# Goals and Objectives

## Introduction

The Southern Sierra Regional Water Management Group (RWMG) developed regional goals and objectives to focus their planning and implementation efforts. This chapter describes the goals and objectives, the process for their development, methods of measuring success, and ranking and prioritization of goals. **Figure 4‑1** illustrates the hierarchal relationship between a regional vision, goals, objectives, strategies and projects.

Figure 4‑1 Goals and Objectives Hierarchy

Below are definitions of the terms found in **Figure 4‑1.**

**Vision:** Image or understanding of what will be accomplished.

**Goals:** The highest level of desired outcomes that support the vision.

**Measureable Objectives:** Measurable actions/methods for achieving the goals. A measurable objective can apply to more than one goal.

**Resource Management Strategies:** Land and water management strategies for achieving the objectives.

**Projects and Programs:** Projects and programs that can achieve the measureable objectives.

**Funding:** Internal and external funding to implement projects and programs.

This chapter discusses the goals and objectives. Resources management strategies are discuss in **Chapter 5**, proposed projects are discussed in **Chapter 6**, and funding alternatives are described in **Chapter 10**.

## Goals and Objectives

The goals and objectives for the Southern Sierra RWMG are summarized in **Table 4.1**, and are discussed in detail below. The goals and objectives are not listed in any specific sequence or priority. Some objectives are found under more than one goal because they have multiple and diverse benefits.

Table 4.1 - Summary of Goals and Objectives

|  |  |
| --- | --- |
| **G.1 - Improve Water Supply Management**   1. Promote natural water storage 2. Increase understanding of water balance 3. Increase capacity of water storage facilities, including targeted recharge, and shallow subsurface storage. 4. Improve water use efficiency 5. Mitigate and adapt to climate change impacts on water resources, including natural and built infrastructure. 6. Promote sustainable water supplies for new human developments | **G.2 - Protect and Improve Water Quality**   1. Protect natural water bodies 2. Promote best land conservation and management practices to protect water quality or reduce contamination, including polluted runoff. 3. Reduce erosion and sedimentation 4. Promote storm water management planning and implementation 5. Assess water quality of small water systems 6. Study septic system impacts |
| **G.3 - Perform Integrated Flood Management**   1. Address climate change impacts from flooding 2. Integrate flood management with other activities 3. Protect/restore floodplain connectivity 4. Increase water storage capacity, including targeted groundwater recharge. | **G.4 - Improve Watershed and Environmental Resource Management**   1. Promote best land management and conservation practices to protect water quality, including polluted runoff. 2. Manage vegetation to improve forest health and reduce fire risk 3. Reduce erosion and sedimentation 4. Promote natural water storage 5. Protect and restore floodplain connectivity |
| **G.5 - Expand Stakeholder Education**   1. Promote community education on water issues 2. Increase outreach to Native American Tribes 3. Increase outreach to disadvantaged communities 4. Create/maintain RWMG website | **G.6 - Protect Unique/Important Environmental Resources**   1. Protect areas with high value to water storage and groundwater recharge 2. Protect areas with high value to water quality protection and remediation 3. Protect areas with high value to other water resources issues 4. Enhance water management in already protected areas |
| **G.7 – Reduce Energy Consumption and GHG Emissions**   1. Promote renewable energy facilities that reduce fossil fuel energy consumption in the water sector for pumping, conveyance, treatment, heating, cooling, and cleaning. 2. Improve forest management for water resources, carbon sequestration and other services through fuel reduction treatments and meadow restoration. 3. Support innovation in biomass and compost utilization pathways. (AB 32 Scoping Update) 4. Incentivize composting and other practices that are known to sequester carbon in agricultural soils and plants (Healthy Soils Program- AB 32 Scoping Plan Update\_https://www.cdfa.ca.gov/oefi/healthysoils/) 5. Promote all waste as a resource for reuse and recycling. |  |

**Goal No. 1: Improve Water Supply Management -** Ensure adequate water supply to meet the Region’s expected surface and groundwater needs between now and 2045 while minimizing environmental impacts.

**Objective 1a: Promote natural water storage through meadow, stream and forest restoration**. Natural features such as streams, meadows and forest landscapes have been impacted and their ability to store water has been reduced.This objective includesreducing live fuel loads and excessive vegetation (where fire has been suppressed), to reduce vegetation transpiration to sustainable levels, and increase water storage in soils and streams. Removal of exotic vegetation, which has higher water use than native vegetation, can also improve water storage. When natural features such as meadows and stream/riparian areas have been impacted, their ability to store water likely has been reduced. Restoration projects can help restore the natural hydrologic functions and provide better storage and release of water.

**Objective 1b: Increase understanding of the water balance and subsurface water resources.** The Region’s natural storage capacity is not well understood, largely because the groundwater is found in fractured bedrock that is not as easily modeled as a typical alluvial aquifer, and groundwater monitoring is limited. The depth of subsurface water in soil, and weathered bedrock is also not well known, but central to forest resilience and summer baseflow in streams. In addition, surface water monitoring is sporadic and inadequate in many areas. Hydrologic studies of the Region and especially near population centers are needed to more fully understand the water budget.

**Objective 1c: Increase water storage, including targeted groundwater recharge and shallow subsurface storage.** Increasing storage capacity can provide greater water reserves on a short and long-term basis as well as provide flood protection. Capacity can be increased by constructing new storage facilities, raising dams, or removing accumulated sediments. Water resources planning should consider variability in amount, intensity, timing, quality and location of runoff, especially as it relates to climate change. Planning efforts should also consider all types of recharge opportunities and capabilities and techniques at suitable points of water collection. Efforts should be made on identifying and utilizing the excess floodflows during winter that can be re-routed to suitable locations with high infiltration rates for enhancing groundwater recharge. Also determine response of shallow subsurface water storage and snowpack storage to forest treatment and disturbance.

**Objective 1d: Efficiently use, conserve and recycle water resources**. Water conservation, water recycling, and improved infrastructure efficiencies are important tools to meet increasing water demands throughout the Region. Water use can be optimized through urban water conservation, agricultural water conservation and recycling of treated effluent. The goal here is to help local communities reduce water use by 20%.

**Objective 1e: Mitigate and adapt to climate change impacts on water supplies.** Climate change is projected to increase evaporation and alter precipitation patterns resulting in more-severe droughts, less overall precipitation, and less snowpack storage. The Region is currently undergoing an extensive drought-induced forest mortality event that will have an affect on streamflow for decades. In combination with climate change, many previously forested areas may not recover and convert to new vegetation types, permanently altering evapotranspiration, watershed storage and streamflow. **Chapter 15 – Climate Change** includes several strategies to reduce the impacts from and increase resiliency to climate change. The RWMG is encouraging ‘no-regret’ strategies that would benefit the Region whether or not climate change occurs.

**Objective 1f. Promote sustainable water supplies for human development.** New and existing developments place additional pressure on water supplies and aquatic ecosystems. This goal includes promotion of comprehensive land use planning policies that require proving sustainable water supplies exist for new developments.

**Goal No. 2: Protect and Improve Water Quality –** Improve water quality to help ensure drinking water meets California health standards, and natural water bodies can support livestock and native wildlife.

**Objective 2a: Protect natural streams, lakes and other water bodies from contamination.** Several natural water bodies in the Region are impaired, or are at risk of impairment, from natural or anthropogenic contaminants. These water bodies can be restored to natural conditions and protected from contamination by developing and using best management practices for forest, range, agriculture, and urban land uses and through proper wastewater disposal.

**Objective 2b:** **Promote best land conservation and management practices to protect water quality or reduce water contamination, including polluted runoff.** Numerous activities and issues in the Region contribute to the degradation of water quality including septic systems, urban storm runoff, recreation, riparian land use, agriculture, abandoned mines, and illegal marijuana cultivation. This goal includes promoting and implementing best management practices to reduce the impactfrom these activities and restore the water bodies to their natural conditions.

**Objective 2c: Reduce erosion and sedimentation.** Excessive erosion and sedimentation can negatively impact wetlands, water courses and storage capacity of reservoirs. Several measures can be taken to reduce erosion and sedimentation including slope stabilization, road maintenance, road decommissioning, grading and drainage improvements, and best management practices during construction. Erosion and sedimentation can also be mitigated through forest management practices that help to reduce the severity of wildfires.

**Objective 2d: Promote storm water management planning and implementation.** Small communities in the Region must manage stormwater to reduce flooding and protect water quality. Development and implementation of stormwater management plans can help to improve drainage and discharge of pollutants to natural water bodies. This objective also includes promoting Low Impact Development to help increase groundwater recharge, reduce flooding and improve water quality protection.

**Objective 2e: Assess water quality problems of small water systems.** Several small water systems in the Region have groundwater quality problems including nitrates, uranium, gross alpha radiation and several other constituents. These communities have limited data, funding, or expertise to evaluate groundwater quality and more extensive investigations are needed. Many of these small water systems are in disadvantaged communities.

**Objective 2f: Study impacts of septic systems on water quality.** Many residents and businesses use septic systems to dispose of wastewater, especially when they are located in small or isolated communities that lack a sewer system. Additional information is needed on how these systems impact groundwater quality, and alternative septic system designs or treatment methods to protect water quality. To address this need, stakeholders need to provide assistance or coordination with counties in developing Local Area Management Plans to address the new statewide policies for on-site wastewater treatment systems.

**Goal No. 3: Perform Integrated Flood Management -** Develop strategies that improve environmental conditions in floodplain and riparian corridors, maximize natural floodwater retention strategies, and improve flood control facilities.

**Objective 3a: Identify and implement projects to accommodate flood related impacts from climate change.** Climate change is projected to alter the timing, frequency and magnitude of flooding. A range of future conditions needs to be identified and new policies, programs and projects developed to accommodate the anticipated changes in flooding.

**Objective 3b: Integrate flood management with other land management activities.** Integrated flood management integrates land and water resources development to maximize the efficient use of floodplains and minimize loss of property and life. This can be accomplished by integrating flood management with transportation, land development, resource management and water resources projects.

**Objective 3c: Protect and restore connectivity of floodplains with other water bodies**. Floodplains need to maintain connectivity to rivers and streams to provide riparian habitat, perform groundwater recharge, spread out floodwaters and maintain biodiversity of aquatic species. This can be accomplished by identifying, protecting and restoring critical floodplain areas.

**Objective 3d: Increase capacity of water storage facilities, including recharge.** See objective 1c.

**Goal No. 4 - Improve Watershed and Environmental Resource Management -** Promote best management and conservation practices for all land uses in the Region: range, forest, agriculture, urban, and wildland-urban interface to protect ecosystems thereby improving water supplies and water quality. Preserve open space and natural habitats that protect and enhance water resources and native species.

**Objective 4a. Promote best land conservation and management practices to protect water quality or reduce water contamination, including polluted runoff.**  See objective 2b.

**Objective 4b. Manage vegetation to improve forest health and reduce fire risk and attempt to keep fires within their natural range of variability.** Forest and brush fires can lead to erosive conditions that contribute soil, ash, nutrients, and debris to water supplies. Local landowners can be educated and encouraged to reduce fire risk by using fire resistant and retardant landscaping. Land managers can reduce fire risk by creating strategic fuel breaks, conducting fuel treatments and forest restoration, thinning underbrush, and allowing low-intensity fires to consume accumulated fuel.

**Objective 4c.** **Reduce erosion and sedimentation.** See Objective 2c.

**Objective 4d. Promote water storage in source-water regions through meadow, stream and forest restoration**. See Objective 1a.

**Objective 4e. Protect and restore connectivity of floodplains with other water bodies.** See objective 3c.

**Goal No. 5: Expand Stakeholder Education –** Expand existing outreach efforts to educate the public, encourage participation, and promote the benefits of integrated regional water management.

**Objective 5a: Promote community education about water resources and climate**. Some water resources problems result from a lack of awareness and education. This can be remedied by educating the general public, public project planners and elected officials on water-resources and climate issues, water conservation, and practices/policies for protecting water quality.

**Objective 5b - Increase outreach and involvement to Native American Tribes.** Three federally recognized Native American Tribes are located in the RWMG boundaries. These tribes represent an important stakeholder group and bring important support for ecosystem preservation, elimination of exotic species, and other water management issues, as well as traditional ecological knowledge. The tribes can be further engaged through additional outreach and education to increase their involvement and feedback in the RWMG, regional water planning, and project development.

**Objective 5c: Increase outreach and involvement to disadvantaged communities.** Many small disadvantaged communities are found in the Region but few are represented on the RWMG. This goal includes performing outreach and education to DACs to increase their involvement and feedback in the RWMG, regional water planning, and project development. Identify capacity-building opportunities and needs.

**Objective 5d: Develop and maintain a comprehensive website for Regional Water Management Group.** The RWMG launched a new website in 2014 (<http://www.southernsierrarwmg.org>). The website includes information on the Southern Sierra Region, meetings, educational materials, the IRWMP and other topics. The website is an important tool for stakeholder outreach and information dissemination. The website can still benefit from further expansion and frequent updates to better serve the Region.

**Goal No. 6: Protect and Enhance Unique and Important Environmental Resources –** Focused protection and enhancement may be needed for certain unique and important environmental resources. Though much of the Southern Sierra is in state or federally protected lands, there may be some areas that are not, but have unique and important areas that merit special protection or conservation. Some lands already have conservation easements through non-governmental organizations and other means. For those areas identified that have high value but are not protected, and are potentially at risk, easements and related methods could provide long-term protection. This goal includes providing further protection for unique areas on public lands, and encouraging private landowners to take voluntary measures to protect their land.

**Objective 6a: Protect unique areas of high value for water storage and groundwater recharge**. Provide suitable protection for identified areas of high value for water storage and/or groundwater recharge, especially if they are at risk of land use change. For example, the Southern Sierra has numerous meadows and lakes, some of which may be of particular value and are not protected from potential land use changes such as road construction or other development.

**Objective 6b: Protect unique areas of high value for water quality protection and remediation.** Provide suitable protection for identified areas of high value for water quality protection and/or remediation, especially if they are at risk of land use change. For example, some of the small community water supplies originate in areas that would be impacted if recreation patterns change or intensify.

**Objective 6c: Protect unique areas of high value for other important water resources related issues.** Provide suitable protection for identified areas of high value for other unique water resources related issues such as flood control, educational opportunities, or fire management, especially if they are at risk of land use change. For example, some areas within the Southern Sierra offer unique opportunities for public education regarding water resources and could be integrated into projects so that educational opportunities are enhanced.

**Objective 6d: Enhance water resources management in areas already in protected status for their unique and high value natural resources.** Provide additional enhancements in areas already set aside/protected for unique and high value resources related to water conservation, water quality or other water issues. For example, the Southern Sierra is home to the Giant Sequoia, of which some groves that have high public traffic may have need for focused management to protect the local water quality and prevent erosion.

**Goal No. 7: Reduce Energy Consumption and GHG Emissions –**  Promote “all of the above” best practices in land and water management actions that contribute to achievement of the adopted 2008 Climate Change Scoping Plan[[1]](#footnote-1) and the proposed 2017 Climate Change Scoping Plan Update goals to “…reduce climate change… and guide the State toward an equitable clean energy economy and prosperous future.”[[2]](#footnote-2). A key goal of the Plan in addition to an overall reduction in use of fossil fuels is more conscious management of farm and rangelands, forests, and wetlands so they can store carbon. Reduced dependence on fossil fuels, absolute reductions of energy consumption and carbon sequestration in soils of natural and working landscapes will work in aggregate to reduce greenhouse gas emissions.

**Objective 7a: Promote renewable energy facilities that reduce fossil fuel energy consumption in the water sector for pumping, conveyance, treatment, heating, cooling, and cleaning.** Knowing that population growth will drive demand for water, agency, on-farm and on-business scale energy-reduction and sustainable energy generation facilities for domestic water and waste-water operations including use of recycled water for irrigation should be promoted. In the future, the ability to meet most new demands for water will come from a combination of increased conservation and water use efficiency, improved coordination of management of surface and groundwater, recycled water, new technologies in drinking water treatment, groundwater remediation, and brackish and seawater desalination.[[3]](#footnote-3) Renewable energy sources, such as wind, solar, waste biomass and small hydropower, can help meet the energy demands for new and future water demands.

**Objective 7b: Improve forest management through fuel reduction treatments and meadow restoration.** “Recent research has reaffirmed that ‘an ounce of prevention is worth a pound of cure’ when it comes to managing wildfire risks. The Sierra Nevada Conservancy, The Nature Conservancy, and the U.S. Forest Service studied the economic benefit in taking proactive forest management activities, using the Mokelumne River watershed in the Sierra Nevada as a representative case. They found that fuel treatments such as forest thinning and controled burning can save up to three times the cost of future fires, reduce high-severity fire by up to 75%, and bring added benefits for people, water, and wildlife. They also found that by reducing the size and severity of fires, the carbon emissionsfrom the fires were decreased by 38-77% suggesting that these activities could protect the carbon stocks sequestered in our forests.” [[4]](#footnote-4) Fire prevention practices and vegetation health actions can reduce wildfires and release of CO2 and all GHGs. Meadows can also serve as a natural fire break. Many meadows in the Southern Sierra Region have been damaged by overgrazing and other causes, and can benefit from restoration. The restoration can help control wildfires, while also providing water supply and ecolocial benefits.

**Objective 7c: Support innovation in biomass and compost utilization pathways.** Consistent with AB 32 Scoping Plan composting of biomass instead of burning it or disposing of it in landfills should be encouragaged. Consideration should be given to innovative pathways that can convert greenwaste into other products, fuels and electricity, even on a small scale. As the energy sector is decarbonized through measures such as increased renewable energy and improved efficiency, energy intensities will also be reduced.[[5]](#footnote-5)

**Objective 7d: Incentivize composting and other practices that are known to sequester carbon in agricultural soils and plants.** The degradation of soils from unsustainable agriculture and other development has released billions of tons of carbon into the atmosphere. New research shows how effective land restoration can play a major role in sequestering CO2 and slowing climate change, making soil an important consideration for more than just a medium for plant growth. Soil can be a beneficial place for carbon to go. Minimizing ground disturbance, developement and earthwork of the mountainous and foothill regions can reduce soil exposure to air that results in CO2. For agriculture in foothill regions, encouraging use of conservation or no-till practices can benefit the “demand” side of the CO/CO2 reduction equation.[[6]](#footnote-6)

The Healthy Soils Program, an outgrowth of the AB 32 Scoping Plan Update is offering grants to develop and administer a new incentive and demonstration programs to build soil carbon and reduce agricultural greenhouse gas (GHG) emissions.[[7]](#footnote-7)

**Objective 7e: Promote all waste as a resource for reuse and recycling.** Recycling and resuse of recovered waste, including green- (bio-) waste generally results in less energy consumption and GHG generation compared to mining/harvesting and processing of virgin materials for production of new products. Promote projects that utilize recycled-content procurement markets or that add reduction, reuse, recycling or remanufactureing of recovered material opportunities to the market place.

## Process to Develop Goals and Objectives

Water is used by a diverse group of stakeholders in the Southern Sierra Region for a variety of needs including domestic use, agriculture, hydropower, and environmental flows. Water management issues for the Region are also broad and include water supply, water quality, recreation, flood management, environmental stewardship, regional self-sufficiency, and infrastructure development. This variety of water users and issues challenges water managers in the Region. The goals were created to address the variety of water management needs, issues and conflicts in the Region.

The goals and objectives were established through a collaborative process that included meetings, stakeholder surveys, public workshops, and open discussions. This process included several iterations from 2009 through 2014. The groups involved included the Coordinating Committee, Regional Water Management Group and the general public. The process produced several lists of issues, conflicts, goals and objectives in the Region. The information in **Chapter 3 - Region Description** and **Chapter 5 – Resource Management Strategies**, and the local knowledge of numerous water and natural resources managers, were used extensively in developing the goals and objectives. These were combined into the final list of goals and objectives found in this plan. The final list was reviewed and approved by the Coordinating Committee in the form of a Draft Goals and Objectives Chapter and then subsequently with approval of the IRWMP.

## Methods for Measuring Objectives

The guidelines set forth by DWR require that each objective include metrics for measuring success. These metrics may either be qualitative or quantitative depending upon the nature of the goal. The metrics are used to determine if objectives are achieved. **Table 3.2** summarizes how the objectives can be measured. These are suggested metrics and the actual metrics used on projects may vary based on project and site specific features.

The metrics will be used for the following purposes:

1. Document successes in the RWMG annual report
2. Document progress on specific projects as required for grant funded projects
3. Document overall success of the RWMG to assist in securing additional grant funds
4. Provide information to RWMG members for evaluating progress and priorities

Table 4.2 - Measurement Criteria for the Objectives of the SSIRWM Plan

| **No.** | **Objective** | **Methods for Measurement** |
| --- | --- | --- |
| **1a, 4d** | Promote natural storage through meadow, stream and forest restoration | * Number of meadows and acres restored * Number of forest acres restored * Changes in annual evapotranspiration and demands by vegetation on subsurface storage during dry periods * Number of acres/miles of streams restored * Water temperatures pre-and post restoration * Groundwater level change * Wetland vegetation restoration, increases in native cover and diversity * Number of special status species’ habitat improved in restored areas * Number of acre-feet stored or delayed in runoff |
| **1b** | Increase understanding of the water balance and groundwater resources | * Number of groundwater studies completed * Number of monitoring wells * Coverage of groundwater supply information * Increased knowledge of local geology and aquifer * More accurate predictive model(s) of water balance * Number of studies improving water balance data * Estimates of subsurface water storage in soil and weathered bedrock across the landscape |
| **1c, 3d** | Increase capacity of water storage facilities, including targeted groundwater recharge | * Increase in volume of water stored * Number of days of delayed runoff * Increased duration of irrigation deliveries * Acres of new recharge facilities |
| **1d** | Efficiently use, conserve and recycle water resources | * Number of sites employing native, near-native, or xeric landscaping * Amount of water conserved * Number of hours spent on public awareness education * Number of households contacted on public awareness education |
| **1e** | Manage/adapt to climate change impacts on water supplies | * Reductions in greenhouse gas emissions in local project area * Number of Projects Completed * Number of studies on climate change and greenhouse gas emissions * Number of adaptation strategies employed by managers * Success in implementing adaptation strategies |
| **1f** | Promote sustainable water supplies for human developments | * Number of land-use plans utilizing BMPs for sustainable management that have been adopted * Amount of policies emplaced by local jurisdictions increasing sustainability of water supply |
| **2a** | Protect natural streams, lakes and other water bodies from contamination | * Number of studies identifying sources and types of contamination * Number of identified contamination sources mitigated * Hours of public education on contamination * Number of people/households contacted for public education efforts |
| **2b, 4a, 4f** | Promote best land conservation and management practices to protect water quality or reduce water contamination, including from polluted runoff | * Number of water quality violations * Number of riparian management projects completed * Beneficial changes in the miles of impaired streams in the Region * Beneficial changes in the number of impaired water bodies in the Region * Beneficial changes in the number of miles of riparian/wetland fencing * Number and type of BMPs employed in projects that disturb soils * Hours of public awareness education * New or long-term efforts to monitor general water quality such as nutrients, pH, turbidity, electrical conductivity, etc. |
| **2c, 4c** | Reduce erosion and sedimentation | * Amount of development that is relocated away from sensitive areas * Acreage of protected lands * Number of properly employed sediment/erosion BMPs * Number of studies evaluating land use and erosion/sedimentation |
| **2d** | Promote storm water management planning and implementation | * Number of stormwater management plans created and adopted * Improvement in runoff water quality after baseline is established * Number of beneficial uses of storm water |
| **2e** | Assess water quality problems of small water systems | * Number of assessments performed * Number of violations mitigated * Number of water quality improvement / treatment projects implemented |
| **2f** | Study impacts of septic systems on water quality | * Number of studies identifying areas of concentrated septic systems * Number of water quality samples taken in areas with high concentrations of septic systems * Number of projects implemented to reduce water quality impacts |
| **3a** | Identify and implement projects to accommodate flood related impacts from climate change | * Number of studies identifying flood prone areas * Number of projects implemented that reduce flood risk to property * Amount of flood reduction/mitigation infrastructure installed |
| **3b** | Integrate flood management with other land management activities | * Number of acres of farmland or urban parks irrigated with floodwater * Number of stream and meadow restoration projects that mitigate downstream flooding * Acres of reforested land-both logged and burned areas |
| **3c, 4f** | Protect and restore connectivity of floodplains with other water bodies | * Number of critical areas identified * Number of projects to establish floodplain connectivity * Number of key areas protected, acres of floodplain restored/protected |
| **4b** | Manage vegetation to reduce catastrophic fire risk / keep fires within natural range of variability | * Number of projects completed * Area of land managed to reduce unnaturally large fires * Number of acres of fuel breaks |
| **5a** | Promote community education about water issues | * Number of new programs * Number of days of educational activity provided * New materials and dissemination * Number of people/households contacted |
| **5b** | Increase outreach to Native American Tribes | * Number of outreach meetings and MOUs signed by tribal entities * Number of water resources related projects completed on tribal lands |
| **5c** | Increase outreach to disadvantaged communities | * Number of outreach meetings and MOUs signed by DACs * Number of water resources related projects completed in DACs * Demand by DACs for additional water and climate information and capacity to use that information for water-resources management |
| **5d** | Develop/maintain comprehensive website for Regional Water Management Group | * Successful website * Number of users of the website * Hours of public awareness education supplied |
| **6a** | Protect unique areas with high value to water storage and groundwater recharge | * Number of new areas identified for protection * Number of acres protected |
| **6b** | Protect unique areas with high value to water quality protection and remediation | * Number of new areas identified for protection * Number of acres protected |
| **6c** | Protect unique areas with high value to other water resources issues | * Number of new areas identified for protection * Number of acres protected |
| **6d** | Enhance water management in already protected areas | * Number of projects completed * Number of acres enhanced |
| **7a** | Promote renewable energy in water sectors | * Number of projects completed * Total capacity (KW) of renewable energy capacity installed |
| **7b** | Improve forest fuel reduction treatments and meadow restoration | * Acres thinned * Number of restoration projects funded/implemented |
| **7c** | Support biomass and compost utilization pathways | * Hours of Public Awareness Education * Number of projects completed * Tons of biomass or componst utilized |
| **7d** | Incentivize carbon sequestration in soils | * Hours of Public Awareness Education * Acres of fallowed land converted to vegetative cover |
| **7e** | Promote reuse/recycling of all waste | * Hours of Public Awareness Education * Tons of reduced landfill disposal |

## Goal and Objective Ranking

The IRWMP guidelines require that the goals and objectives be prioritized, or that reasons be given on why they are not prioritized. All of the goals and objectives are considered important to the Region, but the RWMG chose to rank them for the following reasons:

* Give focus and direction to the RWMG
* Identify high priority issues
* Help to identify strategies, projects and funding availability
* Helps to capture a cross section of the group’s input

The six goals are considered very important and all are considered coequal. However, the RWMG chose to rank the objectives under each goal as part of a public survey. The ranking exercise was announced by email and at several RWMG and Coordinating Committee meetings. The RWMG decided that the ranking was useful and should be included in the IRWMP.

Each objective was ranked as low, medium or high importance. Most of the objectives fell in between medium and high importance, illustrating that most of the objectives have high value in the Region. ***These rankings are not intended or expected to exclude certain projects from being pursued or considered for funding or inclusion in grant applications.***

The ranking results are illustrated in several graphs in **Appendix F**. **Table 4.3** shows each objective in decreasing order, according to the survey. In a few cases an objective was included under more than one goal. In these cases the relevant goal is shown in parentheses after the objective.

***Note: This survey will be performed again using an on-line survey form after the new goals and objectives are finalized.***

**Table 4.3 – Results of Survey - Ranking of Regional Objectives**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Objective** | **Low** | **Medium** | **High** | **Ave** |
| **1** | Protect areas with high value to water storage and groundwater recharge | 0 | 0 | 12 | 3.00 |
| **2** | Improve water use efficiency | 0 | 1 | 11 | 2.92 |
| **3** | Protect natural water bodies | 0 | 2 | 10 | 2.83 |
| **4** | Promote natural water storage (Improve Watershed Management) | 0 | 2 | 10 | 2.83 |
| **5** | Protect areas with high value to water quality protection and remediation | 0 | 2 | 10 | 2.83 |
| **6** | Promote natural water storage (Improve water supply management) | 0 | 3 | 9 | 2.75 |
| **7** | Protect/restore floodplain connectivity | 0 | 3 | 9 | 2.75 |
| **8** | Manage vegetation to reduce fire risk | 0 | 3 | 9 | 2.75 |
| **9** | Protect and restore floodplain connectivity | 0 | 3 | 9 | 2.75 |
| **10** | Promote community education on water issues | 0 | 4 | 8 | 2.67 |
| **11** | Promote water quality best management practices (Improve Watershed Management) | 0 | 4 | 8 | 2.67 |
| **12** | Promote water quality best management practices (Protect & Improve Water Quality) | 1 | 3 | 8 | 2.58 |
| **13** | Reduce erosion and sedimentation (Protect and improve water quality) | 0 | 5 | 7 | 2.58 |
| **14** | Mitigate and adapt to climate change impacts on water resources | 1 | 4 | 7 | 2.50 |
| **15** | Promote storm water management planning and implementation | 2 | 2 | 8 | 2.50 |
| **16** | Protect areas with high value to other water resources issues | 1 | 4 | 7 | 2.50 |
| **17** | Increase understanding of water balance | 2 | 3 | 7 | 2.42 |
| **18** | Reduce erosion and sedimentation (Improve Watershed Management) | 0 | 7 | 5 | 2.42 |
| **19** | Enhance water management in already protected areas | 0 | 8 | 4 | 2.33 |
| **20** | Increase outreach to Native American Tribes | 0 | 9 | 3 | 2.25 |
| **21** | Increase outreach to disadvantaged communities | 1 | 7 | 4 | 2.25 |
| **22** | Promote sustainable water supplies for new human developments | 3 | 3 | 6 | 2.25 |
| **23** | Assess water quality of small water systems | 1 | 8 | 3 | 2.17 |
| **24** | Integrate flood management with other activities | 2 | 6 | 4 | 2.17 |
| **25** | Increase capacity of water storage facilities (Perform Integrated Flood Management) | 3 | 4 | 5 | 2.17 |
| **26** | Address climate change impacts from flooding | 3 | 5 | 4 | 2.08 |
| **27** | Study septic system impacts | 3 | 6 | 3 | 2.00 |
| **28** | Create/maintain RWMG website | 2 | 9 | 1 | 1.92 |
| **29** | Increase capacity of water storage facilities (Improve water supply management) | 6 | 4 | 2 | 1.67 |
|  | **Total** | **31** | **124** | **193** |  |
|  | **Percent** | **9%** | **36%** | **55%** |  |

Twelve organizations responded to the survey. A greater response was hoped for, but numerous requests were sent out to complete the survey and the response is considered the best achievable. Only one person from each organization was allowed to complete the survey to prevent any organizations from being over-represented. The participants included representatives from federal agencies, special districts, Native American Tribes, non-governmental organizations and landowners.

## Previous Goal and Objective Ranking

In 2009 the RWMG developed and ranked preliminary goals. These goals were considered in the development of the more comprehensive goals presented in **Table 4.1**. However, their ranking is provided below to document historical efforts, and for comparison to the recent ranking efforts, especially to show how goals have changed from being more planning-focused in 2009 to more implementation-focused in 2014. The results in **Table 4.3** are not intended to guide decision making or setting priorities.

In 2009, fifteen goals were identified and stakeholders ranked according to the following criteria

* Urgent – 3 points
* Important (but not as important as urgent item) – 2 points
* Would be Nice (but not particularly important or urgent) – 1 point

The survey results are summarized in **Table 4.3**. The score is the sum of points from voting by several stakeholders. The average score for the goals is 29.

Table 4.3 - Initial Ranking of Regional Goals (2009)

| **Rank** | **Score** | **Description** | **Related Goal or Objective** |
| --- | --- | --- | --- |
| **1** | 44 | Find ways to bring the resource management agencies and organizations together to share data and information and to work collaboratively on policies, plans and projects. | Vision statement for RWMG |
| **2** | 43 | Assess hydrologic capacity of Region - amount of water available in fractured rock system. | 1b – Increase understanding of water balance |
| **3** | 37 | Provide examples of best practices, technical assistance and training that furthers the implementation of multi-benefit/integrated management strategies | 2b – Promote water quality best management practices |
| **4** | 36 | Assist stakeholder agencies in improved outreach, public education and stakeholder involvement by providing forums for public discussion, e-mail notice lists, etc. | 5a – Promote community education on water issues |
| **5** | 33 | Put together baseline watershed conditions for purposes of climate change, etc. | 1e – Mitigation and adaptation to climate change impacts on water resources |
| **6** | 32 | Help frame a cumulative effects analyses for the Region that can streamline the process and enhance the value of the analysis for everyone. (Cumulative Watershed effects model analysis for the Region) | 1b – Increase understanding of water balance |
| **7** | 32 | Create a web portal with links to all planning documents and studies for the Region. | 5d – Create/maintain RWMG website |
| **8** | 31 | Assess small system water quality problems and provide feasibility analysis for corrective actions. | 2e – Assess water quality of small water systems |
| **9** | 30 | Study the impact of septic systems on water quality | 2f – Study septic system impacts |
| **10** | 29 | Assess options for water storage infrastructure where needed. | 1c – Increase capacity of water storage facilities |
| **11** | 27 | Synthesize interagency databases from existing agency sets (e.g., South Sierra Geographic Information Coop) | 5d – Create/maintain RWMG website |
| **12** | 21 | Construct data base showing all CEQA/NEPA documents in process, (example:  USFS Schedule of Proposed Actions (SOPA)).  Create notification system that will filter project by type, region, etc. that automatically will send out notices to interested stakeholders. | 5d – Create/maintain RWMG website |
| **13** | 19 | Identify beneficiaries of Region’s ecosystem services/benefits.   Engage in outreach and education to the beneficiaries to increase the likelihood that they will contribute to watershed health. | 5a – Community education on water issue  5b – Increase outreach to Native American Tribes  5c – Increase outreach to disadvantaged communities |
| **14** | 10 | Education on legal issues | 5a – Promote community education on water issues |
| **15** | 9 | Develop curriculum/training program | 5a - Promote community education on water issues |

1. The initial Climate Change Scoping Plan was adopted pursuant to AB 32 (2006) Global Warming Sollutions Act, re-approved by the California Air Resources Board in 2011, and updated again in 2014. Documents accessible at <https://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm> [↑](#footnote-ref-1)
2. The 2017 Climate Change Scoping Plan Update-The Proposed Strategy for Achieving California’s 2030 Greenhouse Gas Target. [↑](#footnote-ref-2)
3. The 2017 Climate Change Scoping Plan Update-The Proposed Strategy for Achieving California’s 2030 Greenhouse Gas Target. <https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf> Embedded reference 186: California Natural Resources Agency, California Department of Food and Agriculture, and California Environmental Protection Agency. California Water Action Plan. resources.ca.gov/docs/californiawateractionDraft Plan/2014CaliforniaWaterActionDraft Plan.pdf [↑](#footnote-ref-3)
4. American Forest Foundation, “Wildfires and Clilmate Change”, website accessed at <https://www.forestfoundation.orf/wildfires-and-climage-change> [↑](#footnote-ref-4)
5. The 2017 Climate Change Scoping Plan Update-The Proposed Strategy for Achieving California’s 2030 Greenhouse Gas Target. <https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf> [↑](#footnote-ref-5)
6. Schwartz, Judith D., “Sustainable Agriculture, Soil as Carbon Storehouse: New Weapon in Climate Fight?”, Yale Environment 360 (E360) Newsletter published at Yale School of Forestry & Environmental Studies,. Accessbile at <https://e360.yale.edu/features/soil_as_carbon_storehouse_new_weapon_in_climate_fight> [↑](#footnote-ref-6)
7. California Department of Food and Agriculture, Healthy Soils Program, website accessible at <https://www.cdfa.ca.gov/oefi/healthysoils/> [↑](#footnote-ref-7)