

Upper Sacramento, McCloud, and Lower Pit Integrated Regional Water Management Plan



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Upper Sacramento, McCloud, and Lower Pit
Regional Water Management Group

Chapter 12: Performance Monitoring



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12. Plan Performance and Monitoring

Monitoring and assessment is a critical management component to implementing the Integrated Regional Water Management Plan (IRWMP). This chapter focuses on the performance and monitoring of individual projects, as this represents the bulk of how the IRWMP will be implemented on the ground. While most performance measures and monitoring activities will be related to project implementation, there are a couple of measures identified in order to better track regional water management group (RWMG) success. It is important for stakeholders to identify what they hope success will look like for the collaborative process because this will then help them to define the path forward after the planning grant comes to a close. Stakeholders are interested in continuing the RWMG for reasons beyond grant funding; some stakeholders have discussed the potential for the RWMG to be an organizing entity within the region to develop collaborative approaches to issues affecting the entire region. Some of this is discussed in Chapter 15, Finance.

12.1 Monitoring and Evaluation

While the process for monitoring and evaluation is outlined below, the responsibility for the effort is two-fold. Project sponsors — and collaborators, as decided by the project sponsor — are responsible for identifying and tracking performance measures specific to their projects. It may be true that they have performance measures in mind that are not included in the Upper Sacramento, McCloud, and Lower Pit Region (USR) list; those may be tracked as they wish, however, the measures specific to the USR IRWMP must be tracked and reported on at least an annual basis. The RWMG is responsible for beginning the evaluation process and assigning that task to member groups and/or RWMG staff, as available. More about this process is described below.

12.1.1 Performance Measures

All USR projects can be linked to at least one objective. USR stakeholders identified measurement strategies for each objective based on the topic and the issues addressed. These measurements will become the performance measures, and are shown in Table 12.1, below.

Objective	Measurements
7. Increase knowledge of basin characteristics and raise public awareness and understanding of fractured rock aquifers, watershed dynamics, existing water rights, water resource allocation, and existing management authorities to inform and develop support for IRWM planning and projects.	<ol style="list-style-type: none"> 1. Map all groundwater basins by 2018 2. Understand the dynamics of groundwater in the Medicine Lake Highlands by 2025 3. Create and implement a public education and outreach campaign on watershed conditions and management by 2020 by supporting existing outreach efforts as well as developing additional strategies 4. Develop a better understanding of implications of climate change on this region and create a strategy for this by the end of 2014 5. Develop and support a basin hydrologic inventory including water sources, uses, features, and critical management areas for both ground and surface waters by 2018
2. Encourage, improve and maintain an environment that fosters cooperation,	<ol style="list-style-type: none"> 1. Continue to meet as a RWMG through the life of the IRWMP (at least twice a year for the next 20 years)

Table 12.1: Performance Measures based on Objectives and Issues

Objective	Measurements
<p>facilitates collaboration, and builds relationships of trust and respect among water resource stakeholders and community members with respect to water management efforts within the region.</p>	<ol style="list-style-type: none"> 2. Continue outreach to both current and potential members on an annual basis 3. Complete a basic ethnographic section for the 2012-2013 IRWMP and working to collaboratively implement recommendations developed in that assessment 4. Two public presentations or newspaper articles about regional water management issues in the USR annually 5. Develop and maintain a glossary of terms specific to the USR IRWMP by 2014 6. Track implementation success on a bi-annual basis 7. Track the number of projects involving more than one entity and the success of those collaborations 8. Include stakeholder survey indicating level of support by stakeholders in project review criteria (five star collaborative project) 9. Implementation of video project in 2013 10. Equitable governance structure demonstrated in post-planning process
<p>3. Maintain and enhance the ecological health of the basin to:</p> <ol style="list-style-type: none"> a. Support the local economy; b. Ensure public health and safety; c. Respect and support indigenous cultures; and d. Improve recreational infrastructure and opportunities for both tourism and the local economy. 	<ul style="list-style-type: none"> • Implement at least three projects by 2020 that improve/protect ecological health and are compatible with the local economy • Document the economic impacts of restoration projects as they are implemented • Track and document economic benefits that can be linked to water infrastructure improvements as they are implemented • Quantify beneficial ecological results of projects (habitat improvements, water storage/infiltration, etc.) as they are implemented
<p>4. Support and improve ongoing forest management efforts with regard to local water quality and supply, including fire management, within existing regulatory frameworks.</p>	<ol style="list-style-type: none"> 11. Reduce fuel load on at least 5,000 acres on an annual basis through 2020 12. Document the number of projects implemented by forest management entities on an annual basis
<p>5. Ensure support for and foster success of water management efforts for disadvantaged communities including Indigenous Tribes and Nations while respecting the cultural values of existing communities.</p>	<ul style="list-style-type: none"> • Document support for the participation of DACs in the IRWM process on an annual basis • Implement at least three projects with a DAC project proponent by 2017
<p>6. Support local participation in development and implementation of water quality standards that reflect local conditions and implementation of projects that maintain and enhance the basin's existing water quality. Identify point source pollution and problem areas.</p>	<ol style="list-style-type: none"> 5. Work collaboratively to develop a method to locally track and document conditions on an annual basis 6. Develop a process to track locally-managed water quality for critical streams by 2015 7. Complete a local water quality assessment of the Upper Sacramento River by 2017
<p>7. Ensure adequate water supply and quality while maintaining regulatory compliance, minimizing conflict, and recognizing and respecting existing water rights and other water users.</p>	<ul style="list-style-type: none"> • Identification and quantification of water rights in the region by 2017 • By 2018, complete a projection of regional water needs into the next thirty years • Assessment of adequate area-of-origin water rights

Table 12.1: Performance Measures based on Objectives and Issues	
Objective	Measurements
	projections for the region by 2020 <ul style="list-style-type: none"> • Develop a regional capital improvement plan that identifies key deficiencies with proposed actions by 2016 • Better coordination and communication of land use planners and those regulating or managing water through an active coordination program designed by RWMG members by 2015
8. Facilitate development of sustainable water/wastewater infrastructure to ensure public health, protect ecological integrity, and support economic stability. Research, facilitate and support alternative waste/waste water treatment technology that also protects public health, ecological integrity and economic stability.	<ul style="list-style-type: none"> • Implementation of at least three projects protecting and/or improving water/wastewater infrastructure by 2020 • Identify and develop a strategy to address non-municipal water and wastewater supply and quality concerns including individual wells and septic systems by 2015 • Projections of water needs into the next thirty years by 2018 • Understanding connections between spring water and groundwater by 2018
9. Address flooding concerns through infrastructure improvements and support ongoing flood management efforts. Research history of flooding in the region including the different landscape and water conditions that naturally decreased flooding.	5. Identify flood control and management deficiencies and develop an infrastructure improvement plan by 2015 6. Address critical flooding threats to communities by 2020

12.1.2 Responsibility and Timing

As stated in the Section 12.1, above, the RWMG is responsible for completing an assessment of performance for the IRWMP. This will be done through the collection of individual project sponsors’ monitoring efforts and results, as well as some internal RWMG effort tracking.

Collecting project sponsor results will consist of an annual targeted outreach effort to those sponsors who have had projects funded in the last year through the IRWMP. The entity doing the tracking will likely use some type of data collection tool, such as a Microsoft Excel spreadsheet, to quantify both the objective measurement as well as the total effort toward the measurement goal. This will get baseline information into the tracking system.

A secondary effort will be a call to the entire RWMG to report any project efforts completed in the past year that have contributed to at least one of the USR objective measurements. These efforts will be tracked in the same way, through the data tracking tool. The reason these additional efforts are to be tracked is because the RWMG acknowledges that not all projects will go through the USR, but knows that most projects implemented in the region will likely satisfy at least one objective. In addition, it’s likely that the IRWMP will begin to be used as a guidance document for a variety of planning and implementation processes (since it is designed by a variety of participating entities), and that it will begin to be incorporated into those implementation efforts.

While an annual evaluation of success is projected, formal plan revisions due to these reviews are not anticipated more often than every five years due to the time and cost associated with formal revisions. Temporary revisions will be done through a process of addendum development.

12.1.3 Project Completion: Tracking Success and Integrating “Lessons Learned”

As stated above, the measurements obtained from projects sponsors will be recorded in a tracking tool. While the appropriate tool is to be determined, it is likely to be simple spreadsheet that is easy to use for a variety of member entities. The RWMG will identify, on an annual basis, the responsible entity for this tracking effort. The choice may be made on a voluntary basis, or possibly based on the situation of the member. It may be desirable that the tracking entity be a neutral party, or an entity with significant history in running the IRWM process, such as the River Exchange (which is managing the 2011-13 IRWM Planning Grant). It could be a responsibility that goes from entity to entity, alphabetically or in some other way throughout the next 10-20 years. In any case, it will be a task managed by the RWMG that will need to be covered through in-kind efforts if no direct financing is available.

The results of the tracking will be reported in a list or spreadsheet manner so that all members and the general public will be able to understand the results. It will be posted on the USR website and made available in hard copy at the next meeting immediately following its preparation.

The results of the evaluation will help to define the direction of the group as it continues through implementation. It is possible that the assessment will show a higher-than-expected result in some measurements and possibly a slower implementation pattern in others. The RWMG must, at that point, decide what to do with the results. They may choose to further focus on the successful endeavors, or perhaps put greater emphasis on the factors that seem to be lagging behind expectations. This choice could affect the projects put forward and accepted by the RMWG in the future.

In addition, the results of the evaluation and assessment could affect the IRWMP directly through implications in resource management strategies (RMS) used and/or the efficacy of specific objectives and/or measurements. If these need to be changed, the governance put in place will allow for those changes to be discussed, negotiated, and made when the time comes.

12.1.4 Project-specific Responsibility

Primary responsibility for project-specific monitoring plans and activities is with the individual project sponsor and its collaborators. These plans will likely be developed when the project has been accepted as a “ready to proceed” project in the IRWMP. All project monitoring plans will be made available via the RWMG website along with all other project materials. Making these plans publically available increases regional organizational capacity by creating a pool of monitoring resources available to all RWMG members and the general public. In this way, regional project monitoring expertise and consistency is elevated.

A typical monitoring plan for USR RWMG projects includes the following:

1. A brief description of the project and GPS-based location of either a) the project center if it is a large project or b) the actual project location if it's location-specific;
2. A description of the monitoring that will be done for the project and the specific, GPS-based location of that monitoring (see Table 12.2, below, for a list of possible monitoring activities based on project type);
3. The protocols and frequency of the monitoring done; if it is to be done in compliance with an established regulatory framework, that framework will be referenced;
4. The individual and/or entity responsible for monitoring is identified and a contingency plan described in the case that the individual or entity is unable to complete the responsibility;
5. A plan for tracking the data and how it will be used; also, how the data will be made public and how the public will benefit from the information made available and whether any interpretation will be necessary and done in order to convey particular messages to the public;
6. Reference to both the Data Management System (DMS) for performance measures monitoring as well as to applicable state databases and tracking tools; if a state database is referenced, the protocols for state database reporting (available in Chapter 13, Data Management) should be referenced and any additional contact/coordination completed; and
7. A description of the funding and/or volunteer coordination efforts needed to complete the monitoring task and how, if applicable, the work will be funded if scheduled to be complete after grant funds expire or are used in full on project implementation

Project Type	Potential Project-level Monitoring Indicators
Environmental Work/restoration	<ol style="list-style-type: none"> a. Extent of flooding b. Linear feet of channel bottom and bank erosion repair c. Linear feet of vegetated swale created d. Miles of riparian corridor restored e. Stabilization of severe bank erosion f. Number and distribution of native species g. Development of a low-flow threshold for (fill in) population h. Development of method to distinguish and characterize at-risk populations for the purpose of targeting risk-reduction and impact-mitigation efforts i. Distribution of non-native species j. Re-grading of channel complete
Water Quality	<ol style="list-style-type: none"> a. Number of certified water testers b. Number of homes sampled/tested c. Quality of on-site stormwater runoff d. State or federal protocols or standards for water quality testing or measurements e. Salinity, organic carbon, turbidity, nutrients, and pathogens in local or regional discharges and runoff f. Reduced inflow of contaminants to treatment plant g. Removal of water body from 303(d) list

Recreation	<ul style="list-style-type: none"> a. Square miles of watershed access b. Number of access points to (fill in) river c. Linear feet of new trails
Land Conservation and Stewardship	<ul style="list-style-type: none"> a. Number of acres of forest protected b. Cost per acre of forest protected c. Amount of voluntary land conservation d. Acres of land protected e. Linear feet of fire road stabilized f. Sediment delivery to adjacent creek channels g. Quality of water in adjacent creeks
Infrastructure Projects	<ul style="list-style-type: none"> a. Quality of on-site stormwater runoff b. Flow rate/capacity c. Percent of CIP implemented d. Frequency of infrastructure issues/problems e. Stabilization of the (fill in) dam/canal/intertie/etcetera f. Capacity of existing plant g. Stormwater infiltration area established h. Number of active monitoring wells
Water Supply	<ul style="list-style-type: none"> a. New wells drilled b. (Number) years of supply projected c. Quantity of recycled water produced d. Cost per household of supply augmentation (can be used for both supply- and demand-side management)
Education and Outreach	<ul style="list-style-type: none"> a. Number of individuals educated b. Decrease in the amount of pesticides/herbicides applied on residential properties c. Number of viewing platforms erected d. Decrease in per-capita water demand e. Number of participants in region-wide technical committees for discussing data collection, management, disbursement, coding, presentation techniques f. Removal of properties from FEMA flood insurance rates g. Development of a manual/guidebook h. Placement of (number) signs
Planning	<ul style="list-style-type: none"> a. Model completed b. Vulnerabilities assessed c. Development of feasibility assessment d. Development of methods for identifying contaminants e. Percent of stakeholder/public input considered and/ or included in the project implementation design



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