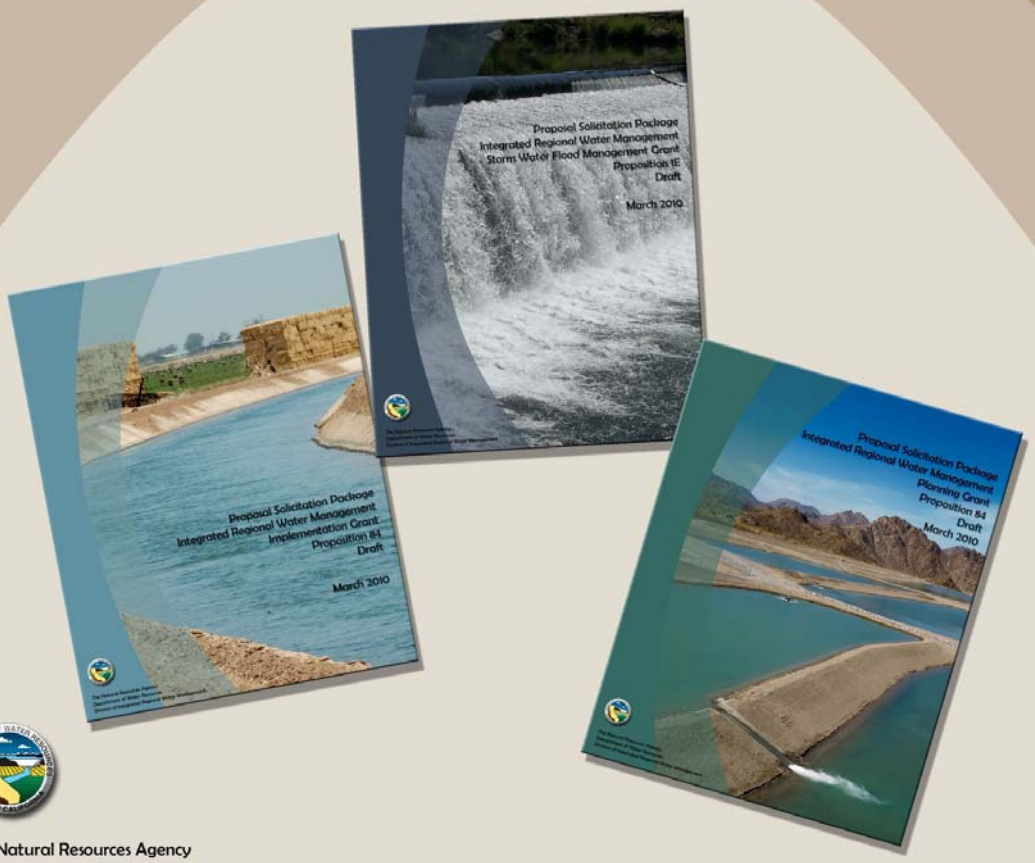
Guidelines
Integrated Regional Water Management Grant Program Funded by Proposition 84 and Proposition 1E
Draft

March 2010



The Natural Resources Agency
Department of Water Resources
Division of Integrated Regional Water Management

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FOREWORD

This document contains the California Department of Water Resources' (DWR) Integrated Regional Water Management (IRWM) Grant Program Guidelines for IRWM Implementation and Planning grants funded by Proposition 84 (The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coast Protection Bond Act of 2006), Chapter 2 and the Stormwater Flood Management (SWFM) grants funded by Proposition 1E (The Disaster Preparedness and Flood Prevention Bond Act of 2006).

IRWM GRANT PROGRAM WEBSITES

DWR will use the internet as a communication tool to notify interested parties of the status of the first round and to convey pertinent information. Information will be posted at the following website:

http://www.grantsloans.water.ca.gov/grants/integregio.cfm

MAILING LIST

In addition to the above-referenced website, DWR will distribute information via email. If you are not already on the IRWM contact list and wish to be placed on it, please e-mail your contact information to:

DWR_IRWM@water.ca.gov

POINTS OF CONTACT

For questions about the Guidelines, or other technical issues, please contact DWR's Financial Assistance Branch at (916) 651-9613 or by email at DWR_IRWM@water.ca.gov

Acronyms And Abbreviations Used In These Guidelines And Appendices

Basin Plan	Regional Water Quality Control Plan
BMP	Best Management Practice
BMS	Bond Management System
CARB	California Air Resources Board
CAT	Climate Action Team
CO_2e	Carbon Dioxide Equivalents
CEIC	California Environmental Information Catalog
CalEPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CERES	California Environmental Resources Evaluation System
CNRA	California Natural Resources Agency
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
CWP	California Water Plan
DAC	Disadvantaged Community
DMS	Data Management System
DWR	Department of Water Resources
EAD	Expected Annual Damage
EIR	Environmental Impact Report
EJ	Environmental Justice
EO	Executive Order
FEP	Functionally Equivalent Plan
GHG	Greenhouse Gas
GAMA	Groundwater Ambient Monitoring Assessment
GWMP	Groundwater Management Plan
IRWM	Integrated Regional Water Management
IWRIS	Integrated Water Resource Information System
LID	Low Impact Development
MB	Megabyte
MHI	Median Household Income
MOU	Memorandum of Understanding

NEPA	National Environmental Policy Act
NPS	Non-Point Source
O&M	Operation and Maintenance
OPR	The Governor's Office of Planning and Research
PIN	Proposal Identification Number
PRC	Public Resources Code
PSP	Proposal Solicitation Package
RAP	Regional Acceptance Process
RMS	Resource Management Strategies
RWMG	Regional Water Management Group
RWQCB	Regional Water Quality Control Board
SPFC	State Plan of Flood Control
SWAMP	Surface Water Ambient Monitoring Program
SWRCB	State Water Resources Control Board
SWFM	Stormwater Flood Management
TMDL	Total Maximum Daily Load
USCB	United States Census Bureau
USEPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
WBCSD	World Business Council for Sustainable Development
WDL	Water Data Library
WRI	World Resources Institute
WUEB	Water Use and Efficiency Branch

INTEGRATED REGIONAL WATER MANAGEMENT GRANT PROGRAM GUIDELINES

I. PURPOSE AND USE

The purpose of these guidelines is to establish the general process, procedures, and criteria that DWR will use to implement the IRWM Grant Program including SWFM grants. These guidelines include acceptance of IRWM regions into the grant program; IRWM plan standards and guidance; solicitation, submittal, and review of grant applications; and award of grant funding. The related Proposal Solicitation Packages (PSPs) contain detailed information on how to apply for funding from the individual component grant programs – IRWM Planning Grants, IRWM Implementation Grants, and SWFM Grants.

PSPs for specific grant solicitations through the IRWM grant program can be downloaded from the DWR website listed in the Foreword as they become available.

II. INTRODUCTION AND OVERVIEW

The IRWM Grant Program is designed to encourage integrated regional strategies for management of water resources and to provide funding for projects both planning and implementation that support integrated water management. These guidelines are intended to remain unchanged for the life of the funding source. However, changes may be necessary due to legislation or changes in state water management policy. If changes are necessary, these guidelines will be amended and subject to a public review process per California Water Code (CWC) §10541 (b), (c), (d).

These guidelines are based on guidelines used to disburse grant funding under the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002, Proposition 50. The Proposition 50 IRWM guidelines have been modified to be consistent with the following legislation:

- Public Resources Code (PRC) § 75026 *et seq.* (Proposition 84)
- Senate Bill (SB) x2-1(Perata, Statutes of 2008) – CWC § 10530 *et seq*. – which repealed and replace the Integrated Regional Water Planning Act
- Assembly Bill (AB) 739 (Laird, Chapter 610, Statutes of 2007) – consultation with State Water Resources Control Board (SWRCB) and identification of SWFM preferences
- SB 732(Steinberg, Chapter 729, Statutes of 2008) – PRC §75100 and 75102 – requiring new grant solicitation for each funding cycle and tribal notification
- SB 790 (Pavely, Chapter 620, Statutes of 2009) – stormwater resource planning as part of IRWM planning
- AB 626 (Eng, Chapter 367, Statutes of 2009) – the 10% of appropriated funds for DAC projects should achieved on a funding area basis
- CWC § 525 – water meter installation as condition of grant
- CWC § 10610 – Urban Water Management Plans (UWMP)

- AB 1420 (Laird, Chapter 628, Statutes of 2007) – CWC § 10631.5 – implementation of demand management measures as condition of receiving a water management grant
- SBx7-6 (Steinberg, Chapter 1, Statutes of 2009) – Groundwater elevation monitoring as a condition of receiving a water management grant

Additionally, the requirements of PRC § 5096.800 *et seq.* (Proposition 1E) were incorporated into the Guidelines because of the linkages between the IRWM grants and the SWFM grants.

A. Usage of Terms

To foster understanding and clarity DWR will use the following terms consistently in these guidelines:

- "Project Proponent" means the entity that has primary responsibility for a specific project within the grant proposal. Project proponents receive grant funds through their relationship with the grant applicant. A broader variety of entities, such as tribal or federal entities, can be project proponents. For grant solicitations where there is a single project the project proponent and the applicant can be the same entity.
- "Proposal" refers to a project or suite of projects and actions that are proposed for funding.
- "Project" refers to an individual effort included in the Proposal that may be planning actions, in the case of planning grants; construction of physical facilities; or implementation of non-structural actions.
- "Funding Source" refers to the bond measure providing funding.

B. Funding

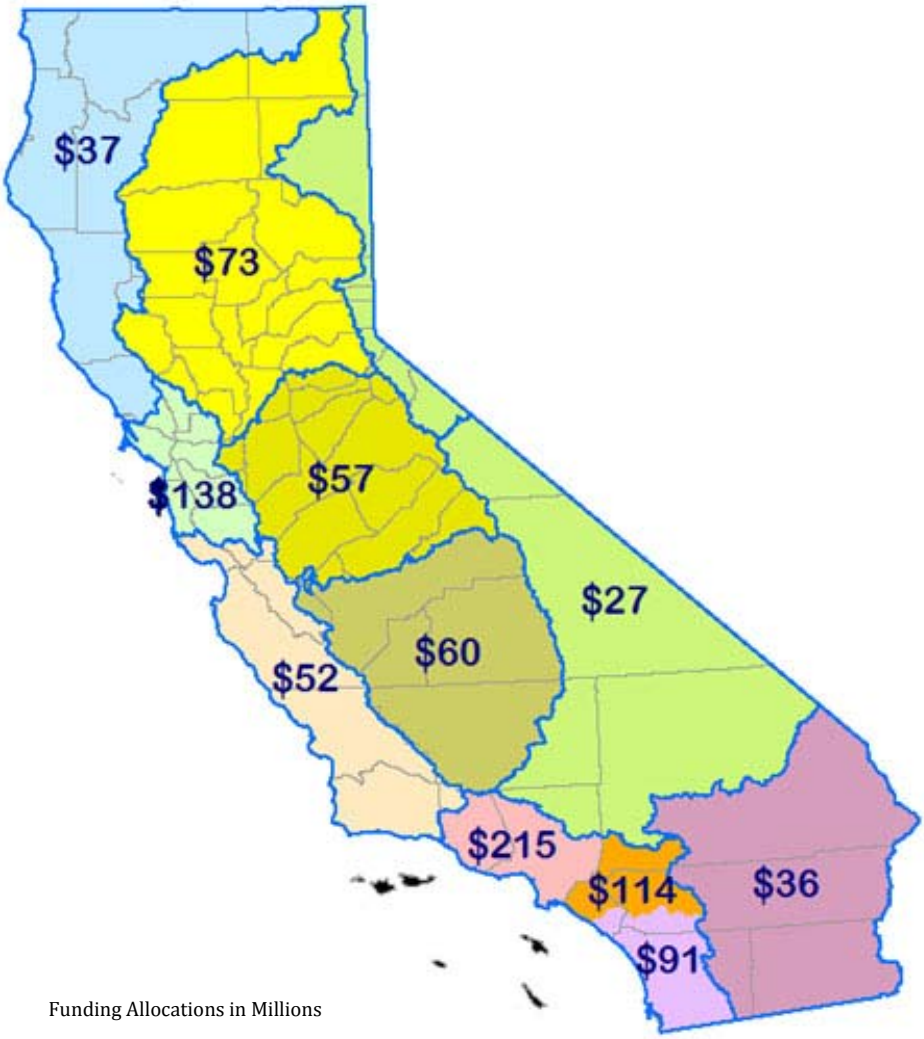
The IRWM Grant Program manages General Obligation Bond fund from various sources, including the following funds:

- Proposition 84, the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006, which was passed by California voters in November 2006. Proposition 84 amended the PRC to add among other articles, Section 75026 *et seq*., authorizing the Legislature to appropriate $1,000,000,000 for IRWM projects that assist local public agencies to meet the long term water needs of the state including the delivery of safe drinking water and the protection of water quality and the environment.
- Of that $1,000,000,000, $900,000,000 referred to as "regional funding" was allocated to 11 hydrologic regions and sub-region or "funding areas", as shown in Figure 1. The remaining $100,000,000 referred to as "inter-regional funding", was allocated to addressing multi-regional needs or issues of statewide significance.
- Proposition 84 authorized DWR to establish three sub-regions within the South Coast Hydrologic Region. Those sub-regions and the boundaries of the remaining Funding Area are described at the following link:

  http://www.water.ca.gov/irwm/docs/prop84/guidelinepsp/FA%20factsheetrev1.pdf
- Proposition 1E, the Disaster Preparedness and Flood Prevention Bond Act of 2006, which was passed by California voters in November 2006. Proposition 1E amended the PRC to add among other articles, Section 5096.827 *et seq*., authorizing the Legislature to appropriate $300,000,000 for grants

for SWFM projects. Future additional funding from Proposition 1E may become available for Regional Flood Management Planning Grants. Such planning grants would fund incorporating regional flood management into IRWM plans.

Figure 1 - Proposition 84 Funding Area Allocations



Funding Allocations in Millions

C. Region Acceptance Process

CWC § 10541(f) states the guidelines shall include a standard for identifying a region for the purpose of developing and modifying an IRWM Plan, and the DWR shall develop a process to approve the composition of a region for the purposes of Section 75026, 75027, and 75028 of the PRC. DWR developed the Region Acceptance Process (RAP) to approve region composition for the purpose of developing or modifying an IRWM Plan. Through the RAP IRWM planning regions are accepted into the IRWM grant program. IRWM planning regions can then apply for IRWM grants subject to conditions on the acceptance through the RAP and the criteria and review process set up for each funding cycle. DWR will perform the region acceptance process before grant solicitations to allow new regions into the grant program. The first round of region acceptance has been completed. The procedures used in the initial RAP cycle and the final decisions are located at:

http://www.water.ca.gov/irwm/integregio_rap2.cfm

For future RAP cycles, DWR may revise the existing RAP procedures. Any proposed revisions to the RAP will be released for public review and comment prior to final approval by DWR's Director.

D. Maximum Grant Amount

Proposition 1E Funding:

SWFM grants shall not exceed $30,000,000 per project.

The maximum grant amount for Regional Flood Planning grant shall not exceed $1,000,000 per grant. DWR may reduce the maximum grant amount depending on the amount of available funding.

Proposition 84 Funding:

IRWM planning grants shall not exceed $1,000,000 per grant and will be limited to one grant per IRWM region. The PSP for the Regional Flood Planning grants will establish the maximum grant amount for a given solicitation.

The IRWM implementation grant maximum award will vary for each solicitation and will be outlined in each PSP. For each solicitation, DWR will use the funding schedule in PRC§75027(a) and the amount of funding available for that solicitation to determine the maximum grant amount and the grant funding available for each funding area. For example, if there is $100,000,000 available to fund IRWM implementation grant (1/9th of the entire Proposition 84 regional allotment), the maximum grant amount for each funding area may be set at 1/9th of their total funding allocation for that funding area. Provisions in the Implementation PSPs for the various rounds of funding will stipulate if an applicant can propose additional phases of work in the event that additional grant funds become available and may require phasing in anticipation of reduced funding for funding areas with multiple IRWM planning efforts.

The maximum grant amount of regional funds to be awarded to an individual funding area, for both planning and implementation grants, will not exceed the allocation schedule in PCR § 75027(a), see Figure 1. Additionally, as required by PRC § 75028(b) funding from one funding area will not be reallocated to another funding area.

E. Minimum Funding Match Requirements

For proposals containing multiple projects, the funding match is based on the total of the proposal. Funding match may include, but is not limited to, federal funds, local funding, or donated services from non-state sources. There are different funding match requirements for different grants.

For IRWM Planning grants, the minimum funding match is 50% of the total project cost. Minimum funding match for regional flood planning grants is 50% of the total project cost.

For IRWM Implementation grants the minimum funding match is 25%. For IRWM implementation projects that address a critical water supply or water quality need for a disadvantaged community (DAC) and are seeking Proposition 84 funds, funding match may be waived. Refer to each PSP for more information regarding funding match waivers.

For the Proposition 1E SWFM funding, PRC § 5096.827(a) requires a 50% cost share minimum. The SWFM funding match cannot be waived or reduced.

F. Program Preferences

PRC §75026.(b) and CWC §10544 state that preference will be given to Proposals that:

- Include regional projects or programs (CWC §10544)
- Effectively integrate water management programs and projects within a hydrologic region identified in the California Water Plan; the Regional Water Quality Control Board (RWQCB) region or subdivision; or other region or sub-region specifically identified by DWR
- Effectively resolve significant water-related conflicts within or between regions
- Contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program
- Address critical water supply or water quality needs of disadvantaged communities within the region
- Effectively integrate water management with land use planning
- For eligible SWFM funding, projects which: a) are not receiving state funding for flood control or flood prevention projects pursuant to PRC §5096.824 or §75034 or b) provide multiple benefits, including, but not limited to, water quality improvements, ecosystem benefits, reduction of instream erosion and sedimentation, and groundwater recharge.
- Address statewide priorities

Table 1, below, establishes the specific Statewide Priorities for the IRWM Grant Program.

Table 1 – Statewide Priorities		
Statewide Priority	Description	Source
Drought Preparedness	Proposals that contain projects that effectively address long-term drought preparedness by contributing to sustainable water supply and reliability during water shortages. Drought preparedness projects do not include drought emergency response actions, such as trucking of water or lowering well intakes. Desirable proposals will achieve one or more of the following: • Promote water conservation, conjunctive use, reuse and recycling • Improve landscape and agricultural irrigation efficiencies • Achieve long term reduction of water use • Efficient groundwater basin management • System interties	• Executive Order S-06-08 • California Water Plan (CWP) Update 2009
Use and Reuse Water More Efficiently	Proposals that include projects that implement water use efficiency, water conservation, recycling and reuse to help meet future water demands, increase water supply reliability and adapt to climate change. Desirable proposals include those with projects that: • Increase urban and agricultural water use efficiency measures such as conservation and recycling • Capture, store, treat, and use urban stormwater runoff (such as percolation to usable aquifers, underground storage beneath parks, small surface basins, domestic stormwater capture systems, or the creation of catch basins or sumps downhill of development • Incorporate and implement low impact development (LID) design features, techniques, and practices to reduce or eliminate stormwater runoff	• CWP Update 2009 • SWRCB Recycled Water Policy • DWR Sustainability Values
Climate Change Response Actions	Water Management actions that will address the key Climate Change issues of: • Adaptation to Climate Change • Reduction of Greenhouse Gas (GHG) Emissions • Reduce Energy Consumption Proposals that contain projects that when implemented address adaptation to climate change effects in an IRWM region. Desirable proposals include those that: • Advance and expand conjunctive management of multiple water supply sources • Use and reuse water more efficiently • Water management system modifications that address anticipated climate change impacts, such as rising sea-level, and which may include modifications or relocations of intakes or outfalls Proposals that contain projects that reduce GHG emissions compared to alternate projects that achieve similar water management contributions toward IRWM objectives. Desirable proposals include those that: • Reduce energy consumption of water systems and uses • Use cleaner energy sources to move and treat water Proposals that contain projects that reduce not only water demand but wastewater loads as well, and can reduce energy demand and GHG emissions. Desirable proposal include: • Water use efficiency • Water recycling • Water system energy efficiency • Reuse runoff	• CWP Update 2009 • AB32 • Managing an Uncertain Future, DWR October 2008

Table 1 – Statewide Priorities		
Statewide Priority	Description	Source
Expand Environmental Stewardship	Proposals that contain projects that practice, promote, improve, and expand environmental stewardship to protect and enhance the environment by improving watershed, floodplain, and instream functions and to sustain water and flood management ecosystems.	CWP Update 2009
Practice Integrated Flood Management	Proposals that contain projects that promote and practice integrated flood management to provide multiple benefits including: • Better emergency preparedness and response • Improved flood protection • More sustainable flood and water management systems • Enhanced floodplain ecosystems • LID techniques that store and infiltrate runoff while protecting groundwater	CWP Update 2009
Protect Surface Water and Groundwater Quality	Proposals that include: • Protecting and restoring surface water and groundwater quality to safeguard public and environmental health and secure water supplies for beneficial uses • Salt/nutrient management planning as a components of an IRWM Plan	SWRCB Recycled Water Policy
Improve Tribal Water and Natural Resources	Proposals that include the development of Tribal consultation, collaboration, and access to funding for water programs and projects to better sustain Tribal water and natural resources.	CWP Update 2009
Ensure Equitable Distribution of Benefits	Proposals that: • Increase the participation of small and disadvantaged communities in the IRWM process. • Develop multi-benefit projects with consideration of affected disadvantaged communities and vulnerable populations. • Contain projects that address safe drinking water and wastewater treatment needs of DACs. • Address critical water supply or water quality needs of California Native American Tribes within the region.	CWP Update 2009

These program preferences are reflected in the scoring criteria and will be taken into consideration during the review process. Appendix A includes a listing of web links for accessing additional information on the Program Preferences.

G. Competition

IRWM grants are awarded on a competitive basis using specific criteria contained in the PSPs. The types of competition vary with differing grants. Both the IRWM planning grant and the SWFM grants utilize a statewide competition. So each grant application submitted is scored according to criteria and then the applications are ranked by score without regard to geographic location in the state.

IRWM implementation grant competition is slightly different in funding is allocated to individual funding areas. If there are multiple IRWM regions in a funding area, those IRWM regions are competing for the funding allocated to that funding area. DWR will make funding decisions based on application scores within a funding area. In order to ensure wise investments of State general obligation bond funds, minimum scores for various criteria may be implemented to ensure that quality proposals are awarded funding.

III. Eligibility Requirements

A. Eligible Grant Applicants

For both funding sources, eligible grant applicants are local agencies and non-profit organizations, as defined in Appendix B.

The grant applicant is the agency submitting an application on behalf of an IRWM region. The grant applicant is also the agency that would enter into an agreement with the State, should the application be successful. Other IRWM stakeholder or partner entities, including non-profit and for-profit organizations, and tribal governments, may be part of the proposal as a project sponsor and access grant funding through their relationship with the applicant, at DWR's discretion.

B. Eligibility Criteria

Applications for IRWM and SWFM grants must meet all relevant Eligibility Criteria below in order to be considered for funding. Additional eligibility criteria may be applicable to specific appropriations of funding. Such appropriation specific elements will be found in the PSPs.

- **The IRWM region must have been accepted into the IRWM grant program through the RAP.** The terms of a conditional acceptance may preclude an IRWM region from being eligible for a specific grant. Conditionally accepted IRWM regions should check the conditions and ensure they are not prohibited from applying to a specific type of grant. For example an IRWM region may be limited to competing for planning grants only until certain conditions are met. Conditionally accepted IRWM regions should work with DWR to satisfy the specific conditions prior to grant application deadlines. Each PSP will contain a list of IRWM regions accepted and eligible for a specific solicitation based on RAP acceptance.
- **Projects included in either an IRWM implementation or SWFM proposal must be consistent with an adopted IRWM Plan.** Consistency means, implementation projects submitted for funding must be included in an adopted IRWM plan. Updates and changes to an IRWM project list may be performed according to the process developed by each RWMG/stakeholder group. When submitting for a grant, applicants will need to demonstrate the projects in a proposal are included in their IRWM plans or have been added to the implementation project list for an IRWM plan according to the procedures developed by their RWMG/stakeholder group. If an IRWM plan is silent on procedures to update the implementation project list and there was no process developed by the RWMG/stakeholder group, the applicant is limited to projects contained in the plan at the time of IRWMP adoption.

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- Groundwater Management Plan (GWMP) Compliance – For groundwater management and recharge projects and for projects with potential groundwater impacts, the applicant or the project proponent responsible for such projects must demonstrate that either:
  - They have prepared and implemented a GWMP in compliance with CWC §10753.7
  - They participate or consent to be subject to a GWMP, basin-wide management plan, or other IRWM program or plan that meets the requirements of CWC §10753.7(a)
  - The Proposal includes development of a GWMP that meets the requirements of CWC §10753.7 which will be completed within 1-year of the grant application submittal date. In the event that a grant solicitation is a 2-step process, DWR will use the due date of the Step 2 application to begin the 1-year compliance period
  - They conform to the requirements of an adjudication of water rights in the subject groundwater basin
- Urban Water Management Planning Act Compliance – Water suppliers who were required by the Urban Water Management Planning Act (CWC § 10610 *et seq*.) to submit an Urban Water Management Plan (UWMP) to DWR must have submitted a complete UWMP to be eligible for IRWM Grant Program funding. Applicants and project proponents that are urban water suppliers and have projects that would receive funding through the IRWM grant program must have a complete UWMP by the time a grant is awarded to be eligible to receive funding.
- AB1420 Compliance – AB1420 (Stats. 2007, ch.628) conditions the receipt of a water management grant or loan, including IRWM grant funds and IRWM related water management funding such as SWFM funds, by urban water suppliers on the implementation of California Urban Water Conservation Council (CUWCC) best management practices (BMPs). Urban water suppliers who are applicants or project proponents in a grant application for either funding source must supply additional information as required by DWR's Water Use and Efficiency Branch (WUEB) http://www.owue.water.ca.gov/finance/index.cfm. An urban water supplier may be eligible for a water management grant or loan if it demonstrates that it has or is implementing or scheduling the implementation of BMPs. Urban water suppliers applying to use grant funds for implementation of BMPs must ensure they have submitted all the necessary information per the WUEB instructions.
- CWC § 529.5 requires on or after January 1, 2010, any urban water supplier applying for state grant funds for wastewater treatment projects, water use efficiency projects, drinking water treatment projects, or for a permit for a new or expanded water supply, shall demonstrate that they meet the water meter requirements in CWC § 525 *et seq*.
- CWC § 10920 *et seq*. establishes a groundwater monitoring program designed to monitor and report groundwater elevations in all or part of a basin or subbasin. These new requirements also limit counties and various entities (CWC § 10927.(a)-(d), inclusive) ability to receive state grants or loans in the event that DWR is required to perform ground monitoring functions pursuant to CWC § 10933.5. DWR is charged with creating the program that implements this legislation. Once the program is implemented, additional information will be included in these guidelines.

C. Eligible Project Types

Factors affecting eligible project type include funding source, DAC status, and BMP implementation. As an IRWM region considers projects to include in a proposal, they need to consider the project eligibility as described below. Some provisions for eligible project types are applicable regardless of funding source and others are funding source specific.

Planning Grant Projects

Eligible projects are activities that directly develop, update, or improve an IRWM plan. Such activities may include focused, topic-specific activities that fill gaps or improve sections of the IRWM plan, i.e. salt/nutrient management planning or enhanced integration of flood management, as well as broader plan development efforts. Applicants must establish within their grant proposals (work plan and other components) that the end result of the proposed activities is an IRWM plan that meets the new IRWM plan standards and serves to meet the regional water management objectives contained in their IRWM plan.

Applicable to All Implementation and Stormwater Flood Management Projects

Eligible projects must be consistent with an adopted IRWM Plan (PRC § 75026.(a) and PRC § 5096.827). This means that all projects must be identified within the IRWM Plan as a project or program needed to implement the plan. DWR will defer to each IRWM plan's procedures for updating the implementation project list. As long as the projects exist on the implementation project list of the IRWM Plan or they have been added according to the IRWM RWMG/stakeholder processes, they will be considered as eligible projects. If the IRWM Plan is silent regarding a process to update or change the project list and there was no process developed by the RWMG/stakeholder group, the proposal must consist of the projects existing on the implementation project list at the time of the plan adoption. Projects cannot be added to a proposal based on a future IRWM Plan revision; this is to ensure any grant funded project has been fully vetted through the process established in each IRWM Plan.

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Projects requesting Proposition 84 IRWM Implementation funding:

Eligible projects must yield multiple benefits and include one or more of the following elements (PRC § 75026.(a)):

- Water supply reliability, water conservation and water use efficiency
- Stormwater capture, storage, clean-up, treatment, and management
- Removal of invasive non-native species, the creation and enhancement of wetlands, and the acquisition, protection, and restoration of open space and watershed lands
- Non-point source pollution reduction, management and monitoring
- Groundwater recharge and management projects
- Contaminant and salt removal through reclamation, desalting, and other treatment technologies and conveyance of reclaimed water for distribution to users
- Water banking, exchange, reclamation and improvement of water quality
- Planning and implementation of multipurpose flood management programs
- Watershed protection and management
- Drinking water treatment and distribution
- Ecosystem and fisheries restoration and protection

There are additional considerations for an eligible project under Proposition 84. DWR will make two exceptions to the eligibility criterion listed above – (1) projects that directly address a critical water quality or supply issue in a DAC and (2) urban water suppliers implementing certain BMPs as described below. These exceptions are being made to encourage assistance to DACs and encourage implementation of BMPs by urban water suppliers. Such projects must still be consistent with the IRWM Plan objectives.

Because DACs may not have a developed project to put forward, the types of eligible projects to address critical water supply or water quality needs of a DAC are expanded. Eligible projects in direct support of DACs include feasibility studies that may lead to a construction project to address DAC needs; engineering designs and specifications; or needs assessments where a critical water supply or quality issue is perceived but specific needs have not been determined.

For urban water suppliers who are not in compliance with the requirements of AB1420, an eligible project can include implementation of two specific BMPs – leak detection and repair and installation of water meters. As stated above, the BMP implementation work does not have to be included as part of the IRWM Plan; however the work must be consistent with all other eligible project requirements as listed above. In the description of the project, it should be made clear that the project is implementing one or more of the BMPs. All other grant program requirements apply to BMP implementation projects (cost share, max grant, reporting, etc.) BMP implementation work that is not consistent with the provisions of PRC§ 75026 *et seq*. is not considered an eligible project.

Because Proposition 84 allotted funds by funding area, DWR will default to project location in determining which fund allotment is applied to which project. In some cases, an IRWM region may choose to propose use grant funds allocated to its funding area to perform work in another funding area, this is allowable, but the applicant must include in their proposal:

- Clear explanation of how the project contributes directly to the objectives of their IRWM Plan
- Documentation that the Regional Water Management Group (RWMG) for the IRWM region in which the project is located is cooperating with the effort and agrees with the need for the project.

<u>Projects requesting Proposition 1E Stormwater Flood Management funding:</u>

Projects requesting Proposition 1E funding must meet the "Applicable to All Projects" criterion, as well as all of the following items:

- Be designed to manage stormwater runoff to reduce flood damage (PRC § 5096.827)
- Be consistent with the applicable Regional Water Quality Control Plans (Basin Plans) (PRC §5096.827)
- Not be a part of the State Plan of Flood Control (SPFC) (PRC § 5096.827)

Applicants should determine if their project is not part of the SPFC before developing a grant application. A definition of the SPFC is included in Appendix B. Applicants should use the following process to determine if their project is not part of the SPFC:

- Location of the project
    - If the project is located outside the Central Sacramento – San Joaquin Valley it is not part of the SPFC.

- If the project is located within the Central Sacramento – San Joaquin Valley it may be part of the SPFC

- Project Function and State Assurance
  - If the project is within the Central Sacramento – San Joaquin Valley the applicant should work with their local reclamation district to determine if by function or State assurance that the project is part of the SPFC.

If the applicant needs additional assistance to determine if their project is part of the SPFC, they should contact DWR using the contact information found in the Forward for assistance. Please be prepared to provide a map showing the project location and facility to aid DWR in determining if the project is not part of the SPFC.

IV. General Program Requirements

A. IRWM Plan Standards

IRWM Plan Standards are used to describe what must be in an IRWM Plan, and they can be used as criteria in both implementation and planning grant applications. Applicants should refer to the PSP for the specific application of the IRWM Plan Standards in a specific grant solicitation. The IRWM Plan Standards discuss specific aspects that must be part of an IRWM Plan. However, RWMGs are encouraged to pay attention to three concepts when incorporating plan standards into their IRWM plans:

- IRWM planning is planning that is not focused on a single use of a resource, but seeks to manage that resource based on all the ways that the resource can be used. As exhibited by the IRWM Plan Standards, many aspects of IRWM planning reflect the Ahwahnee Water Principles, http://www.lgc.org/ahwahnee/h2o_principles.html. Commonalities between IRWM planning and the Ahwahnee Water Principles include multi-agency collaboration, stakeholder involvement and collaboration, regional approaches to water management, water management involvement in land use decisions, and project monitoring to evaluate results of current practices. Although IRWM Plan Standards can be seen as very separate and distinct items, RWMGs should be aware of the broader over arching shift to resource planning as presented in the Ahwahnee Water Principles and the practice of IRWM planning as opposed to single planning purpose (i.e. water supply or wastewater or watershed function.)

- Flood management should be integrated into IRWM Plans similarly to other types of water management. In review of IRWM Plans during past grant solicitations, it was not always apparent that flood management infrastructure, floodplain or other flood features and management were fully recognized as a viable IRWM component. Integrating flood management into a regional plan, as appropriate, may increase the ways an RWMG can achieve its IRWM Plan objectives.

- The IRWM Plan Standards are intended to ensure IRWM Plans include specific content. Although the IRWM Plan Standards name specific topics, explanations, and descriptions, these do not necessarily constitute an outline of an IRWM Plan. An IRWM Plan can be written in a format that is logical for the IRWM region. The IRWM Plan can use different titles to sections than those offered in these standards. What is important is that IRWM plans contain the proper contents that ensure effective, implementable planning.

Guidance including the intent of each standard and additional references can be found in Appendix C. The IRWM Plan Standards are as follows:

Table 2 - IRWM Plan Standards	
• Governance • Region Description • Objectives • Resource Management Strategies (RMS) • Integration • Project Review Process • Impact and Benefit • Plan Performance and Monitoring	• Data Management • Finance • Technical Analysis • Relation to Local Water Planning • Region to Local Land Use Planning • Stakeholder Involvement • Coordination • Climate Change

Governance. The IRWM Plan must document a governance structure that ensures the IRWM Plan will be updated and implemented beyond existing State grant programs. The IRWM Plan must include:

- The name of the RWMG responsible for development and implementation of the plan. An RWMG must meet the definition of CWC §10539, which states:

  "RWMG means a group in which three or more local agencies, at least two of which have statutory authority over water supply or water management, as well as those other persons who may be necessary for the development and implementation of a plan that meets the requirements of CWC §10540 and 10541, participate by means of a joint powers agreement, memorandum of understanding, or other written agreement, as appropriate, that is approved by the governing bodies of those local agencies."

  The IRWM Plan must include a description of the RWMG and explain how the makeup of the RWMG meets the definition of CWC §10539 (above), and is sufficient in breath of membership and participation to develop and implement the IRWM Plan.

- The RWMG and individual project proponents who adopted the plan.
- A description of the IRWM governance structure.
- A description of how the chosen form of governance addresses and ensures the following:
  - Public outreach and involvement processes
  - Effective decision making
  - Balanced access and opportunity for participation in the IRWM process
  - Effective communication – both internal and external to the IRWM region
  - Long term implementation of the IRWM Plan
  - Coordination with neighboring IRWM efforts and State and federal agencies
  - The collaborative process(es) used to establish plan objectives
  - How interim changes and formal changes to the IRWM Plan will be performed

- Updating or amending the IRWM plan

Region Description. An IRWM Plan must include a description of the region being managed by the RWMG. This description should include a comprehensive inclusion of the following:

- A description of the watersheds and the water systems, natural and anthropomorphic (i.e. "man-made"), including major water related infrastructure, flood management infrastructure, and major land-use divisions. Also include a description of the quality and quantity of water resources within the region (i.e. surface waters, groundwater, reclaimed water, imported water, and desalinated water).
- A description of internal boundaries within the region including the boundaries of municipalities, service areas of individual water, wastewater, flood control districts, and land use agencies. The description should also include those not involved in the plan (i.e. groundwater basin boundaries, watershed boundaries, county, state, and international boundaries).
- A description of water supplies and demands for a minimum 20-year planning horizon. Including a discussion of important ecological processes and environmental resources within the regional boundaries and the associated water demands to support environmental needs. This includes a description of the potential effects of climate change on the region.
- A descriptive comparison of current and future (or proposed) water quality conditions in the region. Describe any water quality protection and improvement needs or requirements within the area of the plan.
- A description of the social and cultural makeup of the regional community. Identify important cultural or social values. Identify DACs in the management area. Describe economic conditions and important economic trends within the region. Describe Tribal government representative consultation and collaboration to better sustain Tribal and regional water and natural resources (if applicable).
- A description of major water related objectives and conflicts in the defined management region, including clear identification of problems within the region that focus the objectives, implementation strategies, and implementation projects that ultimately provide resolution.
- An explanation of how the IRWM regional boundary was determined and why the region is an appropriate area for IRWM planning.
- Identification of neighboring and/or overlapping IRWM efforts (if any) and an explanation of the planned/working relationship that promotes cooperation and coordination between regions.

Objectives. The IRWM Plan must clearly present plan objectives and describe the process used to develop the objectives. Plan objectives must address major water-related issues and conflicts of the region. In addition objectives must be measurable by some practical means so achievement of objectives can be monitored. The objectives may be prioritized for the region. The IRWM Plan must contain an explanation of the prioritization or reason way the objectives are not prioritized.

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 include, but are not limited to, the RMS found in Volume 2 of the CWP Update 2009:

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

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
  - 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 greenhouse gas emissions as compared to project alternatives
- Displaying the list(s) of selected projects.

These 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 of the unique goals and objectives of the IRWM Region.

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

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.

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 includes technical information such as designs, feasibility studies, reports, and information gathered for a specific project in any phase of development including the planning, design, construction, operation, and monitoring of a project.

Finance. The IRWM Plan must include a plan for implementation and financing of identified projects and programs (CWC § 10541.(e)(8)). The IRWM Plan must also identify and explain potential financing for implementation of the IRWM Plan and plan projects. The financing discussion must, at a minimum, include the following items:

- List known as well as possible funding sources, programs, and grant opportunities for the development and ongoing funding of the IRWM Plan.
- List the funding mechanisms, including water enterprise funds, rate structures, and private financing options, for projects that implement the IRWM Plan.
- An explanation of the certainty and longevity of known or potential funding for the IRWM Plan and projects that implement the plan.
- An explanation of how operation and maintenance (O&M) costs for projects that implement the IRWM Plan would be covered and the certainty of operation and maintenance funding.

Technical Analysis. The IRWM Plan must document the data and technical analyses that were used in the development of the IRWM plan.

Relation to Local Water Planning. The IRWM plan must document the local water planning documents on which it is based including:

- A list of local water plans used in the IRWM Plan.
- A discussion of how the IRWM Plan relates to planning documents and programs established by local agencies.
- A description of the dynamics between the IRWM Plan and local planning documents.

Relation to Local Land Use Planning. IRWM Plans must contain processes that foster communication between land use managers and RWMG's with the intent of effectively integrating water management and land use planning. IRWM Plans must document:

- Current relationship between local land use planning, regional water issues, and water management objectives
- Future plans to further a collaborative, proactive relationship between land use planners and water managers

Stakeholder Involvement. The IRWM Plan must contain the following items:

- A public process that provides outreach and an opportunity to participate in IRWM Plan development and implementation to the appropriate local agencies and stakeholders, as applicable to the region, including the following:
    - Wholesale and retail water purveyors
    - Wastewater agencies
    - Flood control agencies
    - Municipal and county governments and special districts
    - Electrical corporations

- Native American tribes
- Self-supplied water users
- Environmental stewardship organizations
- Community organizations
- Industry organizations
- State, federal, and regional agencies or universities
- Disadvantaged community members
- Any other interested group appropriate to the region

- The process used to identify, inform, invite, and involve stakeholder groups in the IRWM process, including mechanisms and processes that have been or will be used to facilitate stakeholder involvement and communication during development and implementation of the IRWM Plan.
- A discussion on how the RWMG will endeavor to involve DACs and Native American tribal communities in the IRWM planning effort.
- A description of the decision making process including IRWM committees, roles, or positions that stakeholders can occupy and how a stakeholder goes about participating in those committees, roles, or positions regardless of their ability to contribute financially to the plan.
- A discussion regarding how stakeholders necessary to address the objectives and resource management strategies of the IRWM Plan are involved or are being invited to be involved in plan activities.
- A discussion of how collaborative processes will engage a balance of the interest groups listed above in the IRWM process regardless of their ability to contribute financially to the IRWM Plan.

Coordination. The IRWM Plan must include:

- Identification of a process to coordinate water management projects and activities of participating local agencies and local stakeholders to avoid conflicts and take advantage of efficiencies (CWC § 10541.(e)(13)).
- Identification of other neighboring IRWM efforts and the way cooperation or coordination with these other efforts will be accomplished and a discussion of any ongoing water management conflicts with adjacent IRWM efforts.
- Identification of areas where a State agency or other agencies may be able to assist in communication, cooperation, or implementation of IRWM Plan components, processes, and projects, or where State or federal regulatory decisions are required before implementing the projects.

Climate Change. The IRWM Plan must address both adaptation to the effects of climate change and mitigation of GHG emissions. The IRWM Plan must include the following items:

- A discussion of the potential effects of climate change on the IRWM region, including an evaluation of the IRWM region's vulnerabilities to the effects of climate change and potential adaptation responses to those vulnerabilities, and
- A process that discloses and considers GHG emissions when choosing between project alternatives.

B. Conflict of Interest

All participants are subject to State and federal conflict of interest laws. Failure to comply with these laws, including business and financial disclosure provisions, will result in the application being rejected and any subsequent grant agreement being declared void. Other legal action may also be taken. Before submitting an application, applicants are urged to seek legal counsel regarding conflict of interest requirements. Applicable statues include, but are not limited to, California Government Code §1090 and PRC §10410 and §10411.

C. Confidentiality

Once the Proposal has been submitted to DWR, any privacy rights, as well as other confidentiality protections afforded by law with respect to the application package will be waived.

D. Labor Code Compliance

PRC § 75075 requires the body awarding a contract for a public works project financed in any part with funds made available by Proposition 84 to adopt and enforce a labor compliance program pursuant to California Labor Code § 1771.5(b). Compliance with applicable laws, including California Labor Code provisions, will become an obligation of the grant recipient and sub-recipients (i.e., individual Project Proponents that will receive grant funds) under the terms of the grant agreement between the grant recipient and the granting agency. California Labor Code § 1771.8 appears to provide, where applicable, that the grant recipient's Labor Compliance Program must be in place at the time of awarding of a contract for a public works project by the grant recipient.

Before submitting an application, applicants are urged to seek legal counsel regarding California Labor Code compliance. See Appendix A for web links to the California Department of Industrial Relations.

E. CEQA Compliance

Activities funded under the IRWM grant program regardless of funding source must be in compliance with the California Environmental Quality Act (CEQA) (PRC § 21000 *et seq.*). See Appendix A for web links to CEQA information and the State Clearinghouse Handbook (CWC § 79506).

Applicants seeking Proposition 84 funding should note that PRC §75102 requires lead agencies to notify tribal entities prior to adoption of Negative Declarations or Environmental Impact Reports if traditional tribal lands are within the area of the proposed project. Appendix D contains additional information on Tribal notification.

F. Monitoring Requirements

Projects that affect water quality shall include a monitoring component that allows the integration of data into statewide monitoring efforts, including, but not limited to the SWRCB's Surface Water Ambient Monitoring Program (SWAMP). See Appendix A for web links to the SWRCB's monitoring and reporting requirements.

CWC § 10927 requires various entities, including local agencies that are managing all or part of a groundwater basin pursuant to CWC §10750, to assume responsibilities for groundwater elevation monitoring and reporting, as required by CWC §10920 *et seq*.

V. Proposal Selection

A. Solicitation Notice

DWR will solicit grant Proposals with release of final PSPs. A new grant solicitation will be made for each funding cycle for each grant type (planning and implementation) (PRC §75100). The PSPs provide detailed instructions on the mechanics of submitting Proposals and specific information on submittal requirements. PSPs will be made available on the DWR website listed in the Foreword. A solicitation notice will be emailed to all interested parties on the IRWM Grant Program mailing list and posted on the website listed in the Forward.

B. Applicant Assistance Workshops

Informational workshops will be conducted to address applicant questions and to provide general assistance to applicants in preparing grant applications. The date and locations of the workshops are provided via the IRWM website, email distribution list, and news release. In addition to these informational workshops, applicants are encouraged to seek assistance from DWR staff in understanding IRWM Grant Program requirements and completing grant applications.

C. Proposal Submittal

Grant application processes will utilize electronic submittals when possible. Submission of applications will be through DWR Bond Management System (BMS). The PSP for any given solicitation will contain specific instructions and links to the BMS.

D. Completeness Review

All information requested in the PSP must be provided. Each application will first be evaluated in accordance with the PSP for completeness. **Applications not containing all required information will not be reviewed or considered for funding.**

E. Eligibility Review

Complete applications will be evaluated for compliance with the Eligibility Criteria, Section III. **Applications that are determined to be ineligible will not be reviewed or considered for funding.**

F. Review Process

All complete and eligible Proposals will be organized by funding area and evaluated and scored by technical reviewers. The group of technical reviewers for each Proposal will include one representative each from DWR headquarters and the applicable DWR Region. At least two technical reviewers will be assigned to each eligible Proposal. DWR may also request technical reviewers from other agencies, such as the SWRCB and appropriate RWQCB, and will assign reviews based on technical elements of the Proposals.

The technical reviewers will individually score Proposals in accordance with scoring criteria. Each funding cycle may have slight variations in scoring criteria; so, applicants should be sure to review the specific criteria during each funding cycle. The review and score will be based on the merit of the entire Proposal as a whole versus the merit of an individual component. Following completion of the individual technical reviews, the reviewers will discuss the Proposals and develop a consensus review and score.

Each criterion will be scored on a scale of 0 to 5, with a 0 being "low" and a 5 being "high." The score for each criterion will then be multiplied by the weighting factor shown in the Scoring Criteria of each PSP.

Where standard scoring criteria are applied, points will be assigned for a criterion as follows:

- A score of 5 points will be awarded where the criterion is fully addressed and supported by thorough and well-presented documentation and logical rationale.
- A score of 4 points will be awarded where the criterion is fully addressed but is not supported by thorough documentation or sufficient rationale.
- A score of 3 points will be awarded where the criterion is less than fully addressed and documentation or rationale are incomplete or insufficient.
- A score of 2 points will be awarded where the criterion is marginally addressed and documentation is incomplete and insufficient.
- A score of 1 point will be awarded where the criterion is minimally addressed and not documented.
- A score of 0 points will be awarded where the criterion is not addressed.

Following completion of the consensus scoring of all eligible Proposals, DWR will convene a Selection Panel to review the technical scores and comments. The Selection Panel will generate a preliminary ranking list, by hydrologic or funding area of the Proposals and make the initial funding recommendations. When developing the ranking list, the Selection Panel will consider the following items:

- Amount of funds available
- Consensus review and score
- Program Preferences (Section II.F)
- Distribution of funding within a funding area

The Selection Panel may recommend reducing grant amounts from that requested in order to meet funding targets (Section II.B) and available funding limitations.

G. Applicant Notification and Public Meeting

A list of Proposals recommended for funding and the recommended funding amounts will be posted on the DWR website and the applicants will be notified.

The recommended funding list will be presented at a public meeting held by DWR to solicit public comments on the proposed funding recommendations. Interested parties will be notified of the public meeting by email and news release informing the public of the date, time, and location of the meeting and by a notice placed on the DWR website listed in the Foreword.

H. Funding Awards

Based on the individual Proposal evaluations, the preliminary ranking list and initial funding recommendations developed by the Selection Panel, and the comments received during a public comment period, DWR's Director will approve a final funding list and the associated funding commitments. Following approval by the Director, the selected grant recipients will receive a commitment letter officially notifying them of their selection, the grant amount, and funding source(s).

I. Grant Agreement

Following funding commitment, DWR will execute a grant agreement with the grant recipient. Grant agreements are not executed until signed by the authorized representative of the grant recipient and DWR. Grant agreements for Proposition 84 funds will be executed with one grant recipient for the IRWM region, which will then provide funding to its project proponents that are responsible for implementation of the component projects.

Both the Fiscal Statement and CEQA statement of conditions must be met **for at least one project** contained in the Proposal prior to execution of a grant agreement. For each remaining project(s), both conditions must be met prior to disbursement of grant funds.

In the event that an applicant is selected for grant funding, the following conditions will need to be met prior to executing a grant agreement:

- Fiscal Statements: The Grantee must submit copies of the most recent three years of audited financial statements, for each agency or organization proposed to receive grant funding for a selected Proposal. The submittal must also include: 1) balance sheets, statements of sources of income and uses of funds, a summary description of existing debts including bonds, and the most recent annual budget; 2) separate details for the water enterprise fund, if applicable to an agency or organization; 3) a list of all cash reserves, restricted and unrestricted, and any planned uses of those reserves; and 4) any loans required for project funding and a description of the repayment method of any such loans. Equivalent documentation may be considered at DWR's discretion.
- CEQA/NEPA: The Grantee must demonstrate that it has a plan to comply with all applicable requirements of CEQA and the National Environmental Policy Act (NEPA) and a schedule that outlines when the appropriate environmental documents will be completed. DWR staff will review the CEQA documentation available at the time of grant award for each project contained within the proposal. Each project subject to CEQA shall not proceed until documents that satisfy the CEQA process are received by DWR and DWR has completed its CEQA compliance review. Work that is subject to a CEQA document shall not proceed until and unless approved by DWR. Such approval is fully discretionary and shall constitute a condition precedent to any work for which it is required. Once CEQA documentation has been completed, DWR will consider the environmental documents and decide whether to continue to fund the project or to require changes, alterations or other mitigation.

As part of the agreement, applicants will be required to provide information regarding their projects needed for Bond Accountability reporting.

Applicants are encouraged to review existing agreement templates for an understanding of responsibilities for applicants and project proponents. The agreement template can be found at: *INSERT WEB ADDRESS WHEN POSTED*.

Comment [GLAC1]: It is imperative for DWR to provide a firm contarct execution date to Regions prior to the beginning of the Grant solicitation process, to aide Regions in selecting appropriately timed projects for inclusion in their Proposals. Toward this end, it is imperative that DWR post the link to the boilerplate Grant Agreement ASAP, so that Grantees and project porponents can begin their legal review of the agreement.

J. Funding Match Waiver

The requirement for funding match for Proposition 84 funded projects may be waived for projects that directly address a critical water supply or quality issue for a disadvantaged community within the IRWM planning area. Refer to each funding cycle's PSP for more information regarding funding match waivers.

K. Reimbursement of Costs

Reimbursable costs are as defined in Appendix B.

For IRWM Planning Grants and Regional Flood Management Grants, only work performed **after** execution of the grant agreement will be eligible for reimbursement. Costs incurred after September 30, 2008, and before grant agreement is executed are not eligible for reimbursement. However, these costs may be considered, at DWR's discretion, as a part of the applicant's funding match. **Advance funds cannot be provided.**

For IRWM Implementation Grants and SWFM Grants, only work performed **after** execution of the grant agreement will be eligible for reimbursement. Costs incurred after _____, but before grant agreement is executed are not eligible for reimbursement. However, these costs may be considered, at DWR's discretion, as a part of the applicant's funding match. Travel costs incurred on IRWM Implementation and SWFM Grants is not eligible as cost share or reimbursment. **Advance funds cannot be provided.**

Comment [GLAC2]: The GLAC IRWMP recommends some leeway be built into the schedule, to ensure that Regions that are awarded an Implementation Grant in the first round of funding (who are therefore required to update their IRWMP to meet standards within 2 years of entering an Implementation Grant Agreement) and are awarded a Planning Grant in the first round of Planning Grant funding, have sufficient time after the Planning Grant contract execution date to do the work of updating their IRWMP using the full amount of the awarded Planning grant funds prior to the 2 year (SBxx1) IRWMP update deadline runs out.

Comment [GLAC3]: The GLAC IRWMP recommends this date should be the date that Proposition 1E was enacted (just as was the case with Proposition 50 grants, and is recommended for Proposition 84/SBxx1 Implementation grants),

Deleted: the date of grant award

APPENDIX A
USEFUL WEB LINKS

DWR

Home Page:	http://www.water.ca.gov/
FloodSAFE California	http://www.floodsafe.water.ca.gov/
California Water Plan	http://www.waterplan.water.ca.gov
Grants & Loans:	http://www.grantsloans.water.ca.gov/
Office of Water Use Efficiency	http://www.owue.water.ca.gov/finance/index.cfm
Bulletin 118 California's Groundwater:	http://www.groundwater.water.ca.gov/bulletin118
Groundwater Information Center:	http://www.groundwater.water.ca.gov
Floodplain Management Task Force:	http://fpmtaskforce.water.ca.gov/
Desalination Task Force:	http://www.owue.water.ca.gov/recycle/desal/desal.cfm
Recycling Task Force:	http://www.owue.water.ca.gov/recycle/index.cfm

Regional Water Quality Control Plans (Basin Plans)

Region 1	http://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/basin_plan.shtml
Region 2	http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml#2004basinplan
Region 3	http://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/index.shtml
Region 4	http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/
Region 5	http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/
Region 6	http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml
Region 7	http://www.waterboards.ca.gov/coloradoriver/publications_forms/publications/docs/basinplan_2006.pdf
Region 8	http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/index.shtml
Region 9	http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

State Water Board Information and Programs

Homepage	http://www.waterboards.ca.gov
Surface Water Ambient Monitoring Program:	http://www.waterboards.ca.gov/water_issues/programs/swamp/

CEQA Information

Environmental Information:	http://ceres.ca.gov/index.html
California State Clearinghouse Handbook:	http://ceres.ca.gov/planning/sch/
CALFED Bay-Delta Program	http://calwater.ca.gov/

Department of Industrial Relations

http://www.dir.ca.gov/lcp.asp

California Native American Heritage Commission

http://ceres.ca.gov/nahc/

US Census Bureau

Homepage	http://www.census.gov/
American Fact Finder	http://factfinder.census.gov/home/saff/main.html?_lang=en

APPENDIX B
DEFINITIONS

Adopted IRWM Plan – means an Integrated Regional Water Management Plan that has been formally accepted, as evidenced by a resolution or other written documentation by the governing bodies of each agency that is part of the regional water management group responsible for the development of the Plan and have responsibility for implementation of the Plan. At a minimum, each project proponent named in an IRWM grant application must also adopt the IRWM plan. Adoption of an IRWM Plan must follow notification process in CWC § 10543.

Applicant – means the entity that files an application for funding under the provisions of Proposition 84 or Proposition 1E with DWR.

Application – refers to the electronic or hard copy submission to DWR that requests grant funding for a Proposal that the applicant intends to implement.

Basin Plan – also referred to as Water Quality Control Plan, identifies: 1) beneficial uses to be protected; 2) water quality objectives for their reasonable protection of beneficial uses; and 3), a program of implementation for achieving the water quality objectives as established by the RWQCBs or SWRCB.

Beneficial Uses – refers to the uses that streams, lakes, rivers, and other water bodies, have to humans and other life. Beneficial uses are outlined in a Water Quality Control Plan, also called a Basin Plan. Each body of water in the State has a set of beneficial uses it supports. Different beneficial uses require different water quality controls(s). Therefore, each beneficial use has a set of water quality objectives designed to protect that beneficial use. Example beneficial uses are listed below:

Beneficial uses may include: domestic (homes, human consumption, etc.), irrigation (crops, lawns), power (hydroelectric), municipal (water supply of a city or town), mining (hydraulic conveyance, drilling), industrial (commerce, trade, industry), fish and wildlife preservation, aquaculture (raising fish for commercial purposes), recreational (boating, swimming), stock watering (for commercial livestock), water quality, frost protection, heat control (water crops to prevent heat damage), groundwater recharge, agriculture, etc.

California Native American Tribe – means all Indigenous Communities of California, which are on the contact list maintained by the Native American Heritage Commission, including those that are federally non-recognized and federally recognized, and those with allotment lands, regardless of whether they own those lands. Additionally, because some water bodies and Tribal boundaries cross State borders, this term may include Indigenous Communities in Oregon, Nevada, and Arizona that are impacted by water in California.

Disadvantaged Community – means a community with an annual median household income that is less than 80 percent of the statewide annual median household income (PRC §75005 (g)).

Environmental Justice – means the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies (California Government Code §65040.12(e)).

Funding Match – funds made available by the applicant to assist in financing a project. Funding match consists of non-state funds and can include in-kind-services. In-kind services must relate directly to the scope of work funded in the grant proposal

Grant Applicant – means the entity that is formally submitting a grant application. This is the same entity that would enter into an agreement with the state should the grant application be funded. The grant applicant must be a local agency or non-profit organization.

Grantee – refers to a grant recipient.

Incidental Costs – refers to reasonable administrative expenses that may be included as project costs and will depend on the complexity of the project preparation, planning, coordination, construction, acquisitions, implementation and maintenance. Such costs are the necessary costs incidentally but directly related to the project that are regularly assigned to all such projects in accordance with the standard accounting practices of the grantees.

Impaired Water Body – refers to any waterbody of the United States that does not attain water quality standards (as defined in 40 CFR part 131) due to an individual pollutant, multiple pollutants, pollution, or an unknown cause of impairment, where a waterbody receives a thermal discharge from one or more point sources, impaired means that the waterbody does not have or maintain a balanced indigenous population of shellfish, fish, and wildlife. A list of impaired water bodies is compiled by the SWRCB pursuant to § 303(d) of the Clean Water Act.

In Kind Services – refers to work performed by the grantee, the cost of which is considered funding match in-lieu of actual funds from the grantee.

IRWM Plan – is defined in CWC § 10534 as "a comprehensive plan for a defined geographic area, the specific development, content, and adoption of which shall satisfy requirements developed pursuant to this part. At a minimum, an integrated regional water management plan describes the major water-related objectives and conflicts within a region, considers a broad variety of resource management strategies, identifies the appropriate mix of water demand and supply management alternatives, water quality protections, and environmental stewardship actions to provide long-term, reliable, and high-quality water supply and protect the environment, and identifies disadvantaged communities in the region and takes the water-related needs of those communities into consideration." (CWC § 10530 *et seq*.)

Local agency – means any city, county, city and county, special district, joint powers authority, or other political subdivision of the state, a public utility as defined in Sections 216 of the Public Utilities Code, or a mutual water company as defined in Section 2725 of the Public Utilities Code (CWC § 10535)

Low Impact Development (LID) – LID is a stormwater management strategy aimed at maintaining or restoring the natural hydrologic functions of a site or project to achieve natural resource protection

objectives and fulfill environmental regulatory requirements; LID employees a variety of natural and built features that reduce the rate of runoff, filter pollutants out of runoff, and facilitate the infiltration of water into the ground and/or on-site storage of water for re-use.

Non-point Source Pollution – means a diffuse discharge of pollutants throughout the natural environment.

Non-profit organization – means any nonprofit corporation qualified to do business in California and qualified under Section 501(c)(3) of the Internal Revenue Code.

Proposition 84 – means the "Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006" passed by California voters on November 7, 2006, and as set forth in Division 43 of the PRC.

Proposition 1E – is the "Disaster Preparedness and Flood Prevention Bond Act of 2006" passed by California voters on November 7, 2006, and as set forth in Division 5 of the PRC.

Region – also known as IRWM Region, means a geographic area. The physical area, efficacy, and benefits derived from a regional plan are impacted by many variables (physical, political, environmental, societal, and economic) therefore no physical size or dimension will be prescribed for this term. Rather the RWMG must define its region and explain why the geographic area encompassed is appropriate and yields effective, synergistic, efficient water management planning.

Regional Project or Program– as defined in CWC §10537 means projects or programs identified in an IRWM Plan that accomplish any of the following:

(a) Reduce water demand through agricultural and urban water use efficiency.

(b) Increase water supplies for any beneficial use through the use of any of the following, or other, means:

(1) Groundwater storage and conjunctive water management.

(2) Desalination.

(3) Precipitation enhancement.

(4) Water recycling.

(5) Regional and local surface storage.

(6) Water-use efficiency.

(7) Stormwater management.

(c) Improve operational efficiency and water supply reliability, including conveyance facilities, system reoperation, and water transfers.

(d) Improve water quality, including drinking water treatment and distribution, groundwater and aquifer remediation, matching water quality to water use, wastewater treatment, water pollution prevention, and management of urban and agricultural runoff.

(e) Improve resource stewardship, including agricultural lands stewardship, ecosystem restoration, flood plain management, recharge area protection, urban land use management, groundwater management, water-dependent recreation, fishery restoration, including fish passage improvement, and watershed management.

(f) Improve flood management through structural and nonstructural means, or by any other means.

Regional Water Management Group – or RWMG means a group in which three or more agencies, at least two of which have a statutory authority over water supply or water management, as well as those persons who may be necessary for the development and implementation of an IRWM Plan that meets the requirements in CWC §10540 and 10541.

Reimbursable Costs – means costs that may be funded under Proposition 84 and 1E. Reimbursable costs include the reasonable costs of engineering, design, land and easement, legal fees, preparation of environmental documentation, environmental mitigation, and project implementation including administrative costs and incidental costs. Costs that are not reimbursable with grant funding include, but are not limited to:

a. Costs, other than those noted above, incurred prior to effective date of a grant agreement with the State;
b. Costs for preparing and filing a grant application belonging to another solicitation
c. O&M costs, including post construction project performance and monitoring costs;
d. Purchase of equipment not an integral part of the project;
e. Establishing a reserve fund;
f. Purchase of water supplies;
g. Replacement of existing funding sources for ongoing programs;
h. Support of existing agency requirements and mandates;
i. Purchase of land in excess of the minimum required acreage necessary to operate as an integral part of the project, as set forth and detailed by engineering and feasibility studies, or land purchased prior to effective date of a grant agreement with the State; and
j. Payment of principal or interest of existing indebtedness or any interest payments unless the debt is incurred after effective date of a grant agreement with the State, the granting agency agrees in writing to the eligibility of the costs for reimbursement before the debt is incurred, and the purposes for which the debt is incurred are otherwise reimbursable project costs.
k. Overhead not directly related to project costs.

Scoring Criteria – means the set of requirements used to choose a project for a given program or for funding; the specifications or criteria used for selecting or choosing a project based on available funding.

Selection Panel – means a group of DWR representatives at the supervisory or management level assembled to review and consider proposal evaluations and scores developed by the Technical Reviewers and to make initial funding recommendations. Other agencies, such as the SWRCB or RWQCB, representatives at the supervisory or management level may also be invited to participate on the Selection Panel.

Stakeholder – is an individual, group, coalition, agency or others who are involved in, affected by, or have an interest in the implementation of a specific program or project.

State Plan of Flood Control (SPFC) – means the State and Federal flood management works, lands, programs, plans, conditions, and mode of maintenance and operation of the Sacramento River Flood Control Project described in Section 8350 of theCWC, and of flood management projects in the Sacramento River and San Joaquin River watersheds authorized pursuant to Article 2 (commencing with Section 12648) of Chapter 2 of Part 6 of Division 6 of the CWC for which the Central Valley Flood Protection Board or DWR has provided the assurances of non-federal cooperation to the United States, which shall be updated by DWR and compiled into a single document entitled "The State Plan of Flood Control"(PRC § 5096.805(j)).

State Waters – also known as "Waters of the State", means all surface water, groundwater, and saline waters within the boundaries of the State of California (CWC § 13050(e)).

Stormwater – means water generated by runoff from land and impervious surfaces during rainfall and snow events.

Technical Reviewers – means a group of agency representatives assembled to evaluate the technical competence of a proposed project and the feasibility of the project being successful if implemented.

Total Maximum Daily Load (TMDL) – identifies the maximum quantity of a particular pollutant that can be discharged into a water body without violating a water quality standard, and allocates allowable loading amounts among the identified pollutant sources.

303(d) List – refers to Section 303(d) of the Clean Water Act that requires each state to periodically submit to the U.S. Environmental Protection Agency a list of impaired waters.

Urban Water Supplier – means a supplier, either publicly or privately owned, that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually (CWC § 10617).

APPENDIX C
GUIDANCE FOR IRWM PLAN STANDARDS

This appendix contains additional information on each of the IRWM plan standards. For each standard the intent of the standard is stated as well as applicable background information, legislation, examples, and references.

Governance

Governance plays an important role in determining how many organizations function. A definition of governance is "the processes, structures and organizational traditions that determine how power is exercised, how stakeholders have their say, how decisions are taken and how decision-makers are held to account."

The intent of the governance standard is to ensure that an IRWM Plan has the structures and procedures that maximize functionality, participation in the plan, and plan longevity.

DWR is not advocating any one governance structure or mechanism; rather it is up to the RWMG to determine what governance structure is best for the region. Existing IRWM Plans have used various governance forms, such as Joint Powers Authorities (JPA), Memorandums of Understanding (MOU), Resolutions, and Consensus. Some governance structures are housed within a local government agency, which fulfills the coordinating role, while others are driven by committees that are comprised of individuals from multiple agencies or interests. Access to contacts for IRWM Plans to examine a variety of governance models can be found at:

http://www.grantsloans.water.ca.gov/grants/implementation/prop84/integregio_fundingarea.cfm

Clicking on a funding area label will call up a funding area map with contact information including web addresses on specific IRWM regional efforts.

Regardless of form, governance should be effective in updating and implementing the IRWM Plan, while safe guarding and supporting collaboration among stakeholders.

- Group responsible for development of plan: The IRWM Plan must include a description of the RWMG responsible for the development and implementation of the plan. RWMGs can include, but are not limited to, local public agencies, nonprofit organizations, privately owned water utilities regulated by the Public Utilities Commission, tribal governments, and other stakeholders that are necessary to develop and implement the IRWM Plan. The description must include a listing of all entities responsible for development of the plan and discuss their relationship to water management issues in the IRW Region; in particular the membership of the RWMG must be listed and those with statutory authority for water management (i.e. water use, water delivery, natural waters, water supply, water quality, flood waters, etc.) identified.
- Public Notice Requirements: A RWMG proposing to prepare or update an IRWM Plan shall publish a notice of intent to prepare the plan in accordance with §6066 of the Government Code. Upon the completion of the IRWM Plan, the RWMG shall publish a notice of intention to adopt the plan in accordance with §6066 of the Government Code and shall adopt the plan in a public meeting of the governing board. (CWC §10543)

- Plan Adoption: The governing bodies of each agency who is part of the RWMG responsible for the development of the IRWM Plan and have responsibility for implementation of the Plan must adopt the Plan. At a minimum each project proponent named in an IRWM grant application must also adopt the IRWM Plan. Proof of adoption is a resolution with signatory blocks for each governing body adopting the plan.
    - Types of Plans: While not part of the governance standard, the type of IRWM Plan written is the purview of the RWMG. Typically, RWMGs either write a new IRWM plan that is based on multiple existing local plans or choose to produce a functionally equivalent plan (FEP), which means that a compilation of existing local water management and related plans contain the components of an IRWM Plan and when used in a coordinated manner operate as an integrated plan.

      FEPs are recognized in Proposition 84 (PRC §75026 (a)). Both types of plans are held to the same standards. FEPs should take particular care to clearly document and communicate how the separate, single purpose plans fit together; and how entities abide by each of the existing plans. For example, governance of the FEP will not typically exist in at least one of the plans that make up the FEP. Therefore, the governance of an FEP must be clearly documented and communicated, not only to DWR but to stakeholders in the region, by some mechanism. Similarly, existing plans written by a specific entity often do not address areas outside that entity's jurisdiction; yet, when applied to an FEP, the provisions of that specific plan may very well apply to another entity's jurisdiction. Such overlaps of FEP component plans need to be documented and agreed upon.
- Description of chosen governance structure: Because each RWMG decides on its own specific governance structure, the IRWM Plan needs to contain a description of that structure. The description needs to be detailed enough so that any stakeholder in the region understands how to communicate with the RWMG and participate in the plan. While the mechanism of governance may be formalized in an MOU or JPA, there's more to the governance structure than formal documents. The description needs to include not only a discussion of the mechanism of relationship between entities (JPA, MOU, consensus, etc.), but also how the governance structure performs basic activities (see activities section below). This discussion should include listing of committees or groups that have focused activities within the RWMG and the description of how these groups support plan development and implementation. Additionally, describe how the group gathers the information and how the group communicates with other groups or committees. Also necessary is other participatory information, such as how does a person serve on a group or committee and for what duration, or how does the public or stakeholders talk to or interface with a specific group or committee. Regardless of form, governance should be effective in updating and implementing the IRWM Plan, while safe guarding and supporting collaboration among stakeholders, and the description of the governance structure should be used to demonstrate how that is accomplished.
- Description of how governance addresses and ensures various activities: A description of how the chosen governance structure addresses the following activities can be incorporated in the description of the chosen governance structure. There also may be additional activities specific to individual IRWM governance structures; IRWM plans are encouraged to include descriptions of additional governance activities in their IRWM plans. The guidance in this section is provided to

better explain DWR's concerns about each of the activities contained in the governance standard and are described below.

- Public Involvement Processes – The development and implementation of an IRWM Plan needs to include a public involvement process that outreaches to the public and provides an opportunity for the public to participate in plan development and implementation. Public involvement processes should be direct to local agencies and stakeholders, as applicable to the region, including all of the following:

  1. Wholesale and retail water purveyors, including a local agency, mutual water company, or a water corporation as defined in Section 241 of the Public Utilities Code
  2. Wastewater agencies
  3. Flood control agencies
  4. Municipal and county governments and special districts
  5. Electrical corporations, as defined in Section 218 of the Public Utilities Code
  6. Native American tribes that have lands within the region
  7. Self-supplied water users, including agricultural, industrial, residential, park districts, school districts, colleges and universities, and others
  8. Environmental stewardship organizations, including watershed groups, fishing groups, land conservancies, and environmental groups
  9. Community organizations, including landowner organizations, taxpayer groups, and recreational interests
  10. Industry organizations representing agriculture, developers, and other industries appropriate to the region
  11. State, federal, and regional agencies or universities, with specific responsibilities or knowledge within the region
  12. DAC members and representatives, including environmental justice organizations, neighborhood councils, and social justice organizations
  13. Any other interested groups appropriate to the region

- Effective decision-making: Decision-making occurs at different levels. The description of the governance structure should describe how decisions are made at the regional level and how decisions are made within the RWMG. In describing decision-making, consider how information is collected and processed within the governance structure and how a decision is vetted with stakeholders in the RWMG.

- Balanced access and opportunity for participation: Regional planning efforts involve a diverse group of people with differing expertise, perspectives, and authority of various aspects of water management. The IRWM Plan should describe the manner in which the governance structure ensures a balance of interested persons or entities representing different sectors and interests (see Public Involvement Processes, Nos. 1-13, above), and provides them the opportunity to participate, regardless of their ability to contribute financially to the IRWM Plan. Depending on the type of

governance structure or mechanism in place, it is possible that a RWMG may need more than one governance type in order to be inclusive of all interested stakeholders. For instance, decision making within a JPA might function at the exclusion of non-local agencies. Therefore, it might be necessary to include additional mechanisms, such as MOU's, to reasonably accommodate other entities, such as non-profit organizations, in the decision making of the IRWM processes. In addition, the IRWM Plan should address:

- Equal distribution of power and voice among stakeholders – what structures or procedures are in place that ensure there is an equal playing field for all stakeholders involved in the RWMG?
- Equal opportunity and representation of stakeholders in multiple roles (leadership, advisory) regardless of economic and power status within the RWMG – what roles are there in the governance structure and how does someone occupy that role? How does the governance structure invite participation in the workings of the RWMG?
- Terms of service for positions within the structure – what kind of time commitment do these positions require and how often do they turn over.

- Effective communication – both internal and external to the IRWM Region – Essential and inherent in any human organization is the need to communicate. In many collaborative efforts, great importance may be placed on being heard and valued in the process. Some communication efforts, such as websites, emails, or other distributed materials, may be one-way and not necessarily require an interactive discussion. However, some portion of the communication must be two-way. How does the governance structure foster communication with the different functional groups within the RWMG, with project proponents, with general stakeholders, with neighboring RWMGs, government agencies, and the general public? Each of those groups may require different intensities or types of communication. What mechanisms are available to accommodate adequate two-way communication?
- Long-term implementation of IRWM Plan – IRWM Plans are long-term planning documents. The description of region standard refers to a 20-year planning horizon. How does the governance structure help ensure implementation of the plan in the long-term?
- Coordination with neighboring IRWM efforts, State agencies, and federal agencies – How does the governance structure ensure coordination with neighboring RWMGs, State agencies, and federal agencies? Does the governance structure contain appropriate region-wide roles for such entities? Do the appropriate regulatory and resource agencies have advisory roles?
- The collaborative process used to establish plan objectives – Does the governance structure show that a collaborative process was used for the development of IRWM Plan objectives? The groups that were involved in the process? And how the final decision was made and accepted by the RWMG?
- Interim changes and formal changes to the plan – IRWM Plans need to include adaptive management processes for updating the plan in response to changing conditions. This may include informal changes that reflect minor process, organizational, or water management changes that occur relatively frequently and do not necessitate a decision by the governing bodies of the RWMB. Formal changes may include those which reflect significant changes to processes, organizational structure, water management conditions, or routine periodic programmatic updates of the IRWM Plan. How

does the governance structure ensure the plan is formally updated periodically and how are changes to the plan identified and made interim to the formal update period?

- Updating or amending the IRWM Plan – Does the IRWM Plan indicate the process used to informally and formally update or amend the plan? What changes to the plan would require it to be readopted? What is the frequency to formally amend and readopt the plan? DWR encourages use of adaptive management processes to ensure that the IRWM Plan and associated objectives are current. Formal updates to the plan may be resource and time intensive process, but are necessary to ensure that the IRWM Plan is not a static document and that the plan continues to be accepted by the RWMG and those entities necessary to implement the plan. Therefore, DWR encourages IRWM planning efforts to formally review, revise, and adopt the IRWM Plan, no less frequently than every five years. In the Governance section, indicate if this information is contained in another part of the plan, such as in the Project Performance section.

Region Description

The intent of the "region description" standard is to document that the IRWM planning region is defined by the combination of the water systems being managed; common water issues; and that there is sufficient variety of interested parties included in the planning region. The description contained in the IRWM Plan closely follows the information required in the RAP whereby DWR accepts IRWM regions into the grant program.

IRWM regions vary widely in physical size for a variety of reasons. As a result, there is no single physical size definition that can be imposed on an IRWM region. However, CWC §10541(f) defines a region as follow:

> "At a minimum, a region shall be a contiguous geographic area encompassing the service areas of multiple local agencies, and shall be defined to maximize opportunities for integration of water management activities: and effectively integrates water management programs and projects within a hydrologic region defined in the California Water Plan, the Regional Water Quality Control Board (RWQCB) region, or subdivision or other region specifically identified by DWR." (PRC §75026.(b)(1)).

Each RWMG has the responsibility of defining its own IRWM region. IRWM Plans are a form of resource planning so describing the region focuses on the resource being managed. DWR has released CWP Update 2009 Pre-Final Draft (http://www.waterplan.water.ca.gov/cwpu2009/index.cfm), which emphasizes the importance of describing the major water-related objectives and conflict within an IRWM planning region.

The items described in the aforementioned list of standards have been arranged and are discussed below in order to assist RWMGs at the beginning of the IRWM development process, to define their regional boundaries after considering these factors.

- Description of Watersheds/Water System: Consideration of watershed areas should be taken to describe all aspects of the system that is being managed including a description of natural and anthropomorphic components of the region's water system.

  Watersheds are often at the level suitable for regional planning efforts. Some RWMGs manage multiple watersheds based on the similarity of water management issues. Conversely, some RWMGs separate the lower and upper watersheds (each belonging to a different IRWM plan,) because water management issues in each area are different. Another advantage of using a watershed as a possible management unit is that there are often existing watershed planning efforts that can provide information or data on the watershed and that have existing relationships with important

stakeholder groups operating in the watershed. The following link is to the California Watershed Portal where you may find additional resources: http://cwp.resources.ca.gov/index.html.

Sometimes, water is moved and used outside watersheds' natural courses. There are many areas of the state that import water or have other infrastructure in addition to the natural watershed(s) in their regions. These systems are also part of the water system to be managed and need to be described in IRWM Plans.

There are multiple types of water systems. The RWMG should consider more than just the water supply entry point to the IRWM region and the water supply system. The description should include water system infrastructure and diversions. In addition to water supply systems, there also may be wastewater, reclaimed water, desalination, floodwater, and natural water systems (surface water and groundwater). All these separate systems should be looked at collectively as part of the water system being managed as they often are interconnected.

- Description of Internal Boundaries: Describe, and show on a map, all the internal boundaries within the region. These internal boundaries should include the boundaries of municipalities; service areas of individual water, wastewater, flood control districts, and land use agencies; groundwater basins; watersheds; and county or other political boundaries. For land use agencies make sure to include their boundaries even if they are not part of the RWMG, as it is important to know the agencies in the IRWM boundary that develop land use plans.

- Water Supply and Demand: Describe the water supply and demand projections for at least a 20-year planning horizon. Demand projections should include effects on demand by projected growth, projected land use changes, and environmental need for water. In estimating the water supply for the planning horizon, consider how that supply might change with factors, such as climate change. Typically, a water supply projection might be based on past water years. Using climate change as a factor, it may no longer be adequate to simply rely on historical water years when projecting future supply. For this reason, describe what the prevailing climate change impact means to the future water supply and demand within the region. Section 16, The Climate Change Standard has a detailed discussion on this matter and provides DWR's guidance on this topic.

  To the extent possible supply and demand projections should be expressed quantitatively. However, there is value in qualitative aspects of supply and demand projections so if available tools are not adequate to quantify all the future effects on supply and demand, quantify what can be, and also include qualitative descriptions for aspects that cannot be quantified.

- Water Quality: Describe the current and future (or proposed), water quality conditions in the region. Describe any protection and improvement of water quality within the area of the IRWM Plan. For current conditions include a discussion on the quality of the following water sources: groundwater, imported water, and water from storage facilities, both within and outside the region. Describe any Basin Plans, Watershed Management Initiatives, and the water quality goals and objectives for watersheds in the region. Describe any projects or examples within your region of matching water quality to water use.

- Description of Major Water Related Objectives and Conflicts: The description of region must include the major water management objectives and conflicts within the region (CWC §10541. (e)(3)). These should be based on the parts of the description that have been previously mentioned. The focus of the collaborative integrated regional planning and management effort should be both primary as well

as prioritized on a shared vision of regional goals and objectives, rather than being driven by existing projects.

- Explanation of Regional IRWM Boundary: The IRWM Plan must include a description of the regional boundary, how it was determined, and why the chosen region is appropriate as an IRWM region. As stated previously, there are no size criteria that are mandated for an IRWM region. With the information determined from the aforementioned guidance items topics, the RWMG should generate enough information to formulate the regional boundaries focused more on water system, management of that system, and on common water management issues rather than using a political jurisdiction boundary.
- Identification of Neighboring or Overlapping IRWM Regions: Knowledge of and coordination with neighboring IRWM regions can help RWMGs define their region. Understanding these adjacent or overlapping regions may help confirm regional boundaries, indicate that multiple separate regions can function as one region instead of independently, and help identify inter-regional opportunities. Or, it may point to water management issues not yet considered. The description should explain the cooperation and coordination that occurs to foster a working relationship evidenced by establishing a reasonable and effective governance structure for developing and implementing its IRWM Plan.

Objectives

The intent of the Objectives Standard is to ensure IRWM regions establish the intent of their IRWM Plan. Clear objectives will demonstrate to the public which regional conflicts and water management issues the IRWM Plan is designed to address.

Determining Objectives

Determining IRWM Plan objectives is the foundation of the planning process. Based on the plan objectives, applicable RMS and implementation projects will be determined. Solid, regionally relevant objectives give focus to the IRWM Plan and are essential for successful plan implementation. Objectives may be determined once the character of the IRWM region (geography, stakeholder makeup, water management issues, conflicts, etc.) is identified. Objectives must be focused on addressing the water management issues, including flood management of the region. Keep in mind that all objectives should be precise enough to be measurable.

In developing IRWM Plan objectives, planning efforts must consider overarching goals that apply to their area. These include:

- Basin Plan Objectives;
- 20x2020 water efficiency goals; and
- IRWM plan minimums (CWC §105409(c)).

IRWM planning efforts must ensure that their plan objectives are consistent with such over arching goals as they apply to specific regions. Planning efforts must consider the objectives in the appropriate basin plan or plans and strategies to meet applicable water quality standards, CWC §10541.(e)(2). Governor Schwarzenegger, set a goal of a 20% reduction in per capita water use by the year 2020 (20x2020). Actions toward 20x2020 are furthered by the passage of SBx7-7. This bill amended the CWC to contain provisions to

move urban water users to 20x2020 as well as provisions to improve agricultural water use efficiency. CWC §10540(c) states that, at a minimum, all IRWM Plans shall address all of the following:

- Protection and improvement of water supply reliability, including identification of feasible agricultural and urban water use efficiency strategies.
- Identification and consideration of the drinking water quality of communities within the area of the plan.
- Protection and improvement of water quality within the area of the plan consistent with relevant basin plan.
- Identification of any significant threats to groundwater resources from overdrafting.
- Protection, restoration, and improvement of stewardship of aquatic, riparian, and watershed resources within the region.
- Protection of groundwater resources from contamination.
- Identification and consideration of water-related needs of disadvantaged communities in the area within the boundaries of the plan.

Although, these items do not necessarily have to be included in the objectives, IRWM planning efforts should consider these points as they modify or develop their plan objectives.

Describing the Process

It is important to illustrate the collaborative process and tools used to establish objectives. This reinforces the regional relevance of the IRWM Plan, and will prevent readers of the plan from concluding the objectives were arbitrarily assigned. The discussion does not have to be lengthy and may be as simple as referring to relevant sections of the governance text, if applicable. The text should give the reader a clear understanding of:

- How the objectives were developed
- What information was considered, i.e., water management or local land use plans, etc.
- What groups were involved in the process;
- How the final decision was made and accepted by the IRWM effort

Measuring Objectives

The standard for IRWM Plan Objectives requires that objectives must be measurable. A measurable objective means there must be some metric the IRWM region can use to determine if the objective is being met as the IRWM plan is implemented. Remember that IRWM Plans are implemented through projects, so as we discuss measuring objectives, it implies that metrics must apply to projects which in turn relate back to plan objectives. Objectives can be measured quantitatively or qualitatively.

Neither quantitative nor qualitative metrics are considered inherently better. What is vital is the chosen metric be the most appropriate for the given objective. For example, an IRWM effort may have a general objective of restoring ecological function to a local wetland. Depending on the region's available resources for measuring this objective, it may be easier to express the objective quantitatively or qualitatively:

Example 1

Objective	Qualitative Measurement	Quantitative Measurement
Restore ecologic function to a local wetland	Presence/absence of key wetland species	Number of acres restored to wetland conditions

In this case meeting the objective can be expressed either qualitatively, with the presence of wetland species indicating restored ecologic function; or quantitatively, with ecological function measured as acres restored. Both measurements could be appropriate. For some objectives, only one method may be appropriate:

Example 2

Objective	Qualitative Measurement	Quantitative Measurement
Meet TMDL requirements for nitrates in a local creek	N/A	Water quality sampling for nitrate concentration

In Example 2, a qualitative measurement will not provide the detail required to confirm that TMDL requirements have been met. A quantitative measurement is the most appropriate.

Example 3

Objective	Qualitative Measurement	Quantitative Measurement
Improve communication between groundwater management agencies and private well owners	Positive participation at public meetings; increased correspondence	N/A

In Example 3, a qualitative assessment is the most appropriate. Quantifying "improved communication" may not be practical for determining if the objective has been met.

A quantitative measurement could be constructed, such as counting the number of positive comments at public meetings, or sending surveys to stakeholders to collect data, but these methods won't give much more insight than the qualitative expression. They would, however, require more effort and time from the RWMG to measure them.

Prioritizing Plan Objectives

The IRWM plan must contain an explanation of how objectives are prioritized or why objectives are not prioritized. Objectives, RMS selection, and Implementation Projects are all linked. To meet plan objectives, certain RMS may be used and specific projects may be implemented. Therefore, prioritizing objectives may help with prioritizing RMS and project implementation.

There is no required framework for prioritizing objectives. It is not necessary to establish a specific numerical priority. A RWMG may use the prioritization tools they perceive to best meet their planning needs such as the following:

- Tiered or grouped together as one priority for implementation
- Grouped as short-term and long-term priorities for implementation

- Grouped as spatial or temporal priorities for implementation
  - Reducing upstream erosion may be more important to address before addressing downstream sedimentation
  - Conducting surveys during appropriate seasons

Flexible priorities are fundamental to any adaptive management plan, such as an IRWM Plan. Priorities may change depending on a change in regulations, shift in regional water uses, or the fulfillment of a plan objective. Prioritizing the objectives can help guide the course of adaptive management. However, if a RWMG chooses not to prioritize plan objectives, the basis for this decision should be clearly stated in the IRWM Plan.

Objectives, Goals, and the Planning Hierarchy

During the Proposition 50 IRWM Program, the terms "goals" and "objectives" may have been used by some RWMGs interchangeably. No standard existed in the Proposition 50 IRWM Program for goals, so there has been no standardized use of the term. RWMGs may choose to use "goals" as an additional layer for organizing and prioritizing objectives, or they may choose to not use the term at all. It may be reasonable for some RWMGs to organize numerous objectives under one larger, more general objective or goal. Alternatively, the complexity of water management issues in some regions may require sub-objectives for better organization.

Whichever nomenclature a RWMG uses for describing objectives, the organization and the significance of the terms must be **clearly explained** and **remain consistent** throughout the plan.

Resource Management Strategies

The intent of the RMS standard is to encourage diversification of water management approaches as a way to mitigate for uncertain future circumstances and comply with PRC §75026.(a) and CWC §10541(e)(2).

A strategy as defined in the CWP Update 2009 is a project, program, or policy that helps local agencies and governments manage their water, and related resources.

An IRMW Plan must consider each RMS in the CWP Update 2009 which are listed below in Table 3

Table 3 – Resource Management Strategies	
Reduce Water Demand	Agricultural Water Use Efficiency Urban Water Use Efficiency
Improve Operational Efficiency and Transfers	Conveyance – Delta Conveyance – Regional/local System Reoperation Water Transfers
Increase Water Supply	Conjunctive Management & Groundwater Desalination Precipitation Enhancement Recycled Municipal Water Surface Storage – CALFED Surface Storage – Regional/local
Improve Water Quality	Drinking Water Treatment and Distribution Groundwater Remediation/Aquifer Remediation Matching Quality to Use Pollution Prevention Salt and Salinity Management Urban Runoff Management
Improve Flood Management	Flood Risk Management
Practice Resources Stewardship	Agricultural Lands Stewardship Economic Incentives (Loans, Grants and Water Pricing) Ecosystem Restoration Forest Management Recharge Area Protection Water-Dependent Recreation Watershed Management
Other Strategies	Crop Idling for Water Transfers Dewvaporation or Atmospheric Pressure Desalination Fog Collection Irrigated Land Retirement Rainfed Agriculture Waterbag Transport/Storage Technology

The discussion in this section focuses on RMS as separate topics. In reality, the various RMS are often connected to one another, as well as to other activities such as land use planning. The operating assumption in this section is to intentionally find ways to diversify a water management portfolio. Also, considering differing RMS individually is helpful. Other IRWM Plan standards, such as Integration, address the relationships and synergies that can be gained by combining RMS. The RMS listed in Table 3 are separated

into seven categories. The purpose of the seven categories in which all RMS fall into is to group RMS with similar characteristics towards achieving a common goal (e.g., Increase Water Supply). The purpose of the category "Other Strategies" highlights a variety of RMS that can potentially generate benefits but that are currently limited in their capacity to strategically address long-term regional water planning needs. Within each of these categories, the standard lists the specific RMS from the CWP Update 2009.

http://www.waterplan.water.ca.gov/cwpu2009/index.cfm.

The CWP Update 2009 also provides a detailed discussion of each individual RMS, so RWMGs may wish to use the CWP as information source to assist them in evaluating the various RMS.

Documenting the Process

In light of the water issues described in the IRWM Plan Regional Description Section and considering the IRWM Plan Objectives, the RWMG must consider RMS that will help achieve those objectives. Considering RMS should be done from the perspective of maximizing the diversity of strategies versus relying on a single strategy. "Considering a RMS" means to review a strategy and to decide how applicable it is in meeting the IRWM Plan objectives. The review and decision processes should be performed according to the RWMG's chosen governance. For each strategy considered, the IRWM Plan should document the reasoning behind the decision. This can be stated briefly, for example, if the IRWM region does not have brackish or saline waters then desalination as a strategy for increasing water supply is not applicable. From the IRWM Plan perspective what is important is:

- The plan documents the process used to consider RMS.
- What RMS were considered which must, at a minimum, include all of the RMS listed in Table 3
- Which RMS of those considered will be implemented to achieve the objectives of the IRWM Plan.

Whatever process (i.e. technical advisory input, stakeholder input, etc.) is used to consider RMS, the value is in creating an intentional opportunity to diversify the RWMG's water management portfolio.

RWMGs should note that in an IRWM Plan the Regional Description, Plan Objectives, and Governance Sections should support and be consistent with the decisions being made in the RMS section.

Integration

The intent of the integration standard is to ensure that RWMGs intentionally create a system where integration can occur. IRWM plans will likely not have a separate integration section. The standard and guidance are meant to draw particular attention to this aspect of IRWM planning. In general terms, integration is combining separate pieces into an efficiently functioning unit. Integration may occur on many levels. Here we discuss three types of integration – stakeholder/institutional, resource, and project implementation. The processes, structures, and procedures that foster integration will show up in other plan sections (i.e. governance, stakeholder outreach, data management, project review or selection). The development and implementation of the IRWM Plan should demonstrate the RWMG is forming, coordinating, and integrating separate efforts in order to function as a unified effort.

Stakeholder/Institutional Integration

IRWM plans must contain governance structures and processes that enable diverse groups of stakeholders to participate in all levels of an IRWM planning effort. CWC §10541(h)(2) refers to ensuring that IRWM plans

are developed collaboratively in a manner which balances interests and engages a variety of stakeholders regardless of their ability to contribute financially. Structures and processes that can be used to strike such a balance must be found in the governance, cooperation, and stakeholder involvement portions of the IRWM Plan. CWC §10541(g) provides examples of the breadth of stakeholders than can be included in an IRWM planning effort.

Resource Integration

Resource integration can have multiple meanings. It can refer to the combining of multiple participant/agency resources to aid the regional planning effort. This can include how data is shared, common protocols to ensure data compatibility, sharing of differing expertise or technical capacity to aid the IRWM planning effort. Therefore processes and procedures that foster combining information, expertise, knowledge or help leverage other resources of the stakeholders involved in the IRWM planning effort must be contained in the IRWM plan. These may be documented in the governance structure; may be part of internal agreements between participants; may be found in data collection protocols or the data management section of the IRWM Plan. Resource integration can also mean considering the man-made and natural water resource infrastructure in the IRWM planning region; and how both aid in water management in the region. This may mean that watershed health as well as drinking water distribution systems are components of the water system being managed in the IRWM planning effort. IRWM regions must consider the multiple ways water enters and leaves their IRWM region as they determine IRWM boundaries and stakeholders to invite to participation.

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 must 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 must 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 selection process standard is to ensure the process used for submitting, reviewing, and selecting projects is documented and understandable for regional stakeholders and the 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 (PRC Section §75028 (a)).

While the specific selection process is up to each RWMG to develop and document in their IRWM Plan, the process must include three components:

(1) Procedures for submitting a project to the IRWM Plan;

(2) Procedures for review of projects to implement the IRWM Plan; and

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

The selection process may be a collection of different processes or a single procedure, whichever fits the IRWM region best. Additionally, the selection process must include multiple factors. 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 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 IRWM Plan must clearly document the project selection process and demonstrate that the process meets this standard. 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

The process described in the plan must include procedures for submitting projects to be considered for inclusion into the IRWM Plan. Documenting these 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 must 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 sponsors 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 must 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, but then processes to take these concepts and ideas to fully developed implementation projects would have to be in place.

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

The standard requires that certain factors be used in the process. The factors listed in this standard speak to important points to consider in the project selection process. Factors are further explained in text below. RWMG 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. RWMG are not limited to these factors but they must use, at a minimum, the factors listed in this standard.

In developing a project selection process, RWMG 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 the identifying projects in the IRWM Plan is 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.

Review Factors

The following is a discussion of the factors that a project selection 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 needs to 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 indicates those methods will be successful?

D. Specific benefits to critical DAC water issues

The project selection process must consider if the project helps to address critical water supply and water quality needs of DACs within the IRWM region. CWC § 10540 (c)(7) states that identifying and consideration of water-related needs of DACs in the area within the boundaries of a plan 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.

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

The project selection process must 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. EJ Considerations

As IRWM plans contain multiple projects that will affect stakeholders in the region, the project review process needs to include consideration of EJ concerns. EJ, as defined for California State government, is the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws and policies. 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 sponsors 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

As part of the project review process, the project costs need to be presented for consideration of inclusion as a viable project. The basis for the project costs needs to be document 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 needs to 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 selection process, the economic feasibility of a project must 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 this link: www.economics.water.ca.gov/guidance.cfm.

A preliminary economic analysis must 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 must

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).

Prior to submission of a suite of projects for grant funding, all proposed projects must have had a complete benefit-cost or cost-effectiveness analysis. Analysis period shall be 50 years and discount rate shall be 6 percent. Project ranking shall be adjusted based on the results of the benefit-cost or cost-effectiveness analyses.

I. Project Status

In reviewing projects for prioritization in the IRWM Plan, 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, 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. RWMG are encouraged to understand conditions of the specific funding sources they use so they can select appropriate projects tailored to 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 efficiencies that might be gained by combining or modifying local projects into regional projects. In reviewing projects for inclusion in the IRWM Plan, the RWMG must 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. RWMG 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 does expect RWMG to take advantage of regional planning and integrating projects where possible, and explaining when a single purpose project needs to be implemented in order to best implement an IRWM Plan.

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

In developing the picture of water management issues over the planning horizon, RWMG must include potential effects of climate change on their region and consider if adaptations to the water management system are necessary. 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

The IRWM Plan must span at least a 20-year planning horizon. In the state's effort to adapt to climate change and reduce GHG emissions, the RWMG needs to consider a project's ability to help the IRWM region reduce GHG emissions as new projects are implemented. 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. Displaying the List(s) of Selected Projects

The IRWM Plan must also contain the product of the project selection process, the project list(s). The project lists may be quite extensive or changes 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. At a minimum, the IRWM Plan needs to demonstrate that the selection process has been conducted and there are indentified projects that will implement the 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 stakeholders. The IRWM Plan must contain 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 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 bench mark 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 must 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.

Many IRWM Plans present and discuss tables of the potential impacts and benefits of plan implementation. Often times the building blocks of this information are the potential impacts and benefits anticipated from implementing projects. RWMGs may want to organize potential impacts and benefits to emphasize different aspects of their plan, such as regional benefits, local benefits, by resource management strategy, or objective.

In presenting impacts and benefits information in an IRWM Plan, RWMGs should consider using tables to convey the potential impacts and benefits in an organized, understandable fashion. An example of a table, which shows impacts and benefits specific to the IRWM Plan, is shown below:

Table 4 – Impacts and Benefits Example				
	Within IRWM Region		Interregional	
Program	Potential Impacts	Potential Benefits	Potential Impacts	Potential Benefits
Water Supply Enhancement				
Water Quality Improvement				
Groundwater Improvements				
Conservation and Reuse				
Habitat Improvement				
Watershed Rehabilitation				
Flood Management				
NOTE: Level of impacts or benefits can be discussed as primary and secondary, by qualitative indicators, using monetary values, or other methods to show relative degree of impact or benefit. Impacts and benefits to DAC and EJ concerns must be discussed.				

In the example above, RMS, project types, objectives, or other similar categories that are named in the IRWM Plan could be used to replace "Program". IRWM Plans have various approaches on how to discuss impacts and benefits. As a plan is implemented and plan performance data is gathered, the Impacts and Benefits section of the plan must be reviewed and updated as part of the normal plan management activities (see Plan Performance). These updates should reflect changes to the Impacts and Benefits section from any data gathered, and any changes to the implementation projects listed in the IRWM Plan.

The following text provides examples of impacts and benefits for the programs used in the example table above.

Increase Water Supply

A program to increase water supply may include projects, such as:

- Rehabilitation of diversion structures
- Water supply pipelines and water systems
- Additional water system tie-ins/interconnections
- Construction of groundwater treatment and extraction facilities
- Conjunctive water management

- Aquifer storage and recovery
- New or upgrades to existing reservoirs
- Water storage facilities
- Production well construction

Possible impacts may include reduced in-stream flow, water quality degradation, habitat removal, species removal, flooding, loss of farmland, and construction related impacts. Some of the proposed projects may have impacts on communities, including DACs. If so, these impacts need to be discussed. If there are any EJ impacts, they should be addressed as well. Water supply benefits may be characterized as increased water supply or range in water supply (i.e. acre-feet per year). Other anticipated benefits, such as improved water quality, increased recreational opportunities, decreased reliance on imported water, reduced groundwater overdraft, creation of wetlands and riparian habitat, and decreased operational costs.

Water Quality Improvement

A program to improve water quality may include projects, such as:

- Building or upgrading wastewater treatment plants/technology
- Conversion of septic tanks to a sewer system
- Construction of new and updating collection, sewer, and interceptor sewer facilities
- Capture and treatment of stormwater/urban runoff, including the construction of rain gardens
- Construction of wetlands for water quality treatment
- Contaminant removal
- Salinity management

Possible impacts may include construction related impacts including short-term, site-specific impacts related to site grading and construction, and long-term impacts associated with project operation. Construction-related impacts may include: traffic, noise, biological resources, water quality, public services and utilities, cultural resources, and aesthetics. Other impacts may include surface water and ocean habitat loss from new outflow locations, and waste discharge issues associated with brine management and brine disposal. Possible benefits from improved water quality projects may include increased water supply, improved aquatic and wetland species habitat and populations, increased cropland production, creation of wetlands and riparian habitat, improved recreation opportunities, and decreased treatment costs.

Groundwater Improvements

Groundwater improvement programs may include projects to:

- Enhance conjunctive management and groundwater storage
- Stormwater/Urban Runoff capture and recharge
- Groundwater recovery wells
- Construction of new and rehabilitation of surface water recharge spreading grounds
- Aquifer storage and recovery

- Improved groundwater monitoring
- Hydrogeologic investigations
- Groundwater modeling

Possible impacts may include construction related effects, changes in water quality, increased contaminant transport, increased pumping, and in-stream flow reduction. Possible benefits may include improved flood protection, decreased reliance on imported water, reduced surface water use, reduced pumping costs, and decreased or prevention of groundwater overdraft.

Water Conservation and Reuse

Water conservation and reuse programs may include projects to:

- Recycled water
- Landowner and homeowner incentive programs
- Agricultural drainage water reuse or management
- Construction of recycle systems and pipelines
- Improvements to urban landscape water use efficiency

Possible impacts may include construction related effects, loss of drainage flow to downstream water users, in-stream flow loss, ground and surface water quality effects associated with recycled water use, and reduced groundwater recharge. Benefits could be increased water saving, efficient reuse of wastewater, costs savings from reduced purchases of imported water, and saving construction of water storage facilities, and increased nutrient levels for plant and crop use from use of reclaimed wastewater.

Watershed Rehabilitation

A watershed rehabilitation program may include projects to:

- Decommission abandoned roads
- Enhance unimproved and county road systems for erosion control
- Slough and wetland restoration
- Stormwater/Urban Runoff management
- Channel and riparian restoration and upland source control
- Stream stabilization and other sediment load reduction projects
- Implementation of BMPs, including forestry BMPs
- Non-point source pollution reduction projects

Possible impacts could be introduction of non-native plants for erosion control and temporary increased turbidity in streams due to construction or related activities, including revegetation and forest regeneration activities and prescribed fires (to reduce undesirable trees and vegetation, etc.). Benefits may include long-term sediment reduction and temperature improvements, reduced surface water nutrient and bacteria

concentrations (improved water supply quality), improved fish and wildlife habitat and passage, and enhanced public safety and recreational opportunities.

Habitat Improvement

A habitat improvement program may include projects to:

- Augment stream flows
- Preserve existing habitat
- Remove invasive, non-native species
- Restore wetlands and upland habitat
- Protect ecological reserves

Possible impacts could include short-term, site-specific impacts related to site grading and construction, loss of agricultural land protection and urban uses and associate local revenue. Benefits may be reduced surface water nutrient and bacteria concentrations (improved water supply quality), enhanced fish habitat, increased opportunities for recreational hunting and viewing, increased numbers of native species, reduced flood risks, and education opportunities.

Flood Management

Flood management programs may include projects to:

- Improve levees systems (i.e. floodwalls, raising levee heights, setback levees, etc)
- Floodplain preservation
- Drainage master plans
- Invasive species removal from stream channels to improve surface flow
- Stormwater collection, diversion or capture
- Infrastructure improvements, including weir upgrades

Impacts may include short-term, site-specific impacts related to construction, land use restrictions, development moratoriums (with potential economic effects), and loss of riparian and/or wetland acreage. Benefits could include increased aquifer recharge, runoff reduction, improved surface water quality, natural resources preservation and restoration, reduced risk to life and property, and decreased flood insurance costs.

Plan Performance and Monitoring

The intent of the Plan Performance and Monitoring Standard is to ensure:

- The RWMG is efficiently making progress towards meeting the objectives in the IRWM Plan.
- The RWMG is implementing projects listed in the IRWM Plan.
- Ensure each project in the IRWM Plan is monitored to comply with all applicable rules, laws, and permit requirements.

This standard is consistent with the PRC §75026.(a), which states that IRWM Plans "shall include performance measures and monitoring to document progress toward meeting plan objectives."

Monitoring performance should be closely related to the implementation of projects. This discussion is written assuming the details of projects will be identified during planning, design, plans and specifications stages of development. Details related to implementation of specific projects in the IRWM Plan are not necessary. Rather, the IRWM Plan needs to contain the criteria that will be used to evaluate the progress to meet plan objectives and the process that will link project completion to IRWM Plan implementation.

To guide the RWMG in implementing IRWM projects, the IRWM Plan needs to address the following items:

- Contain an explanation of who or what group within the RWMG will be responsible for IRWM implementation evaluation.
- List the frequency of evaluating the RWMG's performance at implementing projects in the IRWM Plan (monthly, semi-annual, yearly, etc).
- Explain how IRWM implementation will be tracked with a Data Management System (DMS), and who will be responsible for maintaining the DMS.
- Discuss how findings or "lessons learned" from project-specific monitoring efforts will be used to improve the RWMG's ability to implement future projects in the IRWM Plan. For example, after review of the RWMG performance measures, the RWMG may need to amend the resource management strategies or the actual IRWM objectives to account for new scientific data, and regional changes in conditions that can alter baseline assumptions or understanding of water management issues discussed in the IRWM Plan. Any amendments to the resource management strategies or objectives will need to adequately identify water demand, water supply, water quality protections, and environmental stewardship actions that provide long-term, reliable, and high-quality water supply; including water supply to DACs. The standards and guidance for amendments to the IRWM Plan are contained in Standard 1, Governance.
- Identify who has the primary responsibility for development of the project-specific monitoring plans and who is responsible for project-specific monitoring activities.
- Specify the stage of project development that a project-specific monitoring plan will be prepared
- Explanation of typically required contents of a project-specific monitoring plan including but not limited to the following:
    1) Clearly and concisely (in a table format) describe what is being monitored for each project. Examples include monitoring for water quality, water depth, flood frequency, and affects the project may have on habitat or particular species (before and after construction).
    2) Measures to remedy or react to problems encountered during monitoring. An example would be to coordinate with the Department of Fish and Game if a species or its habitat is adversely impacted during construction or after implementation of a project.
    3) Location of monitoring
    4) Monitoring frequency
    5) Monitoring protocols/methodologies, including who will perform the monitoring.
    6) DMS or procedures to keep track of what is monitored. Each project's monitoring plan will also need to address how the data collected will be or can be incorporated into statewide databases. Note that standards and guidance related to the integration of data into statewide databases is included in Standard 9, Data Management.

7) Procedures to ensure the monitoring schedule is maintained and that adequate resources (budget) are available to maintain monitoring of the project throughout the scheduled monitoring timeframe.

Data Management

The intent of the Data Management standard is to ensure efficient use of available data, stakeholder access to data, and to ensure the data generated by IRWM implementation activities can be integrated into existing state databases.

As specified in Standard 6, Integration, IRWM Plans should contain common protocols that gather data in a consistent manner, and processes for data and information sharing that assist IRWM stakeholders in their local efforts, as well as regional efforts. Data integration is best achieved through the use of common and compatible methods for data gathering, analysis, monitoring, and reporting systems used by members of the RWMG. The data management description in the IRWM Plan should be of sufficient detail so that it is clear to stakeholders how data is collected, validated, and shared in the region. At a minimum, the data management description in the IRWM Plan should include the following:

Deleted: all

- A brief overview of the data needs within the IRWM region
- A description of typical data collection techniques
- A description of how stakeholders contribute data to a DMS
- Specify the entity responsible for maintaining data in the DMS
- Describe the validation or quality assurance/quality control measures that will be implemented by the RWMG for data generated and submitted for inclusion into the DMS
- An explanation of how data collected for IRWM project implementation will be transferred or shared between members of the RWMG and other interested parties throughout the IRWM region, including local, State, and federal agencies
- An explanation of how the DMS supports the RWMG's efforts to share collected data
- An outline of how the data saved in the DMS will be distributed and remain compatible with state databases including SWAMP, Water Data Library (WDL), Groundwater Ambient Monitoring and Assessment (GAMA) program, California Environmental Information Catalog (CEIC), and the CERES.

The following section provides specific guidance on a variety DMS maintained by the state. These materials are not exhaustive, but are intended to provide RWMGs with general direction and useful web links for finding additional information on the subject of integrating data into state databases. In general, state databases have specific requirements for data submittal (format and procedural) that will need to be followed. RWMGs need to consider what state databases they may be contributing data to, because the legislation supporting a given grant program may specify a state database for data submittal.

For geospatial data collected by RWMG members, data maintained by the region should be accompanied by applicable metadata that describes each data set (including projection and datum information, dataset description, data lineage, etc.).

Water Data Library – DWR maintains the State's WDL which stores data from various monitoring stations, including groundwater level wells, water quality stations, surface water stage and flow sites, rainfall/climate observers, and water well logs. Information regarding the WDL can be found at: http://wdl.water.ca.gov/.

Surface Water Ambient Monitoring Program – The SWRCB created the SWAMP. SWAMP has developed standards required for any group collecting or monitoring surface water quality data, using funds from Propositions 13, 40, 50, and 84. More information on the SWAMP Program is available at: http://www.swrcb.ca.gov/swamp

Groundwater Ambient Monitoring and Assessment program – GAMA provides a comprehensive assessment of water quality in water wells throughout the state. GAMA has two main components, the California Aquifer Susceptibility (CAS) assessment and the Voluntary Domestic Well Assessment Project. The CAS combines age dating of water and sampling for low-level volatile organic compounds to assess the relative susceptibility of public supply wells throughout the state. The Voluntary Domestic Well Assessment Project provides sampling of water quality in domestic wells, which will assist in assessing the relative susceptibility of California's groundwater to contaminants. Because water quality in individual domestic wells is unregulated, the program is voluntary and will focus, as resources permit, on specific areas of the state. Constituents to be analyzed include nitrate, total and fecal coliform bacteria, methyl tert-butyl ether, and minerals. Additional information on the GAMA program is available at: http://www.waterboards.ca.gov/gama/index.html

California Environmental Information Catalog – The California Natural Resources Agency maintains the CEIC, which is a statewide metadata clearinghouse for geospatial data. The CEIC is accessible at http://gis.ca.gov/catalog/. The online directory is used for reporting and discovery of information resources for California. Participants include cities, counties, utilities, state and federal agencies, private businesses, and academic institutions that have spatial and other types of data resources.

Integrated Water Resources Information System – In addition DWR maintains the Integrated Water Resources Information System (IWRIS), which is a data management tool for water resources data and not a database. IWRIS is a web based GIS application that allows entities to access, integrate, query, and visualize multiple sets of data simultaneously. Information on IWRIS is available at: http://www.water.ca.gov/iwris/

Finance

The intent of the Finance standard is to ensure that financing of the IRWM Plan has been considered at a programmatic level by the RWMG; and that a snapshot of financing is documented for stakeholders. From the Proposition 50 IRWM Grant Program, it is clear that the need for funding substantially exceeds the grant funding available through recent bond measures. Most of the cost of developing and maintaining an IRWM Plan must be borne by local entities with state grant funding providing a necessary, but relatively small, supplement in funds. With potentially multiple sources of funding being accessed to formulate and maintain an IRWM Plan, documentation of how the funding pieces fit together is necessary for the RWMG and its stakeholders to understand how the plan will be implemented.

Sources of Funding

The IRWM Plan must contain the following items:

- A program-level description of the sources of funding, which will be utilized for the development and ongoing funding of the IRWM Plan.
- The potential funding sources for projects and programs that implement the IRWM Plan.

In addition, to demonstrating potential funding for project construction, the IRWM Plan should also contain a discussion of the potential sources of funding for project O&M.

It may be useful for the IRWM Plan to present financing options in a tabular format. The table(s) should list sources of funding that the RWMG has obtained or may pursue to finance the IRWM Plan, the associated implementation projects, and O&M costs. Sources of funding may include, but are not limited to:

- Ratepayers
- Operating funds
- Water Enterprise funds
- Special taxes, assessments, and fees
- State or federal grants and loans
- Private loans
- Local bonds

Certainty of Funding

The table should also include an indication of the certainty and longevity of the funding sources. For example, if the RWMG indicates that it is targeting a State grant program to fund an implementation project, the RWMG should discuss the following items:

- Whether the funding has been secured via grant award with the State and the status of associated grant agreement.
- Whether an application for funding has or will be submitted at a future date.

The Table 5 below is one option for presenting information regarding IRWM Plan financing.

Table 5 – IRWM Plan Financing Example

Activity Description	Approx Total Cost	Funding Source & % of Total Cost	Funding: Certainty/Longevity	O&M Finance Source	O&M Finance Certainty
IRWM planning efforts	$850,000	Local Partners – MOU, 100%	Contingent on continued success in grant programs. Secure through fall, 20011.	NA	NA
Implementation Project #1	$10M	XY water agency, 50%	Secure, part of XY agency current capital improvement budget.	XY water agency budget	Secure- 2011 O&M budget.
		Grant-Prop 84, 30%	Application will be submitted FY 11/12	NA	NA
		Federal Grant, 20%	Tentative award, contingent on State funding.	NA	NA
Implementation Project #2	$250,000	State Grant, DAC assistance, DWR, 100%	Application submitted, in review.	Agency YY, operational budget	Secure, rate increase covers O&M costs

The RWMGs may condense or expand activity descriptions as they see fit. As an example, it may be helpful for an RWMG to break the costs of the functional effort into categories if those categories have separate funding sources, or present only the priority projects that are well defined.

Although a table listing the information described may satisfy the standard, the RWMGs should include any additional explanatory text that would help a stakeholder understand how the IRWM Plan would be financed.

The list described in the table above should also contain information on how project O&M costs will be paid and the certainty of O&M funding. O&M costs are not eligible costs for grant reimbursement by State grant programs.

The purposed of this standard is not to document all funding has been fully secured. DWR wants to see that the RWMG has thought through financing of the plan and implementation projects and programs even though substantial uncertainty regarding funding may exist. It is recommended that RWMGs do not overly rely on grant awards, but look at other forms of consistent, secure, long-term sources of funding, such as general funds or rate-based funds.

Technical Analysis

The intent of this standard is to document that the IRWM Plan is based on sound technical information, analyses, and methods. The IRWM planning horizon is for a minimum of 20 years. The objectives, RMS, and implementation projects contained in the IRWM Plan are based on the water management needs forecasted within that planning horizon. The technical analysis standard requires a discussion in the IRWM Plan that explains the technical information, methods, and analyses used by the RWMG to understand the water management needs over the planning horizon.

Technical information

Provide a brief description of the technical information sources and/or data sets used to develop the water management needs in the IRWM Plan. Explain why this technical information is representative or adequate for developing the IRWM Plan. For example, how the technical information represents the current conditions, the scope of historic highs and lows, or the best forecast for future years etc.

Data sets may be from studies, historical records, monitoring activities, or investigations. It is not necessary to include the technical information and literature reviewed in the IRWM Plan development, but the plan should provide references and brief descriptions.

The IRWM Plan should identify data gaps where additional monitoring or studies are needed, and should also describe how the plan will help bridge these data gaps.

Technical analyses and methods

Provide a description of studies, models, or other technical methodologies used to analyze the technical information and data sets. Explain how such studies, models, or technical methodologies aid the RWMG's and stakeholder's understanding of the water management picture for the period of the planning horizon.

In describing technical analyses and studies, it is not necessary to have an exhaustive discussion of each type of analysis and study performed, nor all copies of raw input and output files, nor inclusion of every study used. Provide summary information, such as what the particular technical analysis does; what are the

outcomes; what is the certainty or uncertainty involved in the analysis; or how the outcomes are applied to the planning horizon.

Examples of possible studies/data sets are shown in Table 4. The listed items in the table are examples only. For a specific IRWM Plan, there are likely to be more items to document. Any referenced data should be made available to the public upon request.

Table 6 – Possible Studies/Data Sets

Data or Study	Analysis Method	Results/Derived Information	Use in IRWM Plan	Reference or Source
Population Growth Study	Statistical Analysis	Future Population	Used to calculate future water demand.	Census Bureau
Surface Storage Capacity Study	HEC-ResSim	Current Reservoir Capacity	Used to calculate current surface capacity.	Army Corps of Engineers
Floodplain Analysis	HEC-RAS, HEC-FDA	Identify flood areas and potential damage	Used to prioritize levee repairs.	Army Corps of Engineers
Water Use Study	Review of existing records	Current water use	Used to evaluate current water supply system and as basis for future water supply needs.	Local Water Purveyor
Additional studies to be added as necessary				

Relation to Local Water Planning

The intent of the Relation to Local Water Planning standard is to ensure the IRWM Plan is congruent with local plans, and that the Plan includes current, relevant elements of local water planning and water management issues common to multiple local entities in the Region. Regional planning does not replace or supersede local planning, rather regional planning should appropriately incorporate local planning elements. Per CWC §10540(b), the IRWM Plan must describe how the RWMG has or will coordinate its water management planning activities to address or incorporate all or part of the following actions of its members:

- Groundwater Management
- Urban Water Management
- Water Supply Assessments
- Agricultural Water Management
- City and County General Planning
- Other resource management planning including:
  - Flood Protection
  - Watershed Management
  - Multipurpose Program Planning

Other resource planning efforts should also be considered including:

- Low Impact Development

- Stormwater Management
- Salt and Salinity Management
- Emergency Response, Disaster Plans

When describing how the local plan relates to the IRWM plan and the dynamics of that relationship include the following:

- Jurisdiction of local plans and how they apply or not to the IRWM Plan
- When the local plan is updated and how/when any updates will be considered in the IRWM Plan
- How regional planning efforts may feed back to local planning efforts
- If inconsistencies between local and regional plans are identified, how those might be resolved

For example, a local GWMP may set extraction limits for a specific groundwater basin; while the IRWM Plan should be consistent with those limits, are there other groundwater basins in the region with or without GWMPs and how does the IRWM Plan coordinate with those plans or lack of plans, what does that mean to those adopting and implementing the IRWM Plan?

Therefore, the relationship between local plans and the IRWM Plan must consider and incorporate:

- Consistency and coordination regarding local plan content and the IRWM Plan content
- Relevant, accurate, and current local plan information and references of which the IRWM Plan is based
- Water management issues and climate change adaptation and mitigation strategies from local plans into the IRWM Plan
- Limits, levels, management tools or criteria relevant to water management in local plans that are applicable to the IRWM Plan

Effective, integrated, and consistent water planning and management is imperative both now and in the future, as California faces increasing challenges in managing its water supply due to climate change, increasing water demand as California's population increases, and uncertainty regarding the availability of water from the Sacramento-San Joaquin Delta and other sources.

Relation to Local Land Use Planning

The intent of the Relation to Land Use Planning standard is to require an exchange of knowledge and expertise between land use and water resource managers; examine how RWMGs and land use planning agencies currently communicate; and identify how to improve planning efforts between the RWMGs and land use planning agencies.

A goal of CWP Update 2009 is to ensure water managers and land use planners make informed, collaborative water management decisions on a statewide basis. For land use planners and water managers, meeting this goal will require improved, effective coordination among all parties at the federal, State, and local levels with attention on the RMS identified in CWP Update 2009.

Every City and County in California must adopt a comprehensive long-term General Plan in accordance with Section 65300 of the California Government Code. There are seven required elements of a General Plan including Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety, which provide a broad overview of the issues within a jurisdiction. Water-related supply and treatment issues are included in the Conservation element. Policies that must be addressed in the Conservation element include the following:

- SB 221 (Bus. and Prof. Code, §11010 as amended; Gov. Code, §65867.5 as amended; Gov. Code, §§66455.3 and 66473.7) prohibits approval of subdivisions consisting of more than 500 dwelling units unless there is verification of sufficient water supplies for the project from the applicable water supplier(s). This requirement also applies to increases of 10 percent or more of service connections for public water systems with less than 500 service connections.
- SB 610 (CWC §§10631, 10656, 10910, 10911, 10912, and 10915 as amended; PRC §21151.9 as amended) and AB 901 (CWC §§10610.2 and 10631 as amended; CWC §10634) make changes to the Urban Water Management Planning Act to require additional information in UWMPs if groundwater is identified as a source available to the supplier. A key provision in SB 610 requires that any project subject to the CEQA and supplied with water from a public water system be provided a water supply assessment, except as specified in the law.
- State of California General Plan Guidelines (Goveronor's Office of Planning and Research 2003) recommends facilitating SB 610 by having strong water elements in local general plans that incorporate coordination between the land use agency and the water supply agency.

Even with such advances in policy, efforts to link land use decisions and water management decisions remains an area of challenge. Land use decisions and water management decisions are often under the purview of different agencies, yet the resources each agency manages are inextricably linked. Often, the relationship among these agencies is characterized as reactive in that one agency must act to accommodate a decision the other agency has made. Early communication is vital in changing the relationship from reactive to proactive.

IRWM and the Link between Water Management and Land-Use Planning

IRWM Plans seek to solve regional water management issues through diversified water management portfolios and early water management input into and coordination with those responsible for making land use decisions and implementing land use changes. This relationship can significantly influence how both water management decisions and land use decisions are made.

Consider the opportunities RWMGs may provide to land use planners for input. Some instances where this may occur could be:

- Floodplain management
- Flood control planning
- Groundwater recharge and conjunctive water use
- Treatment and conveyance facilities
- Stormwater and runoff management
- Water conservation efforts
- Watershed management and restoration

Alternately, consider opportunities land use planners may utilize to provide input to RWMGs, such as:

- Municipal landscaping programs
- Public access and recreational area management
- Changes in land use that affect water resources
- General plan updates and long-term planning;
- Planning review
- Development review
- Water supply for public safety and emergency planning purposes
- Habitat management

These are merely a few, general examples where coordination among land use and RWMGs could result in more efficient IRWM planning and implementation. Since the IRWM planning effort often encompasses large regions and has an increased probability of including larger more costly projects, the importance of open lines of communication between land use planners and RWMGs is imperative to a successful IRWM effort.

Describing the current relationship between local land use planning entities and water management entities

The IRWM Plan must contain a description of how water management input is considered in land use decisions, and vice-versa, in the Region. When describing the relationship, include the following considerations:

- How land use planning entities and RWMGs interact. Describe any existing forums, policies, projects, etc. that illustrate this relationship. These interactions do not have to be specifically related to the IRWM, but in the description, clearly explain if the meetings or forums are part of IRWM meetings or part of other planning (land use) efforts within the Region. For example, do water managers and land use planners interact in a forum, such as planning commission meetings?
- Do water managers provide input at county supervisor or city council meetings regarding project or land use decisions that may impact water supply or water quality?
- Are land use planners a part of the IRWM governance structure or are they included on the RWMG's project selection committee? Do both groups openly exchange information pertinent to the other?

Characterizing the current land use-water use planning relationship in the IRWM Region will help illustrate the context in which IRWM activities are planned and implemented and where communication and coordination can be extended or improved.

Describing future efforts in the process of establishing a proactive relationship between land use planning and water management

With the current relationship identified, determine what opportunities exist in the future for a better working relationship between water managers and land use decision makers. Consider how the IRWM Plan could facilitate improvements to the relationship described in the section above. Some points to consider are:

- Internal planning and coordination changes that would need to occur within RWMGs.

- Improvements which could be made to the mechanisms for interacting with the land use planning community.
- Possible avenues for the RWMG to facilitate internal changes within the land use planning community.
- Future forums, policies, and projects that could improve water management efforts in IRWM Regions. For example, regular RWMG meetings between water managers and land use planners to discuss regional water issues and concerns.
- Water management projects that meet various water supply and water quality objectives while still being compatible with existing and planned future land use designations, and providing the type of projects the IRWM Program desires.
- The Ahwahnee Principles for Resource Efficient Land Use, developed by water resource policy and management experts, advocate a more proactive relationship between land use and water management. The first implementation principal of the Ahwahnee Principles is early consultation with water managers on land use decisions (http://www.lgc.org/ahwahnee/h2o_principles.html).
- How improved interaction between water managers and land use planners can advance the implementation of the IRWM Plan..
- Utilizing current land use and water issues and identify planning strategies which may be implemented, or explored in the future through the IRWM process.

Focusing on and acting in a purposeful, collaborative, and informed manner regarding regional land use planning and water management will assist California in successfully managing multiple water demands throughout the state, as described in CWP Update 2009, adapting water management systems in regions to climate change, and potentially offsetting climate change impacts to water supply in California.

Stakeholder Involvement

The intent of the Stakeholder Involvement standard is to ensure the RWMGs give the opportunity to all stakeholders to actively participate in the IRWM decision making process on an on-going basis.

Changes to the CWC have expanded the definition of an RWMG. CWC §10539 defines an RWMG as:

> "a group in which three or more local agencies, at least two of which have statutory authority over water supply or water management, as well as those other persons who may be necessary for development and implementation of a [IRWM] plan…"

This change in the CWC recognizes the collaborative nature of IRWM planning. IRWM Plans rely on stakeholder involvement to gather regional information and make regional decisions. It is important for RWMGs to pursue stakeholder involvement and use processes that support stakeholder inclusion and active participation.

The opportunity for a stakeholder to become involved is not limited to the beginning stages of plan development. A stakeholder may become involved later as their awareness of IRWM increases or new issues or concerns develop. Stakeholders cannot be forced to participate, but the IRWM Plan must contain and the RWMG must implement protocols to continually invite and involve stakeholders in the process. "Continually invite" does not mean that the RWMG must engage in a continuous, intense stakeholder solicitation campaign. DWR's intent is that "continually invite" means that an RWMG adopts an open-door stance and has

the processes in place so that any person can contact the RWMG and RWMG will orient them to the various IRWM processes, encourage them to access information about the RWMG and its IRWM Plan, and inform them how they can participate.

Stakeholders Composition

The IRWM Plan should contain a listing of the stakeholders participating in the planning effort as documentation that the RWMG is a collaborative effort with participation from varied stakeholders. The stakeholder group should reflect a broad cross-section of stakeholders. CWC §10541(g) identifies the following as potential stakeholders in a region:

- Wholesale and retail water purveyors
- Wastewater agencies
- Flood control agencies
- Municipal and county governments and special districts
- Electrical corporations
- Native American tribes
- Self-supplied water users
- Environmental stewardship organizations
- Community organizations
- Industry organizations
- State, federal, and regional agencies or universities
- DAC members
- Any other interested group appropriate to the region

Process used to identify stakeholders

The IRWM Plan must contain processes that provide outreach and an opportunity to participate in plan development and implementation. In order, to meet this criterion, the IRWM Plan must have a means to identify potential stakeholders; share information; and invite and involve stakeholders in the IRWM process. While the processes used likely perform a combination of those functions in a single process, we discuss each function separately in these guidelines. Processes may be contained in a variety of sections in an IRWM Plan and do not have to exist in single separate section of the plan. These processes can even exist outside the IRWM Plan in a separate stakeholder outreach plan. In which case, the IRWM Plan should contain a reference to where these protocols exist.

There are no DWR supplied protocols as each IRWM region will have differing relationships among the various stakeholders. However, the following guidance is provided in developing protocols specific to your IRWM region. When developing processes for identifying stakeholders, consideration must be given to not only the easily identified stakeholder but also the less obvious stakeholder. Often, an initial list of stakeholders may unintentionally omit important segments of the IRWM region. These include stakeholder groups who are not usually well represented in the process of planning or project development. Multiple

avenues of identifying stakeholders are needed in any IRWM Plan. Examples of processes used to identify stakeholders include but should not be limited to the following:

- Open announcements of IRWM meetings that invite new stakeholders (self identification)
- Recommendation of additional stakeholders from those already involved in the IRWM Plan
- Identification of stakeholders through water management issues in the region
- Targeted outreach to underrepresented groups

Disadvantage Communities

Multiple definitions of a DAC exist in California statues. For the purposes of Proposition 84 funding, the PRC §75005.(g) defined a DAC as "a community with a median household income (MHI) less than 80% of the statewide average." There is a financial opportunity for most RWMGs to seek out DACs in their region, as most State grants either give special consideration or preferences for projects that serve DACs, or have funding percentages set-aside for projects that support DACs. There may be some regions, where there will be very few, if any, communities, which meet the statutory definition of a DAC. However, even in such regions there will be communities that are well below the MHI for the region, and they should be specifically invited to participate in the IRWM planning and implementation process. The IRWM Plan should discuss how DACs in the region have been identified and what efforts have been/will be taken to include them in the RWMG.

Technology and Information Access

The processes that invite, inform, and seek to involve stakeholders in IRWM activities, must account for barriers to identified stakeholder participation. In this age of technology and information accessibility, we often unintentionally believe that all segments of our society have uniform access to all modern conveniences. When communication methods such as email or web postings are used, we often assume everyone has received and understood the invitation or the transfer of information. Particularly when an RWMG has identified a often commonly overlooked group of stakeholders, extra efforts may be required to invite, inform, and involve stakeholders who may have different needs and perspectives than the majority. Those extra efforts may consist of special considerations such as access to public transportation when determining meeting places; shifting times of meetings so certain stakeholder groups can attend; or translation services, including TDD/TDY services. Such outreach techniques should be part of the IRWM's written stakeholder involvement processes. Processes that invite, inform, and involve stakeholders should also consider that not all stakeholders will participate in the development of the IRWM Plan. Processes should include ways to orient and involve stakeholders whenever they approach the RWMG. This may be as simple as an available phone number and contact person that people new to the IRWM can call.

Decision Making Process

Part of involving stakeholders in the IRWM process is clear understanding of how someone can participate. As such, the IRWM Plan must contain clear description of the following:

- Decision making processes
- The groups or committees involved
- The constitution of those groups

- The opportunities to contribute to those groups or the decision making process

From reading the IRWM Plan sections regarding decision processes, a stakeholder should understand the decision process, know how they can give input to the process, know if they can serve on committees or groups, and know who they should contact should they have questions about the process or involvement in the process. The IRWM Plan can include diagrams or graphics as necessary to illustrate the process. For more information regarding the decision making process to be included in an IRWM plan refer to Standard 1, Governance.

Involving Stakeholders

The IRWM Plan must contain a discussion regarding how the stakeholders necessary to meet plan objectives are either involved in plan activities or are being invited to participate in plan activities. This discussion is meant to inform readers of how input from a broad spectrum of stakeholders is necessary for effective plan implementation. There may be stakeholders that are not currently active in the planning effort, but whose input would increase the effectiveness of the IRWM Plan in meeting its objectives. Discuss what mechanisms the plan includes that describe how stakeholders not currently involved in the plan will be invited to participate. This discussion would likely be inserted in the section of the IRWM Plan pertaining to objectives or stakeholder outreach. DWR is interested in seeing that RWMGs utilize a broad perspective and that they are aware of stakeholders who are not currently active, but whose input would benefit attainment of plan goals. Access to plan participation and involvement is not to be based on an individuals or group's ability to pay.

For more information on stakeholder involvement, refer to the following links:

http://epa.gov/nps/toolbox/print/stakeholderguide.pdf

dhs.wi.gov/managedLTC/grantees/pdf/info1**stakeholder**.pdf

http://coastalsmartgrowth.noaa.gov/elements/encourage.html

http://www.uap.vt.edu/cdrom/tools/tools2.htm

Coordination

The intent of the Coordination standard is to ensure the following items:

- That a RWMG coordinates its activities with local agencies and stakeholders to avoid conflict within the region and to best utilize resources.
- That RWMGs are aware of adjacent planning efforts and are coordinating with adjacent RWMGs
- That the RWMGs are aware of State, federal and local agency resources and roles in the implementation of their plans and projects.

The IRWM Plan must identify a process for coordination of projects and activities and with local participants and stakeholders. The IRWM Plan must also discuss the various agencies and adjacent IRWM efforts identified for coordination. Through coordination among local agencies and between IRWM regions, IRWM efforts may reduce redundant actions; identify opportunities for cooperative projects; or discover that adjustments are needed in IRWM boundaries. Although the degree of coordination may vary among various RWMGs, DWR does expect that each RWMG have an understanding of the neighboring IRWM Plans and the way their management issues are similar or different. DWR also expects that the RWMG and project

proponent's relationships be well enough established to take advantage of any cooperative project opportunities.

Coordination of Activities within an IRWM Region

The IRWM Plan must discuss the process by which a RWMG's local project proponents and stakeholders can coordinate their IRWM related activities and efforts. This process could include mechanisms such as the posting of proposed projects and stakeholder meetings on a website, a portion of every stakeholder meeting held by the RWMG set aside to discuss upcoming proposed projects and activities of interest to stakeholders, or the development of a team within the RWMG who would be responsible for bringing together local agencies and stakeholders groups in a setting where their projects and activities could be discussed. In doing so, opportunities for combining activities or eliminating redundant or overlapping efforts could be realized.

Identification and Coordination with Neighboring IRWM Regions

The IRWM Plan must identify neighboring IRWM efforts and describe the coordination between the various planning efforts. Although adjacent RWMGs may function independently, coordination is still essential. If there are no adjacent IRWM regions bordering the IRWM region then the IRWM Plan should indicate such. In the IRWM Plan, submit a map showing the IRWM region and any adjacent IRWM regions. Describe how the adjacent IRWM regions have similar and different water management issues from your own. Describe how your RWMG coordinates with adjacent RWMGs. Additionally, discuss any joint project opportunities and/or conflicts. If water management issues are similar to an adjacent IRWM region, explain if any discussions have taken place or are planned to consider consolidating into a single, larger, more regional IRWM region.

Coordination with Agencies

The IRWM Plan must contain a discussion of State, federal, and local agencies important to the development of the IRWM Plan and implementation of projects. Coordination with State, federal, or local agencies for implementation of projects may include, but is not limited to the following:

- State agencies, such as California Environmental Protection Agency (CalEPA), DWR, Department of Fish and Game, SWRCB, RWQCBs, California Coastal Commission, and the Department of Public Health.
- Federal agencies, such as U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, and the U.S. Environmental Protection Agency.
- Local agencies, such as county flood control districts, public works departments, and environmental health departments.

Climate Change

California is already seeing the effects of climate change on hydrology (snowpack, river flows, storm intensity, temperature, winds, and sea levels). Planning for and adapting to these changes, particularly their impacts on public safety, ecosystem, and long-term water supply reliability, will be among the most significant challenges facing water and flood managers this century.

By design, IRWM planning efforts are collaborative and include many entities dealing with water management. These aspects make IRWM a good platform for addressing broad based concerns like climate change where multiple facets of water management are affected.

The intent of the Climate Change standard is to ensure that IRWM Plans describe and consider the effects of climate change on their regions and disclose and consider GHG emissions when selecting implementation projects.

Legislative and Policy Context

While there are numerous pieces of policy and legislation dealing with climate change, three pieces are important regarding the State's response to climate change, including how IRWM planning efforts analyze climate change on a project level. Executive Order (EO) S-3-05 and the California Global Warming Solutions Act of 2006 (AB 32; amending California Health and Safety Code Division 25.5, §38500, *et seq*.) lay the foundation for California's response to climate change. Senate Bill 97, signed by the Governor on August 24, 2007 initiated formal changes to the CEQA Guidelines that provides guidance for the way climate change is analyzed in CEQA documents by adding Section 21083.05 to the Public Resources Code.

EO S-3-05 made California the first state to formally establish GHG emissions reduction goals. EO S-3-05 includes the following GHG emissions reduction targets for California:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80 percent below 1990 levels

The final emission target of 80 percent below 1990 levels would put the state's emissions in line with estimates of the required worldwide reductions needed to bring about long-term climate stabilization and avoidance of the most severe impacts of climate change (Intergovernmental Panel on Climate Change (IPCC), 2007).

EO S-3-05 dictates that the Secretary of CalEPA coordinate oversight of efforts to meet these targets with the Secretaries of the Business, Transportation and Housing Agency, Department of Food and Agriculture, and Natural Resources Agency; the Chairpersons of the Air Resources Board (CARB) and Energy Commission; and the President of the Public Utilities Commission. This group was subsequently named the Climate Action Team (CAT). As laid out in the EO, the CAT has submitted biannual reports to the governor and State legislature describing progress made toward reaching the targets.

AB 32 further details and codifies the mid-term GHG reduction target established in EO S-3-05 (Reduce GHG emissions to 1990 levels by 2020). AB 32 also identifies CARB as the state agency responsible for the design and implementation of emissions limits, regulations, and other measures to meet the target.

- The statute lays out the schedule for each step of the regulatory development and implementation. By June 30, 2007, CARB had to publish a list of early-action GHG emission reduction measures.
- Prior to January 1, 2008, CARB had to: identify the current level of GHG emissions by requiring statewide reporting and verification of GHG emissions from emitters and identify the 1990 levels of California GHG emissions.
- January 1, 2010, CARB must adopt regulations to implement those early-action measures.

In December 2007, CARB approved the 2020 emission limit (1990 level) of 427 million metric tons of CO_2 equivalents (CO_2e) of GHG. The 2020 target requires the reduction of 169 million metric tons of CO_2e, or approximately 30 percent below the state's projected 2020 emissions of 596 million metric tons of CO_2e. Also in December 2007, CARB adopted mandatory reporting and verification regulations pursuant to AB 32. The

regulations became effective January 1, 2009, with the first reports covering 2008 emissions. The mandatory reporting regulations require reporting for major facilities, those that generate more than 25,000 metric tons/year of CO_2e.

In December 2008, CARB adopted the Climate Change Scoping Plan which outlines the State's strategy to achieve the 2020 GHG emissions limit. The Climate Change Scoping Plan also included 39 measures that were developed to reduce GHG emissions from key sources and activities while improving public health, promoting a cleaner environment, preserving natural resources, and ensuring that the impacts of the reductions are equitable and do not disproportionately impact low-income and minority communities.

SB 97 directed the Governor's Office of Planning and Research (OPR) to develop CEQA Guideline amendments for the analysis of climate change in CEQA documents for the approval of the Natural Resources Agency. On December 31, 2009, the Natural Resources Agency adopted amendments to the CEQA Guidelines (Guideline amendments) for GHGs and sent them to the California Office of Administrative Law for approval and filing with the Secretary of State. http://www.ceres.ca.gov/ceqa/guidelines/. The Guideline amendments for GHG emissions fit within the existing CEQA framework for environmental analysis, which calls for lead agencies to determine baseline conditions and levels of significance, and to evaluate mitigation measures. The Guideline amendments do not identify a threshold of significance for GHG emissions nor do they prescribe assessment methodologies or specific mitigation measures. The Guidelines amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion that CEQA grants lead agencies to make their own determinations based on substantial evidence.

Although California has taken the lead in Climate Change policy and legislation, there have been several recent important developments at the federal level. On September 22, 2009, USEPA released its final GHG Reporting Rule (Reporting Rule). Starting in 2010, facility owners that emit 25,000 metric tons of CO_2e or more per year are required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under § 202(a) of the Clean Air Act. He found that the current and projected concentrations of the six key well-mixed GHGs in the atmosphere threaten the public health and welfare of current and future generations and that the combined emissions of these well-mixed GHG from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

Primary Documents

While there are many sources of information on Climate Change, IRWM planning regions must keep three documents in mind as they assess the effects of Climate Change on their regions; consider adaptations to those effects; and seek to mitigate GHG emissions:

- The *Climate Change Scoping Plan* that was adopted by CARB in 2008 discusses different business sectors including water management and recommends specific strategies that may help reduce GHG emissions.
- DWR published a white paper, *Managing an Uncertain Future: Climate Change Adaption Strategies for California's Water (2008)*, that urges a new approach to managing California's water and other natural resources in the face of climate change. The recommendations from the White Paper are incorporated into Volume 1 Chapter 7 of CWP Update 2009.

- The California Natural Resource Agency (CNRA) has a report currently in draft form entitled *2009 California Climate Adaptation Strategy* that discusses statewide and sector specific vulnerability assessments.

Implications of the Effects of Climate Change

Given the currently predicted effects of Climate Change on California's water resources, IRWM Plans should address adapting to changes in the amount, intensity, timing, quality and variability of runoff and recharge. Areas of the state that receive water imported from the Sacramento-San Joaquin River Delta, the area within the Delta, and areas served by coastal aquifers will also need to consider the effects of sea level rise on water supply conditions and identify suitable adaptation measures.

Decisions about adapting water management systems as well as mitigating Climate Change through reductions in GHG emissions, should take into account the risks to the region of no action.

A key factor in assessing the effects of Climate Change and adapting to those changes is the use of adaptive management. As more effects of Climate Change manifest; new tools are developed; and new information becomes available, RWMGs must adjust their IRWM plans accordingly. IRWM plans should contain policies and procedures that promote adaptive management.

Consideration of Effects of Climate Change

The Integrated Regional Water Planning Act, CWC §10541(e)(10), states that IRWM plans must include an evaluation of the adaptability to Climate Change of water management systems in the region. However, tools to properly assess the risk of any one effect of Climate Change on a region are not developed, and the abilities of different regions to use these tools vary considerably.

Chapter 3 of the *2009 California Climate Adaptation Strategy* discusses comprehensive State adaptation strategies, six in all, that would help coordinate adaptation efforts to increase cost and implementation efficiencies statewide. Strategy 5 is to develop statewide, as well as sector a specific, California Climate Vulnerability Assessment. Implementation of Strategy 5 will help unify the Climate Change scenarios which will influence the risk determined for specific Climate Change effects in specific IRWM regions. Another benefit of implementation of this strategy will be the development of tools to help local agencies determine specific risks in their IRWM planning regions. Once the vulnerability assessment and tools are available, RWMGs should use them to identify adaptations relevant to their IRWM regions. In the interim, RWMGs are encouraged to consider and implement so-called "no regret" adaptations to general effects of Climate Change. Such adaptations are those that make sense in light of the current water management context for a region and also help in terms of effects of Climate Change. IRWM regions should pursue increasing water use efficiency, practice integrated flood management, and seek to enhance and sustain ecosystems. Appropriately applied, these "no regret" adaptations can help a wide variety of water management situations. IRWM plans must contain language in their Description of Region Section that describes likely Climate Change impacts on their region. These descriptions should be updated and become more specific to the region as vulnerability analysis tools become available and are applied. RWMGs should stay involved in CNRA's California Adaptation Strategy process to help shape the document through their participation.

As IRWM plans document how the IRWM region has considered RMS in the CWP Update 2009, consideration of the effects of Climate Change must be part of that discussion. Likewise, as projects are developed and selected to implement an IRWM Plan consideration of adapting to the effects of Climate Change must be part of that process and should be explicitly stated in an IRWM Plan's project review process.

Climate Change Mitigation/GHG Reduction

In addition to responding to the effects of Climate Change, IRWM plans can also help mitigate Climate Change by reducing energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions. Water management results in the consumption of significant amounts of energy in California and the accompanying production of GHG emissions, especially where water must be pumped from long distances; from the ground; or over significant elevations. According to California Energy Commission November, *2005 CEC-700-2005-011 California's Water – Energy Relationship Final Staff Report*, 19% of the electricity and 30% of the non-power plant natural gas of the State's energy consumption are spent on water-related activities, primarily related to end-uses of water (i.e. what the customer does with the water). The close connection between water resource management and energy is an important consideration for helping the State meet its GHG emission reduction goals. All aspects of water resources management have an impact on GHG emissions, including the development and use of water for habitat management and recreation; domestic, municipal, industrial, and agricultural supply; hydroelectric power production; and flood control.

Mitigation of Climate Change is a factor to consider in an IRWM region's project review process, but only as a secondary criterion. Although energy consumption and GHG emissions are an important consideration for water projects for helping the State meet its GHG emission reduction goals, the primary objective of IRWM planning is to meet regional water management objectives. In evaluating different ways to meet IRWM plan objectives, where practical, RWMGs should consider the strategies adopted by CARB in its AB 32 Scoping Plan. In addition to offsetting emissions, RWMGs may also consider options for carbon sequestration where such options are integrally tied to supporting IRWM Plan objectives.

Additionally agencies that are part of an IRWM effort should consider joining the California Climate Action Registry (CCAR), http://www.climateregistry.org/. The CCAR is a private non-profit organization that serves as a voluntary GHG registry to protect and promote early actions to reduce GHG emissions by organizations. The CCAR is migrating registry data to the Climate Action Registry (CAR) which incorporates all of North America. A comparison of the CCAR and the CAR can be found at http://www.climateregistry.org/resources/docs/misc/ca-voluntary-mandatory-reporting-matrix.pdf. Participation in these voluntary GHG registries, allows access to tools and consistent reporting formats which may aid RWMGs in understanding their GHG emissions and ways to reduce them.

CEQA project level analyses in the area of Climate Change may assist RWMGs with a means of disclosing and evaluating GHG emissions of project alternatives. DWR is *not* suggesting that a full project CEQA analysis need be performed before a grant application is submitted; rather, an analysis of GHG emissions on a project – performed so that it not only serves to evaluate that aspect of a project for the purposes of IRWM project selection but also satisfies the requirements of CEQA – may be a useful analysis that satisfies multiple purposes. Projects incorporated into IRWM plans are wide ranging. Project proponents should seek their own legal counsel in determining the appropriate level of analysis for their particular project.

DWR will usually act as a responsible agency for projects successful in obtaining grant funding. The guidance that follows is general guidance that may help project proponents understand how DWR will behave in that capacity specifically in the area of Climate Change analysis.

In preparing a project-level GHG emissions analysis RWMGs and the project proponents should estimate GHG emissions from the project; establish significance criteria; identify those project components that may

supply carbon sequestration; and, if applicable, explain how the project may help in the adaptation to effects of Climate Change.

In most cases, a GHG emissions analysis for a project should be quantitative. Emission sources that are commonly applicable to projects include:

- Operation of construction equipment
- Passenger vehicle trips during construction and operation
- Transportation of construction materials and equipment
- Transportation of material inputs for O&M
- Transportation of material outputs or production
- Generation of electricity used for operation of projects
- Waste generation and disposal of materials during construction and operation

Some projects or components of projects cannot be quantified such as carbon sequestration ability of a restored habitat. Addressing such components should include such items as the current state of scientific understanding, ongoing research, and potential ranges of emissions or sequestration. Project analysis should also consider all known applicable BMPs or other mitigation measures to reduce GHG emissions. In considering the appropriate level of analysis for a specific project, proponents may want to utilize the OPR Technical Advisory on CEQA and Climate Change, the CAPCOA White Paper, CARB's early action measures, and the six key elements and the 39 measures for GHG reduction from Climate Scoping Plan; the California Attorney General's Office website, and other relevant studies and resources.

For project level GHG emissions assessments a useful emissions reporting protocol has been developed by the World Resources Institute (WRI) in cooperation with the World Business Council for Sustainable Development (WRI and WBCSD, n.d). This protocol was used as the basis for the CCAR. The WRI and CCAR emissions reporting protocols establish guidelines for voluntary accounting of GHG emissions and provide a peer reviewed and widely accepted methodology for calculating GHG emissions. WRI has also published several calculation tools to simplify and document the procedure, http://www.ghgprotocol.org/calculation-tools/all-tools. In general, the protocols outline how to estimate emissions from mobile combustion sources, electricity consumption, and industrial processes. Both the State and the federal government require reporting of emissions for regulated entities that emit 25,000 metric tons of CO_2e or more per year.

Once the emissions from a proposed project have been determined, the CEQA lead agency must assess the impacts of these emissions and make a determination of significance. A threshold of significance is used to gauge project effects. It may be a quantitative, qualitative, or performance level of a particular environmental effect above which impacts will normally be considered significant. Three basic strategies have been outlined in the technical guidance documents published to date: Establish a significance threshold of net-zero; establish a non-zero significance threshold based on compliance with AB 32 or other established GHG reduction strategies. If a project proponent is considering a non-zero threshold, the following may be of assistance:

1) Does the project implement or fund its fair share of a mitigation strategy designed to alleviate Climate Change? This might be achieved through consistency with AB 32 and the early implementation strategies proposed by CARB.

2) How and in what ways does the project move California toward a lower carbon future?

3) How closely does the project's overall GHG emissions balance approach zero? Considerations here would include whether the emissions are under the reporting requirement for 25,000 metric tons of CO_2e or more per year

4) Are there process improvements or efficiencies gained by implementing the project?

Implementation of the Standard

The climate change standard will be implemented in two phases. The specific PSPs will set the level of criteria that will be used to determine grant awards. DWR anticipates increasing the criteria levels as presented in Table 6 Because future appropriations of funding may include legislative clarifications, this table can only serve as general guidance.

Table 6. Anticipated Elevation of Climate Change Criteria in Proposal Solicitation Packages

Table 7 – Climate Change Criteria	
First Solicitation	Subsequent Solicitations
Successful grantees must enter into an agreement with DWR to update their IRWM plans to the IRWP Standards contained in this document within 2 years of the entering into an agreement with DWR (CWC§83002.(b)(3)(B)). This includes the Climate Change standard. All applicants, as part of the application, will submit a signed consent form stating they understand that should they be awarded a grant they will sign an agreement to update their plans within 2 years from the time of agreement execution.	IRWM plans must meet the IRWM Plan Standards contained in this document. This includes: • Quantitative tools for vulnerability analysis • Specific actions identified for adaptation to effects of Climate Change with performance measures • Disclosure and consideration of quantitative analysis of project GHG emissions

Additional Resources and References

DWR's Climate Change Website: http://www.water.ca.gov/climatechange
State of California Climate Change Portal: http://www.climatechange.ca.gov
CARB website: http://www.arb.ca.gov/cc/cc.htm
The California CAT website: http://climatechange.ca.gov/climate_action_team/index.html

Preparing for a Changing Climate: The Potential Consequences of Climate Variability and Change, California: http://www.ncgia.ucsb.edu/pubs/CA_Report.pdf

Association of Environmental Professionals. 2007. *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*. http://www.counties.org/images/public/Advocacy/ag_natres/AEP_Global_Climate_Change_June_29_Final%5_B1%5_D.pdf

California Air Pollution Control Officer Association. 2008. CEQA and Climate Change Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.

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http://www.climateregistry.org/resources/docs/protocols/grp/GRP_3.1_January2009.pdf

California OPR. 2008. Technical Advisory- CEQA and Climate Change: Addressing Climate change Through California Environmental Quality Act Review.
http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf

Center for Biological Diversity. 2007. The California Environmental Quality Act On the Front Lines of California's Fight Against Global Warming.
http://www.biologicaldiversity.org/publications/papers/CBD-CEQA-white-paper.pdf

ICF Jones and Stokes. 2007. *Addressing Climate Change in NEPA and CEQA Documents.*
http://www.cacities.org/resource_files/26373.Addressing-Climate-Change-in-N-E-P-A-and-C-E-Q-A-Documents-W%5B1%5D.pdf

Schussman, Barbara; Pradhan, Manu; and Marciniak, Sean (Bingham McCuthchen). 2008. NEPA Review and Impacts on Climate Change. CLE International, 4th Annual Nepa SuperConference, March 6 and 7, 2008, San Francisco.
http://www.bingham.com/Media.aspx?MediaId=6641

U.S. EPA. 2009. Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2007.
http://epa.gov/climatechange/emissions/downloads09/InventoryUSGhG1990-2007.pdf

World Resources Institute and World Business Council For Sustainable Development. N.d. *The Greenhouse Gas Protocol for Project Accounting.*
http://www.ghgprotocol.org/files/ghg_project_protocol.pdf

Sierra Nevada Alliance. *Sierra Climate Change Toolkit, 2nd edition, 2007*
http://www.sierranevadaalliance.org/publications/db/pics/1133215571_14593.f_pdf.pdf

APPENDIX D
NATIVE AMERICAN TRIBE NOTIFICATION

PRC §75102 mandates a California Native American Tribe Notification requirement for projects funded with Proposition 84 funds. PRC §75102 states:

> "Before adoption of a negative declaration or environmental impact report (EIR) required under PRC §75070, the lead agency shall notify the proposed action to a California Native American tribe, which is on the contact list maintained by the Native American Heritage Commission, if that tribe has traditional lands located within the area of the proposed project."

Native American Tribe Notification will be part of DWR's CEQA review for projects requesting funding under Proposition 84. While IRWM planning efforts may have tribal involvement, formal notification required by PRC §75102 ensures that tribes have an opportunity to consult with lead agencies regarding impacts to cultural resources prior to the closing of the CEQA process. This requirement does not relieve the responsibilities of a lead agency of other cultural resource notification and preservation obligations.

DWR recommends using the OPR's procedures for tribal consultation for General Plans and Specific Plans as guidance to meeting the Native American Tribe Notification requirement. The notification process an RWMG uses may include the following steps:

- Determine if the proposed project is a project under CEQA.
- If the project will use a negative declaration or an EIR to comply with CEQA and the CEQA document has not been adopted as of March 1, 2009, tribal notification is required prior to adoption of the CEQA document.
- To determine which tribes may have interest in consulting on the project, send a request to the Native American Heritage Commission (NAHC) using the NAHC request form which can be found at the following link: http://www.nahc.ca.gov/consult_request.html. Expect a reply within 30 days.
- Once tribal information from NAHC is received, notify tribes of the project nature and project location.
- Allow tribes 90 days to reply to the notification.
- Consult with tribes that respond to the notification.
- Consider tribal input to the project prior to adoption of a negative declaration or EIR.

The above notification process follows OPR's procedures for tribal consultation for General Plans and Specific Plans. While an IRWM Plan is not a general or specific plan, the methods and considerations for consultation with tribes, may be helpful. Further information on tribal consultation can be found at the following link: http://www.opr.ca.gov/programs/docs/09_14_05%20Updated%20Guidelines%20(922).pdf

Contact information for the NAHC is as follows:

Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814
Phone: 916-653-4082
Fax: 916-657-5390
http://www.nahc.ca.gov