



San Luis Obispo County Region
Integrated Regional Water Management (IRWM)
Regional Water Management Group (RWMG)

NOTE:
LOCATION
CHANGED!

AGENDA

Date: April 4, 2018
Time: 10:00 AM – 12:00 PM
Location: University of California Cooperative Extension Auditorium,
2156 Sierra Way, Suite C, San Luis Obispo, CA 93401

- 1) Introduction/Public Comment
- 2) Stormwater Resources Plan Updates
- 3) IRWM Program Updates
 - a) Draft 2018 IRWM Plan Updates
 - b) Plan Adoption Schedule
 - c) DAC Involvement Update
 - d) Proposition 1 Implementation Grant Schedule
- 4) Project Review Process
 - a) Overview of DWR's Guidelines
 - b) Summary of the revised Project Review Process and Scoring Rubric
 - c) Consider forming an RWMG Working Group who, over multiple meetings, will refine the Project Review Process and update the IRWM Plan Implementation List, per DWR's Guidelines.
- 5) Discussion and Questions

NOTICE: All IRWM notices will be emailed only by the online mailing list service. Please sign-up for the IRWM Stakeholder mailing list online at <http://www.slocountywater.org/irwm>

NEXT RWMG MEETING:

Wednesday **May 2, 2018** at 10:00 AM – 12:00 PM
SLO City/County Library Community Room, 995 Palm St, San Luis Obispo CA

For more information, please contact
Brendan Clark, County of San Luis Obispo Public Works Department
bclark@co.slo.ca.us
(805) 788-2316
www.slocountywater.org/irwm

TO: IRWM Regional Water Management Group
FROM: Brendan Clark, Water Resources Engineer
DATE: April 4, 2018
SUBJECT: Item #3: IRWM Program Updates

Recommendation

- Receive updates for the IRWM Program

Discussion

This item will review various updates related to the IRWM Program and specifically, the 2018 IRWM Plan Update. The following attachments are submitted to the RWMG for review. RWMG will be able to comment during the public review period of the draft 2018 IRWM Plan.

Attachment 1 includes the summary of the various approved recommendations from the February 7th, RWMG Meeting.

Attachment 2 is the Climate Change Adaptation and Mitigation Technical Memo, which primarily highlights:

- Vulnerability prioritizations,
- Relationship between the IRWM Plan Objectives and Climate Change Adaption and Mitigation Requirements from DWR.
- How the “Very High” Priority Vulnerabilities are captured by the IRWM Plan Objectives.
- Adaption and Mitigation strategies for Climate Change Vulnerabilities

Attachment 3 provides the draft language of the Housing and Development discussion in the Climate Change of the 2018 IRWM Plan.

Attachment 4 identifies the minor revisions of the Groundwater Objectives to better align with SGMA.

Attachment 5 is the updated 2018 RWMG Schedule. It includes the plan update and adoption timeline as well as the expected timing of the final Prop 1 Grant Project Solicitation Package (PSP).

Attachments:

1. Staff report summarizing the Feb 7, 2018 RWMG Meeting
2. Climate Change Adaptation and Mitigation Technical Memo, prepared by WSC and County Staff
3. Draft discussion of the relationship between Housing and Development and specific climate change vulnerabilities.
4. Summary of revisions to align Groundwater Objectives with SGMA.
5. Update RWMG Schedule

ITEM 3, ATTACHMENT 1

TO: IRWM Regional Water Management Group

FROM: Brendan Clark, Water Resources Engineer

DATE: April 4, 2018

SUBJECT: Summary Report – RWMG February Meeting

Summary of February Meeting Items

1. Consider recommended identified vulnerabilities
2. Consider recommended vulnerability prioritization
3. Consider incorporating any or all prioritization categories (e.g., Very High and High) into the Objectives and/or Project Review Factors in the IRWM Plan
4. Consider recommended inclusion and emphasis in the Climate Change section on housing & development related vulnerabilities identified during the January 31, 2018 Workshop
5. Discuss Climate Change requirements including RWMG feasibility to address priority vulnerabilities and policies/procedures that promote adaptive management

Summary of Meeting Decisions

Item 1

On February 7, 2018, the RWMG Members approved the Vulnerability Assessment, included in the RWMG February Staff Report, without changes. The Vulnerability Assessment will be included in the Appendix of the IRWMP.

Item 2

At the 2018 February RWMG Meeting, the Vulnerability Prioritization – incorporating suggestions from the IRWM Climate Change Workshop and online survey – was approved without changes.

Item 3

The RWMG Members present at the February Meeting decided the entire list of identified vulnerabilities should be included in the IRWMP Objectives Section but that the vulnerabilities should be kept separate from the current Plan Objectives. However, the RWMG agreed the vulnerabilities categorized as “Very High” should be considered for incorporation into the current Plan Objectives.

The RWMG decided all 35 identified vulnerabilities should be included in the Project Review Factors. This decision also specified that if a Project Applicant claims their proposed project will

help address one or more vulnerabilities, then Applicants will be required to explain how the project does so for each vulnerability addressed. Therefore, the Project Proposal Form will include separate comment boxes for each vulnerability.

Item 4

At the IRWM Climate Change Workshop on January 31, 2018, participants proposed including a description of the vulnerabilities related to housing and development in the IRWMP Climate Change Section. During the February RWMG Meeting, this recommendation was approved. The list of vulnerabilities recognized as related to housing and development are as follows:

- Water Demand 1: Water-dependent industries
- Water Demand 4: Drought-sensitive groundwater basins
- Water Demand 5: Communities with water curtailment efforts
- Water Supply 2: Water supply from coastal aquifers
- Water Supply 3: Inability to store carryover supply surpluses

Item 5

One of the new 2016 IRWM Guidelines requires Plan Updates to include a description of the Region's feasibility to address priority vulnerabilities. During the February RWMG Meeting, attendees supported the suggestion to include an overall description of the many factors that make addressing climate change vulnerabilities challenging. Some of the challenges suggested at the Meeting include regulatory alignment, funding, technology, limited power of the RWMG, and capacity.

Another updated IRWM Guideline is the need to include policies and procedures that promote adaptive management and mechanisms for adjusting the IRWMP as new information and tools pertaining to climate change become available. In response to this requirement, the RWMG decided they will have an annual meeting or workshop focused on climate change. At this annual meeting, new information and tools can be discussed and the Climate Change Section and Vulnerability Prioritization can be reviewed.

ITEM 3, ATTACHMENT 2

San Luis Obispo County IRWMP Climate Change Update - Adaptation and Mitigation Memorandum

Date: 2/16/2018

To: Mladen Bandov
Water Resources Engineer
Public Works, County of San Luis Obispo

Prepared by: Samantha Schreiner, EIT; Spencer Waterman, Lianne Westberg, PE

Reviewed by: Lianne Westberg, PE; Spencer Waterman

Subject: San Luis Obispo County IRWMP Climate Change Update - Adaptation and Mitigation Memorandum

1 Purpose

The purpose of this memorandum (memo) is to provide information relevant to climate change adaptation and mitigation as part of the San Luis Obispo County (County) Integrated Regional Water Management (IRWM) Plan (IRWMP) climate change update. Water Systems Consulting, Inc. (WSC) worked with the County and the IRWM Regional Water Management Group (RWMG) to identify data and recommended strategies to satisfy the requirements of the California Department of Water Resources' (DWR's) 2016 IRWM Grant Program Guidelines (1) and the Climate Change Handbook for Regional Water Planning (Climate Change Handbook), Section 4 and Appendix B (2). This memo builds on the Climate Change Vulnerability Assessment document developed by WSC and the County. This document was distributed on January 4, 2018 as a companion document to both the vulnerability assessment survey and the workshop materials for the January 31, 2018 RWMG meeting. Furthermore, this memo builds on the prioritized vulnerabilities (Table 1-1) established by the RWMG in the January 31, 2018 and March 7, 2018 workshops.

Table 1-1. Prioritized Climate Change Vulnerabilities

Category	Identified Vulnerability	Priority
Water Demand 1	Water-dependent industries	High
Water Demand 2	Seasonal water demand	Medium
Water Demand 3	Climate-sensitive crops	Medium
Water Demand 4	Drought-sensitive groundwater basins	Very High
Water Demand 5	Communities with water curtailment efforts	Medium
Water Demand 6	Insufficient instream flows	Very High
Water Supply 1	Water supply from snowmelt	Low
Water Supply 2	Water supply from coastal aquifers	Very High
Water Supply 3	Inability to store carryover supply surpluses	High
Water Supply 4	Drought-sensitive water systems	Very High
Water Supply 5	Invasive species management issues	Medium
Water Quality 1	Water bodies in areas at risk of wildfire	High
Water Quality 2	Water bodies impacted by eutrophication	High
Water Quality 3	Declining seasonal low flows	Very High
Water Quality 4	Water bodies with restricted beneficial uses	Medium
Water Quality 5	Water quality impacted by rain events	High
Sea Level Rise 1	Coastal erosion	Medium
Sea Level Rise 2	Coastal structures	Low
Sea Level Rise 3	Coastal infrastructure in low-lying areas	Medium

Category	Identified Vulnerability	Priority
Sea Level Rise 4	Low-lying coastal habitats	Medium
Sea Level Rise 5	Flooding due to high tides and storm surges	Medium
Sea Level Rise 6	Coastal land subsidence	Low
Sea Level Rise 7	Rising sea levels	Medium
Flooding 1	Aging flood protection infrastructure	High
Flooding 2	Insufficient flood control facilities	High
Flooding 3	Increased flood risk due to wildfires	Very High
Ecosystem and Habitat 1	Aquatic habitats at risk of erosion and sedimentation	Medium
Ecosystem and Habitat 2	Estuarine habitats dependent on freshwater flow patterns	High
Ecosystem and Habitat 3	Climate-sensitive fauna and flora	Medium
Ecosystem and Habitat 4	Changes in species distributions	High
Ecosystem and Habitat 5	Aquatic habitats used for economic activities & recreation	Low
Ecosystem and Habitat 6	Environmental flow requirements	High
Ecosystem and Habitat 7	Exposed coastal ecosystems	Low
Ecosystem and Habitat 8	Fragmented aquatic habitats	Medium
Hydropower 1	Future hydropower plans	Low

It is anticipated that the County and RWMG will use this memo to inform updates to various sections of the IRWMP including, but not limited to: Section E Goals and Objectives, Section F Resource Management Strategies, and Section G Project Solicitation and Prioritization.

2 Adaptation and Mitigation Strategies

2.1 Objectives to Address Climate Change

As required by the Prop 1 IRWM Program Guidelines, the IRWM Plan must include consideration of objectives and performance measures that address the potential effects of climate change. The following five (5) climate change adaptation and mitigation requirements are addressed by plan objectives and corresponding performance measures as shown in Table 2-1 and Table 2-2.

1. Address adaptation to changes in the amount, intensity, timing, quality, and variability of runoff and recharge.
2. Consider the effects of sea level rise (SLR) on water supply conditions and identify suitable adaptation measures.
3. Reduce energy consumption, especially the energy embedded in water use, and ultimately reducing greenhouse gases (GHG) emissions.
4. Consider, where practical, the strategies adopted by California Air Resources Board (CARB) in its AB 32 Scoping Plan, when evaluating different ways to meet IRWM plan objectives.
5. Consider options for carbon sequestration and using renewable energy where such options are integrally tied to supporting IRWM Plan objectives.

The objectives must be measurable by some practical means so achievement can be monitored. Quantitative and qualitative measurements for the IRWM Plan objectives are discussed in IRWMP Section E Goals and Objectives. The plan objectives and corresponding measures shown in Table 2-1 directly address climate change.

Table 2-1. Climate Change Objectives and Measures¹

OBJECTIVES	QUALITATIVE MEASUREMENT	QUANTITATIVE MEASUREMENT
<i>Water Supply Objective #8:</i> Plan for potential regional impacts of greenhouse gas emissions, climate change and droughts on water quantity and quality.		Existence of County-wide planning studies that identify greenhouse gas emission sources and regional vulnerabilities, and forecast the required changes in water supplies and water supply infrastructure as a result of climate change.
<i>Ecosystem and Watershed Objective #7:</i> Increase monitoring and promote research programs to obtain a greater understanding of the long-term effects of climate change and greenhouse gas emissions on the region’s watersheds and ecosystems.	Existence of monitoring and research programs that identify the long-term effects of climate change and greenhouse gas emissions on the Region’s watersheds and ecosystems.	

¹Table 2-1 is adapted from 2014 IRWMP Tables E-6 and E-7

In addition to the two direct climate change objectives above, the five (5) climate change adaptation and mitigation requirements are addressed by plan objectives described in Table 2-2 below. Qualitative and quantitative measurements for each plan objective are described in IRWMP Section E.4 Goals and Objectives Metrics.

Table 2-2. Plan Objectives Related to Climate Change Requirements

Climate Change Adaptations and Mitigation Requirements ¹		Adapting to changes in runoff and recharge	Consider the effects of sea level rise on water supply conditions	Reduce energy consumption	Strategies of CARB Scoping Plan ³	Options for carbon sequestration and renewable energy
Water Supply	Maximize accessibility of water			●		●
	Adequate water supply		●	●		●
	Sustainable potable water for rural	●	●		●	
	Sustainable water for agriculture	●	●		●	
	Water system WQ improvements		●			
	Implement water management Plans	●	●	●	●	●
	Conservation/water use efficiency	●	●	●	●	●
	Plan for vulnerabilities of water supply	●	●	●	●	●
	Diverse supply (recycled, desalination)	●	●	●	●	
	Support Watershed Enhancement	●	●			
Ecosystem and Watersheds	Understand watershed needs	●	●			●
	Conserve balance of ecosystem	●	●			●
	Reduce contaminants	●	●			
	Public involvement and stewardship					
	Protect endangered species		●			●

Climate Change Adaptations and Mitigation Requirements ¹		Adapting to changes in runoff and recharge	Consider the effects of sea level rise on water supply conditions	Reduce energy consumption	Strategies of CARB Scoping Plan ³	Options for carbon sequestration and renewable energy
	Reduce impacts of invasive species	●	●	●	●	●
	Climate change in ecosystems	●	●	●	●	●
Groundwater	Understand GW issues and conditions	●	●		●	
	Support local GW management	●	●	●	●	●
	Further local basin management objectives	●	●		●	●
	CASGEM Program	●	●			
	Groundwater recharge/banking	●	●			
	Protect and improve GW quality	●	●			
Flood Management	Understand flood management needs	●	●			
	Promote low impact development	●		●	●	●
	Enhance natural recharge	●		●	●	●
	Improve infrastructure and operations	●	●	●	●	
	Implement multiple-benefit projects	●	●	●	●	●
	Restore streams, rivers and floodplains	●	●			●
	Support DAC flood protection	●	●			
Water Resources Management	Public outreach on IRWM implementation		●	●	●	
	Funding for IRWM implementation	●	●	●	●	
	Support local control			●	●	
	Consider property owner rights					
	Agency alignment on water resource efforts	●	●	●	●	●
	Collaboration between urban, rural, and ag	●	●	●	●	●
	DAC support and education		●	●	●	
	Promote public education programs	●		●	●	

- Notes:
1. Abbreviated requirements from Prop 1 IRWM Guidelines are described above.
 2. Each row represents an abbreviated Objective.
 3. The Global Warming Solutions Act of 2006 (Assembly Bill 32) authorized the CARB to develop a plan that includes 18 strategies for reducing carbon emissions statewide. The Scoping Plan addresses water management activities that require energy use and GHG emissions. The goals of the Scoping Plan include developing more reliable water supplies provided by a sustainably managed water system with GHG reductions, water conservation, energy efficiency, and increasing renewable energy.

The County has prioritized vulnerabilities through stakeholder surveys, summarized in Table 1-1. The County identified objectives that address vulnerabilities ranked “Very High” in Table 2-3.

Table 2-3. Plan Objectives Related to Climate Change Requirements

Top Prioritized Vulnerabilities ¹		Drought-sensitive groundwater basins	Insufficient instream flows	Water supply from coastal aquifers	Drought-sensitive water systems	Declining seasonal low flows	Increased flood risk due to wildfires
IRWM Plan Objectives ²							
Water Supply	Maximize accessibility of water	●	●	●	●	●	
	Adequate water supply	●	●	●	●	●	
	Sustainable potable water for rural	●	●	●	●	●	
	Sustainable water for agriculture	●	●		●	●	
	Water system WQ improvements	●	●	●			
	Implement water management Plans	●	●	●	●	●	
	Conservation/water use efficiency	●	●	●	●	●	
	Plan for vulnerabilities of water supply	●	●	●	●	●	●
	Diverse supply (recycled, desalination)	●	●	●	●	●	●
	Support Watershed Enhancement	●	●	●	●	●	●
Ecosystem and Watersheds	Understand watershed needs	●	●	●	●	●	●
	Conserve balance of ecosystem	●	●	●	●	●	●
	Reduce contaminants	●	●	●	●		
	Public involvement and stewardship				●		●
	Protect endangered species		●	●			●
	Reduce impacts of invasive species						●
	Climate change in ecosystems	●	●	●	●	●	●
Groundwater	Understand GW issues and conditions	●	●	●	●	●	
	Support local GW management	●	●	●	●	●	
	Further local basin management objectives	●	●	●	●	●	●
	CASGEM Program	●	●	●	●	●	
	Groundwater recharge/banking	●	●	●	●	●	
	Protect and improve GW quality	●	●	●	●	●	
Flood Management	Understand flood management needs		●				●
	Promote low impact development	●		●	●	●	●
	Enhance natural recharge	●		●	●	●	
	Improve infrastructure and operations	●	●	●	●	●	●
	Implement multiple-benefit projects	●	●	●	●	●	●
	Restore streams, rivers and floodplains	●	●	●	●	●	●
	Support DAC flood protection						●
Water Resources Management	Public outreach on IRWM implementation	●	●	●	●	●	●
	Funding for IRWM implementation	●	●	●	●	●	●
	Support local control				●		●
	Consider property owner rights	●	●	●			●
	Agency alignment on water resource efforts	●	●	●	●	●	●
	Collaboration between urban, rural, and ag	●	●	●	●	●	●
	DAC support and education	●	●	●	●	●	
	Promote public education programs	●	●	●	●	●	●

Notes: 1. Prioritized vulnerabilities ranked "Very High" by stakeholder surveys shown in Table 1-1.

2. Each row represents an abbreviated Objective.

3 Resource Management Strategies

The Prop 1 IRWMP guidelines require consideration of the California DWR resource management strategies (RMS) in selecting water management projects. RMS are defined by the California Water Plan (CWP) as a project, program, or policy that local agencies can implement to manage water and related resources to meet integrated plan objectives. RMS that meet the region's objectives have been selected and aligned with a list of IRWMP Plan Water Management Strategies (WMS) as part of the IRWMP Section F. Because the WMS and RMS are aligned, they are collectively referred to as RMS in the remainder of this memo. Section F of the IRWMP describes how each RMS, addresses the plan objectives. As shown in IRWMP Table F-2, many of the RMS that were included in the County's IRWMP apply to various objectives, shown in Table 2-2, addressing climate change vulnerability adaptation and mitigation.

3.1 Additional RMS

The California Water Plan (CWP) 2013 Update includes three additional RMS that will be considered for climate change adaptation and mitigation strategies. The additional RMS are discussed below as they relate to climate change vulnerabilities. Further information and guidance for implementing these strategies can be found in the CWP 2013 Update Volume 3 (3).

3.1.1 Sedimentation Management

Sedimentation management is expected to become increasingly challenging as climate change causes shifts in storm events, vegetative species, soil exposure, and flooding. Sea level rise will cause increased erosion and coastal flooding. Sediment management can improve resiliency and protect the regions vulnerable resources. Recommended project elements include: floodplain restoration, replenishing soil for eroding beaches, marshes, and agricultural lands, storm surge protection, landscape and vegetation management (3).

Sedimentation management can result in high GHG emissions and provides an opportunity to use renewable energy in sediment management operations to mitigate GHG emissions. There is also potential for sequestrations in the reuse of dredged sediment in habitat restoration (3).

3.1.2 Outreach and Engagement

Climate change can be a polarizing and confusing topic for communities. Communicating about climate change is necessary for making informed local water and land use planning decisions to protect the community's vulnerable resources. Outreach and engagement can improve communication with the public, governmental agencies, industry, businesses, and nonprofit organizations about the vulnerability of the County's resources to climate change. The goal of this strategy is to educate and build community commitment to decisions that address climate change. Recommended project elements include: an outreach and education program, building community relationships, solicit community input, improve accessibility of information, and improve monitoring.

Mitigation is supported by educating the public on mitigation strategies for climate change and the importance of reducing their community's carbon footprint. Education has a central role in mitigating climate change. Public awareness, exchange of information, and education will foster empowerment and ownership among the public and convey the importance of their role in mitigating climate change. Developing K-12 outreach programs to educate local youth to form lasting behaviors and awareness can also play a key role in mitigation (3).

3.1.3 Water and Culture

Climate change impacts are expected to affect water-dependent resources that currently support cultural activities. Changes to water resources and ecosystems will affect recreation and spiritual practices associated with water as well as

historic preservation, with important cultural sites at greatest risk. Cultural practices, including historic concepts of water rights, dependence on fossil fuels, and other lifestyle practices have an impact on water management and the ability to adapt and mitigate climate change. Healthy and resilient ecosystems can reduce impacts of climate change. Recommended project elements include: high-elevation meadow restoration, managing stormwater, groundwater management, and floodplain restoration. Projects should consider the values and needs of tribal and cultural groups that rely on water resources for their cultural and spiritual practices.

Mitigation can be improved by providing outreach, financial and technical assistance to protect cultural resources and by increasing understanding of carbon sequestration, water conservation and water use efficiency. Other items that could be considered include ways to:

- Reduce GHG emissions related to water project impacts on cultural resources.
- Identify tribal opportunities for water recycling and renewable energy and promote understanding of cultural practices.
- Provide benefits and incentives for tribal water and energy-use efficiency projects (3).

3.2 Adaptation Strategies

Table 3-1 summarizes the ability of WMS to address climate change vulnerabilities from Table 1-1. The WMS that are applicable to climate change adaptation are described fully in IRWMP Section F.

Table 3-1. Applicability of RMS to Climate Change Adaptation to Vulnerabilities

2014 IRWM Resource Management Strategies	Vulnerabilities						
	Water Demand	Water Supply	Water Quality	Sea Level Rise	Flooding	Ecosystem and Habitat	Hydropower
Ecosystem restoration			•	•	•	•	
Drinking water treatment and distribution	•	•	•	•		•	
Improve flood management				•	•	•	
Conjunctive management and groundwater storage	•	•	•	•			
Pollution prevention		•	•		•	•	
Agricultural water use efficiency	•	•				•	
Urban water use efficiency	•	•				•	
Matching water quality to use			•	•	•	•	
Salt and salinity management			•	•		•	
Recycle municipal water		•					
Desalination		•		•			
Water transfers		•					
Land use planning and management	•		•	•	•	•	

Surface storage – CALFED/State	•	•					
Surface storage – Regional/Local	•	•					
Watershed management	•	•	•	•	•	•	
Water transfers		•					
Conveyance – Regional/Local	•	•					
System reoperation	•	•	•	•	•	•	•
Resource Management Strategies Excluded from 2014 IRWM	Water Demand	Water Supply	Water Quality	Sea Level Rise	Flooding	Ecosystem and Habitat	Hydropower
Conveyance – Delta		•					
Precipitation enhancement		•					
Groundwater remediation/aquifer remediation		•	•	•			
Urban stormwater runoff management		•	•		•	•	
Agricultural lands stewardship	•		•		•	•	
Forest management		•	•		•	•	
Recharge area protection		•	•		•		
Economic incentives	•	•				•	
Water-dependent recreation		•	•		•	•	
Crop idling for water transfers	•	•	•				
Irrigated land retirement		•	•				
California Water Plan 2013 Update RMS	Water Demand	Water Supply	Water Quality	Sea Level Rise	Flooding	Ecosystem and Habitat	Hydropower
Sediment management		•	•	•	•	•	
Outreach and engagement	•		•			•	•
Water and culture	•		•			•	

3.3 Mitigation Strategies

Table 3-2 summarizes the ability of WMS to address mitigation of GHG. The WMS that are applicable to climate change mitigation are described fully in IRWMP Section F. The major components of climate change mitigation strategies are improving energy efficiency, reducing emissions and carbon sequestration.

Table 3-2. Applicability of RMS to GHG Mitigation

2014 IRWM Resource Management Strategies	GHG Mitigation		
	Energy Efficiency	Emissions Reduction	Carbon Sequestration
Ecosystem restoration			•
Drinking water treatment and distribution	•	•	•
Improve flood management			•
Conjunctive management and groundwater storage			
Pollution prevention		•	•
Agricultural water use efficiency	•	•	
Urban water use efficiency	•	•	
Matching water quality to use	•		•
Salt and salinity management		•	
Recycle municipal water	•	•	
Desalination			
Water transfers	•	•	
Land use planning and management	•	•	•
Surface storage – CALFED/State		•	
Surface storage – Regional/Local		•	
Watershed management	•	•	•
Drinking water treatment and distribution	•	•	•
Water transfers			
Conveyance – Regional/Local	•	•	
System reoperation	•	•	
Resource Management Strategies Excluded from 2014 IRWM	Energy Efficiency	Emissions Reduction	Carbon Sequestration
Conveyance – Delta	•	•	
Precipitation enhancement		•	
Groundwater remediation/aquifer remediation			
Urban stormwater runoff management	•	•	
Agricultural lands stewardship	•	•	•
Forest management			•
Recharge area protection			•
Economic incentives	•	•	•
Water-dependent recreation		•	
Crop idling for water transfers		•	
Irrigated land retirement			
California Water Plan 2013 Update RMS	Energy Efficiency	Emissions Reduction	Carbon Sequestration
Sediment management		•	•
Outreach and engagement		•	
Water and culture	•	•	•

4 Project Review Process

4.1 Climate Change Adaptation and Mitigation as Part of the Project Review Process

The requirements of the 2016 IRWM Guidelines include consideration of projects’ contribution to climate change adaptation and mitigation, through reducing GHGs, compared to project alternatives as detailed below.

Consider a project's contribution to climate change adaptation.

- Include potential effects of Climate Change on the region and consider if adaptations to the water management system are necessary.
- Consider the contribution of the project to adapting to identified system vulnerabilities to climate change effects on the region.
- Consider changes in the amount, intensity, timing, quality and variability of runoff and recharge.
- Consider the effects of sea level rise on water supply conditions and identify suitable adaptation measures.

Contribution of project in reducing GHGs compared to project alternatives.

- Consider the contribution of the project in reducing GHG emissions as compared to project alternatives
- Consider a project's ability to help the IRWMP region reduce GHG emissions as new projects are implemented over the 20-year planning horizon.
- Reducing energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions.

It is anticipated that the IRWMP project review process described in IRWMP Section G will be amended to describe how the climate change vulnerabilities (Table 1-1) as well as adaptation and mitigation strategies discussed in Section 0 will be considered when reviewing projects. WSC proposes updating the 2014 IRWMP climate change adaptation and mitigation ranking methodology by clarifying scoring criteria and addressing 2016 IRWMP Guideline requirements as described in the remainder of Section 4. The consideration of a project's contribution to climate change adaptation can be quasi-quantitatively evaluated (Section 4.1.1) by assigning weighted points for the project's potential to adapt to vulnerabilities identified in Table 1-1. The contribution of projects to climate change mitigation, specifically in reducing GHGs compared to project alternatives, can be quasi-quantitatively evaluated (Section 4.1.2) by assigning weighted points for projects' potential to have a positive, neutral, or negative impact on climate change mitigation. As shown in Figure 4-1, the scores for adaptation and mitigation could contribute to an overall climate change ranking for projects, which can then be incorporated into the overall scoring criteria for ranking projects (e.g., technical feasibility, ability to meet IRWMP goals and objectives, readiness to proceed, etc.).

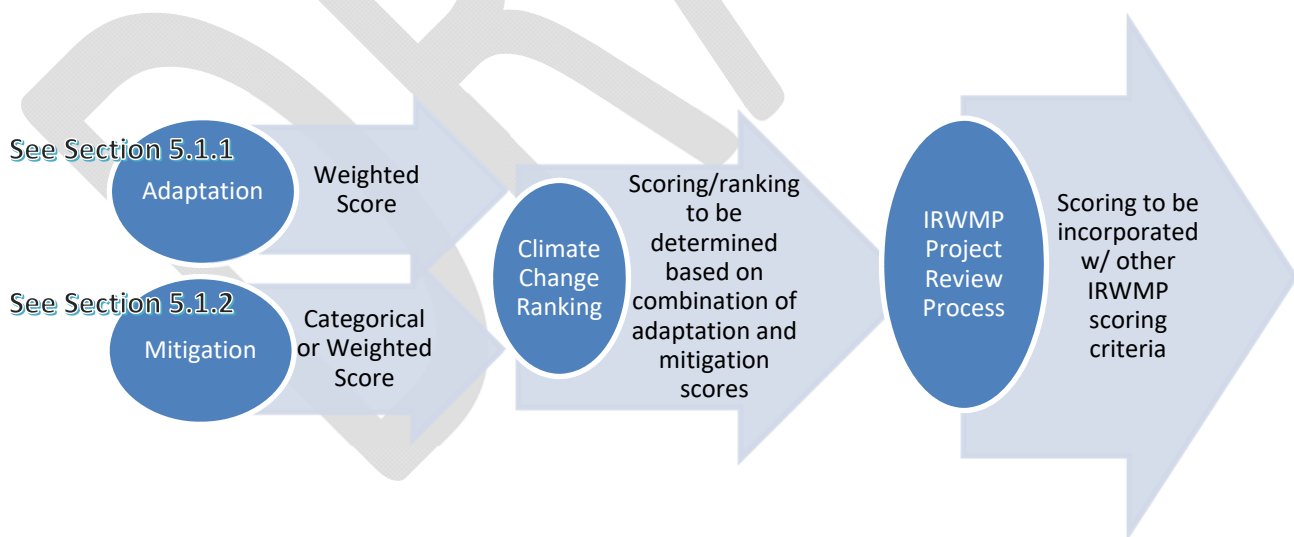


Figure 4-1. Climate Change Ranking in Project Review Process

4.1.1 Potential Climate Change Adaptation Scoring Framework

WSC proposes the following methodology framework for the County to develop a flexible questionnaire and form as well as a revised project scoring process to meet the climate change adaptation requirements described in Section 4.1.

A potential climate change scoring framework could be developed by adapting the 2014 IRWMP process. For example, the “adaptation potential” could be assessed by assigning weighted points for each prioritized vulnerability. Each vulnerability could have its own weight (e.g., Very High[4], High[3], Medium[2], Low[1]), and the project could be assigned an adaptation potential score for each vulnerability (High[3 pt], Medium [2pt], Low[1 pt]). Then, the vulnerability weighting would be multiplied by the adaptation potential score to yield potential adaptation points. The scores for all projects could then be compared and ranked based on percentile placement. The points or ranking placement could be weighted and combined with a score from the mitigation scoring framework (Section 4.1.2) to establish an overall climate change ranking or score that could be weighted and incorporated with the other IRWMP project review process scoring criteria. See Figure 4-2 for an illustration of this process.

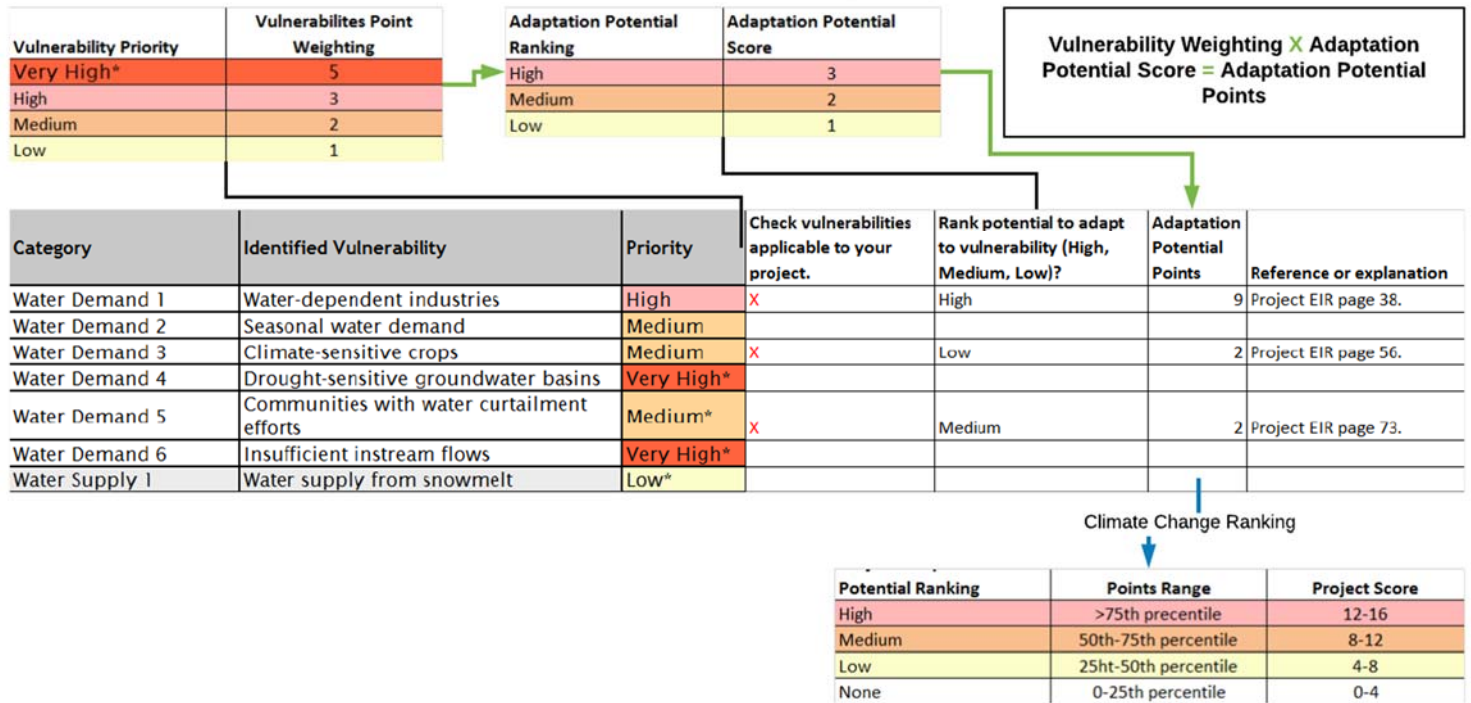


Figure 4-2. Potential Methodology for Rating Climate Change Adaptation Scores for Projects

4.1.2 Potential Climate Change Mitigation Scoring Framework

The 2014 IRWMP qualitatively considered GHG emissions mitigation potential through categorical assignments of “neutral”, “positive” and “negative” scores for mitigation. It is unclear how these categorizations contributed to a point score for the “Climate Change Rank” in IRWMP Table P-9. A potential climate change scoring framework could be developed by adapting the 2014 IRWMP process. The revised methodology should allow for the following:

1. Project proponents with little or no quantitative data can provide qualitative answers to questions.
2. Project proponents with some water usage data, but without energy intensity data, can use default energy intensity values for applicable steps of the water cycle.
3. Project proponents with agency-specific energy intensity data will be able to input their data to estimate GHG impacts. This is further described in the following sections.

WSC proposes the following methodology framework for the County to develop a flexible questionnaire and form as well as a revised project scoring process to meet the climate change mitigation requirements described in Section 4.1 and identified below in **bold italic font**.

2016 IRWMP Requirement: *Consider the contribution of the project in reducing GHG emissions as compared to project alternatives*

WSC recommends addressing the project alternatives consideration by asking project applicants to consider alternatives when they are filling in project information. Additionally, applicants could provide information about a “baseline”, or no project, scenario. Comparison between projects within the region is inherent in the project review process already, but could be improved with a quantitative methodology as shown below in Section 4.1.2.2.

IRWMP Requirement: *Consider a project’s ability to help the IRWMP region reduce GHG emissions as new projects are implemented over the 20-year planning horizon.*

WSC recommends addressing the 20-year requirement by asking project applicants to consider a 20-year planning horizon when filling in GHG information. Additionally, applicants could indicate if they anticipate GHGs emissions to differ over the 20-year period. If so, they could provide qualitative or quantitative descriptions of anticipated changes or use default tools and data. A potential framework to obtain this information is shown below.

1. County would add a narrative descriptor to the project solicitation form asking project proponents to consider a 20-year planning horizon when filling in GHG information.
2. Qualitative Assessment Questions/Actions for Applicants
 - a. Do you anticipate increases or decreases to GHGs within 20 years or beyond 20 years?
 - i. (Y/N)
 - ii. (Option Box for description)
3. Quantitative Assessment Questions/Actions for Applicants
 - a. Please provide quantified changes to GHGs if available from own sources or using default values (See Section 4.1.2.2)
 - b. other
4. Other Option for Applicants
 - a. Please provide additional relevant information (e.g. renewable energy, wetlands, reforestation, LID project reduction to peak stormwater flows to pumping station, thereby reducing embedded energy, etc.).

IRWMP Requirement: *Reducing energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions.*

WSC recommends addressing the embedded energy requirement by asking project applicants to consider changes to embedded energy when entering information. Additionally, applicants could indicate if water use, energy efficiency, and/or GHG emissions are increased or decreased by the project. Applicants could indicate project increases or decreases groundwater production, local surface water, or SWP water from a “baseline” or “status quo” in order to determine some estimated increase or decrease in embedded energy/GHG with standardized metrics like those provided in Section 4.1.2.2. Applicants could also indicate information about renewable energy generation and any other GHG mitigation that is included in the project. A potential framework to obtain this information is shown below.

1. County would add a narrative descriptor to project solicitation form asking project proponents to consider changes to embedded energy when entering information
2. Qualitative Assessment Questions/Actions for Applicants
 - a. Do you anticipate increases or decreases to embedded energy due to your project as compared to the status quo?
 - i. (Y/N)
 - ii. (Option Box for description)

3. Quantitative Assessment Questions/Actions for Applicants
 - a. Please provide quantified changes to embedded energy if available from own sources or using default values (See Section 4.1.2.2)
4. Other option
 - a. If previous do not apply or there are additional project components that will increase or decrease GHGs, please provide additional relevant information (e.g. renewable energy, wetlands, reforestation, LID project reduction to peak stormwater flows to pumping station, thereby reducing embedded energy, etc.).

4.1.2.1 Energy Intensity and Embedded Energy Overview

As mentioned in Section 4.1.2, project proponents could estimate changes to embedded energy and resulting GHG emissions using agency-specific data or default values. An overview of how embedded energy interacts with the water cycle is provided in the remainder of this section. A methodology to use agency or default data to assess energy intensity and GHG emissions is provided in Section 4.1.2.2.

The 2016 IRWM Guidelines include consideration of energy efficiency and reduction of GHG emissions, especially the energy embedded in water use. Reducing water usage and/or utilizing less energy-intensive water supplies will reduce embedded energy use, which can have a significant impact on reducing GHG emissions.

Figure 4-3 provides an overview of the water cycle. Energy is used throughout the water cycle to extract, convey, treat and distribute water. Energy is also used to collect and treat wastewater, and to produce and distribute recycled water. The amount of energy required to accomplish each of the steps on a per-unit basis is called energy intensity. Energy use in the water sector is predominantly in the form of electricity; thus this discussion and subsequent analysis is focused on electrical energy intensity (e.g. kilowatt-hours per acre-ft [kWh/AF]). Energy intensity is calculated for each facility but can be aggregated to estimate the total energy intensity of water and wastewater services. Energy intensity can vary significantly from agency to agency, and even within an agency; thus utilizing appropriate facility-specific and/or agency-specific energy intensity values will provide the most accurate estimate of embedded energy use.

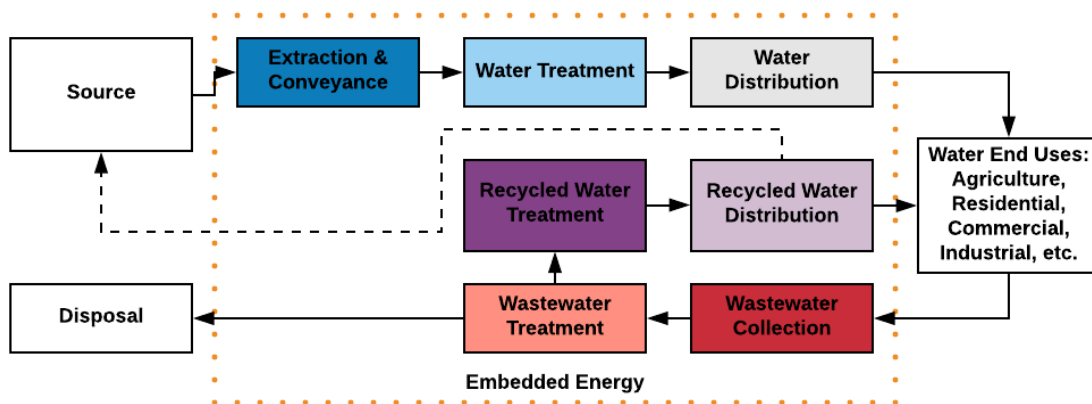


Figure 4-3. California Water Cycle and Embedded Energy

Reducing water usage results in embedded energy savings in the water and wastewater systems. By using less water, less energy needs to be expended throughout the water cycle from extraction through wastewater treatment. There is also typically a reduction in end-use energy (defined as energy used on the customer’s side of the meter), but this is not typically included in the embedded energy analysis conducted by water and wastewater agencies.

In addition to embedded energy savings through reduced water usage, energy savings can also be achieved by reducing energy intensity through energy efficiency, renewable generation, and/or change in water supplies.

4.1.2.2 Embedded Energy GHG Calculation Methodology

WSC has developed a draft methodology to support project proponents with quantifying GHG emissions associated with embedded energy. This allows the GHG emissions of the baseline and project to be compared, and also allows any additional project components that increase or decrease GHGs to be incorporated. Figure 4-4 provides an overview of the methodology. A draft worksheet for data collection and analysis is provided as Figure 4-5 includes default energy intensity values for each step of the water cycle based on statewide and Central Coast average energy intensity data (4) (5).

Incorporated within the worksheet are GHG emissions factors which convert energy intensity (kWh/AF) to associated GHG emissions (lbsCO₂e/AF). For State Water, a GHG emissions factor of 0.437 MTCO₂e/MWh (equivalent to 0.963 lbsCO₂e/kWh) is recommended for use; this is based on the wholesale power purchases for the State Water Project as described in DWR's Climate Action Plan (6). For all other sources and steps of the water cycle, electricity is assumed to be provided by Pacific Gas and Electric Company (PG&E). The most recent emissions factor for PG&E of 0.196 MTCO₂e/MWh (equivalent to 0.432 lbsCO₂e/kWh) is recommended for use; this corresponds to the electricity provided by PG&E in 2015, and aligns with the emissions factors used in the County's EnergyWise Plan.

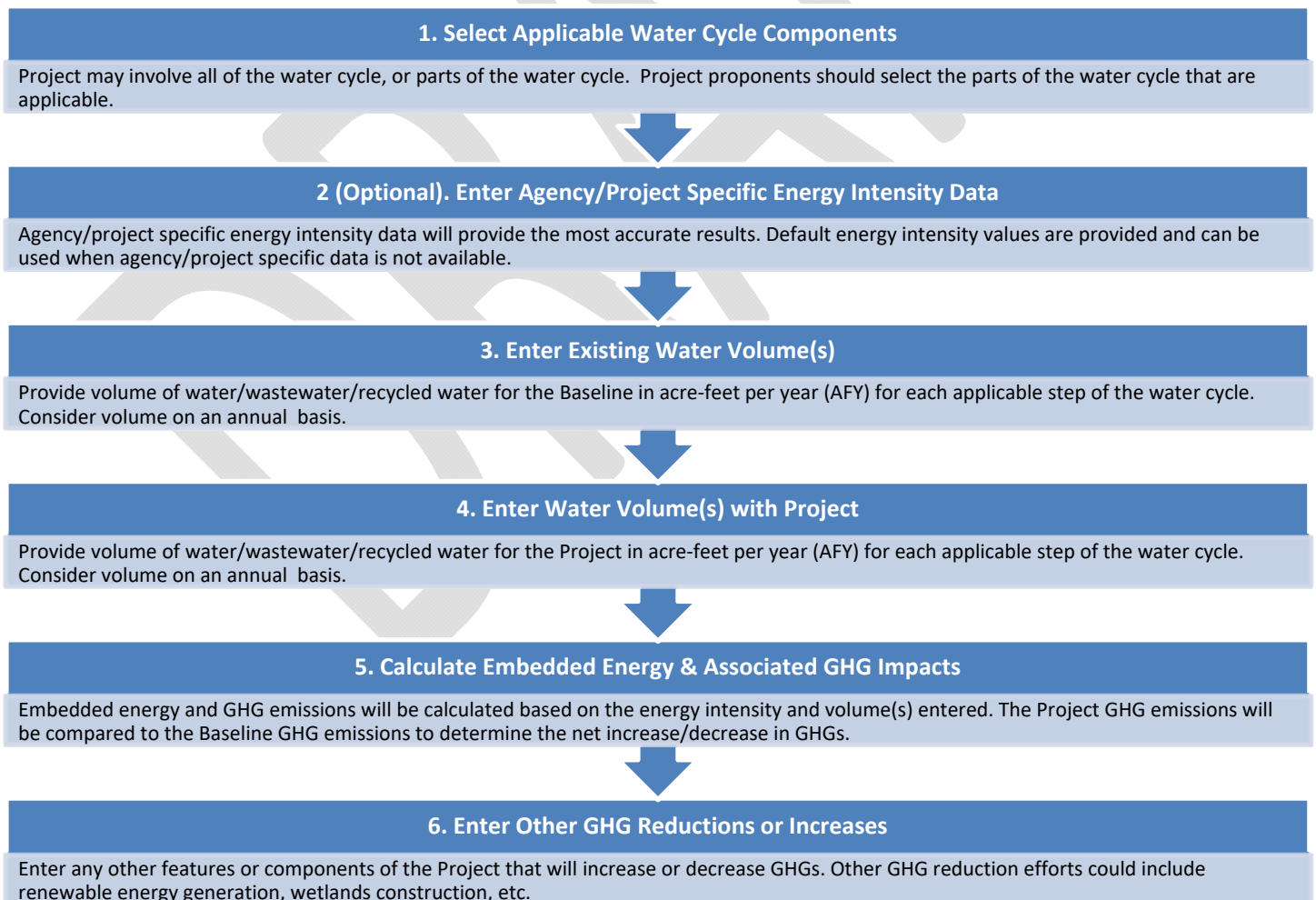


Figure 4-4. Overview of Quantitative Approach for Calculating GHGs Associated with Embedded Energy

DRAFT



Optional Input Cells Calculated Cells Reference Cells	Reference Intensity Factors			Baseline Data		Project Data		Project Mitigation
	Default Energy Intensity (kWh/AF)	Optional Agency/Project Specific Energy Intensity (kWh/AF)	Associated GHG Emissions (lbs CO2e/AF)	Existing Volume(s) per Year (AFY)	Existing GHG (lbs CO2e)	Volume(s) with Project per Year (AFY)	GHG with Project (lbs CO2e)	GHG Change with Project (lbs CO2e)
Extraction and Conveyance								
Groundwater	471							
State Water	2,155							
Local Deliveries	10							
Brackish Desalination	461							
Ocean Desalination	342							
Water Treatment								
Conventional Potable Treatment	144							
Chlorination	3							
Brackish Desalination	2715							
Ocean Desalination	4546							
Water Distribution								
Flat	18							
Moderate	163							
Hilly	318							
Wastewater Collection								
Wastewater Collection	74							
Wastewater Treatment								
Primary + Secondary	344							
Primary + Secondary + Tertiary	915							
Recycled Water Treatment								
Tertiary Treatment + Disinfection	521							
Membrane Treatment	1,303							
Recycled Water Distribution								
Flat	18							
Moderate	163							
Hilly	318							
Total								
Total								
Total Change in GHG Emissions Associated with Embedded Energy								
Other GHG Reductions or Increases (e.g., renewable energy, wetlands, trees, etc.) - Please List								
1								
2								
3								
4								
5								
Net Change in GHG Emissions with Project (lbs CO2e)								

6. Enter Other GHG Reductions or Increases Below Table

Figure 4-5. Steps to Estimate Embedded Energy and GHG Emissions

As described in Section 4.1, the contribution of projects to climate change mitigation, specifically in reducing GHGs compared to project alternatives, can be quasi-quantitatively evaluated by assigning weighted points for projects' potential to have a positive, neutral, or negative impact on climate change mitigation as shown in Figure 4-6. As shown in Figure 4-1, the scores for adaptation and mitigation could contribute to an overall climate change ranking for projects that could be incorporated into the overall scoring criteria for ranking projects (e.g., technical feasibility, ability to meet IRWMP goals and objectives, readiness to proceed, etc.).

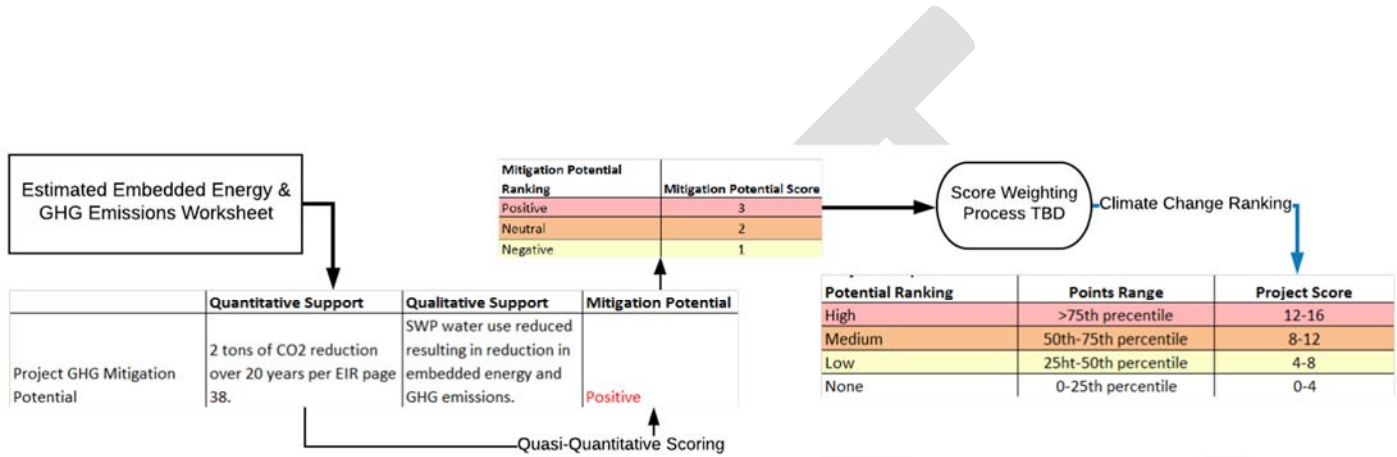


Figure 4-6. Potential Methodology for Rating Climate Change Mitigation Scores for Projects

5 References

1. **California Department of Water Resources.** *2016 Integrated Regional Water Management Grant Program Guidelines Volume 1 - Grant Program Processes.* July 2016.
2. **CDM.** *Climate Change Handbook for Regional Water Planning.* November 2011.
3. **Resources, California Department of Water.** *California Water Plan Update.* 2013.
4. **Navigant Consulting, Inc.** *Navigant 2015 Water/Energy Cost-Effectiveness Analysis: Revised Final Report Prepared for the California Public Utilities Commission.* Sacramento, CA : s.n., 2015.
5. —. *Navigant 2015 Water/Energy Cost-Effectiveness Analysis: Errata to the Revised Final Report Prepared for the California Public Utilities Commission.* Sacramento, CA: : s.n., 2015.
6. **California Department of Water Resources.** *California Department of Water Resources 2012 Climate Action Plan Phase 1: Greenhouse Gas Emissions Reduction Plan .* Sacramento, CA: : s.n., 2012.

ITEM 3, ATTACHMENT 3

Housing and Development Discussion in Relation to Climate Change Vulnerabilities

During the Region's Climate Change workshop on January 31st, 2018, RWMG members and Interested Stakeholders discussed the possible inclusion of a "Housing and Development" vulnerability to the assessment. Ultimately, the decision at the workshop, and later confirmed by the RWMG at their regular meeting on February 7th, 2018, was to include a narrative discussion of how housing and development is affected by the prioritized vulnerabilities throughout the Region.

The RWMG identified 5 vulnerabilities that directly relate to Housing and Development:

- Water Demand 1: Water-dependent Industries
- Water Demand 4: Drought-sensitive groundwater basins
- Water Demand 5: Communities with water curtailment efforts
- Water Supply 2: Water supply from coastal aquifers
- Water Supply 3: Inability to store carryover supply surpluses

Climate change, as documented in this section, can dramatically affect the ability of incorporated and unincorporated communities to realize projected growth, even if growth is recognized and accounted for in a general plan. The most recent drought (2012-2017) brought many restrictions to water use Region-wide. Water curtailment requirements (vulnerability WD-5) were enacted at both the State and local government level. State Water Project allocations were reduced thereby increasing local dependence on groundwater. This increased reliance on groundwater caused areas of the Region to experience a moratorium on well drilling permits (WD-4). Additionally, coastal communities severely restricted landscape use (WS-2) and purveyors across the Region stopped issuing permits for construction water (WD-1).

Looking ahead, the San Luis Obispo Counsel of Governments (SLOCOG) is projecting a population growth between 10% (low estimate) and 33% (high estimate) for the Region by the year 2050. To realize this, the Region will need to continue to address these Water Supply and Water Demand vulnerabilities related to climate change. For more information on SLOCOG's "Regional Growth Forecast" visit <https://www.slocog.org/programs/data-services/regional-growth-forecast>.

ITEM 3, ATTACHMENT 4

Proposed Revisions to Groundwater Objectives

Suggestions by C. Berg, 3/13/2018

2014 Objective	Revised Objective
1. Develop groundwater management Plans, including salt and nutrient management Plans, or other methods to help understand groundwater issues and conditions.	1. Develop groundwater management plans, including Groundwater Sustainability Plans , Salt and Nutrient Management Plans, or other methods, to help understand d groundwater issues and conditions.
2. Improve groundwater management with direct support of locally driven processes, including potential formation of groundwater management structures/ organizations for the purpose of implementing water supply and conservation plans, programs, and projects.	No change
3. Develop and implement projects and programs to further basin management objectives of local basin Groundwater Management Plans or other objectives established under other methods used to define groundwater issues and conditions.	3. Develop and implement projects and programs to further basin management objectives of local groundwater management plans or other objectives established under other methods used to define groundwater issues and conditions
4. Work with local groundwater governance bodies in the development of the California Statewide Groundwater Elevation Monitoring (CASGEM) Program for groundwater basins in the region where plausible.	4. Work with local groundwater governance bodies in an effort to increase monitoring for groundwater basins in the region, where plausible, such as is required under Sustainable Groundwater Management Act (SGMA) and/or California Statewide Groundwater Elevation Monitoring (CASGEM)
5. Evaluate and implement groundwater recharge and/or banking programs or efforts to increase the conjunctive use opportunities within the region, where technically feasible and cost-effective.	No change
6. Protect and improve groundwater quality from point and non-point source pollution, including geothermal contamination and seawater intrusion.	No change

ITEM 3, ATTACHMENT 5



San Luis Obispo County Region
 Integrated Regional Water Management (IRWM)
slocountywater.org/irwm

2018 RWMG SCHEDULE IRWM Plan Adoption and Prop 1 Grant Application

The following meetings, workshops, and actions are scheduled to achieve adoption of the 2018 Integrated Regional Water Management (IRWM) Plan for San Luis Obispo (SLO) County.

For notices via e-mail, please sign up for the IRWM Stakeholder Mailing List online at <http://www.slocountywater.org/irwm>

Date	Activity	Location	Key Actions
2018			
April 4 10am – 12pm	RWMG Meeting	Univ. of California Cooperative Extension Auditorium	Progress update to RWMG/Stakeholders
May 2 10am – 12pm	RWMG Meeting	SLO City/County Library Community Room	Public Draft Presentation
Mid May	Sub-Regional Workshops	Several workshops throughout the County	Public Draft Presentation
June	IRWM Plan Public Draft Comments due		
June 6	RWMG Meeting	SLO City/County Library Community Room	Recommend Submittal of Final Plan to DWR & Draft PSP Review.
July 4	No RWMG Meeting		
Summer	PSP Review and Response Planning, Grant-Specific Call for Projects, etc.		
August 1	RWMG Meeting	SLO City/County Library Community Room	Final PSP Review, Grant Application Planning
September 5	RWMG Meeting	SLO City/County Library Community Room	<i>TBD</i>
November 6	County of SLO Board of Supervisors Meeting	County Government Center Board Chambers	Public Hearing for IRWM Plan Adoption
Fall	IRWM Plan Adoption by RWMG Members due		
December	Round 1 Grant Applications Due to DWR.		

RWMG = Regional Water Management Group
 WRAC = Water Resources Advisory Committee
 SLO City/County Library Community Room is located at 995 Palm Street in San Luis Obispo, CA
 County of SLO Board of Supervisors Chambers is located at 1055 Monterey Street in San Luis Obispo, CA
 University of California Coop. Ex. Auditorium is located at 2156 Sierra Way, Suite C, in San Luis Obispo, CA

TO: IRWM Regional Water Management Group
FROM: Brendan Clark, Water Resources Engineer
DATE: April 4, 2018
SUBJECT: Item #4: Project Review Process

Recommendations

Item 4.c: Consider forming an RWMG Working Group who, over multiple meetings, will refine the Project Review Process and update the IRWM Plan Implementation List, per DWR Guidelines.

Discussion

The 2016 IRWM Grant Program Guidelines from DWR provide clear direction for the Project Review Process. See attachment 1 for relevant excerpts from the Guidelines. In response to the minimum factors required (pg. 40) prescribed by DWR, staff has created a basis of a scoring guideline and rubric for an RWMG Working Group to refine, finalize and then utilize in creating the Implementation list.

One distinction that is important to make is that the Guidelines require projects to be scored and listed outside of a specific grant opportunity (pg. 53 of Guidelines):

The purpose of identifying projects in the IRWM Plan is to understand the needed action to meet the IRWM Plan Objective. Projects should not be prioritized based on any specific grant program. It can be helpful to think of the project selection process as having, at least, two phases:

- 1. Identify projects that will be necessary to implement the IRWM Plan, and*
- 2. Identify projects that may qualify for a specific funding source.*

This RWMG Working Group, upon finalizing the scoring rubric, would create the first list referenced above, the "IRWM Implementation List". These are the projects that best align with the Plan Objectives and is required to be in the Plan prior to being approved by DWR.

Regarding the Prop 1, Round 1 grant opportunity coming out this summer, there will be a grant-specific Call for Projects for this grant opportunity. After this 30-day period has passed, the RWMG Working Group would meet again at this time to generate a "funding source specific" list for that opportunity. This accomplishes what the Guidelines (see above) refer to as a second phase of project selection.

In summary, the recommendation is to form an RWMG Working Group with the following tasks:

- Review, refine and finalize the Project Review Rubric (tentatively schedule for 4/11 @ 9am).
- Develop the “IRWM Implementation List” for the 2018 IRWM Plan, per #1 of the aforementioned DWR Guidelines (tentatively scheduled for 4/18 @ 9am).

The draft “IRWM Implementation List” will come to the RWMG for approval, tentatively scheduled for the 5/2 meeting.

The full IRWM Guidelines and other programmatic updates can be found at the website:

<https://www.water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Proposition-1>

Attachment:

1. Excerpts of the DWR IRWM Guidelines related to the Project Review Process, for reference.
2. DRAFT Project Review Rubric
3. DRAFT Project Review Scorecard

ITEM 4, ATTACHMENT 1 EXCERPTS FROM DWR IRWM GUIDELINES

- ◆ Address adapting to changes in the amount, intensity, timing, quality and variability of runoff and recharge.
- ◆ Consider the effects of sea level rise (SLR) on water supply conditions and identify suitable adaptation measures.
- ◆ Reduce energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions.
- ◆ Consider, where practical, the strategies adopted by California Air Resources Board (CARB) in its AB 32 Scoping Plan, when evaluating different ways to meet IRWM plan objectives.
- ◆ Consider options for carbon sequestration and using renewable energy where such options are integrally tied to supporting IRWM Plan objectives.

4. *Resource Management Strategies*

The IRWM Plan must document the range of RMS considered to meet the IRWM objectives and identify which RMS were incorporated into the IRWM Plan. The effects of climate change on the IRWM region must factor into the consideration of RMS. RMS to be considered must at least include the RMS, listed in Table 2 below and discussed in detail in Volume 3 of the CWP Update 2013; Appendix A provides a link to the CWP Update 2013.

Table 2 – CA Water Plan Update 2013 Resource Management Strategies

<ul style="list-style-type: none"> ◆ Agricultural Water Use Efficiency ◆ Urban Water Use Efficiency ◆ Crop Idling for Water Transfers ◆ Irrigated Land Retirement ◆ Conveyance – Delta ◆ Conveyance – Regional/local ◆ System Reoperation ◆ Water Transfers ◆ Flood Risk Management ◆ Agricultural Lands Stewardship ◆ Economic Incentives (Loans, Grants and Water Pricing) ◆ Ecosystem Restoration ◆ Forest Management ◆ Recharge Area Protection ◆ Sediment Management* ◆ Outreach and Engagement* 	<ul style="list-style-type: none"> ◆ Conjunctive Management and Groundwater Storage ◆ Desalination ◆ Precipitation Enhancement ◆ Recycled Municipal Water ◆ Surface Storage – CALFED ◆ Surface Storage – Regional/local ◆ Drinking Water Treatment and Distribution ◆ Groundwater Remediation/Aquifer Remediation ◆ Land Use Planning and Management ◆ Matching Quality to Use ◆ Pollution Prevention ◆ Salt and Salinity Management ◆ Urban Runoff Management ◆ Water-Dependent Recreation ◆ Watershed Management ◆ Water and Culture*
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**New resource management strategies for California Water Plan Update 2013*

The IRWM Plan must identify and implement, using vulnerability assessments and tools such as those provided in the Climate Change Handbook, RMS and adaptation strategies that address region-specific climate change impacts, including:

- ◆ Demonstrate how the effects of climate change on its region are factored into its RMS.
- ◆ Reducing energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions.
- ◆ An evaluation of RMS and other adaptation strategies and ability of such strategies to eliminate or minimize those vulnerabilities, especially those impacting water infrastructure systems.

5. *Integration*

An IRWM Plan must contain structures and processes that provide opportunities to develop and foster integration.

6. *Project Review Process*

The IRWM Plan must contain a process or processes to select projects for inclusion in the IRWM Plan. The selection process(es) must include the following components:

- ◆ Procedures for submitting a project to the RWMG

- ◆ Procedures for review of projects considered for inclusion into the IRWM Plan. These procedures must, at a minimum, consider the following factors:
 - How the project contributes to the IRWM Plan objectives
 - How the project is related to resource management strategies selected for use in the IRWM Plan
 - Technical feasibility of the project
 - Specific benefits to DAC water issues, including whether a project helps address critical water supply or water quality needs of a DAC
 - Environmental Justice (EJ) considerations
 - Project costs and financing
 - Economic feasibility, including water quality and water supply benefits and other expected benefits and costs
 - Project status
 - Strategic considerations for IRWM Plan implementation
 - Contribution of the project in adapting to the effects of climate change in the region
 - Contribution of the project in reducing GHG emissions as compared to project alternatives
 - Whether the project proponent has adopted or will adopt the IRWM Plan
 - For IRWM regions that receive water supplied from the Sacramento-San Joaquin Delta, how the project or program will help reduce dependence on the Sacramento-San Joaquin Delta for water supply
- ◆ Procedures for displaying the list(s) of selected projects

Review factors must be evaluated for each project and compared for all projects in a systematic manner. The results should be used to promote and prioritize projects in the selection process, while keeping in consideration the unique goals and objectives of the IRWM Region. Review factors must also include the following climate change considerations:

- ◆ Include potential effects of Climate Change on the region and consider if adaptations to the water management system are necessary.
- ◆ Consider the contribution of the project to adapting to identified system vulnerabilities to climate change effects on the region.
- ◆ Consider changes in the amount, intensity, timing, quality and variability of runoff and recharge.
- ◆ Consider the effects of SLR on water supply conditions and identify suitable adaptation measures.
- ◆ Consider the contribution of the project in reducing GHG emissions as compared to project alternatives
- ◆ Consider a project's ability to help the IRWM region reduce GHG emissions as new projects are implemented over the 20-year planning horizon.
- ◆ Reduce energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions.

7. *Impact and Benefit*

The IRWM Plan must contain a discussion of potential impacts and benefits of Plan implementation. This discussion must include both impacts and benefits within the IRWM Region, between regions, and those directly affecting DAC, EJ related concerns, and Native American Tribal communities.

8. *Plan Performance and Monitoring*

The IRWM Plan shall contain performance measures and monitoring methods to ensure the objectives of the Plan are met. Therefore, the IRWM Plan must describe a method for evaluating and monitoring the RWMG's ability to meet the objectives and implement the projects in the IRWM Plan. The IRWM Plan must contain policies and procedures that promote adaptive management and, projects are implemented conditions change, as more effects of Climate Change manifest, new tools are developed, and new information becomes available, adjust IRWM plans accordingly.

9. *Data Management*

The IRWM Plan must describe the process of data collection, storage, and dissemination to IRWM participants, stakeholders, the public, and the State. Data in this standard may include, but is not limited to technical

managed in the IRWM planning effort. IRWM regions should consider how water enters and leaves their IRWM region when defining IRWM boundaries.

PROJECT IMPLEMENTATION INTEGRATION

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 economy of scale when similar local interests can be met with a regional project. IRWM plans should contain provisions for reviewing project objectives and considering new, expanded, or even different solutions that meet multiple local needs. The planning decisions made in the IRWM Plan should consider integrating the needs of the region and not just the needs of specific entities in the RWMG.

Project Review Process

The intent of the Project Review Process Standard is to ensure the process used for submitting, reviewing, and selecting projects is documented and understandable to the region’s stakeholders and public. The standard is intended to produce a list of prioritized implementation projects sufficiently developed and demonstrating appropriate need that can be funded through the IRWM Grant Program or other funding opportunities.

The review process may be a collection of different processes or a single procedure, whichever fits the IRWM region best. How each factor is applied in the process is up to each RWMG to decide.

It is essential to demonstrate a well thought-out process in the IRWM Plan for decision-making and data management roles within the RWMG. Will a subcommittee be responsible for approving the project list? Will each of the projects be reviewed individually for accuracy if they are sorted automatically in a database? Through what mechanism will Native American Tribes and stakeholders provide input during the submittal, review, selection process to develop the project list? How and when is the list updated and does it require re-adoption of the Plan? The projects included in the IRWM Plan are the projects that will implement the Plan and achieve the Plan objectives. The projects should represent priorities of the planning effort and represent a wise investment for State grant funding. Hence, the process should not be designed to only select based on readiness to proceed.

PROCESS COMPONENTS

(1) Procedures for submitting a project for inclusion in the IRWM Plan

Documenting the project submittal procedures in the IRWM Plan will allow the RWMG and stakeholders to understand and use the process. Some RWMGs continually accept projects for consideration while others may have specific periods of project submission. Project submittal procedures typically require standardized information so each project submits the necessary information for the review process.

Submittal processes should balance efficiency with accessibility. It is acceptable to use web based submittal tools to aid submission and management of information; however, if there are project proponents that do not have access to such tools, projects of value may be excluded. In such cases, having an alternate submittal process may provide needed access.

Submittal processes should also specify what information is required to be submitted. Typically, we talk about projects as pieces that implement a plan. Should only projects at a certain stage be submitted? Are concepts, ideas, or needs for projects or programs allowed for submission? Remember that the product of the process is actions that will implement the IRWM Plan. Therefore, it may be wise to accept project concepts or ideas, as long as there is a process in place to take these concepts and ideas to fully developed implementation projects.

(2) Procedures for review of projects considered for inclusion into the IRWM Plan

The standard requires that certain review factors be used in the project review process. The review factors listed in this standard speak to important points to consider in the project review process. Review factors are further explained in text below. RWMGs can use the factors in any part of the process they create and they may add various weights to factors within their process to tailor the process to their specific regional needs.

In developing a project review process, RWMGs are cautioned that the project review process contained in the IRWM Plan should not contain any specific grant program related selection criteria. The purpose of identifying projects in the IRWM Plan is to understand the needed action to meet the IRWM Plan objective. Projects should not be prioritized based on any specific grant program. It can be helpful to think of the project selection process as having, at least, two phases:

- ◆ Identify projects that will be necessary to implement the IRWM Plan and
- ◆ Identify projects that may qualify for a specific funding source.

The RWMG may apply grant criteria when moving from the overall list of projects in the IRWM Plan to a specific grant proposal.

RWMGs are not limited to these review factors but they should use, at a minimum, the factors listed below.

REVIEW FACTORS

The following is a discussion of the factors that a project review process should employ when considering projects for inclusion in the IRWM Plan:

A. How the project contributes to the IRWM Plan objectives

This factor asks RWMG to consider how a project relates to achieving plan objectives. As discussed in the plan standard on objectives, it is important to be able to measure how an objective is being met through projects.

B. How the project is related to resource management strategies

The IRWM Plan identifies RMS selected for use in the Plan with the goal of diversifying the water management portfolio used to meet plan objectives. Does the proposed project contribute to the diversification of the water management portfolio? If so how? If it does, that should be seen as a positive aspect of the project. If not, the project may still aid in obtaining the plan objectives; however, depending on specific circumstances of the region, a project that contributes to the diversification of the water management portfolio may be more valuable than one that does not.

C. Technical feasibility of the project

The RWMG should consider the technical feasibility of the projects. Technical feasibility is related to the knowledge of the project location; knowledge of the water system at the project location; or with the material, methods, or processes proposed to be employed in the project. Is there enough known about the geologic conditions, hydrology, ecology, or other aspect of the system where the project is located? Are there data gaps that require additional studies to develop the project? In examining the methods, materials, or equipment used in the project, are there sufficient technical data to indicate the methods and systems employed in the project will result in a successful outcome? Success of a project is the realization of claimed benefit. For example, if a project is claiming a certain amount of recharge to the aquifer, is there enough known about the hydrogeologic characteristics to support the project claim of the quantity of recharge, and is the proposed method of recharge supported by technical data that indicate those methods will be successful?

D. Specific benefits to critical DAC water issues

Water Code §10540.(c)(7) states that identification and consideration of water-related needs of DACs in the area within the boundaries of a region is among the basic items an IRWM Plan must address. DAC projects may include work that leads to a formal project such as a needs assessment, initial engineering work (design or study) to define a project, or feasibility studies that may lead to a project. Projects that specifically address such needs should be promoted in the project selection process. See Volume 1, Appendix E for additional information regarding DACs.

E. Specific benefits to critical water issues for Native American Tribal communities

The project review process should consider if the project helps to address critical water supply and water quality needs of Native American Tribal communities within the IRWM region. Such projects may include work that leads to a formal project such as a needs assessment, initial engineering work (design or study) to define a project, or feasibility studies that may lead to a project. Projects that specifically address such needs should be promoted in the project selection process.

F. Environmental Justice Considerations

As IRWM plans contain multiple projects that will affect stakeholders in the region, the project review process should include consideration of EJ concerns. EJ seeks to redress inequitable distribution of environmental burdens (i.e. pollution, industrial facilities) and access to environmental goods (i.e. clean water and air, parks, recreation, nutritious foods, etc.). EJ relies on willing awareness of impacts by project proponents and participation in decision making by affected stakeholders. In terms of an IRWM effort, the engagement and participation of stakeholders including DACs in the decision making process can be a proactive step in understanding project impacts that can become EJ concerns. In the project review process, a project that has not been examined for EJ concerns, or a project that is discovered to have EJ concerns, should not be instantly dismissed from consideration. However, addressing the lack of EJ assessment or modifying the project to mitigate EJ concerns may allow the project to move forward.

G. Project Costs and Financing

Project costs should be considered during the project review process. The basis for the project costs should be documented in the IRWM Plan. For example, a sewage treatment plant upgrade is based on a conceptual idea, feasibility study, partial design, etc. If a cost estimate has been prepared for the project, a link to that estimate should be included in the IRWM Plan. Discuss the funding sources for the project. Is it with a State grant funded program, through regional assessments, or another funding method?

H. Economic Feasibility

As part of the project review process, the economic feasibility of a project should be considered. DWR's "Economic Analysis Guidebook" (Guidebook), published in January 2008, outlines methods for economic analysis for water resources planning and can be downloaded from the link found in Volume 1, Appendix A.

A preliminary economic analysis should be included as part of the criteria in the project selection process based upon an original assessment of the proposed project or studies conducted within the past five years and updated to most current data available. Either a cost-effectiveness or benefit-cost analysis may be used for the preliminary assessment depending on the nature of the project. Both of these methods are outlined in Chapter 3 of the Guidebook. For example, a cost-effectiveness analysis may be preferable for habitat restoration projects for which it is difficult to assign monetary benefits. The chosen method of analysis should include the types of benefits and types of costs including capital costs, O&M costs, and potential adverse effects to others from the project, described in the Guidebook (See Guidebook pages 14 and 22).

I. Project Status

In reviewing projects for prioritization in the IRWM Plan, the RWMG should consider the status of the project. Project status is equivalent to readiness to proceed. Readiness to proceed or project status is not necessarily a reason for project exclusion from an IRWM Plan. As the planning horizon for an IRWM Plan is 20-years or more, even a conceptual project should be considered as it may be projected to have benefits that would be worth realizing by developing the project or by leading towards an alternate, integrated, or modified project.

Project status may have to be reconsidered as implementation projects are matched with sources of funding. Funding sources may want projects completed within certain time limits. However, it is also true that some funding sources may cover some developmental phase of a project. RWMGs are encouraged to understand conditions of the specific funding sources they use so they can select programs, projects, or project components most appropriate for a specific funding source.

J. Strategic considerations for IRWM Plan implementation

One of the advantages of IRWM planning is to use the regional perspective to leverage any efficiency that might be gained by combining or modifying local projects into regional projects. In reviewing projects for inclusion in the IRWM Plan, the RWMG should consider a project's merit in light of strategic aspects of plan implementation such as:

- ◆ Purposefully restructuring or integrating projects
- ◆ Purposefully implementing a project as is
- ◆ Purposefully meeting project goals with an alternative project/modified project

- ◆ Plan objective priorities
- ◆ Purposefully implementing regional projects
- ◆ Purposefully implementing projects with multi-benefits

Often times, an IRWM Plan in early development stages may focus on just getting project solicitations implemented and producing a project list. RWMGs are encouraged to go further and take a look at strategic considerations as there may be benefit for multiple stakeholders. This factor acknowledges that there may be benefit in integrating local projects or project goals in developing regional projects. There is also value in examining projects for potential integration efforts and then deciding that a project is best implemented as submitted to achieve plan implementation. DWR expects RWMGs to take advantage of regional planning and integrating projects where possible, and explaining when a single purpose project should be implemented in order to best implement an IRWM Plan.

K. Contribution of the project in adapting to the effects of climate change

The standard on climate change contains more specific instructions assessing effects of climate change and adaptation to that change.

L. Contribution of the project in reducing GHG emissions as compared to project alternatives

Considerations include energy efficiency and reduction of GHG emissions when choosing between project alternatives. See the guidance on Climate Change below, for more discussion on this topic.

M. Plan Adoption

The project review process should consider whether the project proponent has adopted or will adopt the IRWM Plan.

N. Reduce Reliance on the Delta

In reviewing projects for prioritization in the IRWM Plan, the RWMG should consider how the project or program will help reduce dependence on the Sacramento-San Joaquin Delta for water supply for IRWM regions that receive water supplied from the Sacramento-San Joaquin Delta.

(3) Procedure for communicating the list(s) of selected projects

The project lists may be quite extensive or change over time. In such cases, it is acceptable for an IRWM Plan to contain a hyperlink or URL to where the list(s) can be viewed. The IRWM Plan should demonstrate that the selection process has been conducted and there are identified projects that will implement the IRWM Plan.

Impacts and Benefits

The intent of this standard is to document potential impacts and benefits of implementation of the IRWM Plan and to clearly communicate those impacts and benefits to Native American Tribes and stakeholders. The IRWM Plan should contain, at least, a screening level discussion of the potential impacts and benefits of plan implementation. The screening level analysis should help any reader of the IRWM Plan begin to understand the potential impacts and benefits of implementing the IRWM Plan. This means the benefit/impact analysis does not have to be extensive or exhaustive.

In the development of an IRWM Plan, it is likely that participants understand the potential benefits to be gained by implementing a regional plan and some of the impacts that may occur. One assumption regarding this standard is that extensive impact and benefit analyses usually occur closer to project implementation than plan development. The list of implementation projects may change as the IRWM planning effort matures; consequently, it may be difficult if not impractical to provide an extensive analysis of impacts and benefits within the IRWM Plan.

The impact and benefit analysis in the IRWM Plan should also serve as a benchmark as the Plan is implemented and Plan performance is evaluated; that is, have the potential benefits been realized or have unanticipated impacts occurred? Since a simplified impact and benefit analysis is included in the IRWM Plan, the Plan should clearly state when more detailed project-specific impact and benefit analyses will occur and that the more detailed analysis will occur prior to any implementation activity.



ITEM 4, ATTACHMENT 2

DRAFT – Project Review Rubric

April 4, 2018

Criteria	Scoring Guidelines	Points	
		Subtotal	Total
A. How a project contributes to the IRWM Plan Objectives	<ul style="list-style-type: none"> - Projects that contribute to 4 or fewer objectives are given 5 points - Projects that contribute to 5-10 objectives are given 10 points. - Projects that contribute to 11-19 objectives are given 15. - Projects that contribute to 20 or more objectives are given 20 points. 	20	30
	<ul style="list-style-type: none"> - For projects that provide documentation or evidence of how they contribute to objectives, points are assigned as follows: <ul style="list-style-type: none"> - Projects that provide evidence of contributing to 4 or less objectives are given 2 points. - Projects that provide evidence of contributing to 5-10 objectives are given 5 points. - Projects that provide evidence of contributing to 11-19 objectives are given 8 points. - Projects that provide evidence of contributing to 20 or more objectives are given 10 points. 	10	
B. How the project is related to resource management strategies	<ul style="list-style-type: none"> - Projects that include 1-3 RMSs from the SLO IRWMP are given 3 points. - Projects that include 4-9 RMSs from the SLO IRWMP are given 6 points. - Projects that include 10 or more RMSs from the SLO IRWMP are given 10 points. 	-	10
C. Technical feasibility of the project	<ul style="list-style-type: none"> - If project plans/designs have been completed and evaluated for feasibility, the project is given all 10 points. - If project plans/designs have not been completed and evaluated for feasibility, the subsequent guidelines are followed: <ul style="list-style-type: none"> - For the completion of background studies and reconnaissance (before design phase), the project is given 3 points. - For completed designs or technical project plans, the project is given 5 points. - For completed technical feasibility studies, the project is given 2 points. 	10	20
	<ul style="list-style-type: none"> - If documentation and evidence indicate the project will have a successful outcome, the project is given 10 points. 	10	

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	- If the success of the project is uncertain or evidence of future success is lacking, the project can be given some portion of the total 10 points as seen fit.		
D. Environmental justice considerations	- If the project specifically addresses critical water issues of a disadvantaged community (DAC) in the region, then the project is given 5 points.	5	15
	- If the project specifically addresses critical water issues of Native American Tribal communities, then the project is given 5 points.	5	
	- If the project specifically addresses environmental justice concerns, then the project is given 5 points.	5	
E. Project costs and financing	<p>- If project costs and finances are fully planned and supported with documentation, the project is given all 10 points.</p> <p>- If planning and documentation of project costs and finances is incomplete, the subsequent guidelines are followed:</p> <ul style="list-style-type: none"> - If project costs are fully considered and documented, the project is given 4 points. - If project funding and finances are fully planned and documented, the project is given 3 points. - If necessary resource commitments are completed and documented, the project is given 3 points. 	-	10
F. Economic feasibility	- If an economic analysis of the project has been completed within the past 5 years and indicates the project is financially feasible, the project is given 10 points.	-	10
G. Project status	<p>- If fully prepared for implementation, the project is given all 10 points.</p> <p>- If a project is not ready for implementation, the subsequent guidelines are followed:</p> <ul style="list-style-type: none"> - For completed project partner agreements, the project is given 2 points. - If environmental reports in compliance with CEQA or NEPA are required and completed, the project is given 2 points. - For secured project funds, the project is given 2 points. - If required land use permits are obtained, the project is given 2 points. - Additional points can be awarded as seen fit for other completed project preparations. 	-	10
H. Strategic considerations for IRWM Plan implementation	- If the project demonstrates the ability to integrate with other projects or to be modified to encourage regional planning and produce multiple benefits, the project is given 5 points.	-	5
I. Contribution of the project in adapting to	- For each climate change vulnerability addressed, the project is given points based on a weighting of the vulnerability's priority. Scored via separate worksheet.	6	10

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the effects of climate change in the region	<ul style="list-style-type: none"> - If changes in runoff and recharge are considered and addressed in the project planning, then the project is given 2 points. - If the impacts of sea level rise are considered and addressed in the project planning, then the project is given 1 point. - If additional climate change impacts (not included in the list of vulnerabilities) are addressed in the project planning, then the project is given 1 point. 	4	
J. Contribution of the project in reducing GHG emissions as compared to project alternatives	<ul style="list-style-type: none"> - When evaluating water system components of the project, points are given based on the project's net change in GHG emissions compared to project alternatives: <i>Net increase</i> = 0 points <i>No change (or N/A)</i> = 1 points <i>Net decrease</i> = 3 points 	3	10
	<ul style="list-style-type: none"> - If there are no other contributions to GHG emissions outside of the water system components already considered, the project is given 2 points. - If other project components contribute to GHG emissions (such as construction, machinery use, etc.), the project is given 0 points, or some portion of the 2 points as seen fit based on the emissions contributions. 	2	
	<ul style="list-style-type: none"> - The project can be given up to 2 points for the inclusion of methods for carbon sequestration or improved energy efficiency. The portion of the total possible 2 points awarded should be determined based on the relative mitigation potential of proposed projects. 	2	
	<ul style="list-style-type: none"> - When evaluating the project-related GHG emissions on a 20-year planning horizon, points are awarded as follows: <i>Increased emissions</i> = 0 points <i>No change</i> = 1 point <i>Decreased emissions</i> = 3 points 	3	
K. Reduce reliance on the Delta	<ul style="list-style-type: none"> - If the project reduces dependence on the Sacramento-San Joaquin Delta for water supply, the project is given up to 5 points. The amount of points awarded is determined based on the amount of Delta water supply replaced. 	-	5
<i>Total Possible Score</i>		135	

