

October 11, 2011 2:00 pm – 5pm
 Location: Regional Water Authority
 5620 Birdcage St. #110
 Citrus Heights, CA

Meeting Attendance:

Name	Organization
Ashoor, Ary	CCWC/ OEHHA
Crandell, Melissa	U.S. Bureau of Reclamation
Duenas, Fernando	City of Elk Grove
Eck, Darrell	Sacramento County Water Agency
Ellison – Lloyd, Delyn	City of Roseville
Firenzi, Tony	Placer County Water Agency
Formosa, Ed	Sacramento Suburban Water District
Kane, David	Citrus Heights Water District
Kriz, Ed	City of Roseville
Newman, TJ	Mission Oaks Recreation & Parks District
Pi, Nelson	CCWC/ OEHHA
Roberson, Mark	Water Forum
Sandhu, Teji	California Department of Water Resources
Schwartz, Gerald	East Bay Municipal Utility District and Galt Irrigation District
Smith, Felix	Save the American River Association
Staley, Sarah	City of Folsom
Tura, Alta	Sacramento Area Creeks Council
Washburn, Barbara	CCWC/ OEHHA
White, Chris	Balance Hydrologics
Young, Jean	Sacramento County Water Agency

Staff Attendance:

Name	Organization
Beutler, Lisa	MWH
Biggs, Joshua	MWH
Brown, Carmel	CKB Environmental Consulting
Faghih, Jafar	MWH
Long, Jeanna	RMC
Swartz, Rob	RWA
Woodling, John	RWA

Meeting Purpose:

This meeting was held with the purpose of bringing a diverse group of American River Basin stakeholders together to move forward on the IRWMP update process. Attendees were randomly distributed into groups of four to five participants, given individual workbooks, and encouraged to have discussions on the IRWMP's goals, objectives, principles, and collaborative stakeholder involvement. Participants also previewed the new Web-based Project Interface Tool under development, and were

briefed on how it will be used in the IRWMP update process. One primary intent of the interface tool is to foster collaboration in the region.

Meeting Goals:

1. Continued understanding of the ARB IRWMP Update Process.
2. Review Vision, Goals, and Principles.
3. Demonstrate the Web-based Project Interface Tool.
4. Discuss goals, objectives, and stakeholders for an example integrated project.

Summary:Welcome and Introductions:

Opening remarks from the meeting facilitator Lisa Beutler included thanking participants for their attendance, providing an overview of the meeting workbook (Attachment 1) and briefly recapping the June stakeholder workshop outcomes. She explained that the workbook used in today's meeting provided guided exercises on goals, objectives, and stakeholders, and would feature a presentation of a case study project by the City of Elk Grove.

ARB IRWMP Update Process:

Rob Swartz gave the group a quick overview of the status of the IRWMP update, and noted that a "call for projects" will be coming shortly. He gave a PowerPoint presentation addressing some frequently asked questions:

Q: Are we done with the Vision and Goals?

A: No, but we do want to move on to objectives for now.

Q: When will RWA apply for Prop 84 Implementation Grant Funds?

A: We believe that there will be 3 rounds of funding, divided by hydrologic region. We received 25% of the money available to our region in the first round. Because of that, we don't see a lot of opportunity to secure more funding in this upcoming round. There are 9 other IRWM groups in this region. We will likely wait a couple years for round 3.

Q: Do you apply for SWRCB money?

A: The State Water Board Prop 84 stormwater grants (implementation) are only available to local agencies. \$45 million is available in total statewide for round 1, and \$9 million of that is for planning and monitoring grants (separate solicitation is expected) and about \$2M set aside for disadvantaged communities. The focus is on TMDLs and low impact development. Implementation projects can receive a minimum of \$250K and a maximum of \$3 million. The grant process will be very competitive. Note that the nexus to local IRWMP is important, but scored fairly low on the state's point metric.

Follow-up from Carmel Brown: “I think as a region, the stormwater programs should work together to identify integrated projects with regional and if possible, statewide benefit, to increase their chances.”

- November 15, 2011 is the first date the Water Board will begin accepting applications
- Sacramento applicant information workshop is December 14 at Cal EPA building
- January 31, 2012 is the anticipated deadline for implementation grant applications

Q: When do we integrate? When do we move past simply multi-benefit?

A: I think that too much has been made of the notion of a fully-integrated project. I am concerned that to have that as the standard for including a project in the IRWMP that we would become too exclusive and leave out many good ideas. Projects should look at themselves and evaluate how many benefits they can achieve and how many beneficiaries there can be. In doing so, we will move toward better integrated water management.

Q: Is this another process that’s long on effort and short on results?

A: I’m a realistic optimist, and I understand we have limitations. There is no perfect process, but we are really creating a lot of benefit here through our efforts. Our recent successes through Prop 84 have already shown that we will achieve positive results.

Web-Based Project Interface Tool Demonstration:

Jeanna Long (RMC) gave a live demonstration of the new Web-based Project Interface Tool. This program is in the late stages of development, and all of the key features are now functional. A volunteer committee of IRWMP stakeholders provided input in the early stages of the development process.

The goal of the site is to create a virtual environment where a user can:

- Post and get announcements about news and events
- Input their project data and get feedback from other community members on that project
- Learn about other community members’ projects
- Collaborate with others to identify opportunities for more integrated projects

Some of the highlighted features included:

- A personally customizable dashboard
- User-generated content including announcements, events, and funding opportunities
- A GIS-based map that displays projects in the region. By clicking on one of the displayed projects, a user can easily access several attributes, such as:
 - What the project is
 - What are the project’s objectives
 - Detailed descriptions
 - Photographs
 - Costs

- Spatial data
- Point of contact

The new web-based tool will take the place of the manual system, and will serve as the new input mechanism for the regional project database. It will be database-driven, so changes can be made relatively easily to allow the system to evolve as needed. Rob Swartz will be the site administrator. Everything on the project site will go through a vetting process by stakeholders, which is still to be defined.

The site will also feature tools that make it easier to search and use the database, including generating reports. This ability to search will become very important as the database grows to the size that staff anticipates (likely a few hundred projects). Participation by users is going to be very important and will drive the value of the tool.

Questions from the workshop participants:

Q: Will there be project and IRWM program updates/notifications sent to the users?

A: Yes, there will be some.

Q: How does the public interact with this interface?

A: We would hope that members of the public would visit the site. They will be able to access basic project data, but they will not have the same privileges as registered users. Those accessing the site will be able to see all registered community members.

Q: When will this go “live”?

A: Tentatively, in December 2011.

Q: Will you be looking for feedback?

A: Yes, we will. We may have a beta – test phase.

Case – Study – Making a Project Integrated

Lisa introduced Fernando Duenas (City of Elk Grove) and Carmel Brown for their PowerPoint presentation and discussion of the City of Elk Grove’s Detention Basin Retrofit Project. This project provides the basis for the workbook exercise.

- The project is a flood control detention basin, designed to capture 100-year flood flows from the Sleepy Hollow residential community
- The detention basin is owned and operated by the City
- The project team recognizes opportunities for:
 - Additional water quality treatment
 - Potential groundwater recharge

- Inclusion of native plants/wildlife habitat
- Additional recreational component
- Collaboration with other organizations

Exercise #1: Goals

Lisa Beutler directed the groups' attention to their individual workbooks. At each table, groups were instructed to discuss among themselves how the goals generated during previous stakeholder discussions applied to the case study project. Group members were asked to evaluate and suggest ways that the project met or could potentially meet the five IRWM goals. There was also an option to create additional goals if necessary. The groups were given a short period for the exercise, and then reported back to the group.

Detailed flipchart notes are presented in Attachment 2. There was general agreement by all of the tables that the case study would meet or partially meet all five of the goals. Other comments included that the goals should also focus on the integration of projects, importance of education, emphasis of recreation, and that the goal about environmental resources focuses too much on aquatic resources.

Exercise # 2: Objectives

The second exercise allowed meeting participants to discuss what types of objectives would be likely to meet the goals of the case study project, and what types of project features or components would be needed to achieve those objectives. Meeting attendees were reminded by the facilitator that objectives can be both quantitative and qualitative in nature, and that no one should feel bound by the categories laid out in the workbook. Again, the groups were given time to discuss among themselves, and then gave a report out back to the larger group.

Detailed flipchart notes are presented in Attachment 2. The tables brainstormed various objectives, such as amount of groundwater recharge, diversity of species, feet of walking trails, and water quality improvement. One participant questioned whether the objective of "water supply" should actually just be "water resources." Other observations included that there is a project in So Cal trying to quantify water supply benefits of recharge, but that is with many years of work and lots of money. Those resources may not be available in this region. During the report out, Rob also mentioned that it will be a leap to go from a region that captures no stormwater at the present to one that captures and recharges the groundwater with stormwater.

Lisa Beutler summarized the importance of having objective metrics in the IRWM process. It's iterative; it grounds the process and keeps it realistic. Though it takes longer to get things done in the integrated way, it has clear benefits. Some of the groups had difficulty getting to a specific metric. One observation was that the objectives and targets must be realistic and practical, especially when considering an individual project. The group also considered the addition of more objective categories such as education, carbon reduction, and energy.

Exercise # 3: Stakeholders

The final exercise was focused on stakeholder involvement in the project process. The facilitator asked groups to get together and draw stakeholder maps for the case study project. Questions to consider would be:

- Who would potentially care about this project?
- Who would have an interest in talking to the project planners?
- Are the principles laid out likely to be used by stakeholders?
- Is there anything about the principles that might change once the stakeholders are involved?

After discussion, the groups answered questions in their workbooks, and presented their findings back to the larger group.

Detailed flipchart notes are presented in Attachment 2. The tables brainstormed the different stakeholders that could have an interest in the project described in the case study. Examples included parks and recreation, flood control district, mosquito abatement, law enforcement, agricultural community, and private well owners. The group discussed what the roles of stakeholders might be in the project. The roles may include partnering, commenting, advocacy, funding, etc. As it relates to the principles, some observations stated that the project was strong on integrated planning, but weaker on adaptive management. Also some stakeholders may oppose the project due to concerns about noise, vector issues, privacy, etc.

Meeting Conclusion

Rob Swartz led an Overview: Looking forward, we have several tasks in front of us.

- Next Stakeholder workshop will not be held until after the new year.
- Web based project interface tool is in development. Feedback to Rob is welcome. A call for projects to load into the new interface tool will follow in coming months.
- The staff asked that participants take the ideas modeled in the workbook, and apply them to their own projects wherever possible, to ensure that their projects are as integrated as possible before uploading them to the database using the interface tool.

TABLE # _____

NAME: _____

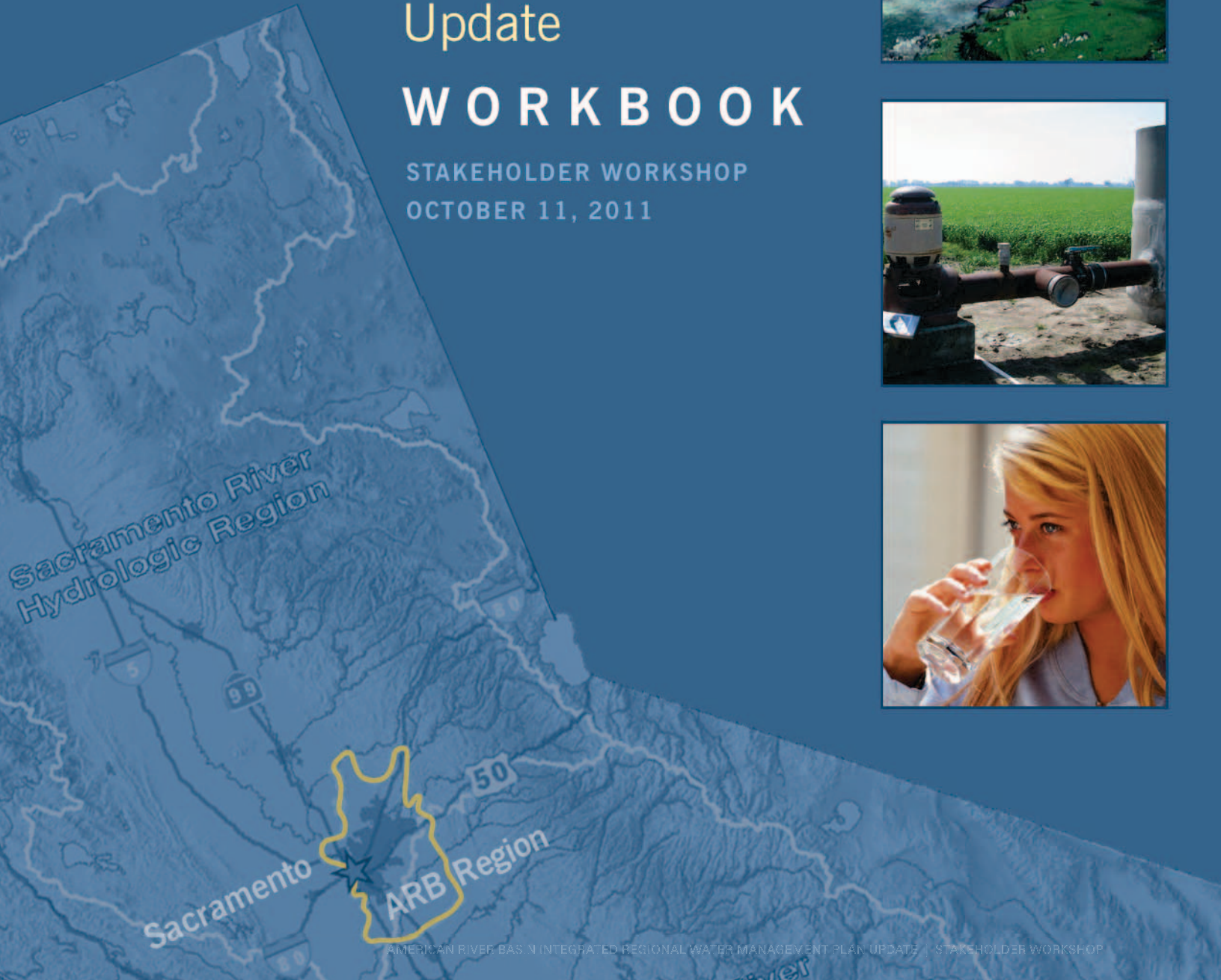


A M E R I C A N
R I V E R B A S I N

Integrated Regional Water Management Plan Update

W O R K B O O K

STAKEHOLDER WORKSHOP
OCTOBER 11, 2011





AMERICAN RIVER BASIN (ARB)

INTEGRATED REGIONAL WATER MANAGEMENT PLAN (IRWMP) UPDATE

STAKEHOLDER WORKSHOP

October 11, 2011, Sign-in 12:45 p.m.

Workshop 1:00-4:15 p.m.

REGIONAL WATER AUTHORITY, 5620 BIRDCAGE STREET, SUITE 110

CITRUS HEIGHTS, CA 95610-7692

Meeting Goals:

1. Continued understanding of the ARB IRWMP Update process.
2. Review Vision, Goals, and Principles.
3. Demonstrate the Web-based Project Interface Tool.
4. Discuss goals, objectives, and stakeholders for an example integrated project.

Agenda

#	TIME	ITEM	PRESENTERS
1.	12:45	Sign In	
2.	1:00	Welcome, and Introductions <ul style="list-style-type: none"> • Opening Remarks • Goals for the Day • Ground Rules and Logistics • Recap of June 21 Workshop 	John Woodling (RWA) Lisa Beutler, Facilitator (MWH)
3.	1:15	ARB IRWMP Update Process <ul style="list-style-type: none"> • Review of Vision, Goals, and Principles • Frequently Asked Questions 	Rob Swartz (RWA)
4.	1:30	Project Interface Demonstration	Rob Swartz and Jeanna Long (RMC)
5.	2:00	Case Study – Making a Project Integrated <ul style="list-style-type: none"> • Overview of the Project 	Carmel Brown (CKB)/ Fernando Duenas
6.	2:15	Exercise #1: Goals	Lisa Beutler, All
7.	2:45	Break	
8.	3:00	Exercise #2: Objectives	Lisa Beutler, All
9.	3:30	Exercise #3: Stakeholders	Lisa Beutler, All
10.	4:00	Wrap Up/Next Steps/Action Items	
11.	4:15	Final Words/Adjourn	Rob Swartz

*If you need reasonable accommodations due to a disability,
Please contact Cecilia Partridge at (916) 967-7692*

Meeting Ground Rules

There will be many opportunities for meeting participants to engage in group discussion. Participants are asked to subscribe to several key agreements to allow for productive outcomes:

- **USE COMMON CONVERSATIONAL COURTESY**
- **ALL IDEAS AND POINTS OF VIEW HAVE VALUE (You are not Required to Agree)**
- **HONOR TIME**
- **HUMOR IS WELCOME**
- **BE COMFORTABLE**
- **SPELLING DOESN'T COUNT**
- **AVOID EDITORIALS**
- **ELECTRONICS COURTESY**
- **OTHER?**

If you have other needs please let the facilitator know.



Working in Groups

You will spend part of the session working in groups. As a group you will be asked to analyze or develop ideas, keep track of the issues you develop, and then make a report to the larger group. Each group will need:

Facilitators/Leaders: Facilitators will be available to work with most of the groups. In the event a facilitator is not available, one or more members should ensure that the group stays with the assigned task and that all participants have an opportunity to share ideas. This person and all group members should ensure use of the ground rules.

Recorder: Ideas will be shared on flip charts. Information from the charts will be used to make reports AND used later to transcribe the proceedings of the meeting. Ask the facilitators if you need help with this. For each set of questions please:

- Put Table # and Page # on each sheet.
- Note the issue being addressed.
- Prepare Summary Sheet for the reporter.

Reporter: Someone will report on behalf of the full group.

- Will summarize table conclusions from flip charts
- Should not be the facilitator or RWA staff
- Limit presentation to time allotted by Large Group Facilitator



Time Keeper: All activities will involve specific blocks of time. To complete tasks, one group member needs to keep track of time.

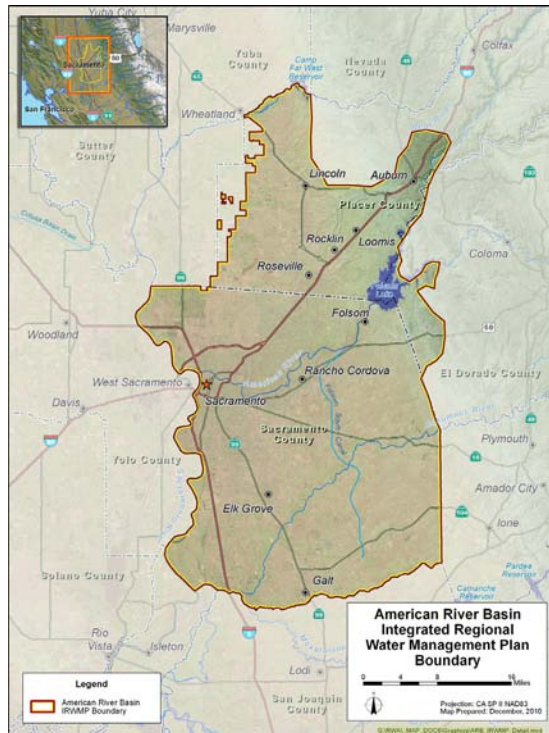
Personal Worksheets: In addition to the group notes, you may wish to make more in-depth individual or organizational comments. Extra workbooks will be available in each group to do this. These may also be turned in at the end of the session. If you are willing to include your name and contact information, it will help the person preparing the notes in the event they have questions.

AMERICAN RIVER BASIN INTEGRATED REGIONAL WATER MANAGEMENT PLAN

Vision

Definition: A compelling description of the future end state (in a time horizon) of the American River Basin Region that has resulted from the proactive, strategic activities undertaken by the Integrated Regional Water Management (IRWM) Group

The American River Basin Region will responsibly manage water resources to provide for the lasting health of our community, economy, and environment.



Goals

Definition: Describe the “end state,” of activities and support the overall vision.

1. Provide reliable and sustainable water resources, sufficient to meet the existing and future needs of the region.
2. Protect and enhance the quality of surface water and groundwater.
3. Protect and enhance the environmental resources of the watersheds within the region.
4. Protect the people, property, and environmental resources of the region from damaging flooding.
5. Promote community stewardship of our region’s water resources.

Principles

Definition: Statements that articulate shared organizational values, underlie strategic vision and mission, and serve as a basis for integrated decision making.

Sustainability

- Strive for balance in environmental, economic, and community impacts and benefits in decision making and actions (three pillars of sustainability).
- Recognize and promote the value of healthy watersheds and ecosystems to provide sustainable water resources.
- Promote solutions that seek to minimize impacts to the environment.
- Promote policies and practices that enhance natural watershed functions.
- Emphasize pollution prevention and source reduction.

Integrated Planning

- Address the entirety of the water cycle and consider all forms of water as a potential resource.
- Prioritize solutions that are integrated, addressing as many objectives, and providing as many benefits as possible.
- Promote improved integration of land-use planning and management with water resources planning and management.
- Collaborate to take advantage of the benefits and synergies of water resource planning at the regional level.
- Collaborate with adjacent IRWM regions.
- Develop projects and programs that allow for the fair treatment of people of all races, cultures, and incomes.

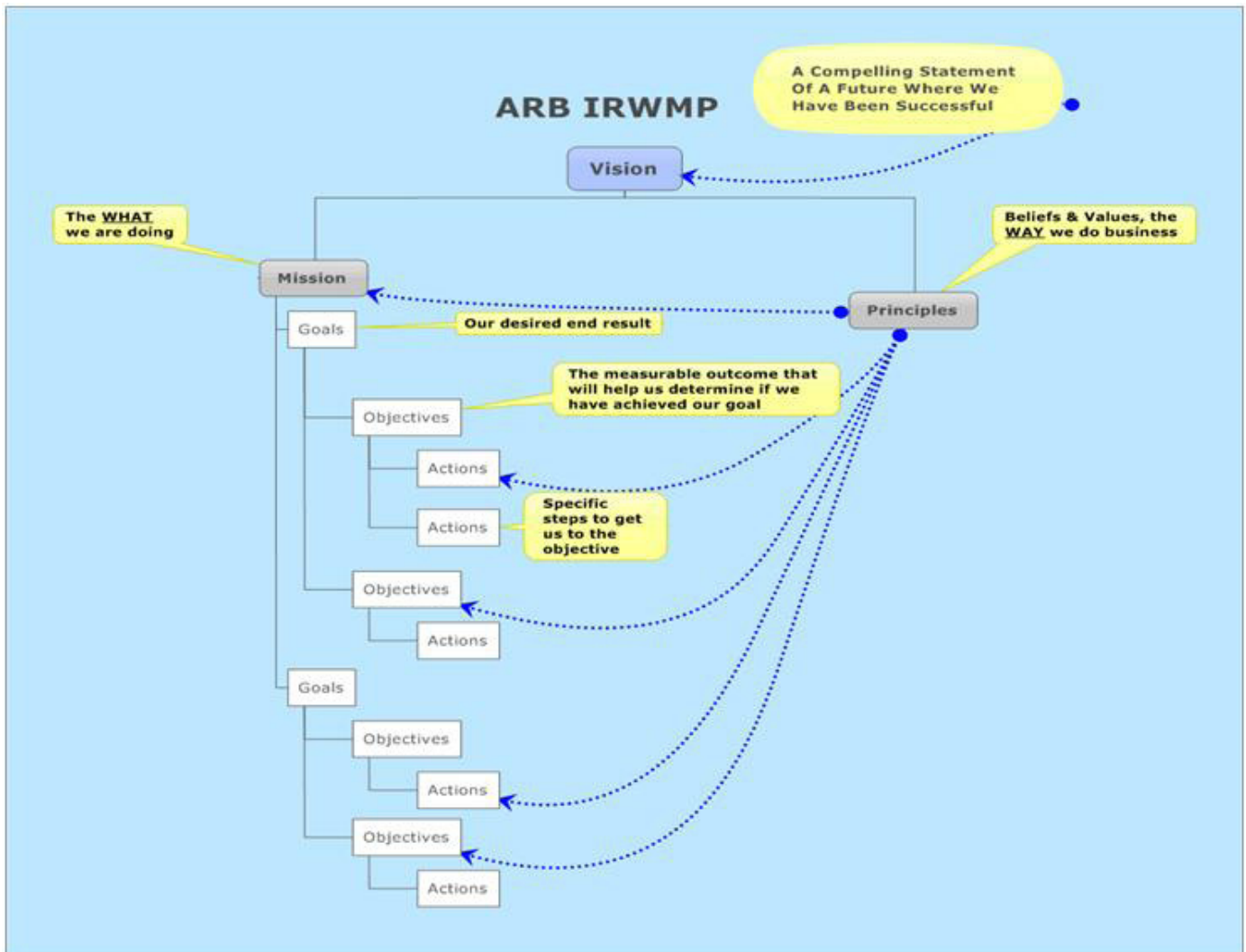
Adaptive Management

- As needed, adapt integrated regional water management planning and use the best available information, data, and tools as feasible, to address changes in a dynamic system and reflect evolving science, changing regulations, and/or program evaluation results.
- Regularly monitor and evaluate to determine if objectives and targets are met.
- Incorporate mitigation and adaptation measures in all aspects of planning and implementation in preparation for projected future changing climate conditions.
- Community Education and Involvement
- Promote transparency and open communication.
- Build community awareness and encourage participation in stewardship of water resources.
- Data and Information Management
- Use the best available information, data and tools as feasible.

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ARB IRWMP Update Process Review of Vision, Goals, and Principles

For today, the vision statement, goals, and guiding principles are provided as a point of reference for discussion of the objectives and outcomes. Discussions on vision, principles, goals, and objectives will be iterative throughout the IRWMP update planning process and reviewed in total at a future date.



Planning Flowchart

Case Study

Project Description

This existing 6.3-acre detention basin primarily was built to provide flood protection to an adjacent subdivision in a suburban city. A concrete overflow spillway allows 100-year storm flows to enter the basin



from an adjacent creek tributary. The basin serves a secondary function of water quality treatment; it includes a low-volume integrated water quality basin for gravitational settling and removal of pollutants from stormwater runoff detained during small storm events. After diverted water is detained and treated in this way, it is released back into the creek. Numerous similar detention basins were built in the Sacramento urban area to serve new development.

Although the basin fulfills its original design intention, there is a tremendous opportunity and community desire to achieve more in this location. There is an opportunity to transform the existing dual-purpose basin into a multipurpose facility, significantly increasing environmental and community value and demonstrating low-impact development (LID) techniques.

The City would like to address existing problems with the basin, such as:

- Native vegetation is sparse in and around the basin and consequently limits the water quality benefit and provides poor habitat for native wildlife.
- The basin is not integrated into the surrounding residential community and has the potential to become an attractive nuisance.
- The basin has no recreational or interpretive features, so most of the community does not know about the water quality and flood management benefits it provides.

In addition to addressing these problems, the City is interested in testing the feasibility of groundwater recharge and demonstrating the use of LID techniques at this location. It is anticipated that the results of the project would be used to recommend design criteria and guidelines for other local agencies for both retrofit of existing detention basins and construction of new multifunctional basins.

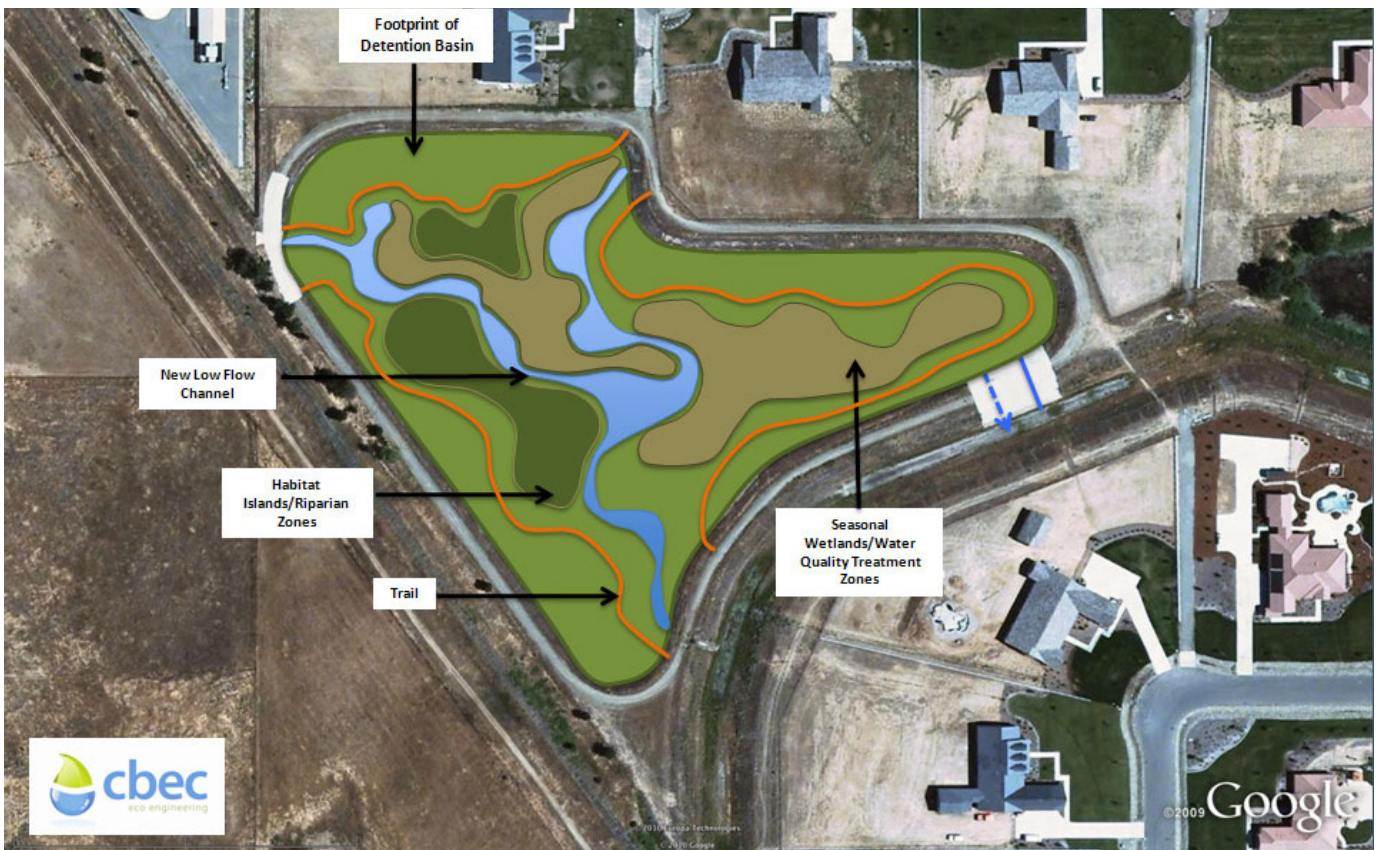
The project is consistent with watershed protection goals in the local watershed council's *Watershed Management Action Plan* and fully supported by the Watershed Council and surrounding rural residential community. The project also received a high-priority ranking in the City's Flood Control and Storm Drainage Master Plan. The City will be the lead agency on the effort working collaboratively with volunteers from the Watershed Council and local Community Association.

One objective of this project is to increase pollutant removal of the storm runoff by using integrated bioretention features in the proposed retrofit.

CURRENT STATE



PLANNED PROJECT



Exercise #1: Goals

*Definition of **Goals**: Describe the “end state” of activities that support the overall vision.*

Following are a list of goals generated during previous stakeholder discussions. Using the sample case study, evaluate and suggest ways in which the project meets or could meet the IRWM goals. It is not necessary for the case study example to meet 100 percent of the goals. Instead, look for possibilities to accelerate and enhance integrated management. Also, consider the principles on the 11”x17” (Page 3).

WORKING IRWM GOALS	CASE STUDY OPTIONS
1. Provide reliable and sustainable water resources, sufficient to meet the existing and future needs of the region.	
2. Protect and enhance the quality of surface water and groundwater.	
3. Protect and enhance the environmental resources of the watersheds within the region.	
4. Protect the people, property, and environmental resources of the region from damaging flooding.	
5. Promote community stewardship of our region’s water resources.	

After looking at this case study, are there other opportunities for integrated management that our goals do not appear to capture? If so, please describe the goal(s) we should be considering:

POTENTIAL OTHER GOALS	CASE STUDY OPTIONS
1.	
2.	
3.	
4.	
5.	

Requirements for Objectives

*Definition of **Objective**: The measurable outcomes that will help the region determine if it has achieved its goals.*

Excerpts regarding Objectives from the Proposition 84 and 1E Guidelines (August 2010)

Objectives

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

DETERMINING OBJECTIVES

Objectives must be focused on addressing the water management issues, including flood management of the region. Keep in mind that all objectives should be precise enough to be measurable.

MEASURING OBJECTIVES

- Objectives must be measurable.
- There must be some metric or target to determine if the objective is being met as the IRWMP is implemented.
- Objectives can be measured quantitatively or qualitatively. Neither quantitative nor qualitative metrics are considered inherently better. What is vital is the chosen metric or target be the most appropriate for the given objective.

Example 1

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

Example 2

Objective	Qualitative Measurement	Quantitative Measurement
Meet Total Maximum Daily Load (TMDL) requirements for nitrates in a local creek	N/A	Water quality sampling for nitrate concentration

Example 3

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

Exercise #2: Objectives

In Exercise #1 we worked with the Goals and considered the Principles. The next step is to define the project objectives. The objectives must be measurable and serve to advance the IRWM goals.

Based on the IRWM goals discussed during your last meeting, a draft list of Sample Objective Categories were identified. For example, there are goals for water supply and quality, goals for flood management, and goals for resource enhancement and stewardship.

These categories just represent the types of objectives that are likely to come from the goals. They are a starting point for your thinking. If you think of an objective that does not seem to be covered by a category, or a category does not seem to be named right, add a new category to address your concern.

Questions:

Thinking about the goals and the case study –

1. What types of objectives are likely to met by the retention basin project you evaluated?
2. What types of project features or components would be needed to achieve that objective?

#	Sample Objective Categories	Objective	Project Feature or Component
1.	Water Supply	Example objective: Recharge X acre-feet water by X time frame.	Infiltration (dry wells)
2.	Ecosystem Restoration		
3.	Recreation		
4.	Stormwater Management		
5.	Water Quality		
6.	Watershed Management		
7.	Land-Use Planning		

#	Sample Objective Categories	Objective	Project Feature or Component
8.			
9.			
10.			
11.			
12.			

3. (Time allowing): Thinking about the American River Basin IRWM Region, how might integrated projects, such as the case study project, assist the region in achieving its objectives?

4. What would you add, subtract, or change about the objectives if you were crafting them for the region, not just this case study?

Exercise #3: Stakeholders

*Definition of **Stakeholder**: An individual, group, coalition, agency, or others who are involved in, affected by, or have an interest in the implementation of a specific program or project. (Prop. 84 Guidelines)*

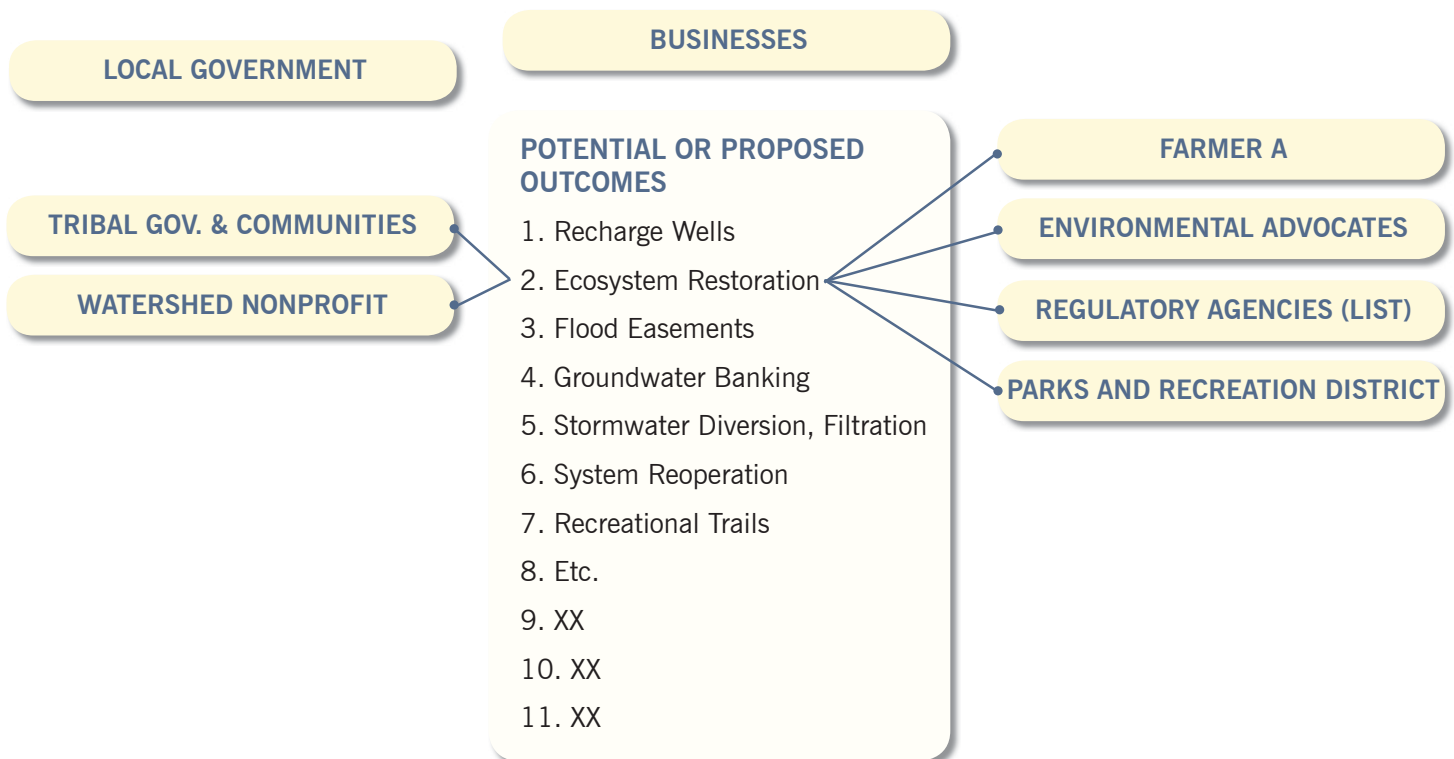
The IRWM guidelines note it is important to illustrate the collaborative process and tools used to establish objectives. This should include:

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

For that reason, stakeholder identification and engagement is an important element of the IRWM development process. In the case study, several different project stakeholders were identified.

IRWM projects, by their nature, typically involve many stakeholders. A good way to identify stakeholders is by first identifying the types of project features, components, and activities that will likely occur in the project implementation or operation. The work you completed in Exercise 2 did just that for the case study project. Once the list is somewhat complete, consider WHO might have a stake in planning or implementing this each feature or activity.

Example:



WORKING AS A GROUP – Building on your group’s discussion in Exercise #2, identify the likely stakeholders for the case study project. Add to or modify the sample chart provided or construct your own chart on a flip chart. For each stakeholder identified, discuss the role and influence that stakeholder might have on the project. Consider the following questions and take notes to share with the larger group:

Questions:

1. What would the issues, interests, and roles of the stakeholders be?
2. What IRWM Principles are they likely to use?
3. What types of project modifications might there be once the stakeholders have conferred?
4. What would stakeholders consider successful case study project outcomes?
5. Based on your review of the stakeholders and their issues, interests, and roles, what might you change about the work on goals and objectives you already completed?

A M E R I C A N R I V E R B A S I N

Integrated
Regional Water
Management Plan

REGIONAL WATER AUTHORITY
5620 BIRDCAGE STREET, SUITE 110
CITRUS HEIGHTS, CA 95610

Exercise 1 – Goals

Table	Summary
Table # 1	<ul style="list-style-type: none"> • Sustainable Water Resources <ul style="list-style-type: none"> ○ Could improve quality of water in river (where Laguna Creek ends up) ○ Increase groundwater recharge ○ Groundwater recharge - Include in design of project ○ Get groundwater experts involved • Protect and enhance the quality of surface H2O • Protect and Enhance Environmental Resources of Watersheds within the region <ul style="list-style-type: none"> ○ Increase habitat restoration of detention basin ○ Birds, beavers, connectivity to wildlife corridor • Protect people from flooding <ul style="list-style-type: none"> ○ Done deal ○ Stormwater storage ○ Attenuation of flows (retrofit if needed to meet this goal) • Promote community stewardship <ul style="list-style-type: none"> ○ Adopt a pond ○ Monitoring for weeds, litter removal ○ Trail with signs
Table # 2	<ul style="list-style-type: none"> • Sustainable Water Resources <ul style="list-style-type: none"> ○ Modify spillways to accept more frequent flows ○ Add ability to recharge GW • Protect and enhance the quality of surface H2O <ul style="list-style-type: none"> ○ Add water quality monitoring system and program ○ Modify inflow system to capture initial rains ○ Water treatment or inflow (low flow) • Protect and Enhance Environmental Resources of Watersheds within the region <ul style="list-style-type: none"> ○ Add habitat ○ Cleaner return flow ○ Increase GW level • Protect people from flooding • Promote community stewardship <ul style="list-style-type: none"> ○ Add demonstration elements (signs, etc.) for community education
Table # 3	<ul style="list-style-type: none"> • Sustainable Water Resources <ul style="list-style-type: none"> ○ Surface water spreading ○ Rock wells <ul style="list-style-type: none"> ▪ Issues with maintenance ▪ Soils Geology • Protect and enhance the quality of surface H2O <ul style="list-style-type: none"> ○ Dense Vegetation <ul style="list-style-type: none"> ▪ Maintenance issue ▪ Flood Capacity • Protect and Enhance Environmental Resources of Watersheds within the region <ul style="list-style-type: none"> ○ Add Vegetation ○ Permanent water • Protect people from flooding • Promote community stewardship

	<ul style="list-style-type: none"> ○ Adopt a pond ○ Monitoring for weeds, litter removal ● Trail with signs
Table # 4	<ul style="list-style-type: none"> ● Sustainable Water Resources <ul style="list-style-type: none"> ○ Case Study meets this ○ GW recharge goal of retrofit ● Protect and enhance the quality of surface H2O <ul style="list-style-type: none"> ○ Enhance water quality if vegetation improved ○ Improved filtration of surface water and groundwater ○ Capture subdivision runoff ● Protect and Enhance Environmental Resources of Watersheds within the region <ul style="list-style-type: none"> ○ Seasonal wetlands, habitat islands, etc. native vegetation ○ Aesthetics ● Protect people from flooding <ul style="list-style-type: none"> ○ Basin is a flood control structure ● Promote community stewardship <ul style="list-style-type: none"> ○ Extend trail to mitigation area to east ○ Interpretive signage – purpose of basin/wildlife/etc. ○ Trails connected to subdivision ○ Dogs, bags, water quality
Table # 5	<ul style="list-style-type: none"> ● Sustainable Water Resources <ul style="list-style-type: none"> ○ Groundwater recharge ○ Percolation wells, dry wells, injection wells ● Protect and enhance the quality of surface H2O <ul style="list-style-type: none"> ○ Concerns about protecting groundwater quality ○ Monitoring wells ○ Pretreatment ○ Conduct before/after monitoring ● Protect and Enhance Environmental Resources of Watersheds within the region <ul style="list-style-type: none"> ○ Planting Trees ● Protect people from flooding <ul style="list-style-type: none"> ○ Adequate- already taken care of ● Promote community stewardship <ul style="list-style-type: none"> ○ Recreation area/walking trails/biking ○ Using basin as an educational opportunity ○ Water conservation education for surrounding community

Exercise 2 – Objectives and Exercise 3 – Stakeholders

Table 1

Category	Objective	Project Feature	Stakeholder
Ecosystem restoration vs. rehabilitation or mitigation	Number of diversity of species		Local Agencies, Environmental, Regulatory, Local Government
	Number of visitors		Modifications - Long-term maintenance, vector control
	Ability to store a specified amount of stormwater (100 yr event?)		
	Maintaining/Sustaining the current flood capacity		
Surface Water	Some measurement of pollutants or constituents you are trying to remove (metals, etc.)		
Groundwater	Water Quality in GW basin - Meet/exceed MCLs		
	Quality of water being discharged		

Table 2

Category	Objective	Project Feature	Stakeholder
Ecosystem	Increased duration of inundation	Irregular bottom (Bathymetry)	
Recreation	X Feet of walking trails	walking trails	
Land Use	Written development standards	Improved community development	
Water Quality	Meet Discharge Standards	Monitoring, design, management	

Table 3

Category	Objective	Project Feature	Stakeholder
Ecosystem Enhancement	# of Species		
Ecosystem Enhancement	Frequency		

Table 4

Category	Objective	Project Feature	Stakeholder
Groundwater Enhancement	Quality		
Groundwater Enhancement	Measure Turbidity of outfall		
Groundwater Enhancement	quantity recharged		
Groundwater Enhancement	calculate estimates based on inundation duration		
Restoration	Plant X of X acres of native plants		
Restoration	Monitor and manage, and irrigate!		
Restoration	reevaluate and replace if needed		
Recreation	Build X miles of trails		
Recreation	Install X # of interpretive signs		

Table 5

Category	Objective	Project Feature	Stakeholder
Recreation	X feet of bike trails	Trails	Local Government, Parks and Recreation, Community, Special Interest
Recreation	Integrate w/ regional bike trail system	Volume (weir)	Local Government, Parks and Recreation, Community, Special Interest
Flood Management	Provide X feet of storage over x time frame	Monitoring wells	Local Government, Flood Control District, State/Federal Agencies, Residents, Mosquito Abatement District
Groundwater Quality	Provide adequate treatment for COCs	Pre/post monitoring	State, Agriculture, Water Purveyors, Water Users (e.g. private well owners)
Surface Water Quality	Provide adequate treatment for COCs	Treatment	State/Local Government, Regulators, Agricultural, up and downstream users,
Environmental Stewardship	Increased participation	Volunteer groups, adopt a basin	Watershed Council, Schools, Environmental NGOs