

A wide-angle photograph of the San Diego skyline, featuring numerous skyscrapers and buildings along the waterfront, with the city's name overlaid in a large, semi-transparent font.

San Diego Integrated Regional Water Management Plan Update

Land Use and Water Management Study

1 Purpose of Land Use and Water Management Study

As part of the 2013 IRWM Plan Update, the San Diego Region needs to update the discussion of consistency with water management plans, linkages between water management and land use planning, and current relationships between water managers and land use planners. The 2013 IRWM Plan Update will promote the early integration of water management issues into local land use planning, using a watershed-based approach. The purpose of this study is to examine the manner in which integrated land use planning and water resources management occur in the IRWM study area, and to identify ways to improve regional collaboration and coordination between water managers and land use planners in the San Diego Region. Ideally, land use planners and water managers coordinate early and often to make informed, collaborative, and integrated watershed management decisions. In practice, efforts to link water management and land use decisions remain a challenge. Multiple agencies have responsibility for land use and water management decisions, and despite numerous regulatory requirements for both fields, most don't ensure that coordination happens. The relationships are often reactive rather than proactive, due to having to accommodate decisions others have made.

One key objective of the 2013 IRWM Plan Update is the desire for improved relationships between land use planners and water resource managers. Working together, land use planners and water managers can better promote orderly growth and development, and economic and environmental well-being of communities, while ensuring water availability and protecting water resources for the future.

2 Process Used to Prepare the Study

A brief overview of the sequential process used to prepare the Land Use and Water Management Study is presented below. Each step of the process is described in more detail in the following sections.

- *Gap Analysis* – Gaps between water resources management and land use planning were identified. General Plans in the region were reviewed to determine the extent water policy is covered, and the complexity of water resources management as it relates to land use planning was assessed.
- *Surveys* – Surveys were prepared and distributed to land use planners and water managers in the region to determine the extent of existing collaboration and coordination between the two groups and to identify preliminary issues and opportunities that affect those relationships.
- *Workshop #1* – Workshop #1 offered the opportunity to present the results of the general plan review (Step 1) and survey results (Step 2) and gather additional input directly from land use planners, water managers, and other interested stakeholders.

- *Key Issues Matrix* – Based on the information gleaned from Steps 1, 2, and 3, preliminary strengths, opportunities, and challenges were identified. This information provided the foundation for development of a Key Issues Matrix, which framed the study's outcomes.
- *Draft Model Water Element* – A draft Model Water Element was prepared as a resource for jurisdictions to use when updating and implementing their general plans.
- *Preliminary Recommendations* – Preliminary recommendations were prepared to improve collaboration and coordination between water managers and land use planners were developed based on input received from the surveys and Workshop #1.
- *Workshop #2* – Workshop #2 provided the opportunity to again bring together water managers, land use planners, and additional stakeholders to review and comment on the draft Model Water Element, and to test, expand, and prioritize the preliminary recommendations discussed in Step 6.
- *Final Documents* – Based on the vetting process from Workshop #2, both the Model Water Element and Recommendations were incorporated and the Key Issues Matrix was completed. (The three documents are presented as attachments to this report.) The study was then forwarded to the RWMG and the final documents were prepared to reflect the RWMG's input.

During development of this study, the RWMG was responsible for overseeing the update of the IRWM plan participated in each of the steps as the study progressed, providing valuable input, attending workshops, and reviewing deliverables.

3 Gap Analysis

This section identifies gaps between water resources management and land use planning. General Plans in the region were reviewed to determine the extent water policy is covered, and the complexity of water resources management as it relates to land use planning was assessed.

3.1 General Plans

California state law requires each city and county to adopt a general plan which expresses the community's development goals, represents public policy relative to the distribution of future land uses, both public and private, and provides a basis for local government decision-making. The general plan also serves to identify the community's land use, circulation, environmental, economic, and social goals and policies as they relate to land use and development. Each general plan must address seven topics or elements: Land Use, Housing, Circulation, Open Space, Conservation, Safety and Noise. Cities are allowed considerable latitude to combine these elements and rename them as appropriate, and to include optional elements.

Water resource related information, including policies, resource inventories, and supply and demand analysis, are typically scattered throughout various chapters of the general plan. Aspects of water policy are typically found in Land Use, Circulation, Open Space, Conservation, and Safety. Water topics may include water supply and demand, water quality, wastewater treatment and disposal, watershed features and processes, flood management, stormwater management, and interagency coordination and collaboration.

For this study, each of the general plans for the 18 cities in San Diego County and the newly adopted San Diego County General Plan were reviewed to determine to what extent water policy is currently addressed, and where there are gaps in water policy in the region. The regional planning agency,

San Diego Association of Governments (SANDAG), prepares a Regional Comprehensive Plan (RCP, 2004). The RCP serves as the long-term planning framework for the San Diego region, providing a broad context by which local and regional land use and transportation decisions can be made. The RCP was reviewed to understand the adopted regional land use policy regarding coordinated water resource management.

3.2 Complexity of Water Resource Management in the Region

State law requires coordination between water purveyors and land use planning agencies. State and federal regulators, such as the Department of Fish and Game, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the U.S. Army Corps of Engineers, the State Water Resources Control Board, and the Regional Water Quality Control Board, are significantly involved in water resource protection and enhancement.

Communities are often served by multiple districts and agencies for the different aspects of water management. Water districts, wastewater districts, or private water purveyors serve multiple cities and unincorporated areas with other customers and other planning and reporting requirements. For example, the City of San Diego has its own Water and Wastewater Departments that handle water supply, conveyance, recycled water, wastewater treatment and disposal, and other related issues. In the City of Carlsbad, the Carlsbad Municipal Water District serves as the water purveyor for much of the City; however two different water districts, Vallecitos Water District and Olivenhain Municipal Water District, serve the southern portion of the City. Carlsbad's wastewater services are provided by the City's Wastewater Department, plus the Vallecitos Water District and Leucadia Wastewater District, in the southern portion of the city. This complexity is not uncommon in the region.

When municipalities or the County are considering annexations, the San Diego Local Agency Formation Commission (LAFCO) is charged with providing assistance in overseeing jurisdictional boundary changes. LAFCO has county-wide jurisdiction, but is independent of county government. LAFCO requires the preparation of Municipal Service Reviews (MSR's), which are reports required to address the coordination between growth and population projections and the present and planned capacity and adequacy of public services, including water and sewer service. MSR's also require agencies to demonstrate the financial ability to provide services.

3.3 Water Resources Plans

Water resources plans in the region were inventoried to further understand the complexity of water resources management in San Diego County. A broad spectrum of plans prepared at different times was found, including but not limited to:

- Urban Water Management Plans
- Groundwater Management Plans
- Water and Wastewater Master Plans
- Recycled Water Master Plans
- Watershed Urban Runoff Management Plans
- Floodplain Master Plans
- Watershed Management Plans
- Lagoon Resource Enhancement Plans

- Water Supply Assessments
- Habitat Conservation Plans

3.4 Findings/Outcomes of Gap Analysis:

Review of the region's general plans and water resources plans revealed the following:

- A large range was found between the dates the general plans were prepared. Some were prepared as long ago as the 1970's, while other cities have recently updated their general plans. The plans that are more current were found to address recent legislation and featured more robust water policy.
- None of the general plans in San Diego County feature a self-contained Water Element; rather, each features water policy addressed in at least two or more sections of the plan.
- General Plans for communities expecting new growth tended to include water policy guiding new development. Those communities considered built-out tend to focus on water policy intended to address redevelopment.
- Natural features vary substantially among cities, which affects the issues addressed in general plans. Coastal cities tend to have much more robust policy addressing such issues as stormwater runoff, lagoon preservation, and coastal bluff erosion. Some of the inland cities have rivers or creeks passing through their communities and have associated policies, such as to open up previously channelized sections, address flooding issues, and a desire to redevelop with a focus on the river or creek as an amenity.
- Some cities find their local land use control limited by water-related issues under the jurisdiction of State and Federal responsible agencies such as U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and the California Department of Fish and Game.
- Considerable variation exists in the "strength" of long-range water policy. The general plans adopted in the last twelve years tend to feature more detailed policy language with specific direction, likely attributable to both the growing awareness of the importance of water to the region and state's future and to the adoption of water supply planning legislation. In 2001, Senate Bills 610 and 221 were enacted requiring greater coordination and more extensive data to be shared between water suppliers and local land use agencies for large development projects and land use plans. Some of the older general plans' water policy is weak in comparison. A few examples follow:
 - Strong general plan policy language: "Policy 3.1: Work with the Vista Irrigation District (VID) to reduce per capita water consumption, increase the use of recycled water, and implement, enhance, or promote programs to educate the community about the importance of water conservation and methods to reduce water use."
 - Weak general plan policy language: "Plan for an adequate water system based on the projected needs of the City."
- Responsibility for water management tasks within land use planning departments varies considerably from agency to agency:
 - Some Planning Departments do both long-range planning and development review in one department.
 - Some land use planners only deal with their municipal water and wastewater departments, and some coordinate with multiple water purveyors and wastewater managers within their boundaries.

- Sometimes it is the City Engineering Department that primarily works with water managers.
- Many of the region's water purveyors were originally formed to serve the needs of agricultural uses, and the boundaries now overlap multiple jurisdictions.

4 Surveys

The methodology used to survey the regions' land use planners and water managers is discussed in this section. The surveys were used to determine the extent of existing collaboration and coordination between the two groups and to identify preliminary issues and opportunities that affect those relationships.

An objective of the 2013 IRWM Plan Update is to develop recommendations to improve collaboration, coordination, and communication between water resources managers and local land-use planners to more effectively manage water resources in our Region. The first step was to explore and characterize the nature of the existing relationships from the perspectives of water resources managers and land use planning professionals. One of the methods used to collect and evaluate the information was surveying those persons most likely to be responsible for developing and/or implementing land use and water resource plans. Two surveys were prepared—one for water resources managers and one for land use planning managers. The primary objectives of the surveys were to: 1) characterize the nature of existing relationships, including what was working well and what areas needed improvement; and 2) identify opportunities for increased collaboration, coordination, and communication. The topic areas explored in the surveys are summarized below.

4.1 Key Survey Topic Areas:

- Identification of the degree of awareness of the IRWM Program and its implementation.
- Input regarding perception of the scale of issues—that is, does water resources management require regional, local, or both levels of collaboration and coordination to be effective?
- Characterization of the nature of the existing relationships and identification of what impediments exist to ongoing, proactive relationships.
- Description of the type and degree of coordination that currently occur between water resources managers and land use planners regarding a variety of plans and projects. (For example, do water resources managers review and provide policy and/or technical input on development review projects, specific plans, general plan updates, etc.? Are land use planners involved in providing demographic projections to water resources managers? Do they get involved in review and/or policy input regarding long-range water resource assessment and management plans? Is the current level of collaboration adequate?)
- Examples of types of collaborative policy/implementation projects that currently occur.
- Suggestions for potential opportunities to improve collaboration, coordination, and communication.

The surveys were prepared using SurveyMonkey™ and were available on-line from April 9 to April 30, 2012. Invitations to complete the surveys were emailed to a total of 44 people (21 land use planners and 23 water managers). Follow-up emails and telephone calls were made to encourage

participation. A total of 14 responses were received: six from water resources managers (26% response) and eight from planners (38%).

5 Workshop #1

Results of the general plan review and survey were presented at Workshop #1, and additional input was gathered directly from land use planners, water managers, and other interested stakeholders.

Workshop #1 was held on May 2, 2012 at the San Diego Gas and Electric Energy Innovation Center. Water resource managers and land use planners as well as a broad range of stakeholders interested in the IRWM process were invited to participate. A total of 30 people attended. The purpose of Workshop #1 was to:

- Introduce and/or increase awareness of the Integrated Regional Water Management (IRWM) program and the 2013 San Diego IRWM Plan;
- Receive input regarding the current relationships between land use and water managers in the San Diego region;
- Identify issues and opportunities;
- Identify methods to increase collaboration and coordination regarding land use and water resources planning and decision-making; and
- Identify methods to better align water and land use planning processes.

An overview of regional planning in San Diego County was provided, and findings of the General Plan review were presented. Workshop participants shared their observations regarding General Plans.

The results of the surveys distributed to both land use planners and water managers in the region prior to the workshop were discussed. The surveys were designed to examine both the current extent to which land use planners and water resources managers coordinate, and where the weaknesses exist. A list of preliminary observations regarding the strengths, opportunities, and challenges relating to current relationships was presented and participants offered their views.

In breakout groups, participants thoughtfully provided comments and ideas regarding the following three topics:

Breakout Group #1: Where are the “disconnects” between land use planning and water management planning? How can these planning processes be better aligned to address the “disconnects”?

Breakout Group #2: What water management policy guidance is needed for land use planners? When should this guidance be implemented within the land use process? Where does water management policy guidance already exist?



Breakout Group #3: How can we improve communication and collaboration among land use planning and water management planning (agencies/staff)?

Following the breakout group portion of the workshop, each group reported out to the other workshop participants so that everyone would have the benefit of hearing each group's ideas and all perspectives could be shared.

6 Relationships between Land Use Planners and Water Managers

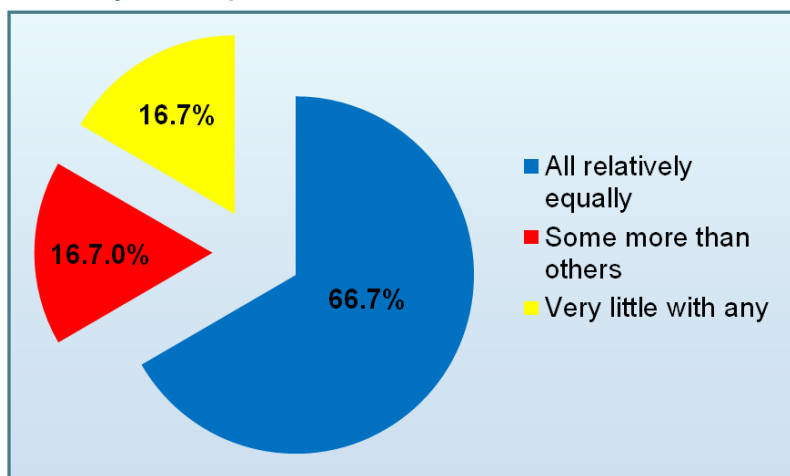
An important aspect of the 2013 IRWM Plan Update is to characterize the nature of existing relationships and coordination between land use planners and water resources managers in the San Diego region. The intent of this characterization, which is summarized in Step 4, is to: 1) identify strengths, opportunities, and challenges, including where gaps currently exist, and 2) help develop methods to overcome existing impediments to build proactive communication and collaboration between land use planners and water managers in all relevant aspects of each entity's planning, management, and implementation processes. Step 4 also provided the basis for preparation of an Issues Matrix (see Attachment 3), and informed refinement of the model water resources general plan policies (see Step 5 and Attachment 1) and development of recommendations (see Step 6 and Attachment 2).

Developing a generalized characterization of the relationship between land use planners and water managers in the San Diego Region is challenging because the nature of the relationships vary greatly in the degree of coordination, the type of water resource involved, and the level at which coordination occurs. For example, while all land use planners who responded to the survey reported collaborating with water resources managers regarding flood management and control, less than half reported coordinating regarding watershed protection. In spite of these constraints, the relationships can be described by evaluating the information gleaned in Steps 1 – 3, which are summarized in this section and include: results of several survey questions; a list of strengths, opportunities, and challenges regarding the relationships; and specific examples of current relationships at both the local and regional levels.

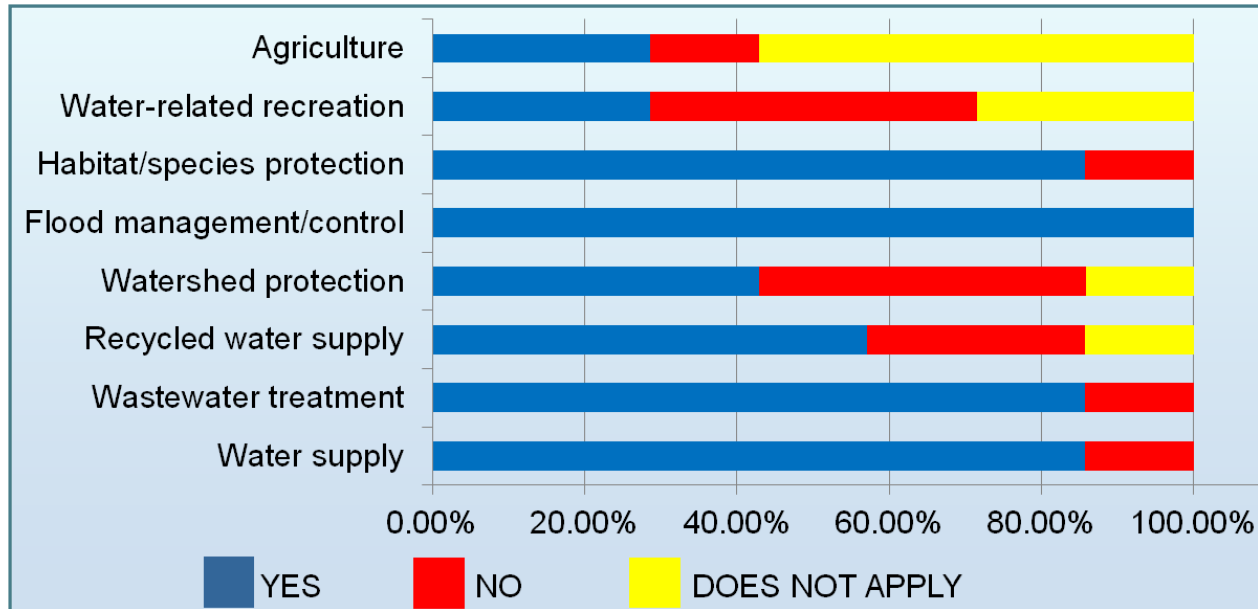
6.1 Selected Survey Questions:

Several of the survey questions depict a generalized description of the existing nature of the relationships and impediments to achieving more proactive relationships.

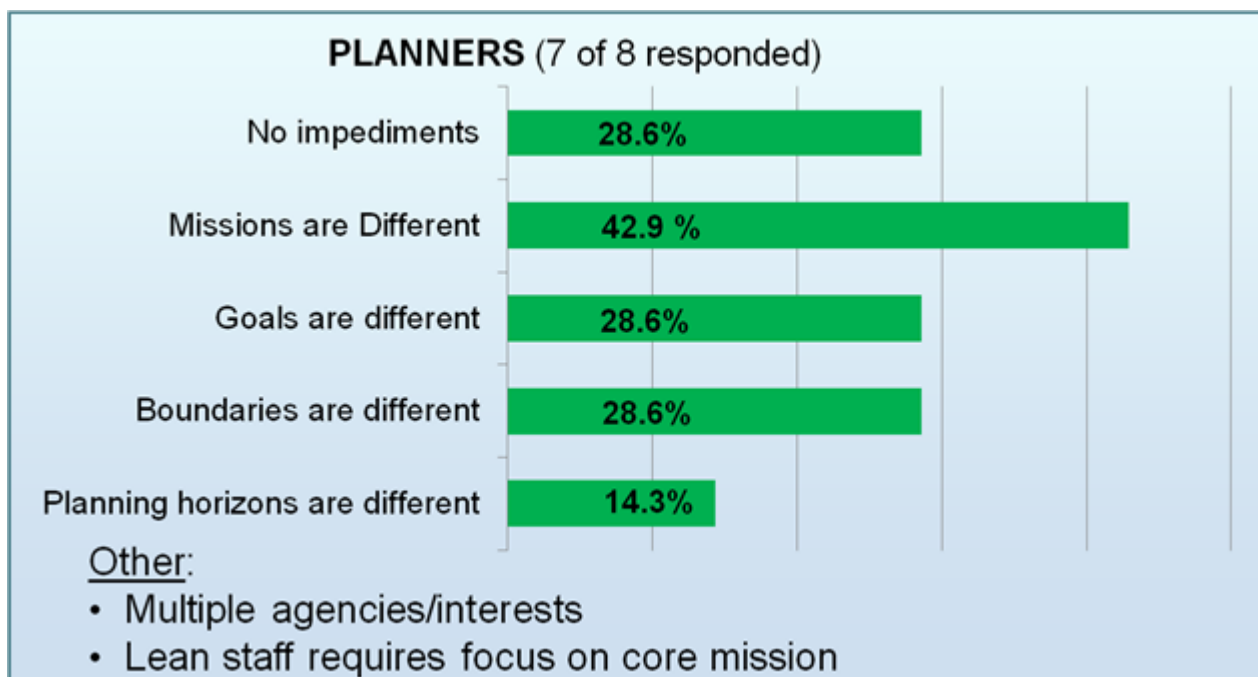
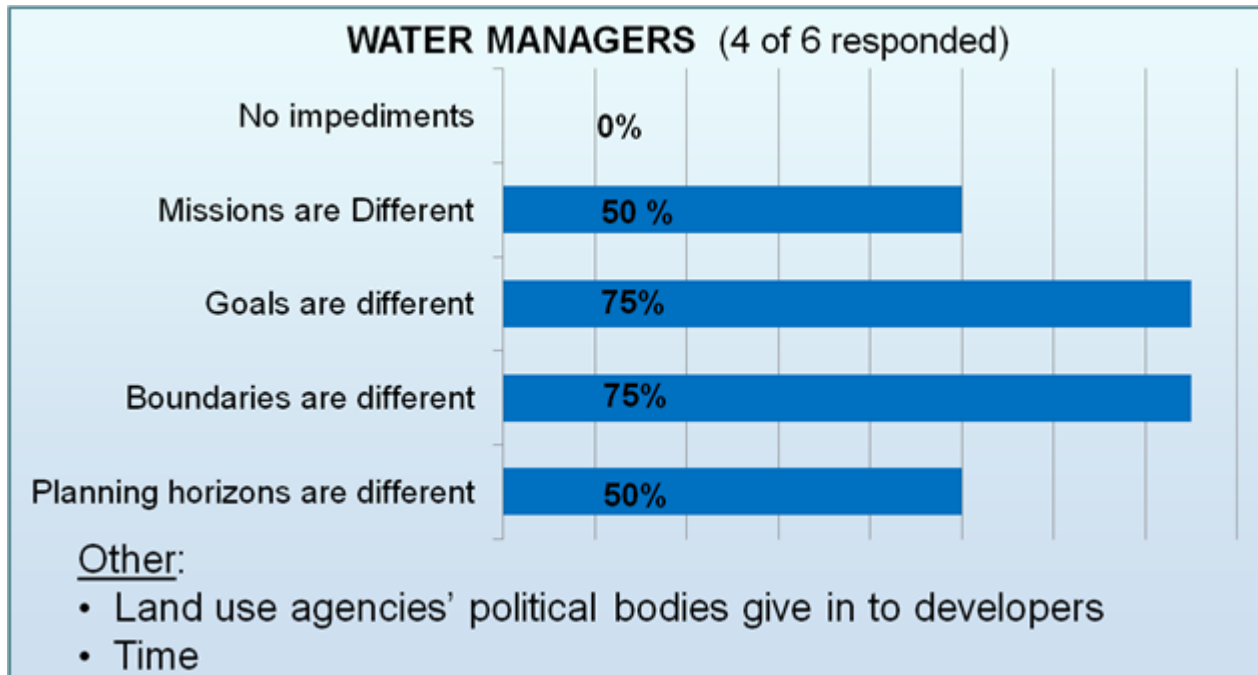
6.1.1 *Does your water agency have working relationships with planning/community development departments in your jurisdiction? (6 water agencies responded to this question.)*



6.1.2 Does your planning/community development department have working relationships with water resources agencies/staff? (7 planning agencies responded to this question.)



6.1.3 What are impediments to achieving ongoing, proactive relationships with each other's agencies?



7 Strengths, Opportunities, and Challenges

The following strengths, opportunities, and challenges represent a compilation of input received from Steps 1, 2, and 3 (described above). Taken together, they provide a more detailed description of the existing nature of the relationships between land use planners and water resources managers.

7.1 Strengths:

- Coordination regarding development review is already occurring regularly.
- Most planners updating their general plans consult with water agencies to provide input into their long-range land use plans.
- Majority of water and planning agencies report that water agencies request data from land use planners for updates of their long range and master plans.
- One water resources agency reports that it uses the general plans from the land use agencies in its jurisdiction for its own plan update.
- Most planning and water agencies report working together on joint policy/implementation efforts, including the following:
 - Water conservation information/programs, communications
 - Water conservation issues, policies
 - Model water ordinance
 - Water efficient landscaping ordinances
 - Use of recycled water for parks
 - Landscape Manual Update
 - General Plan update/General Plan policies
 - Low Impact Development Guidelines
 - Coordination of joint capital improvement work
- Urban Water Management Plans are prepared by water districts in coordination with land use projections from the municipalities.
- Land use planners from several of the local cities and water managers from local jurisdictions and water districts participated in both Workshops #1 and #2, held as part of this effort.

7.2 Opportunities:

- The majority of water resources managers and planners report that it would be beneficial to have:
 - Joint training sessions to improve information exchange regarding long-range planning, legislation, and best management practices.
 - Cross training and joint activities that allow land use planners and water managers to explore improved integration of various land use and water resources plans, process, and projects at the regional, local, and watershed levels. These activities would be most beneficial at the local level.

- Planners report being more likely to be responsible for implementation of water-resource related goals / objectives / policies / programs in their general plans (than other departments).
- Most agencies report that a set of water resources goals / objectives / policies for the region would be beneficial.
- Legislation calls for more interaction between land use planners and water managers, which is needed at a variety of levels.

7.3 Challenges:

- Too many silos exist and there is reluctance to give up authority, both political and financial. Silos need to be broken down between water and land use disciplines and agencies and relationships need to be built or strengthened; this should be guided by the top leaderships of the agencies. To break down silos, persistence is needed. It is a time-consuming and challenging process given the extreme complexity of the current system. Who should take the custodial role of this process?
- Awareness and understanding of both issues and processes is lacking between water managers and land use planners.
- Water resources and land use plans, policies, and implementing projects and programs must be better integrated; a framework is needed upon which to build the integration. However, a “one size fits all” approach will not be effective. Some specific examples of this challenge were cited:
 - Long-term water supply verification is difficult for everyone. Who decides?
 - No one ever discusses what land uses should be allowed from a stormwater viewpoint. Stormwater managers should be part of the land use discussion process.
 - TMDL compliance is typically in conflict with new development.
 - Common terminology is needed.
 - Regulations drive the focus of attention.
- Decision-making by municipalities typically does not consider potential impacts beyond their political boundaries.
- The information regarding the various agencies, plans, laws, etc. that applies to municipalities and water agencies is not readily available, and there is so much to try to identify that land use planners often do not know where to start looking.
- 100% of land use planners who responded to the survey were not aware of the IRWM, even though it has been in existence for 5 years.
- Many general plans do not address the broad spectrum of water management topics, and water policies are often generic and/or vague.
- Addressing water rights with tribes is a challenge.
- Staffs of both municipalities and water agencies often do not have the resources (funds and/or time) to take on extra projects or prepare plans, ordinances, and information for communities beyond those prioritized by their councils/boards/commissions.

7.4 Examples of Existing Relationships

The following describes specific examples of current relationships between land use planners and water resources managers, both on a regional scale and on a local scale. The San Diego County Water Authority (CWA) is an advisory member of SANDAG's Board of Directors, and in 1992, entered into a Memorandum of Agreement (MOA) with SANDAG to coordinate to ensure the availability of water for future growth. Under the MOA, the CWA agrees to use SANDAG's most recent regional growth forecasts for regional water supply planning purposes, provide updated information on changes in plans or programs, and implement relevant actions contained in the water element of the Regional Growth Management Strategy. The MOA ensures that the water demand projections for the San Diego region are linked with SANDAG's growth forecasts and that water supply is a component of the overall growth management strategy. CWA is a member of SANDAG's Regional Planning Technical Working Group, and CWA staff participates in review of the periodic updates to SANDAG's region-wide population forecasts.

A local example of collaboration between land use planners and water managers is water conservation information sharing between the City of La Mesa and Helix Water District. La Mesa residents can easily access a range of water conservation methods and programs offered by Helix Water District from the City's website home page. One of the selections is "water conservation", which links the resident directly to Helix Water District's website listing landscape watering conservation measures, water conservation programs for single-family, multi-family and commercial customers, free landscape plans, water budgets, and other similar helpful informational items.

The region's cities coordinate with their water purveyors when updating their general plans. Helix Water District was consulted to provide input into La Mesa's recent General Plan Update. The General Plan now contains a policy to "encourage development that incorporates water recycling subject to review and approval of the local water purveyor (Helix Water District)," (La Mesa GP, Policy CS-1.3.2) signifying the intent to continue to collaborate on a long-term basis.

8 Draft Model Water Resources General Plan Policy Guide

The need for comprehensive general plan guidance for water resources was identified at the outset of the project. The gap analysis showed that the region's general plans vary widely in terms of the type and strength of adopted water policy. Several of the plans have been recently updated and some are relatively old and in need of updating. The analysis indicated that the newer plans tend to have a broader range of water-related topics addressed, a higher number of more specific policies, and stronger language.

A draft Model Water Resources General Plan Policy Guide (model goals and policies) was developed for jurisdictions to use when updating and implementing their general plans (Attachment 1). The model water policy document is organized around the four IRWM goals. A watershed-based approach using the Ahwahnee Water Principles as a guide was employed to develop the model policy guidance. It showcases policies from recently updated San Diego County general plans, other California general plans and new policy crafted as a result of stakeholder input.

The model water policy document is designed as a reference document for jurisdictions to use when updating or amending their general plans. If desired, a city or county could adopt a stand-alone Water Element. The model policies suggest a format for such an effort. While policy addressing water resources is typically found in other places in a city's General Plan, i.e. land use, circulation, conservation, open space and safety, an integrated water element might be of benefit to a community. By having all water-related policies and actions in one place, the complex issues

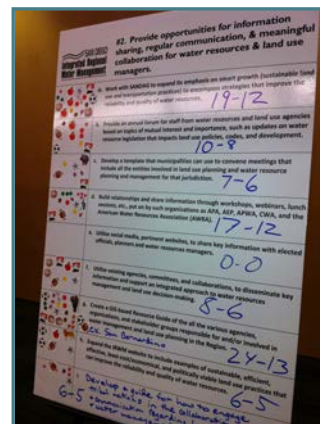
surrounding water resources are more accessible and understandable to the general public. Imperial County, for example, developed an integrated water element that combines water supply, quality, flood management, wastewater and stormwater policies and analysis into a single general plan element.

The draft water resources general plan policies were reviewed at Workshop #2, and were subsequently revised and refined based on participants' input.

9 Draft Recommendations for Improved Collaboration and Coordination

One of the key objectives of the 2013 IRWM Plan Update is to develop and prioritize a list of recommendations that could be implemented by the IRWM Program to improve communication between water resources and land use planners. The recommendations could be implemented through a variety of methods, including grants, new or existing working groups and collaborations, preparation of work products, such as model ordinances and guidelines, and development and dissemination of information.

Preliminary recommendations were developed in response to input derived from the surveys and suggestions received at Land Use Workshop #1 (May 12, 2012). They were organized into two general categories: 1) collaborative work products and 2) opportunities for information sharing, regular communication, and meaningful collaboration. The preliminary recommendations were discussed at Land Use Workshop #2 (August 21, 2012), at which time participants both refined and added recommendations – see the discussion below and reference to the final recommendations.



10 Workshop #2

Workshop #2 was held on August 21, 2012 at the San Diego Gas and Electric Energy Innovation Center. Approximately 22 people attended. The purpose of Workshop #2 was twofold: 1) to review the draft Model Water Resources General Plan Policy Guide and provide feedback, and 2) to receive input regarding the draft recommendations discussed in Step 6 above and prioritize the recommendations.

Participants worked in groups to review the model water policy document. Each group was assigned one of the three goals with associated policy and asked to evaluate whether the list of topics was complete; provide suggestions for additions, deletions, and/or revisions; and whether language pertaining to specific cities should be included as sample policy or should all policies be presented as more generic?

The draft recommendations were presented and the participants added to the list. The final list of recommendations was then prioritized by the participants. Each participant was given a total of 14 stickers—7 for each of the two categories. They were allowed to place as many stickers on each item



as they desired. The method used to prioritize them indicated both the total number of votes each recommendation received as well as the number of individuals who voted for each one.

11 Conclusion and Outcomes

This study examined the existing relationships between land use planning and water resource management in the San Diego region, both processes and working relationships. Through an iterative process, the positive aspects, issues, and opportunities for strengthening these relationships was identified.

Three work products represent the outcome of the study:

1. A **Model Water Resources General Plan Policy Guide** was prepared to serve as a guide to local jurisdictions as they update their general plans. The model policy suggests a broad range of water resources policy topics for inclusion in the region's general plans, and promotes interagency cooperation. (See Attachment #1)
2. **Recommendations** for improved collaboration and coordination between land use planners and water resource managers were developed and prioritized by those participating in the process. The recommendations, implemented over time are intended to improve the way the San Diego region practices integrated land use and water management. (See Attachment #2).
3. The **Key Issues Matrix** was completed based on input derived from Steps 1-7. (See Attachment #3)

Two workshops highlighted this effort. A diverse group of stakeholders with a common interest in land use and water resource management participated in the development and refinement of both the model policy guide and the recommendations. In addition to providing a forum for information sharing and feedback, a secondary but very important outcome of the workshops was to begin the process of regional collaboration and coordination between water resources managers and land use planners.

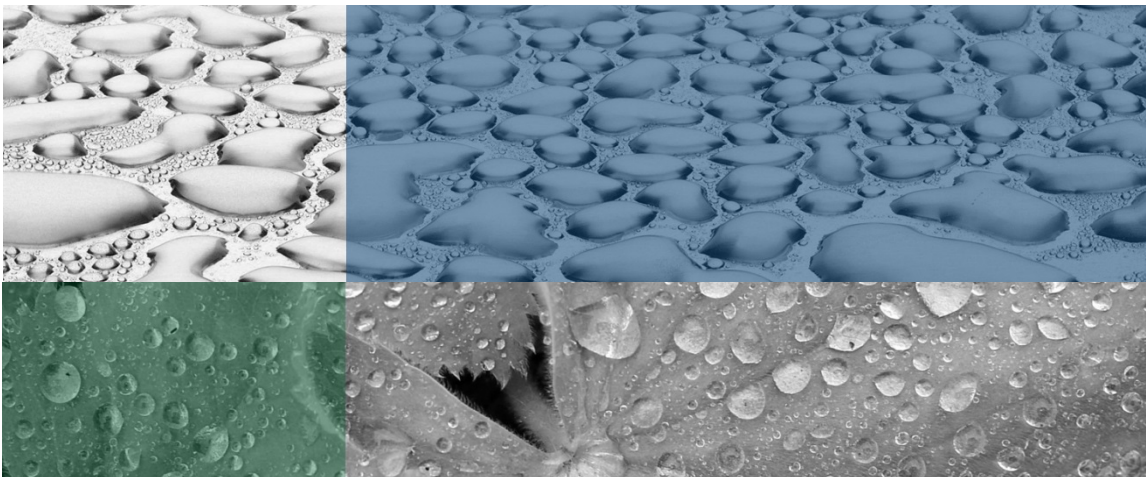
Attachment #1

Model Water Resources General Plan Policy Guide: General Plan Goals and Policies for Integrated Water Resource Management

MODEL WATER RESOURCES GENERAL PLAN POLICY GUIDE:

General Plan Goals and Policies for Integrated Water Resource Management

*Prepared for the San Diego County Water Authority,
City of San Diego, and County of San Diego*



Prepared by CityPlace Planning, Inc.

in association with RMC Water and Environment

Introduction

The Model Water Resources General Plan Policy Guide is designed to serve as a helpful resource for municipalities within the San Diego IRWM Plan Region. It can be used by local governments when updating or amending their general plans to ensure the wide range of water resource topics are addressed as part of land use decision-making processes.

The goals and policies below provide an outline for a stand-alone Water Element, or they can be used throughout various general plan elements, such as the Land Use, Conservation, or Safety Element. Not all the policies listed below will be appropriate for all General Plans. Instead, this document serves as a “smorgasbord” from which municipalities may select policies that are relevant to their circumstances and issues. Depending on individual conditions and the priorities of decision-makers, some goals and topic areas will likely be given more attention than others.

Users of this Model Water Resources Policy Guide may find it more appropriate to tailor the goals and policies to better address their particular circumstances. The policies may be broken into smaller units, combined, or expanded as applicable.

The document is structured around the four IRWM plan goals:

1. Optimize water supply reliability
2. Protect and enhance water quality
3. Provide stewardship of our natural resources
4. Coordinate and integrate water resource management

The policies associated with each goal were chosen from recently updated general plans of cities in San Diego County and the County of San Diego. Additional examples from other cities and counties in California were included where appropriate, and some extra policies were crafted.

Note that these are actual policies that have not been revised to make them generic. Each of the associated general plans can also serve as a further resource for users of this guide.

1. Optimize Water Supply Reliability. The intention of this goal is to ensure the reliability and most efficient use of water supplies to meet future needs. Efficiency of water use is really a combination of reducing demand on existing supplies, leading to an increase in local water supply as well as developing new supply options. Water use efficiency should be increased through indoor and outdoor water conservation, recycling of municipal wastewater, reuse of household graywater, and capture and/or infiltration of stormwater. A combination of sustainable water supply options should be employed to achieve reliability.

1.1. Water Supply Planning. These policies address water supply and demand for a variety of uses. Some municipalities combine water supply policies with those to increase efficiency of use into a single policy.

- 1.1.1** Pursue the following strategies to foster sustainable patterns of growth and water use:
- a. Work with water suppliers to identify water requirements needed for future growth;
 - b. Identify the development, improvement, timing, and location of new water and drainage facilities, to the extent feasible;
 - c. Use native vegetation or drought tolerant landscaping for public facilities and other large installation;
 - d. Promote the expansion of recycled water line infrastructure; and
 - e. Support the development of integrated growth and water supply impact scenarios to the extent feasible. (City of Encinitas Draft General Plan 2035)
- 1.1.2** Prepare, implement, and maintain long-term, comprehensive water supply plans and options in cooperation with the appropriate state and federal agencies, regional authorities, water utilities, and local governments. (City of San Diego)
- 1.1.3** Maintain a comprehensive, long-range water resource management plan that provides for appropriate management of all sources of water available to the planning area and ensures that sufficient and sustainable water supplies of good quality will be economically available to accommodate existing and planned urban development. (City of Fresno)
- 1.1.4** Promote the development and future use of desalinated water to improve local drinking water supply reliability. (New)
- 1.1.5** Consider future climate scenarios in water supply analyses for future development projects to ensure that an adequate supply will be available. (From City of Saint Helena General Plan Update Background Working Paper)
- 1.1.6** To the extent of the City's authority, strongly encourage water providers to conduct an evaluation of the water infrastructure based on current (fire) code standards with special emphasis on the upslope wildland-urban

interface area. Results from the evaluation should disclose deficiencies (differences between current code and existing conditions). During the planning period, a method should be developed and initiated to correct identified deficiencies. (City of La Cañada Flintridge)

1.2. Water-Use Efficiency. These policies will help with reducing the daily demand for water by promoting conservation measures. They address procedures and actions local government can implement for city operations and promote or mandate for private sector development.

- 1.2.1** Work with the Vista Irrigation District (VID) to reduce per capita water consumption, increase the use of recycled water, and implement, enhance or promote programs to educate the community about the importance of water conservation and methods to reduce water use. (City of Vista General Plan)
- 1.2.2** Adopt and implement a comprehensive strategy to reduce the reliance of local water users on imported water by increasing water conservation and the use of recycled water, and by exploring local water resources. (City of Encinitas Draft General Plan)
- 1.2.3** Promote the use of green building practices and “low impact development” in new and existing development to reduce the use of potable water. (City of National City General Plan)
- 1.2.4** Support the continued use of graduated rate structures by water suppliers in order to promote water conservation. (City of Chula Vista General Plan)
- 1.2.5** Incorporate water conservation techniques, such as groundwater recharge basins, use of porous pavement, drought-tolerant landscaping, and water recycling, as appropriate. Require that new development utilize drought-tolerant landscaping and incorporate adequate drought-conscious irrigation systems. (County of Riverside General Plan)
- 1.2.6** Develop and institute a City-sponsored program of mandatory water conservation measures for new development. Develop a program for existing developments based on a voluntary participation with incentives to achieve specific targets for water conservation, including such elements as:
 - a. Ultra-low flush toilets;
 - b. Plumbing retrofits;
 - c. Leak detection;
 - d. Efficiency standards for water-using appliances and irrigation devices, and industrial and commercial processes;
 - e. Graywater use;
 - f. Swimming pool and spa conservation measures such as covers to reduce evaporation; and
 - g. Xeriscape landscape design standards. (City of Livermore General Plan)
- 1.2.7** Implement conservation incentive programs that increase water-use efficiency and reduce urban runoff:

- a. Develop a response plan to assist citizens in reducing water use during periods of water shortages and emergencies.
- b. Encourage local water agencies to use state-mandated powers to enforce conservation measures that eliminate or penalize wasteful uses of water.
- c. Explore alternative conservation measures and technology as they become available.
- d. Develop and expand water-efficient landscaping to include urban forestry, urban vegetation, and demonstration projects. (City of San Diego General Plan)

1.2.8 Identify a reliable water source to protect and enhance the City's urban forests. (From IRWM Land Use and Water Management Study Input)

1.3. Groundwater Supplies. Common land use activities can pose a threat to groundwater quality, such as underground storage tanks, laundries and drycleaners, and certain agricultural practices. Excessive extraction of groundwater by certain uses can result in unexpected shortages. These policies address the use and management of groundwater supplies.

1.3.1 Develop potential groundwater resources and storage capacity, combined with management of surface water in groundwater basins, to meet overall water supply and resource management objectives. (City of San Diego General Plan)

1.3.2 Protect the sustainability of groundwater resources. (City of Escondido General Plan)

1.3.3 Institute effective measures to protect groundwater quality from potential adverse effects of increased pumping or potential sources of contamination. (County of Shasta General Plan)

1.3.4 Protect natural groundwater recharge areas and artificial spreading grounds and increase the storage of water underground for future use. (County of Los Angeles General Plan)

1.4. Recycling and Reuse of Water Supplies. These policies address the reuse of treated wastewater for beneficial uses.

1.4.1 Work with water purveyors to expand opportunities for the use of recycled water for activities such as outdoor irrigation, toilet flushing, fire hydrants, commercial and industrial processes, carwashes, concrete batching, laundromats, dust control, parks, golf courses, other landscaped areas, and other appropriate water-intensive areas. (City of San Marcos General Plan)

1.4.2 It is the policy of the City that recycled water be used for any purposes approved for recycled water use, when it is economically, technically and institutionally feasible. Recycled water shall be the primary source of supply for commercial and industrial uses, whenever available and/or feasible. Use of potable water for commercial and industrial uses shall be contrary to city policy; shall not be considered the most beneficial use of a natural resource;

and shall be avoided to the maximum extent possible. (City of Chino General Plan)

- 1.4.3** Encourage graywater systems, roof catchment of rainwater, and other methods of reusing water and minimizing the need to use groundwater. (County of Sonoma General Plan)

1.5. Stormwater Supplies. These policies promote the use of stormwater as a source of water supply and encourage the use of creative methods for stormwater capture and/or infiltration.

- 1.5.1** Require the incorporation of Low Impact Development (LID) techniques in accordance with current stormwater regulations to manage stormwater and urban runoff, reduce runoff and pollution, and assist in maintaining or restoring the natural hydrology of the site. Examples of LID techniques include, but are not limited to the following:
- a. Use permeable paving or pavers for sidewalks and parking areas instead of impervious material, such as concrete and asphalt.
 - b. Incorporate bioretention facilities, such as cells (small-scale shallow vegetated depressions), bioswales (linear bioretention features that may mimic natural stream channels), tree box filters (stand-alone or connected mini-bioretention areas that are installed beneath trees), and other bioretention features in site design for development projects and subdivisions.
 - c. Utilize rain barrels and cisterns to manage rooftop runoff and/or utilize rooftop runoff to provide water for irrigating lawns and gardens.
 - d. Install street trees in stand-alone or connected tree box filters. (City of Vista General Plan)
- 1.5.2** Maximize the amount of runoff directed to permeable areas and/or maximize stormwater storage for reuse or infiltration by such means as:
- a. Using cisterns, retention structures or green rooftops to store precipitation or runoff for reuse.
 - b. Grading the site to divert flow to permeable areas.
 - c. Orienting roof runoff towards permeable surfaces, drywells, French drains or other structural BMP's rather than directly to driveways or non-permeable surfaces so that runoff will penetrate into the ground instead of flowing off-site. (Santa Monica Municipal Code)

2. Protect and enhance water quality. Since land use development can significantly impact both water quality and watershed quality, the following water policies are intended to mitigate development impacts, and protect and improve the quality of water for all beneficial uses. These policies should also be linked to water supply and watershed protection policies.

- 2.1 Stormwater management.** Stormwater management requires regional and site-scale policies. These water quality policies should be linked to watershed protection policies. Treated stormwater can also be considered as a local supply source.
- 2.1.1** In designing water, wastewater, and drainage facilities, limit the disruption of natural landforms and water bodies. Encourage the use of natural channels that simulate natural drainage ways while protecting property. (City of Chula Vista General Plan)
 - 2.1.2** Plan and design drainage facilities, and upgrade existing facilities, as necessary, to meet current needs, accommodate growth, and satisfy state and federal requirements. (City of Chula Vista General Plan)
 - 2.1.3** For new development, require on-site detention of storm water flows. Slow runoff and maximize on-site infiltration of runoff. (City of Chula Vista General Plan)
 - 2.1.4** Assure that drainage facilities in new development incorporate stormwater runoff and sediment control. (City of Chula Vista General Plan)
 - 2.1.5** Ensure that any alterations of the natural floodplain, stream channels, and natural protective barriers do not impede or unnaturally redirect floodwaters, increase flood hazards in other areas, or result in increased flood damage. (City of Vista General Plan)
 - 2.1.6** Evaluate and make improvements to inadequate storm drain systems, including channels, drains, catch basins, pipes, and inlets, to ensure capacity for maximum runoff flows. (City of Vista General Plan)
 - 2.1.7** Require incorporation of design features that reduce the amount of impervious surface (e.g., paved areas) within new public and private developments, consistent with the San Diego Regional Water Quality Control Board standards and the City's Jurisdictional Urban Runoff Management Plan. (City of Vista General Plan)
 - 2.1.8** Reduce the discharge of pollutants into the storm drain system from existing municipal, industrial, and commercial facilities and residential areas to the maximum extent feasible. (City of Santee General Plan)
 - 2.1.9** Regulate discharge from industrial users and use of agricultural chemicals (pesticides, herbicides, fertilizers, etc.) in accordance with local and State regulations to protect the city's natural water bodies. (City of Escondido General Plan)
 - 2.1.10** Encourage the use of mulch and compost in lieu of chemical fertilizers to improve water quality. (City of La Mesa General Plan)

- 2.1.11** Control encroachments into wetlands and designated floodways to protect the community's water resources. (City of Escondido General Plan)
 - 2.1.12** Require new development to protect the quality of water resources and natural drainage systems through site design and use of source controls, stormwater treatment, runoff reduction measures, best management practices, and Low Impact Development measures. (City of Escondido General Plan)
 - 2.1.13** Require development projects to avoid impacts to the water quality in local reservoirs, groundwater resources, and recharge areas, watersheds, and other local water sources. (County of San Diego General Plan)
 - 2.1.14** Encourage coordination between land use planning, site design, and stormwater pollution control. (City of Livermore General Plan)
 - 2.1.15** For existing landscapes, runoff, low-head drainage, overspray or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways or structures shall be prohibited. (City of Palm Desert General Plan)
 - 2.1.16** Design and site development to minimize lot coverage and impervious surfaces, limit post development runoff to pre-development volumes, and incorporate storm drainage facilities that reduce urban runoff pollutants to the maximum extent possible. (City of Santa Cruz General Plan)
 - 2.1.17** Where feasible, direct runoff from rooftops and other areas to drywells. Require low-flow velocity, vegetated open channels, area drains incorporating grease and sediment traps, groundwater recharge facilities and detention ponds directly connected to impervious areas. (City of Santa Cruz General Plan)
 - 2.1.18** Develop and implement a citywide Jurisdictional Urban Runoff Management Program (JURMP) to protect and improve the quality of urban runoff and stormwater discharging to local water bodies (Pacific Ocean and beaches of Encinitas, Batiquitos Lagoon and San Elijo Lagoon; Cottonwood Creek, Escondido Creek and Encinitas Creek and their tributaries). (City of Encinitas Draft General Plan)
 - 2.1.20** Continue to use and update best practices for stormwater management as they improve over time. (From IRWM Land Use and Water Management Study Input)
- 2.2 Groundwater quality.** These policies are intended to assure and protect the quality of groundwater resources, and are related to stormwater quality, groundwater supply, and watershed protection.
- 2.2.1** Require new development to preserve areas that provide opportunities for groundwater recharge (i.e. areas where substantial surface water infiltrates into the groundwater), stormwater management, and water quality benefits. (City of Escondido General Plan)

- 2.2.2** Protect Escondido's shallow groundwater basin from contamination by regulating stormwater collection and conveyance to ensure pollutants in runoff have been reduced to the maximum extent practicable. (City of Escondido General Plan)
- 2.2.3** Actively pursue the abatement of failing septic systems that have been demonstrated as causing a health/safety hazard. (Sonoma County)
- 2.2.4** Require land uses with a high potential to contaminate groundwater to take appropriate measures to protect water supply sources. Potential sources of groundwater contamination include, but are not limited to, landfills, fertilizer, pesticides, manure storage and sales, petroleum product storage tanks, manufacturing plants and on-site wastewater treatment systems. (County of San Diego General Plan)

3. Provide Stewardship of our Natural Resources. The intent of this goal is to minimize impacts from development and preserve the health of the planning area's watersheds to ensure sustainable water supplies, reduce flood risks, and protect important natural areas and ecological systems. The policies below address how and where development should occur within a watershed. Some use smart growth techniques to promote compact, walkable community design with mixed uses, a well-connected street network and a range of transportation options.

- 3.1 Compact Development.** These policies can minimize the impact of development by reducing the size of the community's footprint, promoting a mix of land uses, and allowing for watershed preservation. Carefully designed compact development can result in increased stewardship of the environment. Multi-modal transportation options can reduce the need for new streets and reduce water pollution from cars.
 - 3.1.1** Design an interconnected street network within and between communities, which includes pedestrian and bicycle access, while minimizing landform impacts. (City of San Diego General Plan)
 - 3.1.2** Intensify development at key nodes to promote compact, integrated, mixed-use development that is pedestrian- and transit-supportive. (City of Vista General Plan)
 - 3.1.3** Support innovative site design techniques such as cluster-type housing and transfer-of-development-rights to preserve sensitive environmental resources and to allow development projects to comply with the city's Habitat Management Plan. (City of Carlsbad General Plan)
 - 3.1.4** Provide incentives for both compact and transit-oriented development, such as a parking reduction consistent with regional standards, for more intense development and higher density residential uses along major transportation corridors or in areas accessible to transit use. (City of La Mesa General Plan)

- 3.1.5** Encourage information sharing among developers concerning smart growth designs that protect water resources. (U.S. EPA, Protecting Water Resources with Smart Growth, publication number EPA 231-R-04-002)
- 3.1.6** Ensure compact development design that protects and increases the effectiveness of smart water resource management practices by including such measures as connecting open space areas, promoting low-impact development techniques, and increasing the connectivity of the canopy cover. (From IRWM Land Use and Water Management Study Input)
- 3.1.7** Promote compact development design solutions that result in multiple positive outcomes, such as combining habitat protection, recreation, heat loss, and groundwater recharge. (From IRWM Land Use and Water Management Study Input)

3.2 Natural Resource Protection and Watershed Management. Policies to protect natural areas are a critical component to watershed management. These policies include those to protect wetlands, streams, creeks, riparian habitat and other sensitive resources, provide standards for buffers and setbacks, promote habitat restoration projects and include open space acquisition and protection.

- 3.2.1** Apply the appropriate zoning and environmentally sensitive lands regulations to limit development of floodplains, wetlands, steep hillsides, canyons and coastal and waterfront lands. (City of San Diego General Plan)
- 3.2.2** Manage floodplains and floodways to address their multi-purpose use, including natural drainage, habitat preservation, and open space and passive recreation, while also protecting public health and safety. (City of San Diego General Plan)
- 3.2.3** Integrate ecosystem protection and restoration into water storage and conveyance and flood control/management planning. (From IRWM Land Use and Water Management Study Input)
- 3.2.4** Implement the Agua Hedionda Watershed Management Plan and develop and implement a similar watershed management plan for Buena Vista Creek and its major tributaries, dependent upon available funding. (City of Vista General Plan)
- 3.2.5** Restrict the installation of new concrete lining or channelization projects within open creeks and waterways and restore the creek system to its natural state where feasible in an effort to balance flood protection, water quality benefits, and habitat preservation. The daylighting and restoration of covered creek channels is encouraged. (City of Vista General Plan)
- 3.2.6** In order to minimize impacts of development on wetlands, require development projects to:
 - a. Mitigate any unavoidable losses of wetlands, including its habitat functions and values; and
 - b. Protect wetlands, including vernal pools, from a variety of discharges and activities, such as dredging or adding fill material, exposure to pollutants

such as nutrients, hydromodification, land and vegetation clearing, and the introduction of invasive species. (County of San Diego)

- 3.2.7** Control encroachments into wetlands and designated floodways to protect the community's water resources. (City of Escondido General Plan)
- 3.2.8** Maintain Escondido's natural creek system in an undisturbed state, with a minimum of a 50-foot buffer and setback for development, or as established by appropriate wildlife agencies, unless stream course alteration, channelization, or improvements are approved by necessary state and federal agencies and the City. (City of Escondido General Plan)
- 3.2.9** Protect all wetlands and buffers identified and included within development projects by permanently conserving those areas within a required open space easement or other suitable device. (City of Encinitas Draft General Plan)
- 3.2.10** Require development to preserve existing wetland areas and associated transitional riparian and upland buffers and retain opportunities for enhancement. (County of San Diego General Plan)

3.3 Vegetation Protection and Management. These policies promote and protect tree cover and natural vegetation for maintaining watershed processes.

- 3.3.1** Preserve the integrity of riparian habitat areas, creek corridors, and other drainages that support biological resources and contribute to the overall health of the watershed areas through the preservation and restoration of native plants and the removal of invasive, exotic, and nonnative species. (City of Vista General Plan)
- 3.3.2** Preserve existing trees where appropriate and require planting of new trees in conjunction with public and private developments. (City of La Mesa General Plan)
- 3.3.3** Continue to implement the City's Heritage Tree ordinance in order to formally identify and protect significant trees throughout the City. (City of Encinitas Draft General Plan)
- 3.3.4** Protect, preserve, and create the conditions that will promote the preservation of significant trees and other vegetation, particularly native California species. (City of San Luis Obispo General Plan)
- 3.3.5** Require that drainage channels be designed to accommodate riparian vegetation growth. (City of Escondido General Plan)

3.4 Sustainable Site Preparation Practices. These policies are intended to promote responsible site preparation activities and protect existing natural resource features for water resource protection.

- 3.4.1** Only allow grading and vegetation removal if adequate erosion and sediment controls are designed and constructed immediately after grading/vegetation removal. Require revegetation and appropriate landscaping of all areas graded or cleared of natural groundcover due to development activities.

Select plants, hydroseed mix, and irrigation systems that minimize erosion and conserve water. (Coastal Act/30251) (City of Encinitas Draft General Plan)

- 3.4.2** Encourage and facilitate construction and land development techniques that minimize water quality impacts from urban development. (City of Chula Vista General Plan)
- 3.4.3** The use of “green construction” and land development techniques shall be encouraged as a means to reduce the environmental impacts of construction activity. (City of Livermore General Plan)
- 3.4.4** Require submission of a comprehensive erosion control plan with final grading, building permit and improvement plans, subject to review and approval prior to commencement of grading and construction. (Coastal Act/30251) (City of Encinitas Draft General Plan)

4. Coordinate and integrate water resource management. The intent of this goal is to coordinate and integrate water management efforts to achieve the other goals. It acknowledges the effect our local land use decisions have on regional and state water resources in terms of quality, quantity, and availability. This goal addresses the processes, partnerships, and information sharing necessary to do our part to promote integrated solutions to our community’s and the Region’s water management issues.

- 4.1. Integrated water resource management.** These policies recognize the importance of employing multiple and interconnected water resource management strategies, whether at the site, neighborhood, local (jurisdictional), watershed, or regional levels. They also emphasize the need for coordinated water resource and land use planning and implementation at the various levels.
 - 4.1.1** Integrate water and land use planning into local decision-making, including using water supply and land use studies in the development review process. (City of San Diego)
 - 4.1.2** Integrate the City’s conservation planning efforts with watershed planning, GHG reductions, and other regional planning efforts involving natural resources when possible in order to maximize opportunities for grant funding for conservation purposes. (City of Vista)
 - 4.1.3** Integrate water management programs that emphasize multiple benefits and balance the needs of urban, rural, and agricultural users. (City of Escondido)
 - 4.1.4** Pursue a multi-jurisdictional approach to protecting, maintaining and improving water quality and the overall health of the watershed. A comprehensive, integrated approach will ensure compliance with federal and state standards, and address a range of interconnected priorities including: water quality and runoff; stormwater capture, storage and flood

management techniques that focus on natural drainage; natural filtration and groundwater recharge through green infrastructure and habitat restoration; and water recycling and conservation. (City of Richmond)

4.1.5 Continue to participate in the development and implementation of Watershed Management Plans for water quality and habitat protection. (City of San Diego)

4.1.6 When reviewing development projects, evaluate impacts on the entire watershed, and consider using mitigation banking when development projects create adverse impacts on water reliability, watershed quality, and natural resources that extend beyond the project parameters and/or jurisdictional boundaries. (From IRWM Land Use and Water Management Study Input)

4.1.7 Mitigate and adapt for risks and impacts associated with climate change in regional and local-level water management and land use planning. (From IRWM Land Use and Water Management Study Input)

4.1.8 Link hazard mitigation planning and coordinate safety elements with water management planning to include the following: flooding; debris flows; impact of climate change on communities; impact of wildfires on watersheds; sufficient water flows for firefighting; and any additional elements. (From IRWM Land Use and Water Management Study Input)

4.2. Partnerships and coordination. These policies promote the establishment or enhancement of partnerships with other agencies and organizations to increase the opportunity for sharing information and data, resources, and infrastructure.

4.2.1 Coordinate local land use planning with state and regional water resource planning to help insure that the citizens of San Diego have a safe and adequate water supply that meets existing needs and accommodates future needs. (City of San Diego General Plan)

4.2.2 Foster coordination and cooperation between City departments, outside agencies, service providers, and adjacent jurisdictions. (City of Chula Vista)

4.2.3 Participate in regional and subregional planning forums, including SANDAG's Regional Comprehensive Plan, or others that may directly affect the quality of life in Chula Vista and the San Diego region. (City of Chula Vista)

4.2.4 Work with SANDAG to expand the Healthy Environment Element of the Regional Comprehensive Plan (RCP) to incorporate the broader range of water resources goals to support the IRWM Plan. (From IRWM Land Use and Water Management Study Recommendations)

4.2.5 Coordinate City habitat management planning efforts with federal, state, and local agencies, and other planning efforts of the City. (City of Carlsbad)

4.2.6 Engage tribal nations in collaboration, coordination, and communication regarding land use planning and water management. (From IRWM Land Use and Water Management Study Recommendations)

- 4.2.7 Consult with North Coast Regional Water Quality Control Board staff as part of the CEQA process for proposed developments to help them identify wetland and vernal pool habitat that has candidacy for restoration / protection based on actual and potential beneficial uses, and determine appropriate locations for mitigation banking. (City of Santa Rosa General Plan)
- 4.2.8 Participate in development of, and utilize, a GIS-based Resource Guide of all the various agencies, organizations, and stakeholder groups responsible for and/or involved in water management and land use planning in the Region. (From IRWM Land Use and Water Management Study Recommendations)
- 4.2.9 Participate in and/or host workshops, webinars, and other types of information-sharing sessions designed to strengthen relationships between water managers and land use planners. (From IRWM Land Use and Water Management Study Recommendations)
- 4.2.10 Work with water purveyors to develop water efficiency policies. (From IRWM Land Use and Water Management Study Input)
- 4.3. **Stakeholder and community involvement and education.** These policies are intended to engage communities and educate the public regarding the interconnectedness of water supply, water quality, and natural resources while promoting individual and community ownership of the problems and solutions.
 - 4.3.1 Continue to develop and implement public education programs.
 - a. Involve the public in addressing runoff problems associated with development and raising awareness of how an individual's activities contribute to runoff pollution.
 - b. Work with local businesses and developers to provide information and incentives for the implementation of Best Management Practices for pollution prevention and control.
 - c. Implement watershed awareness and water quality educational programs for City staff, community planning groups, the general public, and other appropriate groups. (City of San Diego General Plan)
 - 4.3.2 Support volunteer Creek Stewards who help serve to identify and report undesirable conditions and activities. Creek Stewards also perform minor maintenance and monitoring tasks and provide suggestions to enhance creek areas. (City of Santa Rosa General Plan)
 - 4.3.3 Provide guidelines to developers, homeowners and homeowners associations, contractors, and others to encourage "watershed friendly" design, construction, and maintenance of new and existing development. (From IRWM Land Use and Water Management Study Recommendations)
 - 4.3.4 Utilize a variety of methods, such as social media and pertinent websites, to share key information with elected officials, planners, and water resources managers. (From IRWM Land Use and Water Management Study Recommendations)

Attachment #2

Recommendations:

**Improved Communication, Collaboration, and Coordination
between Water Resources Managers
and Land Use Managers**

Recommendations:

Improved Communication, Collaboration, & Coordination between Water Resources and Land Use Managers

Introduction

The IRWM Program provides overarching goals, objectives, and strategies for the range of planning and water resources agencies within the San Diego IRWM Plan Region (Region), which consists of eleven westward draining watersheds within San Diego County. To be effective, they should guide development and implementation of individual agencies' plans; at the same time, the plans of the individual agencies should inform the IRWM Program's planning and implementation processes. Between the Regional and local levels are the individual watersheds that require additional collaboration and coordination. In essence, water resource and land use goals and policies need to "roll up and roll down" from the Regional, watershed, and local levels to achieve integration and effectiveness.

While some coordination currently occurs between water resources agencies and land use planners, there is an identified need for improved collaboration and communication between them and better alignment of all related plans and implementation programs within the Region. Input received at the IRWM update Land Use Planning Workshops indicates the following.

- Silos need to be broken down between water and land use disciplines and agencies.
- Relationships need to be built or strengthened.
- Water resources and land use plans, policies, and implementing projects and programs must be better integrated.
- The land use community needs to be better involved in water management in the region.
- Decision-making by municipalities* should consider potential impacts beyond their political boundaries.
- The IRWM Program should create incentives for cities to undertake and/or participate in cooperative projects that link land use and water management.

One of key objectives of the 2013 IRWM Program update is to develop and prioritize a list of recommendations that could be implemented through the IRWM Program to improve communication between water resources and land use planners and enhance collaboration and coordination regarding associated plans and implementation programs.

Preliminary recommendations were developed in response to input derived from the surveys and suggestions received at Land Use Workshop #1 (May 12, 2012). They were discussed at Land Use Workshop #2 (August 21, 2012), at which time participants both refined and added recommendations. The final list of recommendations was then prioritized by the participants.

The recommendations can be implemented through a variety of methods, such as grants and new or existing working groups and collaborations. Processes need to be put into place to initiate, expand, and sustain this effort. Such an effort will require commitment, time, persistence, political will, leadership, and resources.

Recommendations

The recommendations have been organized into two general categories: 1) collaborative work products and 2) opportunities for information sharing, regular communication, and meaningful collaboration. Please note that the categories are not mutually exclusive; in fact, an argument could be made to move some items between categories. The intent is to distinguish specific products (Category 1) from activities that are primarily designed to promote communication (Category 2.) However, an outcome of implementing items from Category 1 will be improved communication and coordination between land use planners and water resources managers.

The recommendations are prioritized from highest to lowest within each category, with 1 being the highest priority.

Category 1: Support or facilitate collaborative preparation of various joint water resources and land use planning efforts and work in the Region.

This may include work products such as plans, guidelines, model ordinances, and reference materials for cities to use or adopt, tailored to the Region and using best practices taken from local agencies, groups, and other water/land use collaborations.

1. Distribute the model water resources policies developed through the IRWM Program update for municipalities to use when updating their existing general plans.
2. Prepare a model gray water ordinance.
3. Seek funding to provide a grant program that enables municipalities to fund updates to their general plans to incorporate the model water resource policies in 1. above or develop water resources element of their general plans. (This recommendation is modeled after County of San Diego's grant program for health and wellness elements through its Healthy Works program).
4. Prepare guidelines agencies can provide to developers, homeowners and homeowner associations, contractors, and others to encourage "watershed friendly" design, construction, and maintenance of new and existing development.
5. Prepare information sheets regarding potential water resource-related impacts of certain land uses for land use planners to refer to when evaluating proposed development requests, such as landfills, pharmaceutical industries, etc.
6. Prepare a model sustainable landscape ordinance.
7. Work with SANDAG to expand the Healthy Environment Element of the Regional Comprehensive Plan (RCP) to incorporate the broader range of water resources goals to support the IRWM Plan.
8. Prepare a model stormwater management ordinance.
9. Prepare model guidelines for green infrastructure for public agencies. (Tie)
10. Prepare model guidelines for green infrastructure for private development. (Tie)
11. Prepare conservation or resource management plans/guidelines for community gardens and backyard gardening.
12. Coordination of BMPs in municipal codes when the water agency is not the municipality. (Tie)
13. Prepare conservation or resource management plans/guidelines for agricultural operations. (Tie)
14. Prepare model green building standards.

Category 2: Provide opportunities for information sharing, regular communication, and meaningful collaboration for water resources and land use managers.

Based on input from interviews and workshops, “Agencies just need to sit down and talk to each other!” This is particularly important at the watershed and/or local level(s), especially between land use planners and stormwater, flood control, water supply, wastewater, habitat conservation, and water quality managers. While this does occur throughout the Region to a certain extent, it is not consistent, not always ongoing, is often a voluntary effort rather than an identified priority, and has varying degrees of success. Water resources managers and land use planners often do not have the opportunity to interact unless they are part of the same municipality, nor are there forums that provide meaningful and ongoing opportunities for information sharing, or joint policy and program development. A key factor that is often missing is representation from agencies responsible for land use planning. The following recommendations are intended to increase opportunities for information sharing, regular communication, and meaningful collaboration.

1. Create a GIS-based Resource Guide of the all the various agencies, organizations, and stakeholder groups responsible for and/or involved in water management and land use planning in the Region. The IRWM website could serve as the host for the Resource Guide. Information would be provided for each plan and each entity, such as “what they do,” their mandates, timing of plan updates, mapping of their jurisdictional boundaries showing how they overlap, etc. Include a chapter on common terminology. Provide the ability to search by various boundaries, such as watershed, municipality, water resources agencies, tribe, and the geographic boundaries of various water resources plans, both legal and cooperative. Consider including information that would be useful for both policy and implementation purposes. (For example, the information in Appendix 13 of the current IRWM—Summary of the Region’s Local Water Management Plans, would be mapped and populated.) Eventually, the information could be provided on a parcel level. If it already exists at a parcel level, incorporate it. Where it does not, pursue grant funding or encourage/support cooperative efforts to develop it. (Example: San Bernardino)
2. Work with SANDAG to expand its emphasis on smart growth (sustainable land use and transportation practices) to encompass strategies that improve the reliability and quality of water resources.
3. Build relationships and share information through workshops, webinars, lunch sessions, etc., put on by such organizations as APA, AEP, APWA, CWA, and the American Water Resources Association (AWRA). These could be hosted by different agencies, preceded by informal “meet and greet” time, to strengthen relationships between the water managers and land use planners and share information of a variety of topics. Topics could include:
 - i. how to improve coordination in the development review and CEQA processes;
 - ii. coordinating with water agencies to prepare water supply and demand analyses for general plan updates;
 - iii. updating and implementing UWMPs, specific plans, master plans;
 - iv. adopting ordinances that support the integration of water resource management and land use planning;
 - v. developing baselines and indicators;
 - vi. information and examples regarding the use of techniques, such as conservation easements, TDRs (transfer of development rights), buffer zones and green belts,

urban growth boundaries, open space districts, and habitat conservation districts; and

vii. coordinating integrated approaches to legislation.

4. Provide an annual forum for staff from water resources and land use agencies based on topics of mutual interest and importance, such as updates on water resource legislation that impacts land use policies, codes, and development. It could recognize innovative plans, programs, and processes that exemplify water resource and land use coordination and collaboration, and showcase examples of local best management practices, including details of processes taken to achieve them. This could be accomplished either by expanding the annual IRWM Summit or creating a separate forum/workshop.
5. Develop a template that municipalities can use to convene meetings that include all the entities involved in land use planning and water resource planning and management for that jurisdiction. The idea is to bring everyone together to discuss their role, responsibilities, mandates, and plans in the intersection between land use planning and water resource management in the policy/planning, regulatory, and project levels. This process could facilitate “tiering” or better alignment of various land use and water resource plans within watersheds, at both the policy and implementation levels. This forum also could provide the opportunity to develop best management practices.
6. Utilize existing agencies, committees, and collaborations, to disseminate key information and support an integrated approach to water resources management and land use decision-making.
7. Expand the IRWM website to include examples of sustainable, efficient, effective, least-cost/economical, and politically viable land use practices that can improve the reliability and quality of water resources.
8. Develop a guide for how to engage tribal nations in the collaboration, coordination, and communication regarding land use planning and water management.
9. Utilize social media, pertinent websites, and other methods to share key information with elected officials, planners and water resources managers.

Concluding Comments

Some of the recommendations could be implemented on a “volunteer” basis by any number of existing entities. However, attendees at the workshops noted that, ideally, effective implementation will necessitate one or more entities taking lead or co-responsibility for overall collaboration and coordination between water resources and land use planning agencies at the policy/planning, regulatory, and project levels. It could be an existing entity (such as the IRWM RAC or RWMG, SANDAG, CWA, SDRWQCB, etc.), a new one created for this purpose (such as a Water Resources Coordinating Council), or a combination. Whatever the organization, it should be intentional, structured, politically supported, ongoing, and funded.

*The term “municipality” as used by the International City/County Management Association (ICMA) refers to local government at both the city and county levels.

Attachment #3

Key Issues Matrix

Key Issues Matrix

The Issues Matrix summarizes the key issues identified through the 2013 IRWM Land Use and Water Management Study process as existing obstacles to integration of land use and water management plans and programs. One of key objectives of the 2013 IRWM Program update is to develop and prioritize a list of recommendations that could be implemented through the IRWM Program to improve communication between water resources and land use planners and enhance collaboration and coordination regarding associated plans and implementation programs. The intent of the matrix is to show how the recommendations developed through the Land Use Study process will help to overcome the issues through implementation of the IRWM Program. While the emphasis of this study is on identification of recommendations for IRWM Program implementation, positive outcomes depend on the involvement of, and commitment by, the decision-makers and staff of the Region's municipalities and water agencies. (See Attachment 2 for the overview and complete prioritized list of the recommendations.)

KEY ISSUES	RECOMMENDATIONS		
	IRWM Program	Municipalities / Land Use Planners	Water Agencies / Managers
Silos need to be broken down between water and land use disciplines and agencies and relationships need to be built or strengthened.	<ul style="list-style-type: none"> • Provide an annual forum for staff from water resources and land use agencies based on topics of mutual interest and importance. 	<ul style="list-style-type: none"> • Attend forum • Share case studies, best practices 	<ul style="list-style-type: none"> • Attend forum • Share case studies, best practices
	<ul style="list-style-type: none"> • Develop a template that municipalities can use to convene meetings that include all the entities involved in land use planning and water resource planning and management for that jurisdiction. 	<ul style="list-style-type: none"> • Volunteer to be a convener. 	<ul style="list-style-type: none"> • Participate in the meetings with the various member jurisdictions.
	<ul style="list-style-type: none"> • Build relationships and share information through workshops, webinars, lunch sessions, etc., put on by such organizations as APA, AEP, APWA, CWA, and the American Water Resources Association (AWRA). 	<ul style="list-style-type: none"> • Attend workshops, webinars, etc. • Share case studies, best practices 	<ul style="list-style-type: none"> • Attend workshops, webinars, etc. • Share case studies, best practices
	<ul style="list-style-type: none"> • Develop a guide for how to engage tribal nations in the collaboration, coordination, and communication regarding land use planning and water management. 	<ul style="list-style-type: none"> • Utilize the guide 	<ul style="list-style-type: none"> • Utilize the guide
Water resources and land use plans, policies, and implementing projects and programs must be better integrated.	<ul style="list-style-type: none"> • Work with SANDAG to expand its emphasis on smart growth (sustainable land use and transportation practices) to encompass strategies that improve the reliability and quality of water resources. 	<ul style="list-style-type: none"> • Participate 	<ul style="list-style-type: none"> • Participate
	<ul style="list-style-type: none"> • Place a priority on partnerships between land use and water agencies in the IRWM grant funding process 	<ul style="list-style-type: none"> • Pursue projects in partnership with water agencies and other 	<ul style="list-style-type: none"> • Pursue projects in partnership with land use planners /

	(such as outlined in the application process for the Prop 84-Round 2 implementation grant funding).	stakeholders.	municipalities and other stakeholders.
	<ul style="list-style-type: none"> • Seek funding to provide a grant program that enables municipalities to fund updates to their general plans to incorporate more integrated and comprehensive water management policies, such as the model water element. 		
	<ul style="list-style-type: none"> • Seek funding to support implementation of policies and programs identified in the model water element that emphasize integrated solutions to water management. 		
Decision-making by municipalities should consider potential impacts beyond their political boundaries.	<ul style="list-style-type: none"> • Utilize existing agencies, committees, and collaborations, to disseminate key information and support an integrated approach to water resources management and land use decision-making. 		
	<ul style="list-style-type: none"> • Utilize social media, pertinent websites, to share key information with elected officials, planners and water resources managers. 		
	<ul style="list-style-type: none"> • Work with SANDAG to expand its emphasis on smart growth (sustainable land use and transportation practices) to encompass strategies that improve the reliability and quality of water resources. 		
The information regarding the various agencies, plans, laws, etc. that applies to municipalities and water agencies is not readily available.	<ul style="list-style-type: none"> • Create a GIS-based Resource Guide of the all the various agencies, organizations, and stakeholder groups responsible for and/or involved in water management and land use planning in the Region. The IRWM website could serve as the host for the Resource Guide. 	<ul style="list-style-type: none"> • Utilize the Resource Guide • Share information / participate in development and updates 	<ul style="list-style-type: none"> • Utilize the Resource Guide • Share information / participate in development and updates
	<ul style="list-style-type: none"> • Utilize existing agencies, committees, and collaborations to disseminate key information to water resources management and land use decision-making. 		
	<ul style="list-style-type: none"> • Expand the IRWM website to include examples of sustainable, efficient, effective, least-cost/economical, and politically viable land use practices that can improve the reliability and quality of water resources. 		
Majority of land use planners are not aware of the IRWM Program.	<ul style="list-style-type: none"> • Utilize existing agencies, committees, and collaborations, to disseminate key information and support an integrated approach to water resources management and land use decision-making. 		

	<ul style="list-style-type: none"> • Provide an annual forum for staff from water resources and land use agencies based on topics of mutual interest and importance. 		
	<ul style="list-style-type: none"> • Share information through workshops, webinars, lunch sessions, etc., put on by such organizations as APA and AEP. 		
Many General Plans do not address the broad spectrum of water management topics, and water policies are often generic and/or vague.	<ul style="list-style-type: none"> • Distribute the model water element (water resources policies) developed through the IRWM Program update for municipalities to use when updating their general plans. 	<ul style="list-style-type: none"> • Utilize the model water element policies provided by the IRWM Program when updating their general plans. 	<ul style="list-style-type: none"> • Provide input to municipalities to help them tailor the model water policies to address their community's issues and needs.
	<ul style="list-style-type: none"> • Seek funding to provide a grant program that enables municipalities to fund updates to their general plans to incorporate more integrated and comprehensive water management policies, such as the model water element. 	<ul style="list-style-type: none"> • Update their general plans to incorporate more integrated and comprehensive water management policies, such as the model water element. 	<ul style="list-style-type: none"> • Provide input to municipalities to help them tailor the model water policies to address their community's issues and needs.
	<ul style="list-style-type: none"> • Expand the IRWM website to include examples of sustainable, efficient, effective, least-cost/economical, and politically viable land use practices that can improve the reliability and quality of water resources. 		
Staffs of both municipalities and water agencies often do not have the resources (funds and/or time) to take on extra projects or prepare plans, ordinances, and information for communities beyond those prioritized by their councils/boards/commissions.	<ul style="list-style-type: none"> • Create incentives, such as grants, to encourage municipalities and agencies to participate in cooperative projects that link land use and water management. 		
	<ul style="list-style-type: none"> • Prepare a model gray water ordinance for use by local municipalities. (Could be accomplished through an interagency team, funded by the IRWM.) 	<ul style="list-style-type: none"> • Participate in development of the model gray water ordinance if possible. • Adopt the model gray water ordinance (modified as necessary for the individual municipality.) 	<ul style="list-style-type: none"> • Participate in development of the model gray water ordinance if possible. • Provide input to municipalities to help them tailor the model gray water ordinance to address their community's issues and needs.
	<ul style="list-style-type: none"> • Prepare a model sustainable landscape ordinance. 	<ul style="list-style-type: none"> • Participate in development of the model sustainable landscape ordinance if possible. • Adopt the model sustainable landscape ordinance (modified as necessary for the individual municipality.) 	<ul style="list-style-type: none"> • Participate in development of the model sustainable landscape ordinance if possible. • Provide input to municipalities to help them tailor the model sustainable landscape ordinance to address their community's issues and needs.

	<ul style="list-style-type: none"> • Prepare a model stormwater management ordinance. 	<ul style="list-style-type: none"> • Participate in development of the model stormwater ordinance if possible. • Adopt the model stormwater ordinance (modified as necessary for the individual municipality.) 	<ul style="list-style-type: none"> • Participate in development of the model stormwater ordinance if possible. • Provide input to municipalities to help them tailor the stormwater ordinance to address their community's issues and needs.
	<ul style="list-style-type: none"> • Prepare model guidelines for green infrastructure for public agencies. 	<ul style="list-style-type: none"> • Participate in development of the model guidelines for green infrastructure for public agencies if possible. • Adopt the guidelines for green infrastructure for public agencies (modified as necessary for the individual municipality.) 	<ul style="list-style-type: none"> • Participate in development of the model guidelines for green infrastructure for public agencies if possible.
	<ul style="list-style-type: none"> • Prepare model guidelines for green infrastructure for private development. 	<ul style="list-style-type: none"> • Participate in development of the model guidelines for green infrastructure for private development if possible. • Adopt the model guidelines for green infrastructure for private development (modified as necessary for the individual municipality.) 	<ul style="list-style-type: none"> • Participate in development of the model guidelines for green infrastructure for private development if possible.

