

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

1. CHAPTER 1 GOVERNANCE AND PARTICIPATION

- a. **Section 1.1 Background (page 1-2)** – Revised to reference California Water Plan Update 2013.

As noted in the California Water Plan Update 2009 (Bulletin No. 160-09) and Update 2013:

"The watersheds of the Metropolitan Los Angeles Planning Area have been subjected to some of the densest urbanization in California and have issues associated with urban runoff, groundwater contamination, and the loss of major historical ecosystems."

This Plan also provides an opportunity to include information on the Region's needs and future at a scale that can contribute to the California Water Plan.

- b. **Figure 1-2 Leadership Committee Representation (page 1-6)** – Revised organization chart (attachment) and description of representation for the Lower San Gabriel and Los Angeles Rivers Subregion.

Lower San Gabriel and Los Angeles Rivers Subregion

Gateway Water Management Authority (GWMA). GWMA is the Chair of the Lower SG & LA SC. GWMA formed a joint powers authority (JPA) in 2007 in response to the State's requirement to integrate regional watershed activities such as water supply, recycled water, stormwater, conservation measures, wastewater, etc. GWMA currently has 29 cities and water agencies responsible for coordinating the regional watershed needs of 2 million people in the Gateway Region located in Southeastern Los Angeles County.

Water Replenishment District of Southern California (WRD)

WRD is the Vice-Chair of the Lower SG & LA SC. WRD manages groundwater for nearly four million residents in 43 cities of Southern Los Angeles County and is the official Groundwater Level Monitoring Entity for the Central Basin and West Coast Basin.

~~**Watershed Conservation Authority (WCA).** The WCA is the Vice-Chair of the Lower SG & LA SC. WCA is a joint powers entity between the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy (RMC) and LACFGD whose focus is to provide multiple benefits such as open space, habitat restoration, and recreational opportunities in the San Gabriel and Lower Los Angeles Watersheds.~~

- c. **1.5 Stakeholder Involvement**

- i. **Regional Stakeholder and Public Outreach (page 1-11)** – Inserted new language describing the involvement of land use planning entities in information and collaboration activities with the Steering Committees.

Regional Stakeholder and Public Outreach

The majority of stakeholder input to the IRWMP is conducted at the Subregional level which is then reported to the LC through the Subregional representatives during a

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

standing LC meeting agenda items called “Subregional Reports.” Since Subregional SC meetings are held locally, they increase the ability and time allowed for individual stakeholder participation. Land Use planning entities are invited to SC meetings. Information sharing and collaboration with regional land use planning entities as described in Section 2.11 takes place primarily through the steering committee meetings. All GLAC stakeholders and general public are also invited to attend the monthly LC meetings and can speak during the public comment period.

- ii. Table 1-1. Subregional Steering Committee Membership (page 1-14) – Revised to reflect current list of membership (attachment).
- iii. Disadvantaged Community Involvement Program (page 1-19) – Inserted a new subsection and description for the Disadvantaged Community Involvement Program above the subsection on “Tribal Outreach.”

Disadvantaged Community Involvement Program

In 2016, a Disadvantaged Community Involvement Program (DACIP) Task Force for the Los Angeles-Ventura Funding Area was established to facilitate a consensus-based approach to implement a Funding Area-wide DACIP that meets the objectives of the Proposition 1 DACIP IRWM Grant Program. All three IRWM Regions (GLAC, Upper Santa Clara River, and Watersheds Coalition of Ventura County) have identified the need for resources to support a more comprehensive assessment and education process as a critical step forward in further understanding the water management needs within their disadvantaged communities, economically distressed areas, and underrepresented communities (collectively referred to as DACs) including Native American tribes, migrant and resident farmworkers, and homeless people (Map 1-4, Los Angeles-Funding Area DACIP Disadvantaged Communities). Results and lessons learned from each Region’s planning efforts over the past eight years have helped frame the Funding Area’s water management needs and engagement strategies to assist in addressing those needs.

For the GLAC Region DAC Committee outreach surveys and workshops were conducted. While these showed a desire from the community for Outreach and Education, as well as Project Site Assessment, Project Development and Coordination, and Technical Assistance, these surveys and workshops also showed that there are missing resources needed to fully connect and involve the community in the IRWM process. Funding of the DACIP to carry out local outreach, partnering, and local capacity building through technical assistance will ensure the opportunity for involvement in IRWM planning efforts. of DACs including Native American tribes and homeless people. The results of the DACIP efforts will be fully described in a report after its completion in early 2021.

- iv. Tribal Outreach (pages 1-19 to 1-20) – Inserted new language to reference tribes as sovereign nations and as such the government-to-government coordination that takes place with them. The recent participation of the Mission Band of Gabrielino Indians and Tongva was also included.

Tribal Outreach

A specialized task was conducted as part of the Plan Update to determine tribal stakeholders and interests in the Region and then conduct outreach to these interests in an effort to encourage participation in ongoing IRWM activities including the Plan Update. It should be noted that Tribes are sovereign nations, and as such coordination with Tribes is on a government-to-government basis.

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

The GLAC Region contacted the Native American Heritage Commission (NAHC) to determine if the Region was home to any federally-recognized tribes or tribal interests. The response from the NAHC indicated that the Region is not home to any current tribes or tribal lands but provided the contact name and information of several individuals listed as having tribal interests that reside within the GLAC Region. A letter was sent by the LC to each of the individuals on the listing to explain the IRWM Plan Update process, provide contact and Website information and encourage participation. Since then, the GLAC Mission Band of Gabrielino Indians and Tongva expressed interest in the GLAC IRWM process.

- d. **1.8 Future Plan Updates or Amendments** (page 1-25) – Inserted new language as a second paragraph and revised the third paragraph.

1.8 Future Plan Updates or Amendments

To incorporate other planning documents into the GLAC IRWMP, the Subregional Steering Committees will review and upon approval, recommend incorporation of these plans to the Leadership Committee. The Leadership Committee takes a vote to incorporate the plan. Planning documents that have been approved by the Leadership Committee through this process are included as appendices.

There are, however, on-going IRWM processes that are described in this Plan Update that could result in constant changes - such as new and modified Plan projects and prioritization and progress on Plan performance and meeting objectives and targets. Because of the dynamic nature of these IRWM processes, this Plan Update documents the process used to allow for these changes. These project development and review processes and information on how to access current project listings and prioritizations are detailed in Chapter 5. The GLAC IRWM process for documenting plan performance and data management are included as part of Chapter 7. As part of the normal plan management activities, the benefits and impacts will be reviewed with each IRWM Plan Update.

Given the amount of resources and time necessary for full Plan updates (~~such as this 2013 Update~~) future updates will be dependent upon the need to meet changing DWR requirements and the funding available but will occur ~~no less frequent than every five years~~ as often as necessary. Plan amendments to incorporate planning documents or additional information in response to new State IRWM Program Guidelines and eligibility requirements to qualify for funding would not automatically trigger re-adoption of the IRWMP.

2. CHAPTER 2 REGIONAL DESCRIPTION

a. **2.2 Overview**

- i. North Santa Monica Bay Subregion (page 2-4) – Revised to add relevant information regarding the Subregion.

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

North Santa Monica Bay Subregion

The North SM Bay differs substantially from the other Subregions with respect to land use, water supply, groundwater and surface water quality, aquatic resources, open space and recreation. Over 85 percent of the North SM Bay is still undeveloped open space; remaining land uses in the area are primarily residential and concentrated along the coastline and interior valleys where its 107,000 residents reside. There is little heavy industry. The northern headwaters of the subregion are dominated by the geologic Modelo Formation that is part of the Monterey Formation, California's primary petroleum source rock, which is a known source of natural contaminants. As a result, The North SM Bay depends almost entirely on imported water due to naturally-poor groundwater quality and low-yielding wells limited surface storage opportunities. Per capita recycled water use is among the highest in the nation, but further expansion is limited to areas that are difficult to reach due to steep mountain slopes. Aquatic habitat protection and restoration is a special priority, as the North SM Bay includes the Santa Monica Mountains National Recreation Area, several State Parks, a state designated ASBS, and Malibu Lagoon, all heavily used for recreation. The North SM Bay is also home to over a dozen endangered and threatened species, including the southernmost Steelhead Trout population in the state.

b. 2.7 Water Quality

- i. Ground Water Quality (page 2-42 – 2-43) – Minor revision to the second paragraph. The third paragraph was also revised to state that additional information regarding AB 1249 requirements are found in the subregional plans. The list of water quality issues in each of the Region's groundwater basins was also updated.

Groundwater Quality

Groundwater quality varies throughout the Region, based on naturally occurring conditions, historical land use patterns, and groundwater extraction patterns.

Naturally occurring soil and geologic conditions in the Region often result in elevated levels of dissolved solids in groundwater (measured in terms of TDS). Commonly referred to as "hard" water, these dissolved solids include inorganic salts (including calcium, magnesium, potassium, sodium bicarbonates, chlorides and sulfates) and small amounts of organic matter. Increases in groundwater TDS concentrations are a function of the recharge of storm and urban runoff, imported water, recycled water, and incidental recharge. Naturally hard water precludes the use of groundwater throughout one of the GLAC IRWMP Subregions, the North Santa Monica Bay Subregion. They are also attributed in part to the legacy of salt contamination from past agricultural and land uses, including fertilizer use and waste disposal.

Groundwater quality in some portions of the Region has been degraded by elevated levels of nitrates primarily from past agricultural land use practices and plumes of volatile organic compounds (VOCs) from the past disposal of industrial solvents. These include trichloroethylene (TCE), a common degreaser and cleaning product, and perchloroethylene (PCE), commonly used in dry cleaning of clothing. In addition,

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

perchlorate contamination, associated with the manufacturing and testing of solid rocket propellants, is another major concern. The solid salts of ammonium perchlorate, potassium perchlorate, or sodium perchlorate are soluble in water and can persist for decades. Groundwater contamination has also occurred in some locations from the use of methyl tertiary butyl ether (MTBE) a gasoline additive used to increase octane ratings and reduce emissions. Although the use of MTBE was discontinued in 2003 (following the discovery of MTBE in groundwater wells in the City of Santa Monica), many underground gasoline storage tanks leaked and created the potential for contamination. The location and extent of groundwater contamination in the Region, and the potential resulting impacts to the communities within the Region are described in the subregional plans. Groundwater cleanup efforts are being coordinated by various agencies and cities, including the San Gabriel Basin WQA and WRD.

The following is a summary of water quality issues in each of the Region's groundwater basins:

- **Main San Gabriel Basin:** VOCs, NDMA, nitrate, perchlorate, hexavalent chromium, and TDS
 - **Puente Basin:** TDS, nitrate, hexavalent chromium, VOCs
 - **Six Basins:** nitrate, perchlorate, VOCs, arsenic, radon
 - **Raymond Basin:** TDS, nitrate, perchlorate, VOCs
 - **San Fernando Basin:** TCE, PCE, hexavalent chromium, nitrate, sulfate, TDS
 - **Verdugo Basin:** MTBE, nitrate
 - **Sylmar Basin:** nitrate
 - **Central Basin:** TDS, VOCs, perchlorate, nitrate, iron, manganese, chromium, arsenic
 - **West Coast Basin:** TDS, VOCs, manganese
 - **Santa Monica Basin:** TCE, PCE, perchlorate, MTBE
 - **Hollywood Basin:** TDS
- c. **2.11 Land Use** (page 2-56) – Revised to describe the role of local land use agencies and regional planning departments in “Land Use” IRWM planning efforts.

2.11 Land Use

Land Use within the Region is recognized as the responsibility of the cities and counties. This reflects the historic pattern of urbanization, as most of the coastal plain and interior valleys are occupied with residential, industrial, commercial, and institutional uses, and most of the foothills and mountains are principally open space. Increasingly, the local land use agencies and regional planning departments are collaborating with water purveyors to more effectively manage the Region's water demand and infrastructure with respect to climate change impacts. A breakdown of land use in the Region is provided in Table 2-6, and depicted on Maps 2-14(a) through 2-14(e).

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

- d. **2.14 Climate Change** (pages 2-67 through 2-71) – Revised to include additional information required for “Climate Change”.

2.14 Climate Change (third paragraph)

On a state-wide level, these impacts are expected to impact local water resources as follows ([California Water Plan Update 2013, Volume II, South Coast Region, 2014](#); [Safeguarding California: Reducing Climate Risk, 2014](#); DWR, 2011):

Effects of Climate Change on the GLAC Region (second paragraph)

The need for and interest in more refined geographic and temporal scale climate change models has precipitated two recent climate change analysis efforts [that were recently completed](#) within the GLAC Region. [These two studies inform the latest vulnerability assessments.](#)

Climate Change in the Los Angeles Region: A modeling effort being led by UCLA for a partnership of the Los Angeles Regional Collaborative for Climate Action and Sustainability and the City of Los Angeles to refine climate modeling for the Greater Los Angeles area between 2041 to 2060. The results of the temperature [and precipitation](#) modeling ~~have already been released and~~ have been incorporated into the climate change effects described here. ~~The modeling effort will also produce precipitation, hydrology, cloud cover, wind and sea level rise impacts—however the results of these analyses were not yet available for this section.~~

Los Angeles Basin Stormwater Conservation Study: A partnership between the US Bureau of Reclamation and the LACFCD to refine climate change projections influenced by localized geographic differences between coastal and inland areas, as well as changes in topography. [The Los Angeles Basin Study assessed the](#) Region’s major water conservation and flood risk management infrastructure to prepare for future drivers that may impact water supply, such as changes to climate and population. The study is a long-range planning effort that evaluated the potential of existing facilities and additional new stormwater capture concepts to increase the resiliency and sustainability of local water supplies under an uncertain future. ~~Resulting climate projections will be simulated in existing LACFCD facilities and hydrologic models to identify potential flooding and supply effects and vulnerabilities. Since the effort was begun in February 2013, the results were not yet available for use in this 2013 Plan Update.~~

Regional Climate Change Impacts

Climate change impacts and effects are based on different climate change assumptions and analysis approaches. Table 2-7 summarizes the impacts and effects of climate change on the GLAC Region by 2100 (unless otherwise indicated), which are typically based on an average of various climate change analyses. ~~However only temperature projections are available at a refined scale for the GLAC Region as shown in Table 2.7.~~ Climate change is expected to increase average temperature by at least 3.5 degrees Fahrenheit by mid-century with the number of hot days (with temperatures greater than 95° F) tripling at the coast. This effect is further exacerbated in the inland areas. ~~Precipitation is expected to decrease by at 2 to 5 inches throughout the South Coast of~~

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

~~California with the most extreme reductions taking place in the higher elevations.~~ These temperature effects are presented in Figures 2-2 and 2-3 from the UCLA climate change modeling effort. Interestingly, climate change is projected to have minor impacts on average annual rainfall within the Region. Annual precipitation totals are anticipated to undergo little to no change. Rainfall intensity is projected to increase over the higher elevation portions of the Region while little change in intensity is expected over the central and coastal areas.

Recent sea level rise studies have estimated a range of 17-66 inch average 11 inch rise along coastal areas in Southern California by the year 2100. The Region uses a system of seawater barriers to prevent saltwater intrusion into the coastal groundwater aquifers and safeguard this water supply source. As sea level rises, the Region will need to be vigilant in the monitoring of its coastal aquifers and use adaptive management techniques as necessary to ensure the health of this supply.

The three major imported water supplies feeding the Region – State Water Project, Colorado River Aqueduct, and Los Angeles Aqueduct – are also anticipating delivery decreases as a result of climate change.

- e. **Table 2.7: Impacts and Effects of Climate Change on Region** (page 2-69) – Revised to update information using the Los Angeles Basin Study Summary Report. See attachment.

Identification of Vulnerabilities (page 2-71)

The Climate Change Subcommittee conducted an exercise to answer vulnerability questions taken from Box 4-1 of the Climate Change Handbook and associated the answers with potential water management issues/vulnerabilities. See Appendix O for an updated summary of the analysis. Included in this analysis are qualitative vulnerability questions framed to help assess resource sensitivity to climate change and prioritization of climate change vulnerabilities within a region. Answers to vulnerability questions are given for the GLAC Region with local examples provided as justification for the answer. Vulnerability issues are prioritized in the next section.

Prioritization of Vulnerabilities

The justification as to why the following vulnerability issues were classified as high priority is provided below:

- **Decreased ability to meet and/or maintain conservation goals:** There is concern that it ~~will~~ may be ~~very~~ difficult for the Region to ~~reach~~ maintain levels of conservation consistent with the state goal of a 20 percent reduction in per capita potable water use by 2020 and achieve the efficiency targets contemplated under the Governor's proposed framework for "Making Water Conservation a California Way of Life". In addition, demand hardening will reduce the water use efficiency options available to make further reductions in use beyond the current goal of 20 percent. Although conservation programs reduce the amount of water needed by customers, not all long-term conservation programs have ~~not~~ generated overall cost savings to ~~these~~ the customers. Water supply agencies must still maintain and operate supply facilities so decreased revenues as a result of conservation must be balanced through rate adjustments. Increased costs to customers could discourage ~~them~~ some from continuing water conservation.

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

3. CHAPTER 3 OBJECTIVES AND PRIORITIES

- a. **3.2 Objectives: Improve Water Supply** (pages 3-3) – Revised to include additional information required for “Climate Change”.

Improve Water Supply

Optimize local water resources to reduce the Region’s reliance on imported water

Most years, the San Gabriel Mountains receive substantial rainfall and existing dams and natural storage slowly release runoff, providing an important source of high-quality and low-cost water that can be treated for direct use or recharged into groundwater basins for later use. At several locations, recharge is limited by the capacity of existing recharge facilities. Rehabilitation and expansion of recharge facilities, modified operation of existing storage facilities, rehabilitation and enlargement of upstream storage capacity, and optimization of operational practices could improve the utilization of this local water source. Further, diversifying the water supply portfolio equips the Region to continually adapt to climate change.

The Region’s concern about water shortages has increased the local interest in graywater reuse as a source of non-potable water supply. The California Plumbing Code was amended in August 2009 when Chapter 16A was adopted to allow the use of graywater from clothes washers without a permit from local government subject to some environmental protection conditions. Local governments are reviewing options for expanding the graywater reuse opportunities for more fixtures while addressing potential impacts on a case-by-case basis. Total graywater within a residence may account for as much as 60 percent of the total indoor water consumption. The LADWP estimates that the residential graywater reuse capacity may range from 50 to 165 million gallons per day.

~~Lastly, diversifying the water supply portfolio helps the Region to better adapt to climate change.~~

- b. **3.2 Objectives: Reduce Flood Risk** (page 3-5) - Revised to include additional information required for “Climate Change.”

Reduce Flood Risk

Reduce flood risk in flood prone areas by either increasing protection or decreasing needs using integrated flood management approaches

Although, abundant sunshine is one of the Region’s main attractions, occasional storm events have the potential to generate substantial amounts of runoff which can create significant flood risks. The Region’s extensive flood management system must be operated, maintained, and enhanced where needed to protect lives and property. Additionally, climate change is projected to create more intense storm events and in some cases, may warrant modifications to flood control infrastructure or expansions. As elements of the flood protection system warrant significant repair or replacement, consideration should be given to the implementation of more integrated flood management systems. Projects that propose to: 1) reduce runoff via onsite best

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

management practices (BMPs); 2) capture and treat urban and storm water runoff for treatment; 3) expand groundwater recharge; or 4) restore habitat, must also preserve or enhance existing flood protection levels.

- c. **3.2 Objectives: Address Climate Change** (page 3-5) - Revised to include additional information required for "Climate Change."

Address Climate Change

Adapt to and mitigate against climate change vulnerabilities

The potential effects, ~~and~~ impacts ~~and vulnerabilities of~~ climate change ~~impacts were~~ assessed in the context of the vulnerabilities of ~~on~~ the GLAC Region were assessed as part of the 2013 Plan Update and described in Chapter 2. In general, the Region can expect to have significant temperature increases, ~~and little to no change in annual~~ precipitation, ~~and more intense storm events decreases~~ (by ~~2040~~2100) that will impact local water demands, supplies, water quality and habitat. The resulting runoff from these storm events is projected to have higher flows, yet the overall seasonality of the runoff is not expected to change much. Sea level rise and ~~the~~ more intense storm events are ~~also~~ expected to impact the Region causing flooding, water quality and other water management and land use issues. With the three major imported water supplies feeding the Region are also anticipating delivery decreases as a result of climate change, the Region recognizes that it must be ready to adapt to these impacts.

- d. **3.3 Planning Targets** (page 3-7) - Revised to include additional information required for "Climate Change."

Increase capture and direct use of stormwater runoff by 26,000 AFY

Stormwater runoff is a largely underutilized resource within the Region and seen as a key resource to help adapt to climate change. The Region's highly urbanized areas generate a large amount of runoff during winter storms that is only partially captured for direct use or to recharge local aquifers. However, this supply is very seasonal and so it is often infeasible to construct and operate facilities to store larger amounts of surface water supplies, so much of the winter storm flows are lost to the ocean. It is possible to capture urban runoff for direct use through the implementation of both small, decentralized projects as well as storage reservoirs.

- e. **3.3 Planning Targets (page 3-12)** - Revised to include additional information required for "Climate Change."

Implement mitigation strategies that decrease emissions of GHGs

Decreasing the amount of energy required to produce water supply is one of the greatest ways that the Region can mitigate against further climate change impacts. By optimizing facilities and using less energy intensive water resource strategies to meet needs, the Region and its stakeholders can reduce GHG emissions and ~~contribute to lessening the~~ future climate impacts. The Region can also consider implementing green infrastructure projects that use natural solutions such as carbon sequestration and/or projects that use renewable energy to reduce GHG emissions. Additionally, ~~S~~some "no regret" strategies, like water use efficiency, will directly reduce GHG emissions by not requiring water to be produced to meet the same need. The GLAC Region is supportive of strategies that both

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

help adapt to mitigate against climate change, such as considering the strategies in CARB's A B 32 Scoping Plan. The strategies that can be used to meet these targets are provided in Chapter 4.

4. CHAPTER 4 REGIONAL WATER MANAGEMENT

- a. **4.1 Introduction** (page 4-1) – Revised to include reference to California Water Plan Update 2013 Resource Management Strategies.

4.1 Introduction

As part of the 2017 amendment process for the GLAC IRWM Plan, 2013 Plan Update process, the GLAC Region reviewed the management strategies called out in the 2006 Plan relative to the new IRWM Plan 2013 the Plan objectives and the Resource Management Strategies (RMS) listed in the California Water Plan Update 2009/2013 (DWR, 2009/2013), including the new additions. The purpose of reviewing these Management Strategies in this context is to identify which ones will help achieve the Plan objectives through project or program implementation within the GLAC Region. In order to determine which strategies are suitable for the Region, Subregional SC meetings and a public review process were held to solicit feedback and input from the Region's stakeholders. Section 4.3 describes each of the Resource Management Strategies that the stakeholders were determined were to be relevant to the GLAC Region. Those RMS's not discussed in Section 4.3 were considered not applicable. This chapter presents the strategies considered by the SC stakeholders for the 2013 Plan Update, and updates/amends the 2006-2013 Plan language accordingly. This chapter also specifically includes an evaluation of the adaptability of water management systems in the Region to climate change.

- b. **4.2 California Water Plan Resource Management Strategies** (page 4-1) – Revised to include reference to California Water Plan Update 2013 Resource Management Strategies

4.2 California Water Plan Resource Management Strategies

Division 43, Proposition 1, Chapter 27 Regional Water Security Climate and Drought Preparedness (California Water Code, Section 79740-79748) 75206(a) of the California Water Code authorizes funding (pursuant to Proposition 84) to improve regional water self-reliance security and adapt to the effects on water supply arising out of climate change for long-term water needs of the state, and requires that eligible projects implement IRWM Plans that address the water management strategies identified within the *California Water Plan Update 2009/2013*:

- c. **Table 4-1 DWR California Water Plan Update 2013 Management Strategies** (pages 4-2 through 4-3) – Revised Table 4-1 to reflect the California Water Plan Update 2013 Management Strategies, replacing the 2009 Management Strategies. See attachment.
- d. **4.3 2017 GLAC Region Water Management Strategies**

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

- i. Stormwater Quality, Flood, and Sedimentation Management (pages 4-17 and 4-18)
 - Minor revision on paragraph 9 and inserted information on sedimentation management before and after paragraph 9.

Stormwater Quality, and Flood, and Sedimentation Management (RMS # 15, 17, 19, 27, & 284, 16, 18, 20, & 27)

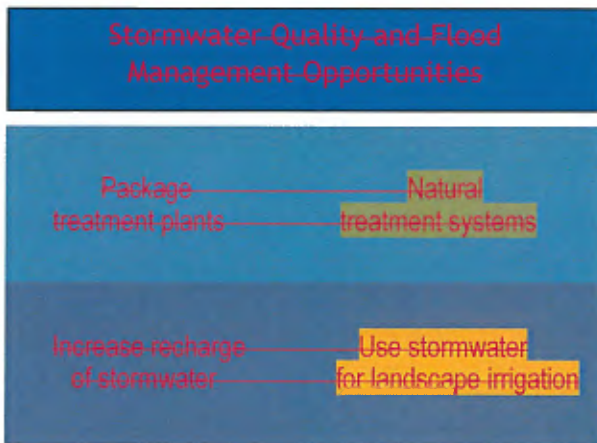


Figure 4-13. Stormwater currently lost to the ocean is a potential candidate for capture treatment, recharge, and reuse.

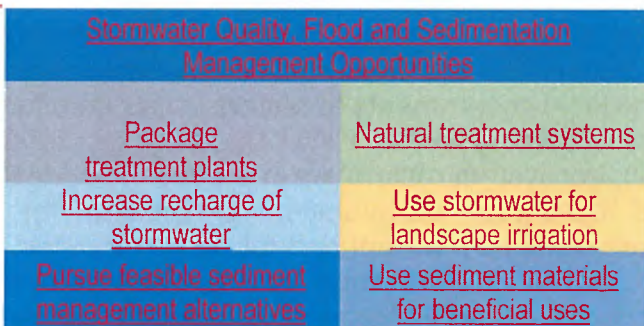


Figure 4-13. Stormwater currently lost to the ocean is a potential candidate for capture treatment, recharge, and reuse. Sediment materials currently captured which have beneficial uses can assist in reducing flood risks.

In recent years, new sediment management challenges have been identified. In particular, recent wildfires have led to an increased inflow of sediment and debris within flood management structures. This has put pressure on the remaining capacity of existing sediment placement sites. The Los Angeles County Flood Control District’s Sediment Management Strategic Plan (SMS Plan) was developed to consider new alternatives that can reduce the environmental and social impacts of sediment management. The SMS Plan provides a balanced approach to ensure the flood management and water conservation system remains operational well into the future and able to provide flood control and water conservation purposes by proactively addressing key issues affecting sediment management.

Opportunities to enhance flood management include projects such as the Sun Valley Watershed Plan, which addresses an area of chronic flooding with alternative approaches

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

to construction of a flood conveyance channel ~~through the use of~~using gravel pits and underground drains below parkland to infiltrate runoff and thereby enhance groundwater recharge. If successful, the Sun Valley Plan can serve as a model for future localized flood management improvements. Flood attenuation to reduce peak flood flows, via expanded on-site infiltration and increased upstream storage, represents an opportunity to enhance the potential for river channel modifications, such as those proposed in the Los Angeles River Revitalization Master Plan.

Opportunities to facilitate sediment management alternatives for reservoirs and debris basins in the Region include a combination of removal, transportation, beneficial uses and placement. Sediment removal includes excavation, sluicing, dredging, and sediment flushing. Transport of sediment can be by way of conveyor belts, slurry pipes, and trucks. Beneficial uses and placement include daily cover at solid waste landfills, fill at pits, or sediment placement sites.

The San Gabriel Reservoir Sedimentation Management Project is an example of a potential project using a combination of the above alternatives. The San Gabriel Reservoir has 23.8 MCY of sediment removal planned over the next 20 years and another 3.4 MCY that could potentially be sluiced or delivered by slurry pipeline from the upstream Cogswell Reservoir.

ii. Ecosystem Restoration RMS # 22,28 (page 4-20) – Deleted reference to CWP Update 2009 and inserted 2013 on the second paragraph.

Ecosystem Restoration (RMS # 22, 28)

In recent decades, technologies have emerged to restore function and productivity to degraded or destroyed ecosystems. Scientists, engineers, and community groups have begun working with federal, state, and local governments to restore ecosystem function to the Region's native ecosystems. According to the ~~CWP Update~~DWR 20092013 (Ecosystem Restoration, Chapter 22), ecosystem restoration improves the condition of modified natural landscapes and biological communities to provide for their sustainability and for their use and enjoyment by current and future generations. Few, if any, of California's ecosystems can be fully restored to their condition before development. Instead, efforts must focus on rehabilitation of important elements of ecosystem structure and function. Successful restoration increases the diversity of native species and biological communities, and the abundance and connectivity of habitats.

iii. Open Space and Recreation (page 4-23) – Revised title from "Open Space, Recreation" to "Open Space and Water-Dependent Recreation and added new RMS # 31.

Open Space, Recreation

Recreation and Public Access (RMS # 23, 24 24 & 26, 31)

iv. Watershed Planning RMS #27 (page 4-28) – Deleted reference to CWP 2009 and replaced it with CWP 2013 in paragraph 4.

v. Outreach and Engagement RMS #29 (page 4-28) – Inserted description for new RMS.

Outreach and Engagement (RMS #29)

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

The California Water Plan describes outreach and engagement for water management as the “use of tools and practices by water agencies to facilitate contributions by public individuals and groups toward good water management outcomes.” Improved education, outreach and engagement has increased the public’s awareness of critical water issues and their understanding of benefits, costs and impacts of water resources management alternatives leading to better engagement and contributing towards good water management.

The 2013 Plan Update includes several discussions within the Stakeholder Involvement section (1.5) which describes outreach and recruitment of stakeholders, the public, disadvantaged communities, local planning entities, and other IRWM Regions.

In 2013, DWR sponsored two local studies to evaluate and recommend strategies for future DAC engagement processes. Council for Watershed Health carried out the DAC Outreach Evaluation Study on effective outreach strategies to DACs within the Region, and the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy published the Alcanza Project, engaging disadvantaged communities in the planning process of developing projects. These efforts show that the most effective engagement strategies are based on highly localized efforts where “links” in the form of partnerships between water management agencies, municipalities, nonprofits, and community-based groups are supported, and that the community values outreach and education, project site assessment, project development, and technical assistance. The DACIP effort is intended to support collaborative work involving DACs, community-based organizations, and stakeholders in IRWM planning efforts, increase understanding, and where necessary, identify water arrangement needs of DACs, and develop strategies and long-term solutions that appropriately address the identified DAC water management needs.



Figure 4-21. The Region is continually expanding and improving its Outreach and Engagement activities.

- vi. Water and Culture RMS #30 (page 4-28) – Inserted description for new RMS.

Water and Culture RMS # 30

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

Reaching out across our cultural divides is one necessary factor to achieve successful water management planning. Thus, this RMS is included in the IRWM Plan based on the important principles it conveys to “link cultural considerations to water management.” Although the RMS acknowledges it represents more of an annotated outline than a fully developed strategy and that is often difficult to define culture or cultural groups, the GLAC Region has actively incorporated practices and processes to be inclusive of all stakeholders. The GLAC Region is truly multi-cultural with a myriad of ethnicities, Native American tribes presence and practices, surfing and beach culture, and a strong environmental movement, to list a few.

The GLAC Region aims to increase involvement with the diverse communities in the Region through the DAC Involvement Program (DACIP). The DACIP began in 2017 and aims to increase engagement by underrepresented minorities, economically disadvantaged areas and tribal members. Through these efforts and others, the GLAC IRWM anticipates local communities will become more engaged in the collaborative process and in future water-related planning and projects. Furthermore, project sponsors are responsible for considering and outreaching to stakeholders within project specific boundaries.

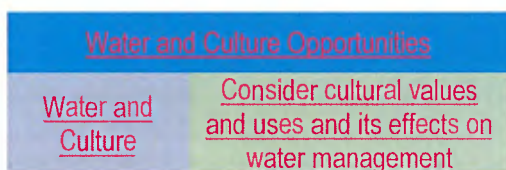


Figure 4-22. The Region is continually expanding and improving its Water and Culture activities.

vii. Climate Change (page 4-28) – Updated list of climate change related documents and inserted new text in the last paragraph.

4.4 Climate Change

The strategies discussed above can be used to help the Region adapt to the climate change vulnerabilities identified in Chapter 2, and mitigate further climate change impacts. The Climate Change Subcommittee reviewed the Resource Management Strategies discussed above, and also developed an initial list of both adaption and mitigation strategies through review of relevant climate change related documents. These documents include:

- Managing an Uncertain Future (DWR, 2008)
- Climate Change Scoping Plan (CARB, 2006)
- Climate Action Team Biennial Report (CalEPA, 2010)
- Resolution on Sea Level Rise (OPC, 2010)
- Coastal Regional Sediment Management Plan for Los Angeles County Coast (USACE, 2012)
- Los Angeles Basin Study (LACFCD/USBR, 2015)
- Regional Adapt LA: Coast Impacts Planning in the Los Angeles Region (USC, 2017)

GREATER LOS ANGELES COUNTY 2013 IRWM PLAN 2017 AMENDMENTS

- Safeguarding California: Implementation Action Plans (CNRA, 2014)

IRWM Plan projects that implement any of these climate change and/or GHG mitigation strategies would therefore be helping the Region meet the specific targets identified that support the objective.

CHAPTER 5 INTEGRATED REGIONAL PROJECTS

- a. **5.2 Project Review and Selection Process** (page 5-2) – Revised last bullet under “What types of projects are encouraged”. to address new “Climate Change” requirements.

- Adapt to and mitigate against climate change vulnerabilities, and reduce energy consumption and overall GHG emissions

- b. **5.5 Selecting Projects Integration** (page 5-5) – Revised paragraph 3 to address new “Climate Change” requirements.

Finally, and perhaps most importantly, the Region wants to maintain flexibility to prioritize projects as needed, based on issues the Region is facing at the time, such as severe drought, flooding conditions, emerging climate change effects or other unforeseen circumstances. Not prioritizing projects also gives the Region more flexibility to select projects for funding from various grant programs that may not be at/near the top of a prioritized list, but may be well supported by a deserving community. For all these reasons, the Region’s decision was to maintain a list of projects, but without prioritizing them. The process occurs at the direction of the LC and the most recent project selection is posted on the project database webpage. The general process and criteria to be used to determine the priority level of projects are provided in the box below. These could be superseded by specific grant criteria

- c. **5.3 Project Integration** (page 5-6) – Revised first paragraph to address new “Climate Change: requirements

5.3 Project Integration

As DWR notes in the Guidelines, IRWM planning decisions can lead to existing or “off the shelf” projects being combined or replaced by new and/ or different projects. Part of the advantage of regional planning is addressing similar objectives of local interests with a regional project. Resources of personnel, finance, and equipment to implement multiple smaller efforts may benefit from economies of scale when similar local interests can be met with a regional project. IRWM plans must contain provisions for reviewing project objectives and considering new, expanded, or even different solutions that meet multiple local needs. The decisions made in the IRWM Plan should consider the interconnected needs of the Region and not just the needs of specific entities in the RWMG. The RWMG should also consider integrating solutions that adapt to climate change and help to mitigate GHG emissions. Opportunities for project integration are regular topics of