

## Section 4: Objectives

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The goals and objectives presented in this section represent the foundational intent of this Integrated Regional Water Management Plan (IRWM Plan) to improve water resources management throughout the Region over the planning horizon of the next 20 years to 2035. The five goals from the 2007 IRWM Plan were maintained. Updating the existing objectives to ensure they were still meaningful and relevant for the Tahoe-Sierra Region required a collaborative and interactive process amongst the Partnership sub-committee and Partnership over a 5-month period beginning in May 2013. The draft objectives were circulated for review and comment to the Partnership two times to allow for thorough consideration and refinement for what ultimately sets the direction of the IRWM Plan.

### 4.1 Key Terms

People familiar with the broad discipline of planning recognize that different agencies and organizations may use similar terms in slightly different ways in their processes. The following set of terms were established and used during the IRWM Plan preparation process:

- Plan Goal
- Plan Objective
- Measurable Planning Target (MPT)

Within this Plan, the term “goal” is defined as a desired outcome or result for which effort will be made to accomplish it. The “Plan goals,” which are presented in Section 4.3, give a high-level perspective of what the Plan is intended to address (and what it is not intended to address). The Plan goals are written to be relevant over the entire planning horizon and beyond, but they may never be fully realized. Efforts toward achieving the Plan goals are expected to continue indefinitely. For example, the first goal, “Protect and improve water quality,” is one that the stakeholders should always strive to achieve and improve.

In contrast, the term “objective” is defined as a specific and tangible outcome that is intended to be achieved by or during a designated time. The Plan objectives, presented in Section 4.4, were developed using “SMART” criteria, meaning that each objective should be **s**pecific, **m**easurable, **a**ttainable, **r**elevant, and **t**ime-based. When crafted properly, SMART objectives help to promote actions that lead to measurable results consistent with Plan goals. The Plan objectives allow people to measure and track progress toward improving integrated water management within the Region over time.

The term Measurable Planning Target (MPT) is used to mean a specific and tangible outcome of a Plan Objective that is intended to be achieved by or during a designated time. Each Plan Objective may have one or more Measurable Planning Target. The Measurable Planning Targets are the building blocks and “checkpoints” that will be used by the Region to confirm progress towards achieving each Plan Objective. Some of the Measurable Planning Targets are quantifiable, while others are qualitative. Quantifiable MPTs have specific defined targets, such as number of projects implemented. Qualitative MPTs are less specific, and might measure progress by tracking the number of meetings held, or attendance. Some of the MPTs are designed to collect fundamental information that is needed to fully understand and complete the overall Plan Objective. For example, Objective WQ2, which seeks to reduce pollutant loads to

meet Water Quality Objectives, has a Measurable Planning Target to track projects that are evaluating pollutant load reduction and receiving water standards.

The Plan Objectives were intended to focus areas throughout the Plan horizon. It is expected that the Plan Objectives and MPTs will be reviewed and potentially revised over time to reflect the benefits of increased coordination by Plan stakeholders.

## 4.2 Process for Developing Goals, Objectives and Measureable Planning Targets

The Plan Goals, Objectives and measurable planning targets were updated/developed using an iterative and collaborative approach that included three phases:

- Review the existing goals and objectives to ensure they still reflected the major water-related needs and challenges within the Region
- Propose revised draft Plan Objectives that address the major water-related needs and challenges, discuss, review and refine
- Propose draft MPTs that will demonstrate progress towards achieving Plan Objectives, discuss, review and refine

The first step in updating the Plan Goals and Objectives was to review the goals and objectives presented in the 2007 IRWM Plan and ensure they were still relevant and met the water-related needs and challenges currently important to the Region. The needs and challenges were compiled from the 2007 IRWM Plan, the Regional Acceptance Process application, as well as discussions at IRWM Plan Partnership meetings in May and September 2013.

Initial Measurable Planning Targets were developed and refined through discussion with the sub-committee during several meetings in 2013 and presented to the Partnership for review and comment in September 2013. In total, 40 MPTs were identified for the 22 Plan Objectives, each of which is described in the section that follows. It should also be noted that there is potential for some overlap between certain objectives because of the integrated nature of the needs and challenges; however, they were developed to be as specific and stand-alone as practical.

## 4.3 Plan Goals

The Plan goals are listed below:

1. **Protect and improve water quality.** A number of water quality concerns for surface water and groundwater exist particularly as they relate to Water Quality Control Plan beneficial uses and the water quality impairments to some of the major water bodies such as Lake Tahoe that occur in the Region. The main concerns expressed during the meetings are water quality and aging wastewater infrastructure that impact water quality in the region. This goal highlights the importance of improving the water quality of water bodies as appropriate to water uses and preserving water quality levels that are now within desirable levels.
2. **Protect the community water supply and treatment/delivery system.** Although water supply within the Region is adequate, local water/wastewater agencies recognize that

aging and deteriorating infrastructure is a problem in the Region. This goal acknowledges the importance of sustainability through the implementation of infrastructure improvements as well as cost-effective conservation and efficiency improvements to avoid wasting water and other natural resources.

3. **Manage groundwater for sustainable yield.** Groundwater is the main source of municipal water in the Region. This goal emphasizes the importance of managing groundwater through effective water management strategies that provide multiple benefits.
4. **Contribute to ecosystem restoration.** Improvements to the resources of the watershed including the many creeks, rivers, lakes, wetlands and forests can result in long-term benefits to the native habitats and their ecosystems as well as improvements to water quality. This goal highlights the importance of continuing to monitor, understand and mitigate the hazards associated with watershed management.
5. **Implement integrated watershed management throughout the Region.** This goal recognizes that with improved integration and collaboration more successful watershed management can be achieved when compared to individual efforts.

#### 4.4 Plan Objectives and Measurable Planning Targets

##### 4.4.1 Water Quality (WQ) Objectives

The water quality objectives that support the goal of protecting and improving water quality in the Region include:

#### **WQ1 Meet approved TMDL standards in accordance with the attainment date, and participate in the development of future TMDLs.**

This objective is based on the recognition of the importance of complying with respective State and Federal standards associated with developing and implementing activities to attain TMDLs for water bodies with water quality impairments. The associated Measurable Planning Targets focus on the activities that could be implemented to address this objective.

**MPT WQ1.1** – Annually review the number of projects started or completed that contribute to meeting TMDLs (quantitative)

**MPT WQ1.2** – Summarize the number of meetings or contacts made in development of future TMDLs (quantitative) annually

#### **WQ2 Reduce pollutant loads by implementing measures such as storm water LID retrofits, erosion control/restoration to meet Water Quality Objectives (WQOs) for receiving water bodies established in the Water Quality Control Plan for the Lahontan Region within the planning horizon.**

Similar to Water Quality Objective 1, this objective demonstrates the Region's priority in complying with the State's Water Quality Objectives through pollutant load reduction. The

associated Measurable Planning Targets focus on the activities that could be implemented to address this objective.

**MPT WQ2.1** – Annually track projects that are evaluating pollutant load reduction and receiving water standards (quantitative)

**MPT WQ2.2** – Number of projects started or completed that contribute to meeting WQOs (quantitative)

**MPT WQ2.3** – Summarize pollutant load reductions for those projects with estimates (quantitative)



Landscaping BMPs  
(Photo courtesy of the Town of Truckee)

### **WQ3 Implement water quality monitoring programs through planning horizon, and coordinate annually throughout the Region.**

This objective is based on the challenge that monitoring changes to water quality is important to tracking water quality improvements within the Region. The Region also recognizes that water quality monitoring programs change with availability of funds and changes in Federal and State standards. While analysis of the data collected is critical and ongoing, inherent seasonal and hydrologic variability in monitoring results makes discernment of trends difficult. Therefore, the Measurable Planning Target identifies the specific action of monitoring that could be implemented to address this objective rather than quantitative measure of results.

**MPT WQ3.1** – Summarize whether monitoring was conducted, where it was conducted, where it was reported, and the purpose of monitoring (qualitative/quantitative)

### **WQ4 Ensure that drinking water supplied by public water systems continues to meet Federal and State standards.**

This objective is based on the challenge that drinking water treatment and distribution must meet regulatory requirements for protection of public health. The Measurable Planning Target identifies the specific action that could be implemented to address this objective.

**MPT WQ4.1** – Number of water systems that met State and Federal standards (quantitative)

### **WQ5 Restore degraded streams, wetlands, riparian and upland areas to re-establish natural water filtering processes.**

This objective is based on the challenge of enhancing stream environment zones (SEZ) and other areas that contribute to natural water filtering processes. As there are several

organizations in the Region working on restoration, the associated MPT focuses on inventory to provide as complete Regional coverage as possible to address this objective.

**MPT WQ5.1** – Report the number of projects that contribute to restoration of streams, wetlands and riparian areas (quantitative).

**WQ6 Operate and maintain, build, or replace infrastructure for reliable collection, treatment and disposal of wastewater.**

This objective is derived from the challenge that wastewater collection, treatment and disposal must meet regulatory requirements particularly as it relates to reducing/eliminating wastewater spills and treating wastewater to meet discharge requirements. In addition, local wastewater agencies recognize that aging and deteriorating infrastructure is a problem in the Region that can contribute to wastewater spills. The associated Measureable Planning Targets focus on the activities that could be implemented to address this objective.

**MPT WQ6.1** – Number of infrastructure failures per year (quantitative)

**MPT WQ6.2** – Number of projects or length of pipeline rehabilitated/constructed (quantitative)

4.4.2 Water Supply (WS) Objectives

The water supply objectives that support the goal of protecting the community water supply and treatment/delivery system to provide sufficient supply to meet the Region's current and future needs include:

**WS1 Provide water supply to meet projected demands for a 20-year planning horizon.**

This objective is based in part on water suppliers complying with state requirements (i.e., Urban Water Management Plans for larger agencies) and the benefit of the Region having adequate water supply to support the communities in the Region. The associated MPT focuses on the actions that could be implemented to address this objective.

**MPT WS1.1** – Compare current and projected supply vs. demand (quantitative)

**WS2 Operate and maintain, build, or replace infrastructure to reliably supply water.**

This objective is derived based on the challenge that local water agencies recognize aging and deteriorating water supply infrastructure is a problem in the Region. The associated MPTs focus on the activities such as monitoring to address this objective.

**MPT WS2.1** – Number of infrastructure failures per year (quantitative)

**MPT WS2.2** – Number of projects or length of pipeline rehabilitated/constructed (quantitative)

### **WS3 Implement and promote water conservation measures and practices to meet state goals.**

This objective is based on the challenge of implementing cost-effective conservation and efficiency improvements while complying with state requirements (i.e., SBX7-7), most of which apply to larger water agencies. In addition, water conservation measures can also benefit the Region, much of which is disadvantaged (i.e., have lower incomes) by potentially reducing water bills. The associated MPTs focus on activities such as monitoring and implementation of conservation measures to meet this objective.

**MPT WS3.1** – What measures and practices were implemented (qualitative)

**MPT WS3.2** – Number of conservation measures implemented (quantitative)

**MPT WS3.3** – Number of water meters installed (quantitative)

**MPT WS3.4** – Percentage of unmetered connections out of all public water system connections (quantitative)

#### 4.4.3 Groundwater Management (GWM) Objectives

The groundwater objectives are important because most of the municipal water supply in the Region is provided by groundwater. The objectives that support the goal of managing groundwater for sustainable yield include:

#### **GWM1 Maintain and monitor groundwater supply to assure future reliability.**

This objective focuses on future reliability given the potential vulnerabilities of groundwater to drought and climate change. The associated MPTs focus on monitoring to provide as complete regional coverage as possible to address this objective.

**MPT GWM1.1** – Monitoring efforts reported per groundwater management plans (qualitative)

**MPT GWM1.2** – CASGEM monitoring done and reported (qualitative)

**MPT GWM1.3** – Groundwater management/protection plans developed/updated and implemented (qualitative)

#### **GWM2 Promote groundwater protection activities for high quality groundwater, and advocate for improvements to impacted groundwater quality through public education.**

This objective is derived from the concern over groundwater quality, particularly in areas where it is the primary drinking water source in the Region and preserving water quality levels that are now within desirable levels. The associated Measurable Planning Targets focus on the activities that could be implemented to address this objective.

**MPT GWM2.1** – Public education efforts conducted (qualitative)

**MPT GWM2.2** – Groundwater management plans developed/updated and implemented (qualitative)

**GWM3 Manage groundwater for multiple uses (e.g., municipal/industrial/ agricultural supply and environmental use).**

This objective is based on the many different uses of water within the Region and the need to keep it available to meet these uses. The associated MPTs focus on the activities that could be implemented to address this objective.

**MPT GWM3.1** – Groundwater management plans developed/updated and implemented (qualitative)

**MPT GWM3.2** – Identify and monitor areas where groundwater extraction may be impacting environmental uses

4.4.4 Ecosystem Restoration (ER) Objectives

The Region's regulatory drivers and economic dependence on the tourism and recreation associated with a healthy ecosystem make this objective amongst the most important to the Partnership. The ecosystem restoration objectives that support the goal of understanding and mitigating the hazards of watershed management include:

**ER1 Enhance and restore water bodies, wetlands, riparian areas and associated uplands to support healthy watersheds, viable native fish, wildlife and plant habitats.**

The objective is based on the recognition that improvements to the watershed can result in long-term benefits not only to ecosystem form and function, but also to potential improved water supply yield and water quality. As there are several organizations in the Region working on restoration of water bodies, wetlands, riparian and associated uplands, the associated MPTs focus on inventory and coordination to provide as complete Regional coverage as possible to address this objective.

**MPT ER1.1** – Regularly update areas of identified degraded water bodies, wetlands, riparian areas, and associated uplands for restoration or enhancement focus (quantitative)

**MPT ER1.2** – Number of meetings held related to identifying locations for future projects, and revising project lists (quantitative)

**MPT ER1.3** – Number of projects that contribute to restoration of water bodies, wetlands, riparian and upland areas restored or enhanced (quantitative)

**ER2 Develop and implement programs to prevent the spread of existing invasive species and colonization of potential future invasive species.**

This objective is based on the challenge that wetlands, vernal pools and native riparian habitats are vulnerable to the impacts of invasive species from grazing, forestry, and other human activities. As there are several organizations in the Region working to prevent the spread of

existing invasive species the associated MPT focuses on the inventory and coordination to provide as complete Regional coverage as possible to address this objective.

**MPT ER2.1** – Number of projects addressing invasive species, including number of collaborative projects (quantitative)

**ER3 Implement, in coordination with public and private landowners, activities to manage forest health and wildfire risks.**



Trout Jumping  
(Photo courtesy of Mary Davey)

This objective is based on the recognition that forest management practices (e.g., fuel management for fire risk reduction, forest thinning, etc.) can result in long term benefits for the Region, especially considering the potential increases in fire risk in the future related to climate change. Since almost 50 percent of the land in the Region is publicly managed, coordination between the public and private landowners is paramount since wildfire knows no political boundaries. Catastrophic wildfires in forests are understood to result in increased runoff and sediment loading from runoff from the burned landscape, with resulting water quality and ecosystem impacts. The Region is at the forefront of forest management science and the IRWM Plan creates a unique opportunity to use the science to improve forest management within the Region. The associated MPTs focus on the activities/projects to address this objective.

**MPT ER3.1** – Number of projects addressing forest health (quantitative)

**MPT ER3.2** – Acres of forest management by projects (quantitative)

**MPT ER3.3** – Education/Outreach activities regarding defensible space (qualitative)

**ER4 Minimize ecosystem impacts caused by existing and new development.**

This objective is based on the recognition that storm water capture and management for both new and existing development is a large component of the overall ecosystem and water quality improvement strategies in the Region. The associated MPT focuses on the inventory of projects to address this objective.

**MPT ER4.1** – Number of projects that meet or exceed requirements to implement infiltration and other water quality activities to restore natural hydrology (quantitative)

**4.4.5 Integrated Watershed Management (IWM) Objectives**

These more general integrated watershed management objectives that overlap with the other more specific objectives discussed in Sections 4.4.1 through 4.4.4 support the goal of implementing improved integration and collaboration for more successful watershed management include:

**IWM1 Conduct local and regional water-related planning activities within the planning horizon as supported by current and future watershed science.**



This objective is derived from the challenge in coordinating local and regional water-related planning activities. The associated MPT focuses on the activities conducted to promote integration and collaboration of watershed management.

**MPT IWM1.1** – Use of integrated regional water management process to share science and lessons learned (qualitative)

### **IWM2 Ensure collaboration among multiple jurisdictions within the Region for information exchange.**

This objective is based on the challenge of ensuring continuing communication and collaboration in information exchange within the Region. The associated MPTs focus on the activities implemented to address this objective.

**MPT IWM2.1** – Number of meetings within the Region (quantitative)

**MPT IWM2.2** – Number of collaborative projects within the Region (quantitative)

### **IWM3 Increase public education and awareness of watershed functions, protection and restoration needs to encourage stewardship by the public.**

This objective is based on the recognition that people have a complex interdependence with their use of water, watersheds and associated ecosystems but may not always understand the various interrelationships. Also this objective underscores the importance of educating the public about their roles and what they can do to be active stewards of the environment. The associated MPT focuses on the activities implemented to increase public education and awareness.

**MPT IWM3.1** – Number of educational programs conducted (quantitative)

### **IWM4 Promote activities that reduce flood risk.**

This objective recognizes the focused efforts of the Region with respect to flood management through restoration of natural flood zones (Flood Management and Wetlands Enhancement and Creation) to manage peak hydrologic flows. The associated MPT focuses on the activities implemented to address this objective.

**MPT IWM4.1** – Number of storm water mitigation/flood protection projects (quantitative)

### **IWM5 Address climate change (e.g., water quality, water supply, groundwater recharge, flood management) in local and regional planning efforts and support efforts to continue improving the science.**

This objective is based on the challenge of responding to the evolving changes in climate change science that can impact the Region. Based on current knowledge, climate change vulnerabilities in the Region are prioritized as part of the checklist in Appendix 2-D. The associated MPT focuses on the activities that can be conducted to learn more about the characteristics and functions of the Region in order to address this objective.

**MPT IWM5.1** – Projects/studies/documents that address climate change challenges and/or further the science (qualitative)

**IWM6 Monitor water storage, release and exchange activities in order to improve coordination with regional planning.**

This objective is based on the recognition that water storage, release and exchange from the Region can impact a wide array of stakeholders and diverse interests both within the Region as well as downstream of the Region. The associated MPT focuses on the activities implemented to improve coordination as it relates to water storage, release, and exchange.

**MPT IWM6.1** – Participation in regional water operations planning organizations and number of meetings attended (quantitative)

**MPT IWM6.2** – Identification of future opportunities for coordination (qualitative)

#### 4.5 Prioritization of Objectives

The Partnership agreed at its May 2013 meeting that the objectives would not be prioritized as they believe that all of the objectives have equal weight and they did not want to limit the potential breadth of water management activities or lose stakeholder support.