

7.0 Future Plans

7.1 Programmatic-level Impacts and Benefits

CHAPTER

7

A number of potential benefits and impacts could result from implementation of projects described in the SFAR Watershed Plan. Potential benefits of project implementation could include:

- Increased reliability of long-term water supply;
- Increased efficiency in water storage and delivery;
- Sustainable management of groundwater;
- Integrated management of water storage and delivery infrastructure;
- Reduced impact from catastrophic wildfire;
- Decreased damage from flooding;
- Increased protection and improvement of watershed resources (stream flow, water quality, habitat, and fish and wildlife);
- Decrease in regional erosion and sediment;
- Reduced risk of future negative impacts due to population increases and climate change effects;
- Reduction in mercury contamination (source reduction and contamination remediation); and,
- Improvements to fishery and aquatic habitats through water resources management.

Potential long-term impacts resulting from no action would likely exceed any possible negative impacts resulting from implementing the Watershed Plan. In the absence of sustainable resource management of the watershed, it is expected that population increases will stretch existing water supplies and in some areas eliminate surplus supplies during the first two to three years of a drought. Increases in recreational use and urban runoff will continue to degrade groundwater and surface water supplies, impacting both consumptive use and the environment. In addition to the watershed impacts, State water supplies could also be impacted by the consumption of water supply and degradation of water quality. The continued decline in water quality, reduction in habitat values, and growing shortage in water supply will affect the watershed both directly and indirectly. Implementing actions identified in this Watershed Plan will help to stem negative effects of these resource stressors.

Many of the projects described in Chapter 6 could be categorically or statutorily exempt from environmental review because they do not result in direct physical effects (e.g., WEAP modeling, mountain meadow data collection, citizen-based water quality monitoring, education programs in area schools, irrigation rescheduling, etc.). However, some individual projects which would require disruption to the physical environment (e.g., abandoned mine clean-up, sediment control demonstration projects, off-stream recycled water storage) will need to comply with CEQA, NEPA, or other state and local permitting requirements. The environmental review process would evaluate and mitigate potential negative short-term impacts of project implementation, resulting in an overall positive effect on the immediate resource and watershed benefit.

Advantages of Collaborative versus Individual Efforts

The advantages of a watershed-wide effort over individual efforts have already been made clear by the demonstrable increase in collaboration amongst the stakeholders. The creation of a forum for identification of jointly held values, mutually agreed upon Goals and Objectives, and project development and evaluation has already resulted in the identification of a number of collaborative efforts between agencies, non-profit organizations, and other watershed and CABY-region stakeholders.

The advantages of the regional approach include opportunity to share knowledge and expertise; access data, studies, plans and management strategies; avoid duplicative efforts or overlapping projects; allow for consolidation of costs, effort and labor; identify issues which can only be addressed regionally (e.g., climate change, mountain meadow assessments, assessment of abandoned mines, and water quality monitoring); ability to work on point and non-point source pollution strategies (pollutants do not respect political boundaries); and evaluation of projects from a fresh perspective – addressing multiple issues through multiple strategies simultaneously in one project or enabling cross-jurisdictional collaborations.

The collaborative design of projects by diverse stakeholders will also increase public acceptance as they see projects proposed by agencies and organizations that have not traditionally cooperated. This also fosters an increasing sense of plan-level Watershed Group altruism. Once regional needs are known and understood it becomes easier to determine the relative importance of individual agency issues.

7.1.1 Plan Evaluation

The Watershed Plan evaluation procedures described below are modeled after the CABY IRWMP.

Importance of Monitoring and Performance Measures

The goal of performance measures is to ensure that the results achieved by implementation projects are available to managers, stakeholders, and founders. The framework provided by the identification of performance measures is also designed to keep the SFAR Watershed Group participants focused on the goals of the Watershed Group and those of the specific implementation project, progressively refine ongoing new project design, and support development and justification of project budgets by quantifying how the system has and will benefit from investments. Adherence to the performance measures will promote improved decision making, ongoing project modification, project transparency, inter and intra watershed learning, accountability, regular and systematic reporting, and monitoring of focus project outcomes. The Watershed Group will track performance data to determine if projects are achieving the desired results.

For a more specific example, a system indicator might be “linear feet of riparian vegetation restored”, while a project specific measurement might be “linear feet of

riparian vegetation restored on Hangtown Creek”, which would fit under the SFAR Watershed Group Goal 7: Protect and improve watershed resources through land use practices.

Performance Monitoring of Projects

Where possible, project level performance measurements will be stated as inputs, outputs and outcomes, and will incorporate targets and timeframes under which the targets are expected to be achieved.

Types of Performance Measures:

- Input performance measures - measure process and include such indicators such as number of meetings held, number of people trained, etc
- Output performance measures - measure progress and include such indicators as number of miles of canals lined, number of riparian seedlings planted, number of water audits completed, etc
- Outcome performance measures - measure project impact and include such indicators as number of migrating fish, acre-feet of water conserved, and degree change in water temperature, etc

The data gained through the examination of project-level performance measures will feed into the assessment process and adaptive management in the SFAR (described below). Performance measures will also be used to communicate and report to the public and to policy and decision makers.

Assessment Process and Adaptive Management

Adaptive management involves designing and executing actions, monitoring and assessing the responses of the system to these actions, and thereby learning how actions affect the system. In the event that monitoring data demonstrates that implementation actions are not meeting goals and objectives, these actions will be adapted or changed over time.

The process of adaptive management and the development of indicators begins with confirming the major issues driving the system. Using existing knowledge, the Watershed Group has identified key regional watershed attributes as they relate to Goals and Objectives, their interrelatedness, and the important factors and stressors that influence them (see Chapter 5). There may not always be unanimity of opinion regarding the attributes and linkages, but this discussion of the attributes, functions, and linkages described will enhance communication, collaboration, and understanding amongst a range of stakeholders, eliminate options that are unlikely to do much good, convey why certain management actions are expected to produce desirable effects, formulate specific questions and hypotheses to inform management actions and monitoring, and identify knowledge gaps.

Data Sources, Use and Dissemination

Sharing environmental and water-related information is a major component of the Watershed Plan. Integrating historic and current watershed information will enable more efficient actions, help track implementation, increase decision-making transparency, reduce the cost of data collection, and avoid duplication of effort.

Measurements and data collected for performance measures and indices outlined above will come from four major sources:

- direct measurements undertaken by the SFAR Watershed Group;
- measurements taken by projects supported by the SFAR Watershed Group;
- data collected by local, state and federal agencies and water districts; and
- data collected by watershed groups, cities, counties, and universities.

The SFAR Watershed Group and implementing parties will undertake the gathering and sometimes the analysis of the various data sets and will work with the CABY group to ensure transparency and the availability of this data where appropriate. CABY will also coordinate with state and federal monitoring efforts, including the Surface Water Ambient Monitoring Program (SWAMP), the Groundwater Ambient Monitoring Assessment (GAMA), and the California Environmental Resource Evaluation System (CERES). CABY data will be supplied in a format that is compatible with these databases, and will include proper quality control and assurances and will provide data back to these systems in formats compatible with state requirements.

Water Quality Monitoring

It was recognized early on in the Watershed Plan process that stakeholders were very interested in the amount, location, and data gathered by the many organizations doing water quality monitoring in the SFAR watershed. It is the goal of this Watershed Group to implement some type of tracking mechanism to enable resource agencies and the public alike to access the water quality information gathered by all participating stakeholders. This is identified under the implementation actions.

Quality Assurance

The SFAR Watershed Group will implement quality assurance approaches on a range of scales. On a project level the SFAR Watershed Group will ensure that projects that involve data collection, analysis, and reporting will be done with consideration of highest quality of data.

In addition, every five years, the SFAR Watershed Group will commit to a review of progress towards implementing the Watershed Plan. This assessment will be invaluable in keeping the region on track to successfully reach stated Goals and Objectives, and will also provide an excellent way to make progress apparent.

7.1.2 Financing

Implementation Funding Overview and Context

Developing reliable funding sources for projects is integral to Watershed Plan success.

In the case of public agencies, there are a variety of factors that can influence their ability to finance projects, ranging from the steady increase of construction costs to the on-going need to maintain and replace aging infrastructure. For non-profit organizations the ability to raise general support funds to keep their operations going is notoriously difficult, and project-specific funds are often tightly restricted, making the use of such funds for any uses not explicitly included in a grant application impossible.

Nonetheless, the SFAR Watershed Group members have already demonstrated a firm commitment to see the organization succeed and its projects funded. As stated earlier, Watershed Group stakeholders have committed to keeping the group going, passing the facilitation and logistics responsibility as needed for continued implementation and success.

Beneficiaries of CABY Projects

The benefits that will derive from projects are derived from and linked to the Goals and Objectives established in Chapter 5. The watershed has already benefited from the high degree of collaboration that preparation of the plan has engendered. Agencies and organizations are meeting monthly to discuss issues and to develop projects of mutual design and benefit. These on-going planning efforts will directly benefit the region through the development of projects that are responsive to regional priorities and sensitive to the evolving knowledge of the watershed as project performance monitoring results become available.

The beneficiaries of projects are many and varied – residents of the immediated project areas, residents of the watershed, the millions of tourists who visit the watershed annually, the agricultural community, the business community, federal and State agencies and the water agencies which will experience increased reliability of water supply and quality, beneficial uses, other public agencies empowered to implement State plans, and the future residents of the region are all direct or indirect beneficiaries of the plan.

7.2 Next Steps

The SFAR Watershed Group has identified a number of “next steps” that will need to be undertaken to speed or facilitate plan implementation. These include:

- additional stakeholder outreach to land use agencies, the business community, agriculturalists, others;
- continued advances in addressing issues of Environmental Justice;
- (Others - To be defined by the Watershed Group at the November meeting).