



WILLAMETTE PARTNERSHIP

Building a Tracking and Accounting System

The following document is a how-to guide for groups seeking to track and account for the conservation and restoration investments within their watershed, or other area of interest. These lessons come largely from the development and implementation of the Klamath Tracking and Accounting System (KTAP), which has been operating since 2010. Examples from KTAP are included throughout this guide, and more information can be found in the KTAP Case Study.¹ The current version of the program took about 18 months to develop. Prior to that, 4 additional years were spent on a previous version that in some ways still exists, but in other ways failed to ever really find its feet. In light of that history, this document is as much about what to do as it is about what not to do. It comes from a place of intense optimism around the idea that what gets measured gets done, and that by tracking investments in our environment and continuing to ask what we are getting for our money, we will ultimately achieve desired outcomes more quickly and at lower cost.

What is a tracking and accounting system?

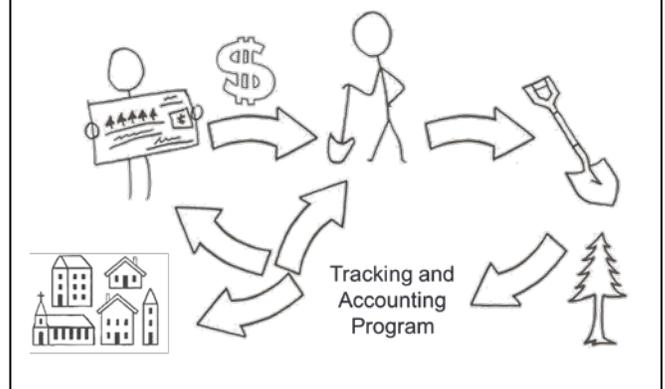
As we use it here, it is a consistent method for documenting and communicating conservation and restoration actions, designed to support continual improvement in siting, designing, and implementing restoration projects, and to support investigations of the linkage between on-the-ground action and instream response (see Fig. 1).

About the authors

Willamette Partnership is a 501(c)3 conservation non-profit located in Portland, OR. At Willamette Partnership, we embrace the intrinsic connections between resilient ecosystems, healthy communities, and vibrant economies. Tracking and accounting for the benefits that nature provides is a key component of building to business case for investing in the environment, and building a world where people understand and leverage all the values nature provides. Willamette Partnership has extensive experience building and operating tracking and accounting systems for a range of purposes, including:

- Ecosystem Credit Accounting System,² which allows permittees under the Clean Water Act and other regulatory programs to invest in restoration for compliance; and

Figure 1. Tracking and accounting programs take information about on-the-ground actions and feed it back to funders, project implementers, and the public.



¹ www.ktap.willamettepartnership.org/about/

² <http://willamettepartnership.org/market-tools-rules/>

- KTAP Project Stewardship Reporting Protocol (featured here), a completely voluntary system used to inform basin-scale watershed improvement and adaptive management.

How to build a track and accounting system

There is no one right answer for how to go about this task. The geographic boundaries, relevant stakeholders, relevant metrics, and appropriate avenues for disseminating information will vary place to place. In some cases, an existing watershed collaborative may embark on building a tracking and accounting system as a means of communicating collective progress. In other cases, a restoration project database might come from a research effort to understand the effect of individual or collective action.

1. Define high level program objectives and scope

The first task is to define the programs goals and objectives. What should the tracking and accounting program accomplish? In the case of KTAP, the program was meant to increase the pace and scale of watershed improvement through basin-scale adaptive management. In other cases, tracking and accounting might be centered around specific research questions, a regulatory program (e.g., TMDL implementation, NPDES compliance), or the implementation of legal settlements. In general, the program will need to be more rigorous and have stronger systems for accountability (e.g., third party verification that projects were implemented correctly) if it is part of a regulatory obligation (See Figure 1).

Where there is any flexibility in program objectives, look to the stakeholder needs, and listen (see #2). Consider also the geographic and topical scope of the program. Often tracking and accounting programs are bounded by a watershed (e.g., the Klamath river basin), or a political boundary (e.g., state of Oregon). The topical scope might relate to a given resource concern (e.g., water quality), a species (e.g., coastal Coho), or more general concepts of watershed health.

2. Listen – What is needed? What is trusted?

It is critical that the system be useful for and trusted by participants. Ask about, and listen for, information gaps and important unanswered questions. It is also important to understand the landscape of relationships, biases, and how individual users assess whether information is trustworthy. The parties managing and governing the program cannot be seen as biased and participation will be driven by the extent to which stakeholders see products as useful and trustworthy.

Figure 2. Willamette Partnership's Ecosystem Credit Accounting System describes how to turn a project into compliance-grade credits, which can be used toward permittee regulatory obligations.

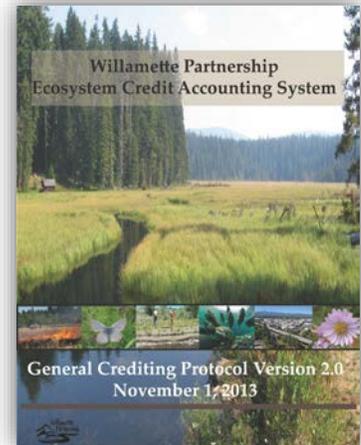


Figure 3. The degree of rigor and accountability will increase depending on the purpose for tracking.



KTAP provides an excellent examples of the power of listening early and often. From 2010-2014, KTAP was being designed as a means to quantify and verify the pollutant load reductions associated with individual projects so that they could be used by regulated permittees (e.g., waste water facilities, hydroelectric operations) to offset the impacts of their operations. The idea being that if those permittees had a pathway to investing in watershed restoration, it would a) be cost effective for them and their ratepayers; b) bring new money into conservation and restoration. Over time, the likelihood that permittees would be ready and able to invest in conservation for compliance, became smaller and smaller, making the system less and less useful for watershed stakeholders. When the program became less useful to stakeholders, the depth and breadth of participation dropped. In 2014, we shifted the focus of the program to something that stakeholders and funders identified as an important gap – a voluntary restoration project database built to inform project- and basin-scale adaptive management. After that, momentum and general support for the program was reignited. This process of listening and responding to stakeholder priorities continues in many ways.

3. Identify watershed goals, targets, and metrics

Before you can decide which metrics are important, or how to balance transparency with privacy, you'll need to know the ecological end goal. It's OK if there isn't consensus here, but developing shared watershed goals amongst the program's stakeholders can be a compass leading everyone in the same

direction. From goals stem the key questions that the program is designed to answer, which can then inform the needed assessment methods and appropriate metrics. Figure 5 shows the logic model connecting watershed goals for the Klamath with the key questions, assessment methods, and metrics for KTAP.

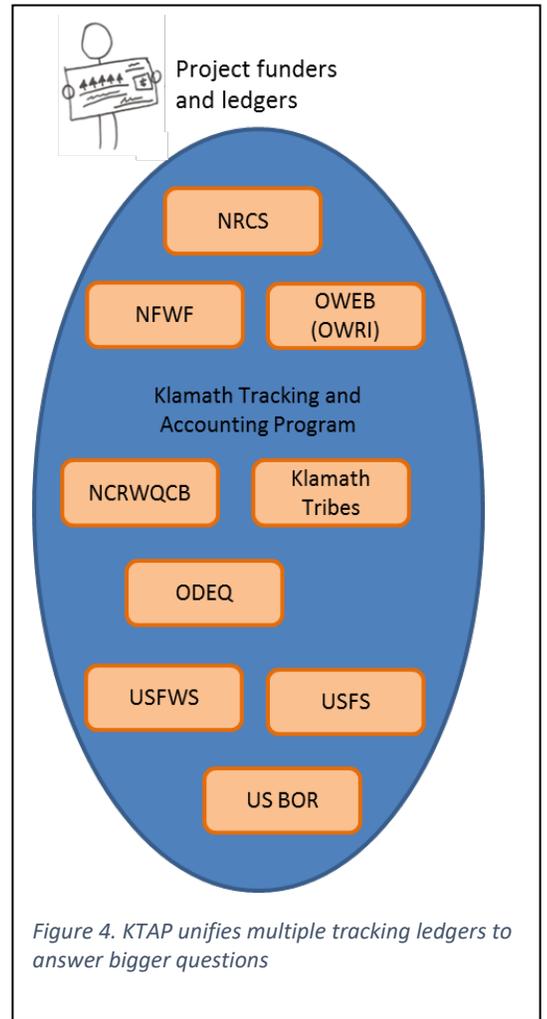
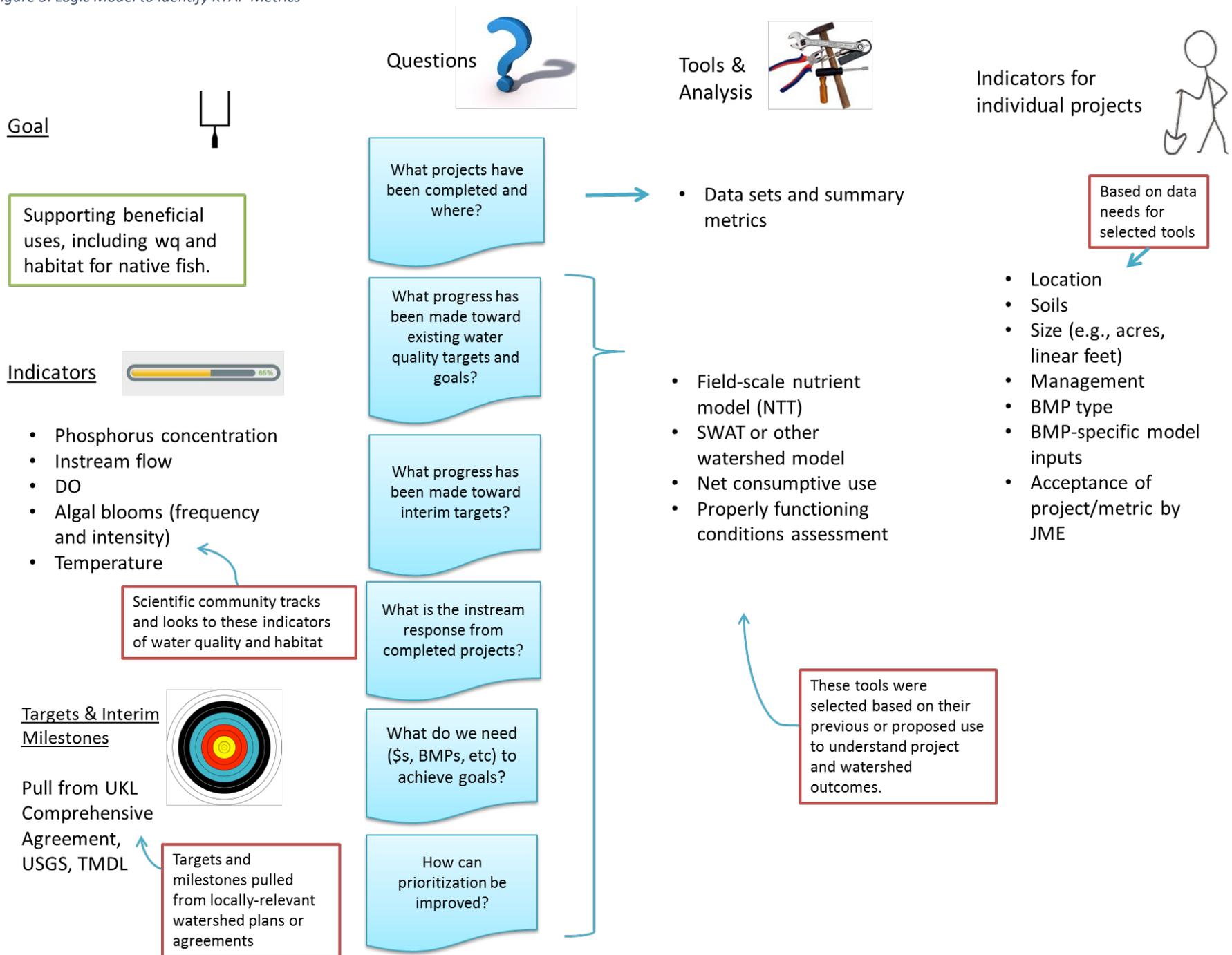


Figure 4. KTAP unifies multiple tracking ledgers to answer bigger questions

Figure 5. Logic Model to Identify KTAP Metrics



4. Building support and participation

It is no small feat to combine the ledgers of all the existing funders and implementers within a watershed, let alone set up new metrics and new systems on top of the existing infrastructure. It will come as no surprise that people are busy, and this means that gaining participation and momentum in the program is tough. In part, the challenge comes from a classic chicken-and-egg dilemma: People/groups will be excited to participate when the system produces useful products. The system's products are useful when there is robust participation.

Particularly with a voluntary program, it is important to build momentum in order to gain participation. KTAP's strategy for building momentum is three fold:

1. Remove barriers – Make participation as easy as possible and avoid avoidable barriers to participation. This strategy can be implemented any time and is largely within the control of the program manager. A few ideas on how to do that:
 - Concentrate outreach on a regular cycle, timed to avoid field season and reduce # of interactions; and
 - Be willing to take data in multiple formats: Make an easy form (e.g., Google forms), an Excel-based form, or just take what you can get.
2. Create incentives – This strategy is also largely in control of the program manager. The idea is that when the program provides value to individuals, they are more likely to contribute. A few ideas on how to provide or enhance the program's value to participants and make participation more appealing:
 - Target the tracking system to provide information that stakeholders can use to improve decision making, feed needed analyses (but you knew that already!);
 - Create an accessible platform to communicate about projects, and project benefits that participants can use for their own purposes (e.g., compiling data for the board or images for presentations);
 - Consider pursuing non-binding commitment from agency or organization executives that can help staff members prioritize responding to your requests; and
 - Integrate with funder requirements wherever possible. Participants spend less time compiling and reporting data.
3. Require it – This is the ideal, and ultimately the only sustainable way to get high quality data on a consistent basis. Arm twisting and pestering participants year after year to get their data takes a lot of time (and is not very fun for anyone involved), so start working with funders early. Funders can either require that their grantees report to the system or provide their own data in bulk. Funders will likely need to know that they can still meet internal reporting needs and know that it does not create an undue burden on their grantees (see #1).

4. Program Infrastructure and Capacity

This section is about building out the back-end infrastructure. That includes the spreadsheets, databases, websites, and plugins that hold and display data. It also includes the human systems that transfer information between them and make sure that it is accurate.

A. Communication – Outreach materials and relationships

Basic communication tools are a must – Sharing information is not as easy as it sounds because it is inherently an act of trust, and trust comes from relationships. Trust comes from communication, so be

able to describe the program in one sentence or one page and develop messages by thinking through the lens of your participants – how does this program make their job easier? How does that change if they are an implementer vs a funder vs a landowner? Distribute briefs or handouts, consider pairing that with live presentations, and then follow-up with phone calls or face to face meetings to discuss mutual goals, answer questions, and overcome perceived barriers. It is easier to say no than yes, and potential participants may not go out of their way to get their questions answered, so it becomes incumbent upon the program coordinator to create the space for those interactions.

B. Collecting project information – Protocol and forms

A protocol/handbook/user guide can be the repository of the basic context and program description, value proposition for participating, the logic behind program design, and instruction on how to engage.

Forms are also necessary to obtain project-level information. There are free, adaptable online options, like Google forms. More advanced programs can develop custom web interfaces, but it's important to note that higher tech options are often more expensive to change, and may require bringing on an external consultant.

For each question or metric within your submission form, consider providing both a description of what you want and a sample submission. Participants will be more likely to skip a field that they don't understand than reach out to the program coordinator to ask about it.

C. Storing and manipulating project information – project database

Once you have project information, you'll need to store it in a format that you can manipulate and do basic analyses. The most basic format is a spreadsheet, typically in Microsoft Excel or Google Sheets. Excel is convenient because almost everyone has access and can perform basic functions. It's not ideal, however, because data is likely to be more complex in structure than the spreadsheet can represent. For example, if you are tracking multiple types of actions (e.g., riparian restoration, fish passage

Design Considerations in KTAP

- **Useful** – We are always looking for new ways that KTAP's reporting can make life easier for participants.
- **Easy for participants** – Easy is good. The KTAP form and web report are designed to be easy to understand and navigate.
- **Deliberate** – Each piece of information requested for KTAP reporting can be traced back to the program and watershed goals.
- **Flexible** – Despite the careful planning and selection of deliberate metrics, KTAP is also flexible enough to take data in whatever format is available. A perfect system is pointless if no one participates.
- **Easily adaptable** – KTAP has been evolving quickly. That's why the design of data collection and management systems favored adaptability over efficiency and automated features. For example, the project data is stored in an Excel spreadsheet. Excel is not ideal for the relational nature of some data, but it is easy to use and easy to change.
- **Low overhead** - KTAP has been specifically designed to keep overhead costs low. We do that by using low tech systems (e.g., Excel, Google Forms) which are also low cost, and working with funders to gather data in bulk. Where outreach is needed, we prioritize using existing networks (e.g., Klamath Basin Monitoring Program).

improvements, irrigation upgrades), each action will have different metrics associated. In a spreadsheet, you will need a column for each metric, many of which will be blank for any one project.

The alternative is a database. Microsoft Access can be used for simpler databases, more advanced relational database management systems like Microsoft's SQL or Oracle Database. In a relational database, the user designs relationships between fields. Following the previous example regarding multiple project types, there might be a table for metrics associated with each action type. However, not all organizations have the capacity to set-up and manage a database. They are also more difficult to change if you decide to alter the metrics or how they are organized.

D. [Displaying watershed progress – annual/watershed report](#)

This is where it all comes together. Tracking and accounting program managers should begin thinking early about the general format through which they will reflect information back out to the community. Web-based reporting is becoming the norm because it is easily accessible and can utilize plug-ins or other features that allow the user to interact with the information.

5. [Governance](#)

An advisory or governance body can help the program coordinator make decisions, act as a sounding board for new ideas, and help conduct outreach to their own networks. Program coordinators should look to those that represent their participants, end users, and other affected parties.

KTAP Program Infrastructure

[KTAP Project Stewardship Protocol Handbook](#)

The Protocol Handbook describes the program purpose, origin, and the thoughtfulness embedded in its design. It also provides a step-by-step guide to participating.

[KTAP Watershed Report](#)

KTAP uses an interactive website to summarize and communicate all the actions tracked by the program and summarize the extent and impact of those actions. The website is a communication tool, and is not intended to cover all of the available project information. Those who want to see the full dataset can download a copy of the master spreadsheet (see below). For the website, the program coordinator reviews, manipulates, and queries the data to determine what pieces will best tell the story. The draft report gets reviewed by stakeholders.

[Reporting Form](#)

An online form through which participants can submit information to the program coordinator. The report has just a couple required fields, leaving the rest optional to encourage participation even if project information is limited and to allow users the flexibility to filter sensitive information (e.g., specific project location). The program coordinator also accepts data in other forms, transferring to the KTAP project spreadsheet manually. This has been particularly important where funders can provide a dataset covering multiple or all of their grantees, which is ultimately much more efficient than reaching out to individual project implementers.

[Master Project Spreadsheet](#)

At this point, all project data is kept on a master spreadsheet, housed on the local network of the program coordinator. The spreadsheet is available for download from the website, open to any and all users. In the future, a relational database will almost certainly be needed to organize and access information efficiently, but for now, a spreadsheet made the most sense because the program is still evolving and the spreadsheet is easy to adapt if metrics change. It's also broadly accessible since no specialized capacity or software knowledge is required. More complex database (e.g., SQL servers) or automated systems (e.g., custom servers), often built by software development firms, can be expensive to change.

6. Long term operations

Sustained funding for tracking watershed improvement projects is perhaps the most difficult piece to get in place, and offers the fewest successful examples to draw from. A good place to start is by thinking again of those parties that the system benefits – have funders, implementers, or regulatory agencies been able to replace internal tracking mechanisms? If so, there a case to be made that those avoided costs be the basis for monetary support of the program? Otherwise, program coordinators will need to be creative in how they market their program to new funders and funding sources. Funders are more often looking to build something new vs sustain an existing program, so look for ways to package improvements and deliver products in new ways.

Conclusion

This is important work and the products can be very valuable, but getting a tracking and accounting program started not always easy and there is certainly no one way to do it. Those that wish to start a tracking and accounting program should think first about what the program is meant to accomplish and how that drives its design, and they should think foremost about how to drive participation, in part by creating value for the participants. Program design options and considerations will come more easily with those pieces in place.

Learn More

Information and current publications from KTAP can be found at ktap.willamettepartnership.org. Or contact Carrie Sanneman at sanneman@willamettepartnership.org