest instream transfer in Oregon.

The Klamath Lake Land Trust has been conserving and restoring natural land in southern Oregon since 2010. Through partnerships with landowners, government agencies, other nonprofits, and local communities, KLLT is working to establish a network of permanently conserved land that encompasses important rivers and streams, wetlands, wildlife corridors, and large expanses of intact habitat. To date, KLLT has conserved almost 600 acres in the basin and is determined to ensure that the future will include healthy rivers, forests, and steppe in concert with environmentally sustainable and economically viable stock grazing and forestry enterprises.

The Klamath Watershed Partnership is a community based organization that provides watershed education and restoration in the Upper Klamath Basin. KWP's diverse Board of Directors includes members of the tribal, agricultural and conservation communities, as well as representatives of eight local working groups. They work together to sustain the ecosystem and local economies through voluntary restoration projects, which include activities such as riparian fencing to help reduce stream bank erosion and improve water quality, screening diversions, and installing new irrigation systems that use less water and power. Outreach and education is provided to community members to help them improve conditions and stay financially viable.

The Nature Conservancy has played an active role in crafting conservation solutions in the Klamath Basin for over 20 years, working with diverse partners, including agricultural producers, to identify, fund and implement on-the-ground projects. In particular, TNC has worked with landowners to enroll several properties into NRCS' Wetland Reserve Program. These enrollments benefit water quality and quantity by reducing the nutrient load entering Upper Klamath Lake and decreasing irrigation demand, thus assisting producers throughout the basin address natural resource concerns. TNC has also implemented several large-scale wetland restoration projects throughout the basin, and has extensive technical expertise in wetland ecology, fisheries science and land and water management.

In addition to collaborating closely with agricultural producers, these groups work extensively with federal, state, tribal, and non-profit partners as part of the Upper Klamath Conservation Action Network (UKCAN), a partnership created in 2012 to collaboratively address complex and difficult ecological issues in the Basin. The vision of UKCAN is to support native species and vital rural communities for future generations by working to restore watershed processes through adaptive management.

2. Specify the geographic focus of the project area. This can be based on habitat type, land uses, political jurisdiction of State or local government, or any other appropriate method to identify the project area. Note that the project area does not need to be contiguous, but all areas should have a common primary resource concern that the project addresses.

The geographic focus of the proposed project is the Klamath Basin in Southern Oregon and Northern California. Specific projects will occur in the Upper Klamath Basin, on agricultural land bordering Upper Klamath Lake and Agency Lake and two of their major tributaries, the Sprague River and the Wood River. The geographic focus was selected based on the significance of the basin's natural resources for ecological and human uses as well as the restoration goals identified in the Klamath Basin Restoration Agreement (KBRA) and local conservation priorities, including regional watershed assessments.

The lake and its tributaries provide habitat for endemic Lost River and shortnose sucker, currently listed as endangered under the federal Endangered Species Act (ESA). The tributaries to the lake are also widely used as spawning habitat by federally threatened bull trout and state sensitive redband trout. The Upper Klamath Basin also affects water quality and quantity in the mainstem Klamath River, thereby influencing habitat quality for threatened Coho salmon, Chinook salmon, and steelhead in the lower basin. Despite losses, the remaining wetlands of the Klamath Basin are considered critical migratory staging areas for 80% of all the Pacific Flyway waterfowl species, with over 3 million ducks and one-half million geese passing through annually. Additionally, the largest population of bald eagles in the lower 48 states utilizes the area as wintering grounds, and it provides the only permanent nesting habitat in Oregon for Red-necked Grebes and Yellow Rails.

The Upper Basin is home to the Klamath Tribes, which for thousands of years have relied on the natural resources of the basin to support economic and cultural activities. The basin also provides fertile ground for agricultural production, and has been farmed and ranched since the beginning of the 20th century when major changes to irrigation and drainage began to reshape the landscape.

Historically, emergent wetlands surrounded Upper Klamath and Agency Lakes as well as the lower parts of the Wood River Valley. These areas were drained and converted to agricultural production, resulting in loss of lake-fringe habitat critical to suckers. In the Sprague River and the upper parts of the Wood River Valley, a large portion of the historic wetland and riparian areas have been converted to livestock grazing, much of it requiring water diversions for irrigation. These uses have impacted water quality and quantity in the tributaries and the lakes, as well as downstream in the Klamath River.

Water quality in Upper Klamath Lake and Agency Lake and their tributaries exceeds water quality standards established under the Clean Water Act. Excessive phosphorus loading enables extensive cyanobacterial blooms that produce algal toxins and are detrimental to native fish in the lakes as well as fish living downstream in the Klamath River. Recreational and cultural uses of the river and lakes are also impacted by poor water quality. The Wood, Sprague, and Williamson Rivers contribute approximately 74% of the lake's external phosphorus load, and the Oregon Department of Environmental Quality has determined that reducing the external load is the best approach for improving water quality conditions in Upper Klamath and Agency Lake.

Conflicts and controversy between irrigators, tribes, and conservation groups over water quantity and quality resulted in the culmination of a plan to resolve these issues, and in 2010 the Klamath Basin Restoration Agreement was signed. The KBRA aims to restore fisheries and provide water supply certainty to communities and water users in the Basin by restoring riparian zones along tributaries to Upper Klamath Lake, removing four hydroelectric dams on the mainstem Klamath River, providing irrigation assurances for farmers, and providing economic security for the Klamath Tribes through the acquisition of former reservation lands. The Klamath Tribes and other groups, including those in this proposal, are working towards implementing actions outlined in the KBRA.

3. Identify the project objectives and the natural resource concerns that the project will address and how the partners identified those concerns, see listing of priority resource concerns in Section II.B. A complete list of NRCS approved natural resource concerns may be found on the RCPP Web site at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/farmbill/rcpp/

There are four project objectives: 1) Improve water quality in the Upper Klamath Basin; 2) Increase water quantity flowing into Upper Klamath Lake and into the mainstem Klamath River; 3) Increase drought resilience of producers and natural systems in the Upper Klamath Basin; and 4) Improve instream, wetland and riparian habitat for federally listed species, including endangered Lost River and shortnose sucker, and threatened bull trout.

These objectives were identified based on well-documented natural resource concerns in the Klamath Basin. The primary natural resource concerns in the Upper Klamath Basin are limited instream flows and external loading of nutrients into Upper Klamath Lake. These resource concerns persist downstream into the Lower Klamath Basin. Extensive irrigation withdrawals and groundwater pumping have reduced natural flows in the system and are exacerbating natural drought conditions caused by reduced snowpack and precipitation experienced over the last three years. These reduced flows contribute to elevated summer stream temperatures, and thereby limit the amount of cold water spawning and rearing habitat for a number of native fish species, including bull trout and redband trout. Agricultural activities have also lead to the loss of lake-fringe wetlands and riparian buffers, which historically provided extensive nutrient filtration (especially phosphorus filtration), throughout the watershed. Phosphorous loading has been identified as the primary driver of the seasonal hypereutrophic conditions in Upper Klamath Lake (UKL) and dense cyanobacterial blooms that create large hypoxic areas in UKL, wide fluctuations in pH and ammonia, and contribute to the decline of endangered sucker populations. Research has indicated that there are two sources contributing to the overall bloom dynamics in Upper Klamath Lake: internal recycling of nutrients within the lake and external phosphorus loading from tributaries. External phosphorus loading is most effectively reduced by restoring and protecting wetlands and riparian function, effectively managing riparian buffers, and reducing and treating irrigation return flows.

Lake-fringe wetlands surrounding Upper Klamath Lake likely played an important role in moderating water quality by releasing humic substances which act to suppress algae growth. Loss of more than 65% of these fringe wetlands has been detrimental to water quality conditions in the lake, directly impacting endangered sucker populations. Restoration of these former marshes can incrementally improve water quality while also providing habitat for fish and wildlife.

Irrigators in the Klamath Basin have been hit hard by many years of drought, and it is clear that there is currently not enough water to meet irrigation needs and simultaneously address the natural resource concerns described above. Drought resilience for these producers will be crucial in the coming years, especially if drought conditions persist, which climate models predict they likely will. Drought resilience can be increased through irrigation efficiency improvements, conveyance piping, prescribed grazing management, and restoration of lake-fringe wetlands.

Through this proposal, 17 miles of riparian fencing will be installed leading to over 185 acres of riparian area protected and/or created, 9 miles of cross pasture fencing will improve grazing conditions on ranches, 5 miles of irrigation conveyance piping will conserve approximately 6 cfs of water (4,300 acre feet annually), 1780 acres of restorable wetland will be permanently protected, and over 100 acre feet of water per year will be saved through the on-farm water efficiency program.

4. A general description of the plans for evaluating outcomes, including plans for monitoring and modeling, and for reporting on progress to achieve the objectives of the application.

The partners included in this proposal will track tangible metrics to verify project implementation and assess project success for the four main objectives of the program: water quality, water quantity, drought resilience and native species habitat. The monitoring will evaluate both near-term outputs as well as longer-term outcomes.

Near term: The partners will track miles of fence installed, number of stream miles protected by riparian fencing, numbers and types of on-farm irrigation improvements installed, miles of irrigation conveyance piping installed, acres of land enrolled in wetland easement programs, number of grazing management prescriptions and number of participating landowners. Results of these efforts will be assessed by measuring in-stream water quality; acre-feet of water saved through irrigation efficiencies; pasture condition scores, and acres of restored wetlands and properly functioning riparian buffers.

Longer term: To assess the benefits to water quality, many of the projects completed through this proposal will be registered and modelled through the Klamath Tracking and Accounting Program (KTAP), a multistate initiative to track completed stewardship actions in the Klamath Basin and estimate their benefit to aquatic resources through monitoring and modeling efforts. The project partners have worked closely with the Willamette Partnership to develop KTAP and calibrate the nutrient and temperature models used to calculate project effects (Nutrient Tracking Tool and Shade-a-lator). To assess the benefits to water quantity, the project partners will work with the Oregon Water Resources Department and the Klamath Tribes to measure and protect instream flows created through irrigation efficiencies. To assess the benefits to habitat, the partners will measure acres of restored habitat and subsequent use by native species such as Oregon spotted frog, redband trout, migratory birds, suckers, and other species. Photographs and survey data will document changes in vegetation over time.

In addition to the above direct monitoring by the project partners, long term water quality monitoring in the lake by The Klamath Tribes and USGS will detect changes in phosphorus loads to the lake as a result of these projects. The USGS will continue to monitor endangered sucker populations to determine survival and recruitment success.

5. A brief description of the types and sequence of implementation of conservation practices that the project will implement, for example: conservation activity plans (EQIP only), enhancements (CSP only), wetland restoration activities (ACEP, HFRP, sponsor –held floodplain easements), easement acquisition activities (ACEP, HFRP, sponsor-held floodplain easements), other partner activities to be implemented during the project timeframe.

Over the five-year project timeline, project activities will be implemented, monitored, and protected under three different NRCS programs: EQIP, CSP, and ACEP.

EQIP activities will focus on conveyance piping, on-farm irrigation efficiency, and extensive riparian and cross-pasture fencing. Conveyance piping by TU and KWP will occur in four strategic locations in 2016 and 2017, with the goal of reducing irrigation water lost through long leaky ditch systems. Each project will be enrolled in the Oregon Water Resources Department's Allocation of Conserved Water Program to ensure protected instream flows and assist producers in optimizing their irrigation program. Three of the four piping projects are in the Upper Sprague River basin where three miles of piping will be installed. The fourth project involves installation of two miles of piping on a ranch in the Wood River Valley that will directly benefit threatened bull trout populations in Sun Creek, and will contribute flow into the Wood River. All of the piping projects will increase the ability of producers to get reliable, adequate irrigation water and will have measurable and documented water savings results.

On-farm irrigation efficiency will be addressed in 2016-2018 through an innovative water savings program administered by KWP. The program includes rebates and incentives for implementation of irrigation efficiency projects, pump upgrades, and sprinkler replacement. Riparian and cross-pasture fencing will be implemented in 2016-2018 by KWP and TU. Riparian fencing will improve the health of riparian plant communities and increase nutrient filtration of overland flow and irrigation return flows. Cross-pasture fencing will improve cattle and forage management and encourage rotational grazing, which can reduce water use and improve pasture health.

CSP will be used in 2016 and 2017 to protect the enhancements created through the above-mentioned EQIP activities, as well as existing enhancements on participating producers' land. CSP participation will be facilitated and encouraged by TU and KWP.

ACEP activities will occur in 2016 and 2017 and will include enrollment of 1780 acres into the WRE program. The enrollment will consist of two properties, the 622 acre "Ball Bay", located along the west shore of Upper Klamath Lake, and the 1158 acre "Brush Creek Partnership", located in the lower Wood River Valley above Agency Lake. Both properties were historically lake-fringe wetland and provided critical water quality treatment, juvenile sucker habitat, waterfowl and migrating bird nesting and rearing habitat, and water storage. Once enrolled, activities will include restoration of wetland, riparian and upland habitat, and potential reduction and/or retirement of water use, beginning in 2017.

KLLT will work with NRCS to enroll the Ball Bay property into a permanent WRE easement and restore the wetlands back to historical conditions. The water rights associated with this property will be dedicated instream to benefit fish and wildlife.

TNC will work with NRCS to facilitate enrollment of the Brush Creek Partnership property into WRE and will work with NRCS and the landowner to implement restoration and manage the property. The project will be managed in conjunction with TNC-owned Fourmile Wetlands Preserve, immediately to the east and the Fourmile and Weed Ranch, directly to the west. Fourmile Wetlands Preserve was enrolled in WRP in 2013, and WRE enrollment for Fourmile and Weed Ranch is pending in 2015. Initial restoration has occurred on Fourmile Wetlands, and preliminary restoration plans for Fourmile and Weed Ranch are under development by NRCS. The long term plan is to connect all three properties to USFWS's Agency Lake Ranch/Barnes Ranch and Agency Lake to create over 14,000 acres of lake-fringe wetlands.

The enrollment of the 1780 acres into WRE followed by the restoration of wetland and riparian habitat will provide long-term protection of the watershed by preventing impacts to ground water supply, protecting the integrity of surface waters and aquifer recharge zones, lowering water temperatures and helping to improve water quality conditions in the lake, thereby increasing nutrient filtration, juvenile sucker habitat, and water retention in the Upper Klamath Basin.

6. If applicable, indicate how the project will "assist producers in meeting or avoiding the need for natural resource regulatory requirements." Section 1271B(d)(4)(A) of the 1985 Act.

Water quality impacts in the Upper Klamath Basin have resulted in failure to meet water quality standards under the Clean Water Act. A Total Maximum Daily Load (TMDL) allocation was developed, which effects both point and non-point sources. The TMDL specifically targets phosphorus reduction as the primary method to improve water quality in the lake, and improvement in stream temperatures in tributary streams. Reducing agricultural runoff through water application efficiency, along with restoring wetland and riparian areas that can filter nutrients, will provide measurable benefits to water quality in the lake. Riparian buffers along the tributaries will also improve stream shading and channel morphology, which will reduce heat loading through solar radiation. These voluntary actions will provide benefits to water quality that will reduce the need for regulatory requirements.

Producers in the Upper Klamath Basin are currently facing widespread water regulation as a result of water shortages and prior over-allocation. The 2013 adjudication of the Upper Basin awarded the Klamath Tribes senior instream water rights in their historic reservation boundary, which includes the Williamson and Sprague Rivers and the majority of the Wood River Valley. As a result of the adjudication and the reduced likelihood of irrigating in most years, many agricultural producers with junior water rights are seeking alternatives to traditional methods of irrigation. In addition, the energy costs for pumping water have increased in recent years. Further complicating the situation, the entire Klamath Basin is entering into a third year of drought, and is plagued by water uncertainty. As a result, there is a strong need for more assistance with water savings and restoration in the region. Innovative water savings programs, water retirement, and efficiency improvements provide the opportunity to reduce agricultural water needs in one of the most contentious water environments in the United States, while at the same time retaining agricultural production. These voluntary changes will help minimize the need for water regulation under state water law.

Additionally, in the spring of 2015, unprecedented water restrictions were adopted in the state of California. Low flows, water quality, and water temperature are concerns for populations of threatened coho salmon, Chinook salmon, and steelhead located in the Lower Klamath Basin. To benefit these fragile species and their habitat, actions to improve water quality and quantity must be implemented throughout the entire basin, from the headwaters to the mouth. The projects included in this RCPP proposal attempt to address the headwater water quality and quantity concerns that provide the basis for many more problems downstream.

Since the completion of the KBRA, the Klamath Tribes, federal and state agencies, and Upper Basin irrigators have been diligently working to address instream flow and habitat issues. In coming years, landowners throughout the Upper Basin will likely be asked to make changes to their management strategies in riparian areas, or to retire riparian acres. Through this RCPP proposal, producers will have the assistance to pursue grazing management planning, wetland restoration, and voluntary riparian restoration, thereby maintaining the viability of their rural agricultural communities.

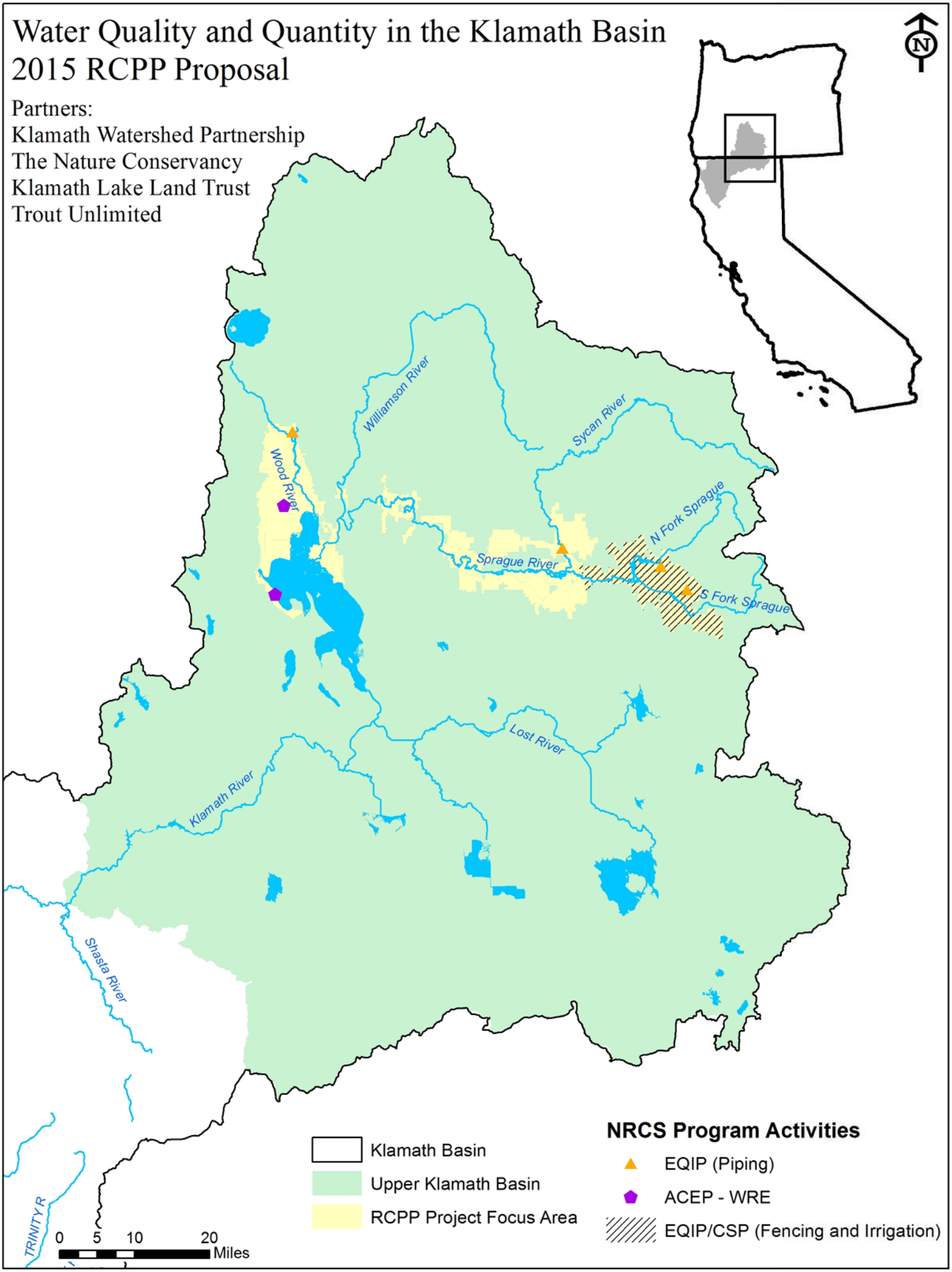
Historically, agricultural practices on properties along Upper Klamath and Agency Lakes included pumping water from the property into the lake to drain the fields before planting. This pumped water contributed significant amounts of phosphorus to the lakes each year, impacting water quality. Restoring these properties to lake-fringe wetlands will eliminate a significant amount of phosphorus loading to the lake, as well as provide natural filtration benefits. In addition, when restored, the enrolled properties will provide critical habitat for native listed species. Both of these benefits will relieve pressure on agricultural producers to meet regulatory requirements under the Clean Water Act and the Endangered Species Act.

7. A description of any requested program adjustments of terms (adjustments to regulations or policy), including AGI waivers, by covered program, with an explanation of why the adjustment of terms is needed in order to achieve the objectives of the project.

One AGI waiver will be requested for an EQIP activity. Piping of irrigation on Sun Creek will be completed in conjunction with a producer who exceeds the AGI limits for EQIP. Project partners have determined that the water savings provided by this project are critical to threatened bull trout habitat and instream flows in the watershed. Without financial assistance, the landowner does not have incentive to pipe his irrigation system, as the existing wild flood system provides functional irrigation to his property. He is willing to provide some cost-share to this project in the form of materials and labor, and that amount has been reflected in the project match.

Water Quality and Quantity in the Klamath Basin
2015 RCPP Proposal

Partners:
Klamath Watershed Partnership
The Nature Conservancy
Klamath Lake Land Trust
Trout Unlimited



Partner	Program	Fiscal Year	FA Requested	TA Requested	FA Match	TA Match	Acres	Total Match	Total Requested	Admin Match	Specific Projects
KBRT/TU	EQIP	2016	$ 875,000	$ 80,000	$ 1,600,000	$ 40,000	900	$ 1,640,000	$ 955,000	$20,000	sun creek, 1/3 fencing
		2017	$ 370,000	$ 80,000	$ 2,690,000	$ 80,000	2,000	$ 2,770,000	$ 450,000		deming, north ditch, 1/3 fencing
		2018	$ 90,000	$ 6,000	$ 40,000	$ -	40	$ 40,000	$ 96,000		1/3 fencing
	CSP	2016	$ 18,000	$ 3,000	$ -	$ 2,000	1,000	$ 2,000	$ 21,000		1/2 CSP
		2017	$ 18,000	$ 3,000	$ -	$ 2,000	1,000	$ 2,000	$ 21,000		1/2 CSP
		KBRT/TU Totals:	**$ 1,371,000**	**$ 172,000**	**$ 4,330,000**	**$ 124,000**	**4,940**	**$ 4,454,000**	**$ 1,543,000**	**$20,000**	
KWP	EQIP	2016	$ 100,000	$ 20,000	$ 100,000	$ 20,000	1,000	$ 120,000	$ 120,000	$5,000	Efficiency Program, 1/3 fencing, sycan piping
		2017	$ 100,000	$ 10,000	$ 90,000	$ 10,000	1,000	$ 100,000	$ 110,000		Efficiency Program, 1/3 fencing
		2018	$ 90,000	$ 5,000	$ 30,000	$ -	500	$ 30,000	$ 95,000		Efficiency Program, 1/3 fencing
	CSP	2016	$ 18,000	$ 3,000	$ -	$ 2,000	1,000	$ 2,000	$ 21,000		1/2 CSP
		2017	$ 18,000	$ 3,000	$ -	$ 2,000	1,000	$ 2,000	$ 21,000		1/2 CSP
		KWP Totals:	**$ 326,000**	**$ 41,000**	**$ 220,000**	**$ 34,000**	**4,500**	**$ 254,000**	**$ 367,000**	**$5,000**	
KLLT	WRE	2017	$ 1,300,000	$ 40,000	$ 325,000	$ 20,000	622	$ 345,000	$ 1,340,000	$5,000	Ball Bay
		KLLT Totals:	**$ 1,300,000**	**$ 40,000**	**$ 325,000**	**$ 20,000**	**622**	**$ 345,000**	**$ 1,340,000**	**$5,000**	
TNC	WRE	2016	$ 3,200,000	$ -	$ 1,198,275	$ 750,000	1,158	$ 1,948,275	$ 3,200,000	$0	Brush Creek Property
		TNC Totals:	**$ 3,200,000**	**$ -**	**$ 1,198,275**	**$ 750,000**	**1,158**	**$ 1,948,275**	**$ 3,200,000**	**$0**	
		Project Proposal Totals:	**$ 6,197,000**	**$ 253,000**	**$ 6,073,275**	**$ 928,000**	**11,220**	**$ 7,001,275**	**$ 6,450,000**	**$30,000**	

Project Location Photos

North Fork Sprague above North Fork Ditch

North Fork Ditch Point of Diversion and Fish Screen (installed 2014)

North Fork Ditch Cascade Reach

North Fork Ditch Near Forks

Campbell Reservoir and Headgate

Campbell Outflow Ditch