

KLAMATH TRACKING & ACCOUNTING PROGRAM

STEWARDSHIP PROJECT REPORTING

DRAFT VERSION 1.0

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1. INTRODUCTION

Klamath Tracking and Accounting Program (KTAP) is a local program seeking to better understand the benefits to water quality created by changes in land management and restoration projects. KTAP seeks to highlight the collective benefit that restoration and land management projects provide for water quality and habitat for native fish in the Klamath Basin.

KTAP: Stewardship Project Reporting defines a consistent system to track voluntary conservation and restoration actions in a way that 1) enables local practitioners and funders to make informed decisions regarding where and how to invest in water quality and habitat improvement; 2) provide the basis for scientific research that furthers our understanding of the system and the instream response of collective action.

This document, the KTAP Stewardship Project Reporting Protocol, is a companion to the KTAP Advanced Project Reporting Protocol, which can be applied to develop quantified and verified units of environmental improvement. In the future, regulatory agencies may choose to use the KTAP Advanced Project Reporting Protocol to track the water quality benefits of projects funded by point sources (e.g., Klamath Falls waste water treatment plant) toward their regulatory obligations (e.g. NPDES permit effluent limits).

Participation in the Stewardship Project and Advanced Project Reporting Protocols are completely voluntary.

1.1 PROGRAM OBJECTIVES

The goal of KTAP is to increase the pace and reduce the cost of improving Klamath Basin water quality to support all beneficial uses, including, but not limited to recovery of native fish. The rules and guidelines described in this Protocol are designed to work in tandem with public conservation funding and regulatory structures. A measure of success for KTAP will be to improve the ability to direct funding to the best conservation opportunities that produce the greatest ecosystem benefit.

Specific objectives of KTAP Stewardship Project Reporting are to:

- Increase the effectiveness of conservation investments in the Klamath watershed by providing a framework to:
 - identify opportunities to more efficiently improve water quality and habitat for native fish,
 - facilitate basin-wide prioritization and implementation of those opportunities, and
- Create a framework that is applicable basin-wide, links benefits from restoration actions to eutrophic pollutant and temperature goals defined in *Total Maximum Daily Loads* (TMDLs) and is uniformly implemented in California and Oregon.
- Provide a transparent process and robust tools that inform decisions ranging from individual project design to basin-wide policy.

1.2 PART OF A WATERSHED STEWARDSHIP APPROACH

KTAP Stewardship Project Reporting is part of a larger Watershed Stewardship Approach - an adaptive management framework aimed at improving water quality and protecting sensitive beneficial uses that rely on good water quality, including habitat for the endangered and other unique species of the Klamath Basin. The Klamath Basin Monitoring Program (KBMP), a voluntary monitoring coordination framework, is another portion of the Watershed Stewardship Approach. The stewardship project information tracked through KTAP could be paired with the water quality status and trends information from KBMP to evaluate progress towards water quality goals by stream reach.

1.3 KTAP PROGRAM ADMINISTRATOR

Willamette Partnership is currently acting as the KTAP administrator. Inquiries should be directed to:

Carrie Sanneman
Willamette Partnership
(503) 894-8426
sanneman@willamettepartnership.org

1.4 KEY AUDIENCES & BENEFITS OF PARTICIPATION

KTAP provides value to a range of individuals and entities. Key benefits are listed below, by audience.

Project Developers	<p>Project Developers are the individuals or entities implementing conservation or restoration actions that directly or indirectly benefit water quality and habitat for native species. KTAP Stewardship Project Reporting provides project developers a quick and easy way to communicate the benefits of their work to funders and the public. KTAP can provide a wealth of information on the actions supported by funders and other project developers in the basin, which can be used to identify partnerships and opportunities to leverage their work. Project developers can use KTAP-supported tools to estimate the water quality benefits from specific conservation and restoration actions - informing project selection and design to provide the greatest benefit to water quality, and helping communicate project outcomes to their funders, boards, and stakeholders.</p>
Funders or other Investors	<p>Funders/Investors are the individuals and entities that fund conservation and restoration actions to meet their goals for clean water and healthy habitat. Funding entities can utilize the KTAP Stewardship Project Reporting to track project success over time across all projects in the basin, and communicate project- and program-scale outcomes to a broad audience. As more and more projects are registered in KTAP, it will provide an information source that allows for improved basin and subbasin-scale prioritization efforts.</p> <p>Funders can better understand the landscape of investment in the basin, informing their decision on how to be most effective with their own investment. Funders can look to the Advanced Project Reporting to provide independent verification that projects were implemented as designed.</p>
Water Quality Agencies	<p>Water Quality Agencies like Oregon Department of Environmental Quality (ODEQ) and CA Water Board have authority over Clean Water Act programs in their state. KTAP Stewardship Project Reporting can help agencies track implementation of the coordinated Total Maximum Daily Load (TMDL) assessments for the Oregon and California portions of the river.</p>
Scientists and the research community	<p>Scientists may be individuals, academic institutions, consulting firms, non-profits, or water quality agencies that utilize data to better understand the Klamath River, Upper Klamath Lake, and tributary systems. Scientists can request project information for use in analyses. Specifically, KTAP Stewardship Reporting information is intended to inform study of instream response resulting from projects across the basin to continually improve the effectiveness and efficiency of conservation investments in the future.</p>
Stakeholders	<p>Stakeholders care deeply about resource conservation including water quality and habitat in the Klamath. KTAP Stewardship Project Reporting enables stakeholders throughout the Klamath Basin to see the breadth and depth of individual actions being taken to address conservation. Basin-wide reports of accomplishment can rally the community around making progress toward common goals.</p>

2. REGISTERING A PROJECT

The KTAP Stewardship Project Reporting tracks a “project,” which may be comprised of one or more specific BMPs or actions. KTAP Stewardship Project Reporting accepts submissions on projects that have been completed or are undergoing performance monitoring over time.

Registering a new project involves submitting a KTAP Stewardship Project Report to the program administrator along with supporting documentation (e.g., maps, photo points, etc.). Project information is posted annually or semiannually on an interactive website. The KTAP Stewardship Project Report form can be found at <http://ktap.willamettepartnership.org/ktap-form/>

Submitting a new project includes 3 steps:

- **Step 1:** Information Release: Agree to KTAP policy on information sharing.
- **Step 2.** Enter Project Information: this will include a series of questions about what happened, where, and if/how it will be monitored.
- **Step 3:** Submit Project Documentation: Use this step to upload maps, pictures, project designs, and additional documents that explain and highlight your project.

The following subsections will help users navigate the form. If you would like assistance in completing the form, please contact the KTAP administrator. Your participation is appreciated!

2.1 STEP 1: INFORMATION RELEASE

Step 1 asks the user to confirm that they have read and understand the KTAP Information Sharing Policy, which is as follows:

Information Sharing and Confidentiality in KTAP Stewardship

All submissions are voluntary and any information submitted to KTAP may be shared consistent with achieving the goals above. It is the responsibility of those submitting information to KTAP to filter sensitive or private information. KTAP encourages those submitting projects to do so in keeping with existing agreements and/or with permission from the involved parties. Contact the program administrator (sanneman@willamettepartnership.org) for sample information release forms and/or KTAP communication materials.

Sharing the specific location of a project site (e.g., latitude and longitude) is recommended but not required. Providing specific project locations will enable more accurate assessment of watershed-scale effects. KTAP administrators will not display project location in a way that is personally identifiable. Project location will be represented by reporting zone (e.g., Wood River upstream of RM 7) and the nearest named waterbody (e.g., Anne Creek).

Please confirm the most up to date information sharing policy at <http://ktap.willamettepartnership.org/ktap-form-step1/>

The user must agree to these terms before proceeding to Step 2. Contact the KTAP administrator for sample information release forms for landowners, or with additional questions on this policy.

2.2 STEP 2: ENTER PROJECT INFORMATION

In Step 2, KTAP Stewardship Project Report form asks for basic information about the project developer, the location of the project, and the type of actions implemented. It then asks more detailed questions

related to the specific BMPs being applied. Because project developers may not have collected or may not be at liberty to share all of the information requested, **most fields is recommended, but not required.**

Project submissions cannot be saved midway. If you cannot complete the full submission at once, proceed through Step 3 and click “Submit.” Upon returning, begin a new submission with the same project name and pick up where you left off.

If the user is uncertain of how to answer particular questions, do not hesitate to contact the program administrator or provide an explanation within the form field to describe the issue.

A. BASIC PROJECT INFORMATION:

Basic project information requested by KTAP includes the following (* indicated a required field):

- Project name*
- Name of the entity or entities responsible for implementing the project*
- Lead project contact and preferred contact information*
- Name, affiliation, and contact information for the individual submitting the information to KTAP*
- Project location
 - Reporting zone and subarea (see below)*
 - Nearest named waterbody (e.g., Annie Creek)*
 - Rivermile (e.g. RM 2.5)
 - Project location (lat/long)
- Project cost
- Short project description
- Project objectives & specific project goals (list and describe)
- Period of project protection (e.g., under contract)
- Period of project stewardship (e.g., funds are available and/or under contract with landowner to maintain)
- Timing
 - Date of project installation
 - Month/year when project benefits are expected to begin
 - Month/year when project is anticipated to deliver full benefits to the system
- Monitoring (parameters monitored, term of monitoring, frequency)
- Land use on project site
- List of practices applied in the project (see Section B1)

Reporting zones are used to describe the location of a project where the specific location (lat/long) cannot be shared. Reporting zones correspond to the major watersheds in the Klamath basin (e.g., Trinity, Shasta, Sprague, etc.). A map of KTAP reporting zones can be found in Appendix A. In some cases, subareas within the reporting zone can be listed as well. Subareas were designated with the intention of making KTAP data useful to researchers using KTAP data for watershed-scale assessments (e.g., subareas correspond with long term WQ monitoring locations), while ensuring privacy of landowners (subareas contain at least 3+ landowners). The KTAP project form has a drop down list of reporting zones and subareas, with a map for reference.

B. DETAILED PROJECT INFORMATION

After selecting the relevant BMPs on the form, additional fields will appear requesting information beyond the basic what, where, why. These fields are designed to 1) describe the size/scale/extent of the project (e.g., stream miles, acres, acre feet) and 2) support analyses of the project’s environmental benefit.

For instance, consider a project that converts irrigated pasture to dryland grazing operations. In this case, the information requested could support application of Nutrient Tracking Tool to give a rough estimate of site-scale changes in phosphorus runoff, or feed into a watershed model like SWAT to describe trends instream.

B1. Metrics of Project Extent

Table 1 includes a list of BMPs/action-types and the basic metrics to describe their size or scale (also referred to as extent). This list was developed to represent the most common practices being applied to improve water quality and fish habitat in the basin. The list will be continually expanded to include other important stewardship actions. Contact the KTAP administrator if you would like to register a project or action that is not listed here.

Use of consistent metrics allows for easier and more robust description of basin wide trends. These metrics are strongly recommended but not required. Users can provide whatever information they have to describe the extent, outputs, and outcomes of the project.

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Table 1 Description of BMP/Action Types and the associated metrics

BMP/ Action Type	Description	Metrics
Riparian Management	Management of riparian areas may include installing a fence, alternate watering facility, prescribed grazing, or active revegetation of the riparian area.	<ul style="list-style-type: none"> ▪ Stream miles affected ▪ Acres fenced riparian area ▪ Average buffer width
Conversion to dryland operations	Conversion to dryland operations may include: cover crops (annual grass/legume); forage and biomass planting (perennial grass/legumes); deep tillage, mulch tillage; and/or prescribed grazing.	<ul style="list-style-type: none"> ▪ Acres ▪ Change in Net Consumptive Use
Diffuse Source Treatment Wetlands	Small wetlands located along (in ditch) or at the end (terminal) of agricultural drains.	<ul style="list-style-type: none"> ▪ Number of wetlands installed ▪ As-built Retention Volume ▪ As-built Retention Time ▪ Terminal or in ditch
Instream Restoration or Channel Construction	Channel construction and restoration includes actions to maintain, create, improve, and restore more normative hydrologic, geomorphic, and sediment transport processes, including flood plain reconnection. This may include addition of large woody debris (LWD), reactivation of backwater/side channel habitat, reactivation of historic channels or complete channel realignment.	<ul style="list-style-type: none"> ▪ Stream miles affected ▪ Large wood placement (# of structures) ▪ Area of habitat created (acres or sq. ft) ▪ Net change in stream length or grade
Levee Removal	Breaching levees or otherwise removing barriers such that the river has access to the floodplain.	<ul style="list-style-type: none"> ▪ Stream miles affected ▪ Acres restored floodplain access ▪ Length of levee removed ▪ Other (describe)
Spring enhancement, reconnection, management	Spring enhancement, reconnection, and management of spring flows to maintain water quality in spring flows and improve water quality in the receiving stream.	<ul style="list-style-type: none"> ▪ Stream miles affected ▪ Spring volume restored to system ▪ Spring temperature
Flow Augmentation	Flow augmentation through instream leases or transfers.	<ul style="list-style-type: none"> ▪ Volume Net Consumptive Use ▪ Flow rate ▪ Time instream (dates) ▪ Distance instream
Tailwater Management	Reuse or treatment of nutrient and/or sediment laden return flow.	<ul style="list-style-type: none"> ▪ Project extent and unit of measure
Fish Barrier Removal	Creation of hydraulic conditions suitable for fish passage to improve migration.	<ul style="list-style-type: none"> ▪ Number of barriers removed ▪ Number and type of passage structures installed ▪ Newly accessible stream miles ▪ Quality of newly available habitat ▪ Target species
Fish Screen	Reduce entrainment of fish to enable fish migration.	<ul style="list-style-type: none"> ▪ Number of screens affected ▪ Flow rate at screens ▪ Velocity at screens ▪ Percent diverted flow screened ▪ Type of screen installed ▪ Periods of operation ▪ Target species

B2. Available Quantification Methods

KTAP recommends the tools and methodologies in Table 2 (page 8) to estimate the water quality and habitat outcomes of conservation and restoration actions (e.g., pounds of phosphorus reduced), known as *quantification methods*. Quantifying project benefits is recommended but not required. For more information on each of these quantification methods, see “How are project benefits assessed?” at <http://ktap.willamettepartnership.org/>

Modeling or direct measurement are two ways to estimate project benefits. Direct measurement is most common where there are a limited number of variables that can affect changes in the water column. For example, direct measurement of tailwater leaving the agricultural field is relatively easy to sample and, since the drained area is likely to be within the participating landowner’s operations, the variables affecting the water quality are known and relatively limited. Models are more commonly used when the project effect needs to be teased apart from other factors (e.g., a change in rainfall, the neighbor upstream, or other dynamic forces in the watershed).

Some actions do not have a suggested quantification method and, in some instances, quantifying benefits is not feasible. For these cases, we recommend describing the water quality or habitat benefit using whatever quantitative or qualitative/narrative information is available.

Table 2 Recommended quantification methods

Parameter	Tool/methodology	Used for	Applicable project type
Nutrients (N & P)	Nutrient Tracking Tool (NTT) (model)	Estimating load reductions of nutrients and sediments from certain riparian and agricultural stewardship practices.	Riparian management Conversion to dryland operations
Water Temperature or Thermal Load	Shade-a-lator (model)	Estimating thermal load reductions from riparian shading. This tool is best where project developer will be assessing many sites and has GIS capacity.	Riparian management (revegetation)
	Solar Pathfinder (direct measurement)	Direct measurement of thermal load. This tool is best where field data can be collected over numerous years/as the project reaches maturity.	Riparian management (revegetation)
	Water Temperature Transactions Tool (W3T) (model)	Estimating changes in water temperature from one or more water transactions.	Flow augmentation, spring reconnection
Water Quantity	Net Consumptive Use methodology	Estimate the water that is actually consumed and not returned to the immediate water environment.	Flow augmentation
Habitat – Chinook, Steelhead, and Coho salmon*	Fish Passage Calculator (model)	Estimating ecological benefits of barrier removal based on quantity and quality of habitat upstream of the removed barrier.	Fish barrier removal

* Habitat typing has been suggested as another method for articulating the changes resulting from channel reconstruction and other actions to increase the complexity of a stream channel. There is no single methodology recommended by KTAP, however, its use is consistent with the goals of this program. More information on applying a habitat typing assessment can be found at <http://www.krisweb.com/stream/habtyp.htm>

2.3 STEP 3: SUBMIT PROJECT DOCUMENTATION

Posting project documentation is encouraged to give depth and detail to the information listed about the project, further highlighting project accomplishments.

The suggested list of project documentation was developed based on the information needs for a post project evaluation of effectiveness, similar to that conducted by NewFields River Basin Services for a number of river restoration projects on the Sprague River.¹ The suggested list of documentation is quite robust. All submissions are voluntary, but users are encouraged to provide as much information as willing and able to share.

Table 3. Description of recommended documentation. * indicate those documents with templates/forms available.

Document Type	Description
Initial Project Design*	Describes the intended project activities, considerations, timelines, anticipated future conditions, assumptions and calculations that informed the design, and project performance metrics. Detail in the initial design will vary with the scale, complexity, and engineering associated with a particular project.
Documentation of pre-project condition: Maps, photos	Pre-project maps and photos provide the basis against which the restoration design is assessed. The map describing the project site should indicate where project activities are located and any relevant geographic context.
As-built (post-) project condition: Maps, photos	As-built maps and photos document the actual completed activities at the project site. The map should delineate the project site, indicating where project activities were installed and any relevant geographic context. Photos document the condition of site and installed practices.
Methodology to estimate WQ benefits	Documentation regarding the nature and technical foundation of any method used to estimate or measure water quality benefits from the project.
WQ Benefit Estimate Report (*thermal and nutrients only)	Where water quality benefits are measured or modeled, this includes the documents and data used to inform the calculation of water quality benefits, model version, parameters used (where applicable) noting ...
Monitoring Plan*	Describes how monitoring will be conducted over the life of the project, including methodologies for data collection, processing, analysis, and associated quality assurance and quality control measures.

¹ NewFields River Basin Services & Dr. G. M. Kondolf (2012). Evaluating Stream Restoration Projects in the Sprague River Basin.

Monitoring Report*	Summarizes data collected according to the Monitoring Plan and the implications regarding project condition and anticipated maintenance action
Stewardship Project O&M Plan*	Describes the Project Developer’s intent for project maintenance including the designation of stewardship responsibility, cost estimates, anticipated activities, and management of stewardship funds, if available.

*Templates and/or example form available at <http://ktap.willamettepartnership.org/what-is-ktap/>

2.4 SUBMIT THE KTAP STEWARDSHIP PROJECT TRACKING SPREADSHEET

Once completed, submit the project tracking spreadsheet to the KTAP program administrator. The administrator will confirm that the data was received and may follow up to clarify components of the submission. New projects will be posted to the KTAP website on an annual or semiannual basis. Projects registered under the KTAP Stewardship Tracking Protocol are displayed on the KTAP Reporting website, accessible at: <http://ktap.willamettepartnership.org/>

2.5 UPDATING EXISTING PROJECTS

The KTAP administrator will email the listed project contact on an annual basis to request the following:

- Confirmation that the project is in place and should remain listed on the KTAP Reporting website; and
- Any updates, monitoring reports, or photo point documentation.

A project will be taken off the KTAP Reporting website after the project’s period of protection has ended, unless subsequent status reports are submitted to demonstrate continued function.

3. PROGRAM GOVERNANCE, REPORTING, & ADAPTIVE MANAGEMENT

The KTAP working group is a diverse stakeholder group, actively collaborating on the development and implementation of KTAP since 2009. The following is a list of organizations and individuals that have been actively involved in the scoping and design of the KTAP Stewardship Tracking Protocol.

KTAP Working Groups Participating Organizations	
CA North Coast Regional Water Quality Control Board	OR Watershed Enhancement Board
Environmental Incentives	PacifiCorp
Karuk Tribe	US Bureau of Reclamation
Klamath Watershed Partnership	US Environmental Protection Agency Rg 9
Klamath Basin Monitoring Program	US Environmental Protection Agency Rg 10
Klamath Basin Rangeland Trust	US National Resource Conservation Service
Klamath Tribes	USDA Forest Service
National Fish and Wildlife Foundation	Watercourse Engineering

OR Department of Environmental Quality	Willamette Partnership
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3.1 KTAP PERFORMANCE REPORT

The KTAP administrators will generate quantitative information on an annual or semiannual basis. Water quality and habitat benefits are summed for each Reporting Area and across geographic locations. The report may show comparisons to TMDL load reduction milestones and other defined watershed goals, such as the National Fish and Wildlife Foundation Keystone Initiative and agreement measures.

The annual report will be displayed on the KTAP website and distributed to program participants and interested stakeholders.

3.2 PROGRAM IMPROVEMENT

Program improvement recommendations that increase the efficiency of operations and improve the technical rigor of the program may be submitted to the KTAP Administrator at any time and will be annually solicited from program participants and stakeholders. The administrator will compile the program improvement recommendations and may convene an ad hoc working group to identify those recommendations that are ready and necessary to address. For major changes it may be necessary to hold specific stakeholder review meetings to discuss individual recommendations and gain input on the proposed changes.

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APPENDIX A. KTAP REPORTING ZONES



F.Fortescue 04/2012. Hydrologic basin data sourced from USGS/USEPA Watershed Boundary Dataset and NHD Plus