

## 7. Objectives

This chapter presents objectives developed by stakeholders in the Upper Sacramento, McCloud, and Lower Pit (USR) Integrated Regional Water Management (IRWM) region to address water resource management issues. The development of these objectives, how they relate to other sections in the plan, and how they will be used for development of water resource management projects is also described. The objectives establish the intent of the IRWM Plan and clarify desired outcomes of implementing water management projects identified by stakeholders in this plan.

### 7.1 Objectives Identification and Development

Objectives were identified during development of the 2013 IRWM Plan through a collaborative process including all stakeholders participating in the region's IRWM planning efforts. The first step involved examining a collection of issues and objectives from other sources in the region. Stakeholders had invested significant effort in other planning and objectives-setting processes over the last decade and wanted to ensure that this work was captured in the IRWM planning process. The project team collected this information and presented a draft set of objectives, based on the issues identified and objectives developed through other processes, to the stakeholder group.

These suggestions were discussed and the group decided that, because of the broader scope of the IRWM Plan, a workgroup was necessary to invest more effort and time into the development of more specific objectives. The individuals participating in this workgroup were partially self-identified and partially nominated by stakeholders. They met soon after the plenary meeting to review those draft objectives. Present in the workgroup were a diverse array of interests, including water purveyors, cities, environmental groups, Native American tribes, Siskiyou County, and local business (timber) interests. They considered the measurability of each objective and the comprehensiveness of meeting stated issues and challenges in other developed sections.

Following this meeting, their work was sent out to the entire list of interested parties and participants for review and acceptance. Some significant edits emerged at this point, including the addition of the overarching goals regarding climate change and Native American values. The active participation of four tribes in the USR planning process is reflected in the addition of the latter overarching goal. The support of the other participants in the planning process for the addition of these two goals represents the integrated, tolerant, and respectful nature with which the planning process details were discussed and negotiated.

In the development of these objectives, pertinent information included those references used to develop the region description and issues section, including federal and state planning and implementation documents (such as the Central Valley Water Quality Control Board's Basin Plan, U.S. Bureau of Reclamation's Shasta Lake Water Resources Investigation documents, the disadvantaged community mapping tool provided by DWR, and various U.S. Forest Service planning and assessment documents), and local documents (including the Upper Sacramento Watershed Assessment, California Trout's Mount Shasta Springs Study, city and county general planning and master planning documents, FEMA information, and juried studies and reports on the Native American history and presence in the region). These primary and secondary sources provided invaluable and objective fact-checking information in the development of the objectives, especially for the measurable components that subsequently will feed into the region's performance evaluation (see Chapter 12, Plan Performance and Monitoring).

The nine regional objectives presented below were developed to address the issues and interests identified by the Regional Watershed Action Group (RWAG). Each objective integrates multiple issues of interest to the stakeholders. The objectives refined by the workgroup were further reviewed and edited by all

interested and participating stakeholders. The 2013 final document represents the work of many interested parties and many hours of negotiation and refinement.

The IRWM Plan was updated in 2018 to comply with 2016 IRWM Grant Program Guidelines, which contain requirements for the Objectives element related specifically to climate change. When updating the IRWM Plan in 2018, only minor revisions were made to the objectives as climate change considerations had been well integrated during development of the 2013 IRWM Plan. Nevertheless, consistent with 2016 IRWM Grant Program Guidelines, the following considerations were reviewed by RWAG and integrated into the objectives and performance measures as appropriate:

- Adapting to changes in the amount, intensity, timing, quality, and variability of runoff and recharge, as addressed in Chapter 9, Climate Change;
- Opportunities for reducing energy consumption and related greenhouse gases (GHGs);
- Strategies suggested by the California Air Resources Board (CARB) in its AB 32 Scoping Plan and incorporated, when applicable, in Chapter 9, Climate Change; and
- Opportunities for carbon sequestration and use of renewable energy when feasible and consistent with IRWM Plan objectives.

## 7.2 Objectives Organization and Prioritization

The objectives are summarized by topic area in **Table 7.1** and are described in greater detail in Sections 7.4.1 through 7.4.9 below. Although stakeholders considered creating a prioritization of the objectives, and shared priorities have consistently included efforts to characterize groundwater resources and disadvantaged communities' infrastructure needs, stakeholders felt that the prioritization of objectives in an outright manner would create a challenge for targeting funding opportunities and could also be detrimental to relationship-building within the region.

The objectives will be implemented with consideration of the overarching goals identified below. These will be used to guide water resource project management development in the Upper Sacramento, McCloud, and Lower Pit IRWM region. Each project developed must consider how it will address at least one of these objectives and satisfy the considerations outlined in the overarching goals. Projects that address or meet multiple objectives will have a higher likelihood of being supported in applications for funding. Each objective is provided with measurement approaches. These measurements are critical to assessing effectiveness of the implementation of the IRWM Plan in meeting the desired outcomes of the plan. More information about how these will be tracked is available in Chapter 12, Plan Performance and Monitoring.

## 7.3 Overarching Goals

In addition to the specific objectives listed below, the RWAG has identified overarching goals of *Climate Change Resilience* and *Native American Values* for the region's IRWM planning and implementation process. One or both overarching goals are applicable to each of the specific objectives discussed in sections 7.3.1 and 7.3.2 below. As projects are developed and prioritized for implementation, these goals are considered overarching, priority values relative to water management in the USR.

### 7.3.1 Climate Change Resilience

Department of Water Resources (DWR) Guidelines require that contributions of a project to adapt to and/or mitigate climate change impacts be evaluated and considered as projects are being developed. Project planning, design, and ongoing implementation should consider both regional resilience to

projected climate change impacts as well as the potential impacts of a project relative to climate change. Because adaptation to climate change and mitigation of contributing factors involve a broad suite of strategies, the impact of any individual project or strategy is better described by measurements relative to the larger objective.

In **Table 7.1** below, climate change resilience is identified as a water management resource issue addressed by several of the objectives, particularly as it relates to better understanding of potential impacts, enhancing climate resilience, and increasing the efficiency of the region's water supply and water-related infrastructure.

### 7.3.2 Native American Values

Water is sacred to Native Americans, ~~the~~ traditional indigenous ~~inhabitants~~ peoples and those of ~~the~~this USR, and it is central to their living cultures. Indigenous peoples use water to quench thirst, carry prayers, and cleanse body and spirit. Large populations lived for thousands of years in the region while keeping the water pristine and preserving the life of and in the water and the natural carrying capacity of the streams, lakes, and springs. Tribal people of this region lived near the rivers and streams and were salmon people who celebrated the return of this water relative that provided abundant food sustaining them through all seasons. Today, traditional Native Americans continue to safeguard their traditional waterways and to restore their indigenous cultural practices in the region.

The USR contains abundant Native American sites that are directly impacted by water resource management decisions, including infrastructure placement and management, and recreational, commercial, and forest management activities. Preserving sites of cultural importance is ~~a high priority for~~ governed by applicable statutory and regulatory authorities. Tribal members maintain that a responsibility to these resources goes beyond the legal standards, and encourage those communities to which the resources are significant and it is the collective concern of all stakeholders, inhabitants, and visitors to the USR ~~that these cultural~~ to treat those resources with ~~be afforded the~~ respect ~~they deserve~~.

It is the goal of the RWAG, through this IRWM Plan, to embody both the letter and spirit of the laws protecting the dignity, rights, sites and cultures of indigenous peoples and to recognize that clean, pure water is much more than a commodity – it is vital for all life in the region and ~~beyond~~to all those downstream. This goal will be fulfilled through coordination with local ~~Native American Indigenous~~ tribes and nations – federally recognized and ~~unrecognized~~ California state recognized – in the identification of, planning for, and ultimate implementation of all types of projects through the IRWM process. Where applicable, projects will be identified to restore and/or protect sites and water resources that have significance to this region's indigenous peoples.

### 7.4 USR Objectives

Objectives for the USR are presented and described in the following sections. As noted above, each objective addresses specific water resource management issues relevant to the USR as well as interests of the RWAG (see Chapter 6, Issues and Interests). **Table 7.1** summarizes these issues/interests, identifies which issues and interests are addressed by the objectives, and quantifies the issues/interests addressed by each objective.

Table 7.1 - Summary of Objectives by Issues/Interests									
RWAG Issues	Obj. 1 - Basin Characterization	Obj. 2 - Cooperation and Trust	Obj. 3 - Ecological Health	Obj. 4 - Forest Management	Obj. 5 - Water Mgmt. for DACs & Tribes	Obj. 6 - Water Quality	Obj. 7 - Regulatory Compliance	Obj. 8 - Infrastructure	Obj. 9 - Flood Management
Basin Characterization	X	X				X			X
Building Relationships of Trust, Understanding, and Respect	X	X					X		
Establishing Common Language	X	X							
Ecological Health	X		X	X		X	X	X	X
Sustainable Economic Development			X	X	X		X	X	X
Education and Outreach	X	X	X						
Fuels and Fire Management				X					X
Forest Management			X	X		X			X
Funding					X				
Governance		X							
Regulatory Compliance	X	X		X	X	X	X	X	
Tribal Water Resource Interests, Jurisdiction, and Issues	X	X	X	X	X				X
Water Supply			X	X	X				X
Water Quality			X	X	X	X	X	X	X
Municipal Water Supply and Wastewater Infrastructure			X		X	X	X	X	X
Climate Change Resilience	X	X	X	X	X	X		X	X
<i>Issues met by each objective:</i>	8	8	9	9	8	7	6	6	10

#### 7.4.1 Objective 1 – Basin Characterization

*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.*

This objective addresses the issues of basin characterization and developing a greater awareness and understanding of water management-related issues in the region. Further, because knowledge of the USR's resources and resource framework are critical to the IRWM process, anticipated outcomes of this objective include: an understanding of how best to focus the region's management efforts; and development of projects that can be as effective as possible. It is anticipated that projects that contribute toward this objective will also help establish the foundation for climate change planning and climate resilience in the region.

#### **Measurements for Objective 1**

- Mapping all groundwater basins by 2020
- Understanding the dynamics of groundwater in the Medicine Lake Highlands as well as on, and around, Mount Shasta by 2025
- Understand indigenous perspectives on values associated with Mount Shasta and Medicine Lake Highlands that would be affected by exploration and exploitation of ground and surface water
- Support, expand, coordinate and measure success of existing public education and outreach campaigns relative to watershed conditions and water management efforts by 2020; Measure success through products developed, event attendance, and additional strategies
- Develop better understanding of implications of climate change on this region; create a strategy for this by the end of 2020
- Develop and support a basin hydrologic inventory that includes water sources, uses, features, and critical management areas for ground, spring and surface waters

#### **7.4.2 Objective 2 – Cooperation and Trust**

*Encourage, improve and maintain an environment that fosters cooperation, facilitates collaboration, and builds relationships of trust and respect among water resource stakeholders and community members with respect to water management efforts in the region.*

Cooperation and trust among stakeholders are critical to the successful management of water resources in the region. Under this objective, stakeholders will work to encourage an environment of mutual trust and respect that will help all management efforts to proceed effectively. Developing a common language of terminology, operating under an agreed upon governance structure, and being informed and educated about stakeholder interests, including tribal water resource interests, are anticipated outcomes of working toward this objective.

#### **Measurements for Objective 2**

- Continue to meet as a RWAG through the life of the IRWM Plan (over the next 20 years — at least twice a year)
- Continue outreach to stakeholders, including current and potential members, on an annual basis
- Continue ethnographic collaboration to build trust with local tribes
- Make two public presentations and/or write newspaper articles about regional water management issues in the USR on an annual basis
- Develop and maintain a glossary of terms relevant to the USR IRWM Plan

- Track implementation success
- Track success and number of projects that involve multiple stakeholders and the success of those collaborations
  - Include survey indicating level of stakeholder support in project review criteria (five-star collaborative project)
  - Implement video project
  - Implement equitable governance structure

#### **7.4.3 Objective 3 – Ecological Health**

*Maintain and enhance the ecological health of the basin to:*

- 1. Support the local economy;*
- 2. Ensure public health and safety;*
- 3. Respect and support indigenous cultures;*
- 4. Improve recreational infrastructure and opportunities for tourism and the local economy*
- 5. Enhance the climate resilience of the region; and*
- 6. Prepare for potential reintroduction of native species to the region.*

It is the intent of this objective to provide for maintenance and enhancement of the USR's high-quality natural environment with the purpose of: supporting the region's economy; protecting public health and safety; ensuring indigenous cultures are valued, respected, supported, and conserved; encouraging tourism to the region; enhancing the climate resilience of the region; and preparing for the possible reintroduction of native species. The latter strategy is also expected to minimize potential regulatory burdens by taking a proactive rather than reactive approach to the management of special status species in the region.

#### **Measurements for Objective 3**

- Implement at least three projects by 2020 that improve/protect ecological health and are compatible with the local economy
- Document the economic costs and benefits (e.g., carbon sequestration measures, acreage of alpine meadow(s) restored, etc.) of restoration projects
- Track and document economic costs and benefits, including any GHG emission savings, that can be linked to water infrastructure improvements
- Document the ecological benefits of projects (habitat improvements, water storage/infiltration, etc.)
- Develop regional plans acceptable to stakeholders prior to implementation of federal, state or local mandates related to potential native species reintroduction
- Prepare stakeholder developed plans for mitigation and improvements for potential native species reintroduction

#### **7.4.4 Objective 4 – Forest Management**

*Support and improve ongoing forest management efforts with regard to local water quality and supply, including fire management within existing regulatory frameworks.*

Proper management of the region’s forests is critical to the economic and environmental well-being of the USR, and it is expected to become increasingly important as the region prepares for and responds to projected climate change impacts, such as increasing water deficits and potentially larger and more frequent wildfires. Supporting forest management efforts, particularly those that protect or improve water quality, enhance the region’s natural storage capacity, reduce excessive fuel loads, safeguard cultural resources, and provide both habitat and migration corridors for climate-sensitive species, will better fortify the region’s economy, cultural heritage, and environment from the effects of climate change.

#### **Measurements for Objective 4**

- Fuel reduction on at least 5,000 acres on an annual basis through 2020
- Document the number of projects implemented by forest management entities
- Document number of integrated projects/joint collaboration projects among stakeholders (such as restoration of public and private lands)
- Preservation of pre-historic/historic indigenous sites using traditional fire treatment methods

#### **7.4.5 Objective 5 – Water Management for Disadvantaged Communities and Tribes**

*Ensure support for and foster success of water management efforts for disadvantaged and Native American communities while respecting the cultural values of existing communities.*

Nearly all communities in the Upper Sacramento, McCloud, and Lower Pit IRWM region are economically disadvantaged according to DWR criteria. As a result, USR communities, including indigenous tribes and nations, have particular challenges and objectives when it comes to water resource management. Funding needed improvements while supporting economic development in these communities requires creativity and innovation. This objective supports the efforts of USR communities to secure economic resources to address existing and projected challenges as it relates to water management.

#### **Measurements for Objective 5**

- Document support for the participation of disadvantaged communities (DACs) in the IRWM process
- Implement at least three projects with a DAC project proponent by 2020

#### **7.4.6 Objective 6 – Water Quality**

*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.*

The Upper Sacramento IRWM region has specific characteristics with regard to its water resources, water quality, and economic resources. Achieving this objective will assist in developing solutions to local water quality and supply needs in the most effective successful way. Regulatory compliance with respect to water quality is important to local stakeholders. Local participation in the development of regulatory requirements will ensure that efforts to achieve compliance will produce the most benefit for the region both from an economic and environmental quality perspective. ~~This objective entails the creation of local solutions to safeguard and improve the region’s water quality. For instance, local participation in the setting of water quality standards will help to ensure that efforts to achieve compliance produce the most regional benefit from economic and environmental quality perspectives. Further, projects that result in the~~

~~protection and/or improvement of water quality in the region provide potential benefits that extend well beyond the USR.~~

#### **Measurements for Objective 6**

- Locally track and document conditions on an annual basis
- Develop a locally managed water quality database for critical streams by 2020
- Complete a local water quality assessment of the Upper Sacramento River by 2020
- Identify point source pollution and problem areas

#### **7.4.7 Objective 7 – Regulatory Compliance**

*Ensure adequate water supply and quality while maintaining regulatory compliance, minimizing conflict, and recognizing and respecting existing water rights and users.*

An adequate supply of clean water for stakeholder interests is a key issue in the USR. This objective strives to balance the region's supply needs with regulatory requirements and respect for existing water rights.

Projects that require a large supply of surface water or groundwater can contribute toward this objective provided the water rights of other users are respected and preserved. It is anticipated that cooperation among stakeholders through this objective will minimize conflict as much as possible. Meeting this objective will also take into account potential changes in water quality and quantity associated with climate change.

#### **Measurements for Objective 7**

- Identification and quantification of water rights in the region by 2020
- Projections of regional water needs into the next 30 years by 2020
- Assessment of adequate area-of-origin water rights projections for the region by 2020
- Develop a regional capital improvement plan that identifies key deficiencies with proposed actions by 2020
- Better coordination and communication among land use planners and those regulating or managing water
- Identification and protection of long-term water users who do not have deeded water rights

#### **7.4.8 Objective 8 – Infrastructure**

*Facilitate development of sustainable water/wastewater infrastructure to ensure public health, protect ecological integrity, and support economic stability.*

The health of residents, the environment, and the economy are all dependent upon adequate and reliable water and wastewater infrastructure. By ensuring the region's infrastructure is effective and efficient, water and wastewater service providers are better able to operate in compliance with regulatory requirements and the region will be better prepared for the effects of climate change.

#### **Measurements for Objective 8**

- Implementation of at least three projects protecting and/or improving water/wastewater infrastructure by 2020

- Identify and develop a strategy to address supply and quality concerns related to non-municipal water supplies and wastewater treatment systems (e.g., individual wells and septic systems) by 2020
- Projections of water needs into the next 30 years by 2020
- Understanding connections between spring water and groundwater by 2020
- Provide information to interested people to support measurement/monitoring of their wells
- Research, facilitate and support alternative water and waste water treatment technology that also protects public health, ecological integrity, and economic stability

#### **7.4.9 Objective 9 – Flood Management**

*Address flooding concerns through infrastructure improvements and support ongoing local flood management efforts.*

Historically flood losses have not been significant in the USR due to existing flood control infrastructure, lower population densities, and the region’s lack of broad floodplains. Nevertheless, substantial flood hazards are present along stream corridors throughout the region. Floods not only pose considerable economic and safety risks to local communities, but also present significant hazards to the environment as well. This objective will focus on mitigating known flood hazards, as well as readying the region for the likelihood of increased flooding due to climate change.

##### **Measurements for Objective 9**

- Identify flood control and management deficiencies and develop an infrastructure improvement plan by 2020
- Protect and preserve historic, spiritual and ceremonial sites in any flood control project
- Address critical flooding threats to communities by 2025
- Use information from historical research of area to begin discussion of appropriate restoration of natural conditions that will decrease flooding