| **Commenter** | **Comment** | **Chapter, Page, Section** | **Response** |
| --- | --- | --- | --- |
| General | | | |
| Brian Powell  Eastern Municipal Water District | Although the prioritization of projects and management strategies has been deemphasized in the public version of the plan, it should be made absolutely clear that no project or strategy is more important than others. Projects should be evaluated for cost-effectiveness, feasibility, practicality and benefits before implementation. | General Comment | Text has been revised to address the prioritization of broad management strategies. |
| Marsha Westropp Orange County Water District | Determining benefits and impacts of projects in the Santa Ana Watershed and quantifying such should be conducted at the scale of the entire watershed. This can be a difficult effort, especially in projecting reductions in Greenhouse Gas emissions and reduced need for imported water, but this is important so that we can evaluate the pros and cons of projects at the appropriate scale. Quantifications of benefits and impacts of projects must consider the watershed as a holistic system where activities in one geographic area have an influence elsewhere in the system. | General Comment | We agree with the holistic approach to evaluating project benefit and impacts. Additional approaches to evaluating project merits considered for funding will be evaluated as additional project funding opportunities arise. |
| Eloise Tavares  California Department of Fish and Wildlife | I did not notice a section on invasive species. It seems that this is not the report your agency wants to use to discuss invasive species but if it is, please let me know. I am available to assist in this area. I have sent the OWOW report to a few of my peers that work in this watershed. Thank you. | General Comment | Invasive vegetative species has been discussed extensively under the Chapter 5.9. We appreciate your offer of assistance to the planning process. |
| Kim F. Floyd  San Gorgonio Chapter Sierra Club | We find the suggested format for making comments rather restricting, appearing to focus on editing comments rather than more global concerns. We have decided to use a letter format and trust that you will indulge this approach and consider our comments seriously.  The draft plan provides very little comfort that consideration was given to resources being used to enhance the watershed for the benefit of humans through the protection of habitat and species. It seems that very little of the planning effort goes beyond using the beleaguered river for flood control and water extraction while ignoring the opportunity to restore the river and its watershed.  The Sierra Club supports the National Marine Fisheries Service (NMFS) restoration recommendations for replenishing or re-establishing a native steelhead population. The NMFS restoration recommendations state that all class1 and 2 waters in Southern California need to be restored for the species to recover. The Santa Ana River is included in this restoration recommendation. Additionally, the OWOW 2.0 Plan document states that the steelhead population has been extirpated. In fact, we believe that this conclusion is not known. An original steelhead population (identified through genetic analysis) was known to exist in a canyon creek in Orange County just a few years ago (<http://www.ocregister.com/articles/trout-192061-one-backlin.html>). This population had been blocked from the ocean since Irvine Lake dam was built in 1929. We are concerned that adequate efforts have not been made to determine if such remnant populations may still exist in Lytle Creek and other tributaries.  The OWOW 2.0 Plan also implies that rainbow trout and steelhead are the same and that when together the steelhead meld into the trout population. This is not correct as detailed NMFS studies of long term co-existing populations in the Santa Ynez River have shown. Additionally, the document focuses on fishing pressure as the major determinant of the steelhead/native “trout” population decline when river management practices, such as over-pumping/dewatering and physical barriers to migration, would seem to be equally or more responsible for the decline. We believe that all of the river management and fishing issues can and should be mitigated for the restoration of the watershed habitat and species. Finally, there is no mention in the very brief discussion and dismissal of endangered steelhead in the Santa Ana River, that the City of Riverside, showing community support for steelhead restoration, adopted Resolution 22351, “A Resolution of the City Council …Supporting Restoration Efforts for the Southern California Steelhead in the Santa Ana River”, on 2/28/12. This supports recommendations for restoring the SAR steelhead population through mitigation actions identified in the U.S. National Marine Fisheries Service Southern California Steelhead Recover Plan.  We read with interest, concerns expressed about the future risks to the sustainability of the river and watershed. We agree that the future will bring new and potentially devastating challenges. We also believe that tremendous damage has already been done to the river and watershed and that there is little likelihood of sustainability for this river without a major restoration effort to bring the river back from its current condition. | General Comment | The restoration recommendations for steelhead are now referenced and this section has been greatly expanded. The information about the City of Riverside’s resolution has been included. |
| Executive Summary | | |  |
| Dick Wilson  City of Anaheim | Should have a greater emphasis on capturing runoff for groundwater recharge – both stormwater and other flows. Although it is mentioned, I think this is one of the most vital measures we need to promote sustainability.  Should try to reduce the length of this section – it is fairly long for an Executive Summary. | Executive Summary | Stormwater capture has been emphasized under Chapter 5.8 Stormwater: Resource and Risk Management Chapter and in the Broad Management Strategies. The Executive Summary length may be reduced somewhat upon incorporation of comments. |
| Marsha Westropp Orange County Water District | The Executive Summary is likely to be the most read section of the OWOW 2.0 report. As such it is important that this section be clear and concise. The description of the process of developing the OWOW 2.0 plan is lengthy and hard to follow and use of many different, undefined terms is confusing. Providing a condensed description of the planning process combined with the addition of page references for material in the report would improve the readability of this section. Some specific examples are as follows:   * Please add references where the SAR Watershed Water Quality Tools and the Watershed Assessment Tool as mentioned on page 5 are described in the OWOW Plan. Please explain briefly how these tools are being used as suggested on page 11 that OWOW 2.0 is adding “more tools… to advance multi-benefit, multi-purpose solutions.” * Goals, objectives, targets, and indicators are described on page 8. The rest of summary does not refer to or elaborate on them so it is unclear what role they played in the planning process and in developing the OWOW plan. The subsequent discussion introduces programs, concepts, implementation projects, and strategies. Please explain how all of these relate to each other and how they were used in the process of developing the plan. * The next section explains that the Pillar groups identified “integrated watershed-wide implementation projects and programs” that led to the development of “conceptual project concepts.” 13 key examples of “watershed-based water resource management concepts” were vetted and then Pillar groups investigated “new regional implementation projects/programs.” (See pages 11-12) How do all of these projects, concepts, and programs relate to each other? How do the concepts relate to the goals, objectives, strategies, and indicators that were discussed previously? * The subsequent summary of the key findings of each of the Pillar Groups are presented but the relationship between these key findings and the previously described watershed-based concepts and projects is unclear. Adding a section to the description of the work of each of the Pillar Groups that lists the new proposed projects and programs would be helpful. * On page 12 please remove or clarify the statement that water use efficiency practices is the top priority for the watershed as this could be misconstrued that watershed stakeholders have made such a decision. * Please remove or clarify the statement on page16 that the SAR Watershed has enough water to meet needs as it is unclear how and who made such a determination. * Are the “system-wide regional or watershed scale projects” mentioned on page 17 a new set of projects? If so, what happened to the lists of projects discussed previously and how do they link to each other? * Please remove or clarify the statement on page 19 that studies have shown that increased water use efficiency is the most cost effective and efficient method for dealing with tight water supplies as a more detailed discussion of this would be required to make it meaningful. * “Broad Planning/Management Guidance Strategies” are introduced on page 18. It is unclear how in the OWOW process these strategies were developed and how their development relates to the rest of the planning process. * Five categories of planning/management strategies are described on pages 19 and 20. Were these developed by the Pillar groups? Are these different and distinct from the five goals described on page 8? These five are listed “in no particular ranked order” but on page 16 it is stated that the OWOW Steering Committee will be presented this prioritized list in November 2013. If a prioritized list was developed please reorder the list on these pages to reflect the proposed prioritization. What does it mean that broad planning and guidance strategies are ranked? Please explain the process that was used to decide that Demand Reduction and Water Use Efficiency are the top priorities of the Santa Ana Watershed. * Consider removing the list of “Pillar Recommended Implementation Actions” on pages 21 to 25. It is unclear how this list was compiled and it developed out of the planning process. The explanation on page 20 is that it was “based on the Pillar work and other stakeholder input?” Was some stakeholder input solicited outside of the Pillar work? If so, please explain why and how this was solicited and processed.   This list includes both individual projects and concepts. For example, “Enhanced Water Conservation at Prado Dam” is an individual project whereas “Re-Operate Flood Control Facilities” is a concept that would include the Water Conservation project. Some items on the list such as “Watershed-wide Recycled Water Optimization System” are highly speculative concepts that may be more appropriately developed by individual agencies rather than developed through the OWOW pillar process. Please remove two concepts, “Conjunctive Use Storage and Water Transfer Project” and “Salt Assimilative Capacity Building”, as they are so speculative at this time. Inclusion here may imply that the agencies mentioned in the description are actually proposing these as projects. If the two concepts remain in the document, please remove any reference to OCWD in the description of these concepts. | Executive Summary | The Executive Summary reflects a concise overview of a very comprehensive effort in the full OWOW 2.0 plan of over 600 pages. The text on page 11 has been modified to reference the tools mentioned on page 5.  Additional text to page 8 has been added to clarify the connections between goals, objectives, targets and indicators to the other items discussed.  See previous response and new text.  Additional text has been added to clarify. To reflect and support integration, implementation actions are not broken out by pillar but are included in the later table listing pillar recommended implementation actions.  Text has been modified.  Text on page 16 is modified to clarify.  As indicated, these strategies are distilled from water resource managers including SAWPA staff.  See response above. No ranking is now reflected or indicated in text for the broad mgt strategies. All of the broad mgt strategies are a priority.  Explanation on how the pillar implementation is already indicated and reflects the work of the pillar workgroups and feedback from pillar integration workshops with SAWPA staff and stakeholders. Listing of pillar recommendation actions is important to encourage moving from planning to implementation.  References to OCWD will be deleted. However, the two projects requested to be removed will remain since these are still conceptual in nature and recommended by the pillar workgroups. |
| Dick Wilson  City of Anaheim | Original Text: Recent energy development such as the closure of the San Onofre crisis has  Suggested Text: Recent energy developments, such as the closure of the San Onofre Nuclear Generating Station, have  Comment: Should name the facility…..not necessarily a “crisis” | Executive Summary, Page 7 | Text has been modified to clarify. |
| Brian Powell  Eastern Municipal Water District | Original Text: Water use efficiency practices remain the number one water resource management priority for the watershed.  Suggested Text: Water use efficiency practices remain a key resource management priority for the watershed.  Comment: Water use efficiency is an important resource management priority but cannot meet future water supply needs alone. | Executive Summary, Page 12,  Water Use Efficiency Pillar – Key Findings | Text has been modified but does not match suggested text exactly. |
| Dick Wilson  City of Anaheim | The graphs showing supplies and demands is not very clear. What is precipitation – surface water?, or precipitation-groundwater? Does this graph suggest that stormwater capture is minimal? The charts on page 13 and 28 look identical, but they have different titles. These graphs are confusing. | Executive Summary, Page 13 and 28 | The graphs were developed by the pillar workgroup to reflect demands and supplies. Additional text has been added to clarify precipitation-surface water and precipitation-groundwater. |
| Brian Powell  Eastern Municipal Water District | Original Text: they are based on the following assumptions that now come into question based on the OWOW Pillar work:  Suggested Text: they are based on the following assumptions ~~that now come into question based on the OWOW Pillar work:~~ | Executive Summary, Page 13, Water Resource Optimization Pillar - Key Findings | Text has been modified as suggested. |
| Brian Powell  Eastern Municipal Water District | Add the following assumption: Significant investments will be made to improve the reliability of imported water supplies as detailed in MWD’s 2010 RUWMP | Executive Summary, Page 13, Water Resource Optimization Pillar - Key Findings | Text revised in Executive Summary on page 13 and in Chapter 5.4 on page 1. |
| Dick Wilson  City of Anaheim | Original Text: while providing increased stormwater capture  Suggested Text: While increasing capture of stormwater and other flows  Comment: We need to capture all the runoff we can cost-effectively manage. | Executive Summary, Page 15 | Text has been modified as suggested. |
| Robert G. Taylor  USDA Forest Service | Original Text: the main habitat types listed are alluvial fan, riparian, wetland, and coastal  Comment: Perhaps the upper watershed chaparral/forested habitat type should be acknowledged given it is ~30% of the watershed  Note: Section 5.9 only discusses the 4 listed habitat types | Executive Summary, Page 15 | Text has been modified in Executive Summary and Chapter 5.9 under Vegetation in Habitat areas on page 3. |
| Dick Wilson  City of Anaheim | Several of the “Key Findings” in the Energy and Environment Impact Pillar appear to be projections of climate models, not really “findings” | Executive Summary, Page 16 | We are interpreting the projections of the climate change models as indicated in Chapter. 5.13 as findings. |
| Brian Powell  Eastern Municipal Water District | Original Text: SAR watershed has enough water to meet our needs  Comment: This does not acknowledge the economical and practical infeasible of capturing and distributing enough precipitation in the watershed to completely displace imported water to meet the region’s needs. | Executive Summary, Page 16, Operational Efficiencies and Water Transfers Pillar- Key Findings | Text has been modified. |
| Dick Wilson  City of Anaheim | Original Text: These include water budged based rates  Suggested Text: These include water budget based rates | Executive Summary, Page 19 | Spelling corrected. |
| Robert G. Taylor  USDA Forest Service | Original Text: water budged based rates  Suggested Text: should be budget  Comment: Also p.16 Section 5.14 | Executive Summary, Page 19 | Spelling corrected. |
| Brian Powell  Eastern Municipal Water District | Original Text: Studies have shown that the most cost effective method for dealing with tight water supplies is through increased water use efficiency.  Suggested Text: Water use efficiency can be a cost effective tool for reducing the gap between available supplies and projected demand.  Comment: Water use efficiency is a vital tool in our battle for reliability but many low‑cost water use efficiency programs have already been implemented and per capita demand in many places is at or below 20% by 2020 levels. Moving forward water use efficiency programs are likely to increase in cost and become more challenging, especially as we look for ways to change behaviors and expectations people have about landscaping. | Executive Summary, Page 19, Demand Reduction and Water Use Efficiency | See modified text to clarify. |
| Brian Powell  Eastern Municipal Water District | Original Text: This cost can be avoided with successful water use efficiency.  Suggested Text: This cost can be reduced with successful water use efficiency.  Comment: Water use efficiency is unlikely to completely end all costs associated with dry weather runoff. | Executive Summary, Page 19, Demand Reduction and Water Use Efficiency | See modified text to clarify. |
| Brian Powell  Eastern Municipal Water District | Original Text: Protect and restore our watershed’s ecosystem and hydrologic system so that it will sustainably produce the array of services including water resources.  Suggested Text: Implement cost‑effective programs that will protect and restore our watershed’s ecosystem and hydrologic system so that it will sustainably produce the array of services including water resources.  Comment: Costs and benefits should be considered when determining the need to improvement “restoring healthy hydrology” | Executive Summary, Page 19, Watershed Ecosystem and Hydrologic System | Text has been modified to clarify. |
| Brian Powell  Eastern Municipal Water District | Original Text: Projects under this category occur by collaboration and cooperation among the multitude agencies and entities in the watershed  Suggested Text: Projects under this category occur by collaboration and cooperation among the multitude of agencies and entities in the watershed, and agencies that import water into the watershed.  Comment: Imported water is a necessary source for banking, exchanges and transfers. Storage and transfers should not be limited to just local precipitation, but also must include projects to capture, store and transfer surplus imported water during wet hydrologic conditions. | Executive Summary, Page 19, Operational Efficiencies and Transfers | Text has been modified to clarify. |
| Brian Powell  Eastern Municipal Water District | Original Text: Habitat banking  Comment: It is unclear how habitat banking fits into this category | Executive Summary, Page 19, Operational Efficiencies and Transfers | Habitat banking are born from interagency agreements which is the focus of this broad management strategy. |
| Brian Powell  Eastern Municipal Water District | Original Text: Projects under this category expand projects to provide multiple benefits and thus can be mutually reinforcing.  Suggested Text: Projects under this category ~~expand projects to~~ provide multiple benefits and thus can be mutually reinforcing.  Comment: Clarification | Executive Summary, Page 20, Innovative Supply Alternatives | Text has been modified as suggested. |
| Brian Powell  Eastern Municipal Water District | Suggested Text: Brackish desalination and salinity management are necessary to sustain local supplies. Salinity management is essential for groundwater basin health in the watershed.  Comment: Add text. | Executive Summary, Page 20, Innovative Supply Alternatives | Text has been added. |
| Brian Powell  Eastern Municipal Water District | Remove the section about prioritization  The Planning/Management Strategies each play an important role in future reliability and sustainability. The prioritization clearly deemphasizes new water supply development and the use or optimization of imported water supply entitlements and infrastructure in favor of water use efficiency and watershed restoration and enhancement strategies. This is done without any analysis of cost‑effectiveness, water supplies generated versus demand, environmental benefit, feasibility and practicality. | Executive Summary, Page 20, Third Paragraph | Text has been modified. |
| Greg Herzog  City of Riverside Public Utilities | Original Text: Creates, 28,000 AFY into off-stream recharge basins.  Comment: This project is currently anticipated to capture and recharge 15,000 AFY. | Executive Summary, Page 24, Pillar Recommended Implementation Actions – Riverside Basin Aquifer Storage and Recovery Project | Text has been modified. |
| Robert G. Taylor  USDA Forest Service | Chart is same as p.13, some could find this redundant | Executive Summary, Page 28 | Charts are different as observed by the demand projection line. |
| Chapter 1.0 One Water One Watershed Program | | |  |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | The statement of over-arching purposes and goals of the watershed management plan provides a clear framework. In particular the stated goal to “limit impacts to natural hydrology” is central in preserving the basic eco-system functions of the Santa Ana River and its tributaries. | Chapter 1.0 Page 1 | Thank you for your comment. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | In addition to the four challenges identified here, the prevention of the elimination of indigenous species, and their recovery as part of a self-sustaining ecosystem, should be singled out. The elimination of species indigenous to a watershed in many cases (perhaps most) represents an irreversible loss, not just to the ecosystem, but the natural capital upon which all the human uses of the watershed is ultimately dependent. | Chapter 1.2 Moving Towards Sustainability, Page 3 | Inclusion of the additional watershed challenge here cannot be added since this section is a review of past work under OWOW 1.0. Text changes to describe this challenge and corrective implementation suggestions are included in Chapter 5.9 Natural Resources Stewardship and 5.14 Integration and Implementation and in the Executive Summary. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | This section articulates many key concepts (*e.g.,* upstream/downstream dynamic, restoring natural systems hydrology), but also appears to rely on the “capture of more stormwater upstream.” It should be recognized that storm-water flows are an important mechanism for creating and sustaining basic stream channel morphologic features such as pools, runs, glides, undercut banks, gravel bars, and lagoonal sandbar formation and breaching. Other basic physical functions of variable streamflow include the flushing of fine sediments, distribution of nutrients, recruitment and sorting of spawning gravels and large woody debris, and the maintenance of multiple stages of riparian vegetation. These habitat features are of critical importance not only to steelhead (either migrating adults or rearing juveniles), but also a wide variety of other indigenous aquatic and riparian-dependent species in the Santa Ana River watershed. | Chapter 1.3 OWOW 2.0 Plan – Moving Into Implementation, Page 2 | This section is intended to be very general regarding objectives of OWOW 2.0. Details of importance of stormwater on habitat is added to Chapter 5.8. Additional text is added as follows to overall goal of OWOW 2.0: “ecosystems are enhanced and improved” |
| Robert G. Taylor  USDA Forest Service | Original Text: No plans are anticipated at this stage to update this sub-regional plan by SBVMWD.  Comment: There is a current update for this plan with timeline ~Jan. 2014 | Chapter 1.4 Relation to Local Water Planning, Page 4 | Text modified. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Forestry Service/Fish and Game Planning  In addition to the various regional and state plans referenced, specific reference should be made to the other federal and state resources plans, including the NMFS’ Southern California Steelhead Recovery Plan (2012), and the other recovery plans for endangered or threatened species found within the Santa Ana River watershed (*e.g.,* Santa Ana sucker, Arroyo Southwestern toad, California Red-legged frog, Southwester willow flycatcher, Least-Bell’s vireo). | Chapter 1.4 Relation to Local Water Planning, Page 9, Forestry Service/Fish and Game Planning | Reference to the NMFS Recovery Plans are now added to table. |
| Chapter 2.0 Governance, Outreach and Integration | | |  |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | The governance is described as a "bottom-up approach", but the steering committee and the majority of the “pillars” appear to be agencies, and do not include any major NGO’s that represent important stakeholder groups. | Chapter 2.1 Governance Structure, Page 2 | The Steering Committee includes one member of the environmental community, Orange Coastkeeper as well as a member of the Regional Water Quality Control Board. Many NGOs and environmental interests were invited and involved in the OWOW pillar workgroups. See list of contributors at end of each pillar chapter and Chapter 2.2. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Under “Natural resource Stewardship”, the only guidance is the very general “Practice Resource Stewardship”. It is not clear what this includes, but some additional clarification, either in this or subsequent sections, would be helpful in providing useful guidance for the use of the plan. | Chapter 2.1 Governance Structure, Page 4 | Term is more fully addressed under Chapter 5.9 and reflects DWR’s Statewide Priorities to Expand Environmental Stewardship of IRWM Guidelines. |
| Robert G. Taylor  USDA Forest Service | The picture has no label and as it is below the paragraph of the Governance Pillar, it seems out of place. | Chapter 2.1 Governance Structure, Page 18, Picture | Picture will be removed. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | A number of stakeholder interests should be included in the suite of stakeholders. These include:  Page 6. University of California, Riverside  Page 7. Friends of the Santa Ana River  Page 8. National Marine Fisheries Service | Chapter 2.2 Stakeholder Involvement and Outreach, Page 6-8 | UCR is already shown. Others were added as requested. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Governing laws should include the U.S. Endangered Species Act (and a reference to the applicable federal recovery plans, including the Southern California Steelhead Recovery Plan). | Chapter 2.3. Collaboration, Coordination, Integration, Page 6 | Additional references are added. |
| Chapter 3.0 Watershed Setting | | |  |
| Robert G. Taylor  USDA Forest Service | Original Text: San Bernardino National Forest and Cleveland Nation Forest  Suggested Text: San Bernardino National Forest and Cleveland National Forest  Comment: Missing “al” | Chapter 3.0 Watershed Setting, Page 13 | Text amended as suggested. |
| Robert G. Taylor  USDA Forest Service | Original Text: the forest service  Suggested Text: the U.S. Forest Service  Comment: Used in this context the agency name should be referred to as the U.S. Forest Service | Chapter 3.0 Watershed Setting, Page 13 | Text amended as suggested. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | The discussion under Native Riparian Species (Fish section) should include a separate discussion of southern California steelhead (*Oncorhynchus mykiss*), as well as the other fish species native to the Santa Ana River watershed.  For a discussion of the southern California Steelhead add the following language:  “*Oncorhynchus mykiss* is one of six Pacific salmon in the genus *Oncorhynchus* that are native to the North American coast. O*. mykiss*, along with other species of Pacific salmon exhibit an anadromous life history, which means that juveniles of the species undergo a change that allows them to migrate from freshwater to mature in salt water before returning to their natal rivers or streams (*i.e.,* streams where they were spawned) to reproduce.  Historically, these fish were the only abundant salmonid species that occurred naturally within the coast ranges of southern California. Steelhead entered the rivers and streams draining the Coast Ranges from Point Sal to the U.S. Mexican Border during the winter and spring, when storms produced sufficient runoff to breach the sandbars at the rivers’ mouths and provided fish passage to upstream spawning and rearing habitats. These fish and their progeny were sought out by recreational anglers during the winter, spring and summer fishing seasons.  Steelhead are a highly migratory species. Adult steelhead spawn in coastal watersheds; their progeny rear in freshwater or estuarine habitats prior to migrating to the sea. Within this basic life history pattern, the species exhibits a greater variation in the time and location spent at each life history stage than other Pacific salmon within the genus *Oncorhynchus.*  The life cycle of steelhead generally involves rearing in freshwater for one to three years before migrating to the ocean and spending from one to four years maturing in the marine environment before returning to spawn in freshwater. Adult steelhead do not necessarily die after spawning and may return to the ocean, sometimes repeating their spawning migration one or more times. It is rare for steelhead to spawn more than twice before dying, and most that do so are females.  This species may also display a non-anadromous life history pattern (*i.e.*, a “freshwater-resident” strategy); non-anadromous individuals that complete their entire life history cycle (incubating, hatching, rearing, maturing, reproducing, and dying) in freshwater are commonly referred to as rainbow trout. However, this terminology does not capture the complexity of the life history cycles exhibited by native *O. mykiss*. “Rainbow trout” which have completed their life history cycle entirely in freshwater sometimes produce progeny which become anadromous and emigrate to the ocean and return as adults to spawn in freshwater. Conversely, it has also been shown that steelhead may produce progeny which complete their entire life cycle in freshwater.  There is a third type of life history strategy displayed by *O. mykiss* that is referred to as “lagoonanadromous”, fish which may spend a majority of their freshwater phase of their life moving back and forth between the estuary or lagoon at a river’s mouth and upstream freshwater habitats before emigrating to the ocean. Steelhead populations in southern California have not been investigated to determine whether or to what extent they may exhibit this life history strategy; however, steelhead smolts have been documented rearing in southern California estuaries.  Within each of the three basic life history strategies (fluvial-anadromous, freshwater-resident, and lagoon-anadromous), there is additional variation, including examples of finer-scale habitat switching, such as multiple movements between lagoon and freshwater habitats in the course of a single summer in response to fluctuating habitat conditions; and also so-called “adfluvial” populations that inhabit freshwater reservoirs but spawn in tributary creeks.  Closely related to these various life history strategies is the use by steelhead of a wide variety of habitats over their lifespan, including river mainstems, small montane tributaries, estuaries, and the ocean. Steelhead move between these habitats because each habitat supports only certain aspects of what the fish require to complete their life cycle. Different populations frequently differ in the details of the times and habitats that they utilize while pursuing the general pattern of the anadromous life cycle; these differences can reflect the evolutionary response of populations to environmental opportunities, subject to a variety of biological constraints that are also a product of evolution.”  See the National Marine Fisheries Services Southern California Steelhead Recovery Plan (2012) for more details, and supporting references, particularly Chapter 1 “Introduction” and Chapter 2 “Steelhead Biology and Ecology”.  For the other native fish species see. C. C. Swift, T. R. Haglund, M. Ruiz, and R. N. Fisher “The Status and Distribution of Freshwater Fishes of Southern California (1993). | Chapter 3.0 Watershed Setting, Page 15 | Text added under Aquatic Life, Fishes in Chapter 5.9, starting on page 5. |
| Robert G. Taylor  USDA Forest Service | Original Text: unarmored threespine stickleback are known to be extirpated  Comment: There are three current occurrences:  Shay Pond, Juniper Springs pond, and Sugarloaf Meadow pond.  During high water conditions, Shay Creek and Baldwin Lake are also occupied.  Historically, they extended up Caribou Creek (Van Dusen Canyon) but water diversions and re-routing of drainages have made that unlikely these days.  Juniper Springs drains to Arrastre Creek which drains to the Mojave Desert.  It doesn’t get to the Mojave River.  Shay Pond/Creek drain to Baldwin Lake.  Baldwin is considered a mountain playa lake and historically didn’t have an outlet.  The connection to Big Bear Lake is an artificial flood control man-made connection.  So now it will drain to Big Bear Lake if there’s an extreme flood condition. (per Robin Eliason, Mountaintop District wildlife biologist)  See also Section 5.5, page 11 where the fish is mentioned. | Chapter 3.0 Watershed Setting, Page 15, Fish | Text added under Aquatic Life, Fishes in Chapter 5.9, starting on page 5. |
| Robert G. Taylor  USDA Forest Service | Since the fish sectioned mentioned specific T&E fish, perhaps you should put the Mountain Yellow-Legged Frog specifically for the same reason.  Section 5.5, page 13 mentions this frog. | Chapter 3.0 Watershed Setting, Page 15, Amphibians | Text added in Aquatic Life, Amphibians in Chapter 5.9, page 8. |
| Robert G. Taylor  USDA Forest Service | Interaction with USFS could update your maps of occurrence on forest of T&E species | Chapter 3.0 Watershed Setting, Page 18, Figure 3-13 | Map updated. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | The discussion regarding the cause of decline of the native *O. mykiss* population in the Santa Ana River should be revised. The draft plan incorrectly indicates that over-exploitation by recreational anglers in the Santa Ana River watershed “was a major factor driving the native populations to low levels, and perhaps to extinction.”  The following language should be substituted for the exiting text:  “The decline of indigenous steelhead/rainbow trout (*Oncorhynchus mykiss*) populations in the Santa Ana River watershed is the result of a multitude of anthropogenic activities which have degraded riverine and estuarine habitats, and fragmented riverine habitats through the construction instream barriers such as dams, diversions, road-crossing, and flood control structures. The threats analysis conducted by NMFS as part of the recovery planning for the Southern California steelhead populations identified “Dams and Surface Water Diversions”, Flood Control”, “Groundwater Extraction”, “Levees and Channelization”, and “Urban Development” as the highest threats to the native trout/steelhead populations in the Santa Ana River watershed.  Over-exploitation of rainbow trout/steelhead by recreational angling was not identified as a principal factor for the decline of this species in the Santa Ana River, or in southern California generally. Stocking of *O. mykiss* to supplement an existing native freshwater recreational fishery was initiated and subsequently increased over the years in response to a variety of factors, including human population growth, increased accessibility to angling areas, expansion of leisure time, and to support expanding outdoor recreational activities as an important component in a developing tourist industry. The reported catches of large number of trout by anglers in local media (*e.g.,* the July 17, 1982 report in the *Citrograph*, a Redlands newspaper, of three individuals taking 592 trout in three hours from Bear Creek, a tributary to the Santa Ana River in San Bernardino County) provide an indication of the natural productivity of the native fishery of the watershed. The California Legislature began regulating recreational angling (along with other forms of angling) in 1861, when the southern California human population was a small fraction of its current levels. The increasing restrictions on recreational angling were prompted by the increasing human pressure on the indigenous fishery resources, but was not intended to address the underlying cause of the decline of the populations, nor to safeguard native fish populations or maintain natural ecosystem functions. While both the anadromous form and the freshwater resident forms of *O. mykiss* have now been reduced to critically low levels, residualized populations persist in the headwater tributaries above and below impassible barriers, and the lower reaches remain accessible to the anadromous form when hydrologic conditions permit upstream migration from the ocean.”  See the National Marine Fisheries Services Southern California Steelhead Recovery Plan (2012) for more details, and supporting references, particularly Chapter 2 “Steelhead Biology and Ecology”, and Chapter 12 “Mojave Rim Biogeographic Population Group”. | Chapter 3.0 Watershed Setting, Page 19 | Text added under Aquatic Life, Fishes in Chapter 5.9, starting on page 7. |
| Robert G. Taylor  USDA Forest Service | The Santa Ana River Trail extends through the Forest to the peak; this track of this trail should be added to indicate partnerships  See also Figure 5.9-2 and -3 | Chapter 3.0 Watershed Setting, Page 20, Figure 3-14 | Map updated. |
| Robert G. Taylor  USDA Forest Service | Original Text: population growth could result in more habitat fragmentation, reduction of impervious surfaces  Comment: Wouldn’t population growth add to impervious surfaces, not reduce them | Chapter 3.0 Watershed Setting, Page 21, Population | Text amended as suggested. Changed to “increased impervious surfaces.” |
| Chapter 4.0 Regional Goals and Objectives | | |  |
| Marsha Westropp  Orange County Water District | This section describes the process where the Pillar Groups worked with the Council for Watershed Health to develop goals, objectives, targets, and indicators. It is not clear in this section what happened next. How did this process get carried out into the work of the Pillar groups, for example? | Chapter 4 Regional Goals and Objectives | Additional text has been added to clarify. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | The vision should include a seventh goal: “A watershed that sustainably supports a full suite of indigenous species and ensures the protection and recovery of federal and state listed species, and species of special concern.” | Chapter 4.1 Vision, Page 2 | Reference is made several times to the goal of “environmental sustainability”. This goal reflects the suggested new goal and is of sufficient level of detail for a vision statement. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Page 2. Under “Preserve and Enhance Environment” add the additional goal noted above.  Page 3. Add language noted above under OWOW “Goals”.  Page. 4-7. Add language noted above under “Hydrology, Open, Space, and “Beneficial Uses” | Chapter 4.2 Goals and Objectives, Pages 2, 3, 4-7 | Goal table shown reflects goals from OWOW 1.0. New OWOW 2.0 goals are shown page 6 and do reflect suggested goal. |
| Chapter 5.0 Water Management Strategies and Integration | | |  |
| Marsha Westropp  Orange County Water District | Please explain how the implementation actions in Tables 5.14-1 through 5.14-10 are related to the objectives and targets that were developed as described in Chapter 4.0. | Chapter 5.0, Integration and Implementation | Additional text has been added to clarify. |
| Marsha Westropp  Orange County Water District | Reducing Greenhouse Gas (GHG) emissions and dependency of the region on imported water are important state and regional goals. Determining long-term and short-term reduction goals for the Santa Ana Region and quantifying such reductions in regards to proposed projects is essential for use in calculations of project benefits. Otherwise, the projects risk overestimating reductions in GHG emissions and reliance on important water. Such quantification must consider the watershed as a holistic system where activities in one geographic area have an influence elsewhere in the system, one of the central themes and goals of the OWOW process.  Developing a consistent method for quantifying these reductions within the watershed would be useful for quantifying benefits for Round 3 funding as well as for setting benchmarks for progress and evaluating progress toward meeting those goals. Please add the development of a consistent method as a goal or recommendation in Chapter 5.13, Chapter 5.14 or Chapter 6. | Chapters 5 and 6, Accounting for Greenhouse Gas Emissions Reductions and Reduced Reliance on Imported Water | The GHG Emissions Calculator is a tool that was developed to create a consistent methodology for the Santa Ana Watershed Project Authority (SAWPA) and its water sector interests that report GHG Emissions data in the Santa Ana River Watershed.  The tool was used to create a Watershed GHG Emissions baseline and the methodology applied is explained in the OWOW 2.0 Plan's Appendix J, Technical Memorandum (Tech Memo) No. 86-68210-2013-03, Greenhouse Gas Emissions for the Water Sector: User's Manual.  Additionally, it is referenced in Appendix F, Tech Memo No. 86-68210-2013-02, Climate Change Analysis for the Santa Ana River Watershed, starting on Page 73; and in the OWOW 2.0 Plan Chapter 5.13 Energy and Environmental Response, starting on Page 23.   Appendix J, Tech Memo No. 86-68210-2013-03, explains the GHG Emissions Calculator and data requirements, how to use the tool, and with that data it will provide specifics results.  Round 2 Call for Projects were assessed using the tool.  Any current project with the data parameters noted can have its GHG Emissions assessed, and future proposed projects under SAWPA’s Round 3 Call for Projects will likely be evaluated using this tool subject to OWOW Steering Committee and SAWPA Commission approval of project evaluation criteria for Round 3. |
| Al Shaikh  City of Anaheim Public Utilities | Original Text: “?”  Suggested Text: 🗹  Comment: Some 🗹 marks in the first column are missing; they do not match those in “Management Concepts to Improve Water Supply Reliability” Section, starting on page 33.  Would help to use either the term “Management Concepts” or “Management Strategies” for consistency purposes throughout the Chapter.  Delete one of the two 🗹 on the top of the page.  Not sure why some of the cells are highlighted and some are not.  Not sure what the row numbers represent; No. 1 is missing.  It appears that “Emergency Measures” (row 14) should be a new Section; it doesn’t fall under “INCREASE STORAGE.” | Chapter 5.4 Water Resource Optimization | Table re-formatted by SAWPA staff…  Extra 🗹 deleted.  Numbering removed.  Strategy on page 33 changed from “Develop new sources of supply” to “stormwater capture.”  Text amended to clarify difference between “Water Management Strategies” and Watershed-wide Project/Program Concept.  Text Highlights formatted for consistency  Text formatted to identify “Emergency Measures” as an independent Water Management Strategy. |
| Brian Powell  Eastern Municipal Water District | Original Text: The UWMPs assume that:  Comment: Add the following assumption:  Significant investments will be made to improve the reliability of imported water supplies as detailed in MWD’s 2010 RUWMP | Chapter 5.4 Water Resource Optimization, Page 1 | Edit made. Assumption added to page 1. |
| Greg Herzog  City of Riverside Public Utilities | The Riverside North Aquifer Storage and Recovery Project is a 15,000 AFY project. | Chapter 5.4 Water Resource Optimization, Page 2, Summary of Water Management Strategies (table) | Edits made. The correct total is 12,800 AFY. |
| Robert G. Taylor  USDA Forest Service | Starts with #2, no #1 listed | Chapter 5.4 Water Resource Optimization, Page 2, Table | Table re-formatted. |
| Brian Powell  Eastern Municipal Water District | Original Text: Help reduce demand 20%  Suggested Text: Help meet 20% by 2020 demand targets.  Comment: It might be assumed that each of the projects listed under *“Reduce Demand*” can reduce demand by 20% for a 60% total demand reduction. | Chapter 5.4 Water Resource Optimization, Page 2, Recommendations:  Reduce Demand | Text amended to “Help meet SBX7-7 required demand reductions.” |
| Brian Powell  Eastern Municipal Water District | Suggested Text: Add recycled water use to offset potable demand  Comment: This is widely implemented by several agencies and part of the projected water supply portfolio. | Chapter 5.4 Water Resource Optimization, Page 2, Recommendations:  Recycled Water | Table amended and text added on pg 44 as suggested. |
| Robert G. Taylor  USDA Forest Service | Original Text: 60% of its water from local precipitation, 30% of its water from SWP and CR, 20% recycled water  Comment: Adds to more than 100%; on page 7, the precipitation is listed as 50% | Chapter 5.4 Water Resource Optimization, Page 6, Water Resources | Precipitation revised to 50% using average year for 2035: Precip (including stormwater capture) = 53%; Recycled = 11%;  Imported = 36%. |
| Al Shaikh  City of Anaheim Public Utilities | Original Text: … basin’s safe yield…  Suggested Text: … Basin’s safe yield… | Chapter 5.4 Water Resource Optimization, Page 7 | Text amended as suggested. |
| Robert G. Taylor  USDA Forest Service | The labeling is not lined up with the pie sections | Chapter 5.4 Water Resource Optimization, Page 12, Figure 5.4-5 | Pie chart re-formatted as suggested. |
| Greg Herzog  City of Riverside Public Utilities | Suggested Text: In May 2013, the Regional Water Quality Control Board adopted Order No. R8-2013-0028 granting the City of Riverside Public Utilities a waste discharge requirements and master reclamation permit for distributing recycled water.  Comment: In addition to the description of the City of Riverside’s recycled water efforts, the City of Riverside Public Utilities also received a master reclamation permit from the Regional Water Quality Control Board. | Chapter 5.4 Water Resource Optimization, Page 14, Proposed Recycled Use – City of Riverside | Text added as suggested. |
| Greg Herzog  City of Riverside Public Utilities | Original Text: WMWD and the City of Riverside currently are conducting joint planning for recycled water use. The intent is to allow maximum use of recycled/non-potable water in the City of Riverside’s Greenbelt area that will take advantage of elevation differences, thus reducing energy (pumping) costs.  Comment: The City of Riverside is still working with WMWD to conduct joint planning for recycled water use. At this time, the City does not plan to deliver recycled water to Riverside’s greenbelt. | Chapter 5.4 Water Resource Optimization, Page 15, Proposed Recycled Use - WMWD | Text amended as suggested. |
| Robert G. Taylor  USDA Forest Service | Original Text: permitting of advanced treated water, Clear, comprehensive legislation  Comment: There should be a period before “Clear” | Chapter 5.4 Water Resource Optimization, Page 16, Regulatory Requirements | Text amended as suggested. |
| Greg Herzog  City of Riverside Public Utilities | The Riverside North Aquifer Storage and Recovery Project partners (RPU, WMWD & SBVMWD) have not finalized an agreement that appropriates the project yield amongst each other. The project is anticipated to capture an average of 15,000 AFY, of which, the yield would be divided appropriately. | Chapter 5.4 Water Resource Optimization, Page 21, 5.4-5 Table, Stormwater Capture Projects Not Included in UWMP’s but included in OWOW Water Budget. | Table revised to reflect additional 15,000 AFY in stormwater capture. |
| Al Shaikh  City of Anaheim Public Utilities | Label the charts: 2010 and 2035. | Chapter 5.4 Water Resource Optimization, Page 21 | Figure revised as suggested. |
| Brian Powell  Eastern Municipal Water District | Assumptions listed are different than Executive Summary and page 1 of the section. | Chapter 5.4 Water Resource Optimization, Page 24, Multi-year drought | Assumptions updated both on page 1 of chapter 5.4 and executive summary to reflect the assumptions listed on pgs 23 and 24 |
| Al Shaikh  City of Anaheim Public Utilities | Original Text: Table 5.4-5  Suggested Text: Table 5.4-6 | Chapter 5.4 Water Resource Optimization, Page 25 | Table heading revised. |
| Greg Herzog  City of Riverside Public Utilities | Original Text: Additionally, damage could occur to local water transmission systems operated by retail water agencies within the Watershed, such as the Gage Canal, Riverside Canal, and the Riverside 42-inch and 48 inch pipelines.  Suggested Text: Additionally, damage could occur to local water transmission systems operated by retail water agencies within the Watershed, such as the Gage Transmission Main, Waterman Transmission Main, and the Riverside Canal. | Chapter 5.4 Water Resource Optimization, Page 26, Evaluate the Effect of an Earthquake on Water Supplies | Text amended. |
| Al Shaikh  City of Anaheim Public Utilities | Original Text: … and breaches and well as..  Suggested Text: …and breaches as well as | Chapter 5.4 Water Resource Optimization, Page 28 | Text amended. |
| Al Shaikh  City of Anaheim Public Utilities | Move “Estimated benefit..” to next line and make the bulleting consistent. | Chapter 5.4 Water Resource Optimization, Page 33-35 | Text re-formatted. |
| Al Shaikh  City of Anaheim Public Utilities | Original Text: … whether or the ..  Suggested Text: …whether the…  Comment: May need to remove the bullet symbols. | Chapter 5.4 Water Resource Optimization, Page 34 | Text amended. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | “Stormwater Capture” See comments above regarding natural hydrology, and revised to include appropriate qualifying language noted above.  This section articulates many key concepts (*e.g.,* upstream/downstream dynamic, restoring natural systems hydrology), but also appears to rely on the “capture of more stormwater upstream.” It should be recognized that storm-water flows are an important mechanism for creating and sustaining basic stream channel morphologic features such as pools, runs, glides, undercut banks, gravel bars, and lagoonal sandbar formation and breaching. Other basic physical functions of variable streamflow include the flushing of fine sediments, distribution of nutrients, recruitment and sorting of spawning gravels and large woody debris, and the maintenance of multiple stages of riparian vegetation. These habitat features are of critical importance not only to steelhead (either migrating adults or rearing juveniles), but also a wide variety of other indigenous aquatic and riparian-dependent species in the Santa Ana River watershed. | Chapter 5.4 Water Resource Optimization, Page 37, Stormwater Capture | This issue is discussed in 5.9 Natural Resource Stewardship Chapter. |
| Al Shaikh  City of Anaheim Public Utilities | Original Text: …510 feet of 514 feet…  Suggested Text: …510 feet and 514 feet… | Chapter 5.4 Water Resource Optimization, Page 39 | Text amended. |
| Al Shaikh  City of Anaheim Public Utilities | Make the headings fonts consistent (e.g., heading Desalt the Pacific Ocean and Emergency Measures Strategy). | Chapter 5.4 Water Resource Optimization, Page 43-44 | Text formatting amended. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | These sections should include some specific reference to the instream beneficial uses of the Santa Ana River watershed; these include both habitat functions, individual species uses, and non-consumptive human uses, including recreation, outdoor education, and scientific research endeavors. | Chapter 5.5 Beneficial Use Assurance, Page 1-3 | The beneficial use designations for waterbodies in the watershed as listed in the Basin Plan have been added on pages 2-3. |
| Seth Zielke  Fontana Water Company | Original Text: Pathogens / Unknown nonpoint sources  Suggested Text: Pollutant/Stressor:  Total Coliform, NTUs, Cryptosporidium, Giardia, and other pathogens  Potential Sources:  Potential sources of contamination prevalent in the Lytle Creek Watershed are sewage spills, recreational activities, and residential development.  Comment: From Fontana Water Company prepared update 2010 Watershed Sanitary Survey for the Lytle Creek Watershed | Chapter 5.5 Beneficial Use Assurance, Page 12, Table 5.5-4 2010 CWA 303(d) List of Water Quality Limited Segments Requiring TMDLs | SAWPA used the USEPA 2010 303d as its source. It lists potential sources for Lytle Creek as “Unknown Nonpoint Source”. Language has been added to the text to list these suggested potential sources of contamination. See page 12. |
| Seth Zielke  Fontana Water Company | Original Text: Constituents that have the potential to impact groundwater quality include VOCs, arsenic, and perchlorate.  Suggested Text: Constituents that have the potential to impact groundwater quality include VOCs, arsenic, nitrates, and perchlorate.  Comment: Request the addition of nitrates to the original language. | Chapter 5.5 Beneficial Use Assurance, Page 45 | Nitrates have been added to the list as recommended. |
| Seth Zielke  Fontana Water Company | Original Text: Groundwater in several areas is impacted by elevated levels of perchlorate. Sources of perchlorate include the Stringfellow Acid Pits and Chilean nitrate fertilizer that was imported in the early 1900s for the citrus industry.  Suggested Text: Add language that recognizes the fact that perchlorate found in this area can also be manmade; an example would be as a result of ammunition manufacturing that includes Department of Defense sites. Perchlorate can also impact these areas by passing into this basin from other adjacent basins. | Chapter 5.5 Beneficial Use Assurance, Page 45 | Language has been added to include other anthropomorphic sources of perchlorate as recommended. |
| Seth Zielke  Fontana Water Company | Original Text: Rialto Management Zone  Suggested Text: Included language that specifies whether or not Rialto Management Zone, as used in this plan, does or does not include No Man’s Land Basin.  Comment: What are the geographical boundaries of the Rialto Management Zone? For purposes of this plan, does the Rialto Management Zone include No Man’s Land Basin? If so, No Man’s Land Basin should not be included, as this is a separate basin. Is this covered in a different section? If so, any necessary changes or clarification should be reflected in those sections as well. | Chapter 5.5 Beneficial Use Assurance, Page 46 | The geographical boundaries of the Rialto Management Zone are as described in the Regional Board Order No. R-8-2004-0001. No Man’s Land Basin is not a management zone that is defined in the Basin Plan. There are neither Beneficial Use designations for No Man’s Land Basin nor any listed impairments. Therefore, this section does not include text on No Man’s Land. No changes were made in response to this comment.  If the text related to the description of the Rialto Management Zone is inaccurate please suggest specific changes. If FWC wishes to add a section on No Man’s Land please provide information related to water quality issues for this basin. |
| Greg Herzog  City of Riverside Public Utilities | Original Text: Several active sites in the City of Riverside’s groundwater production system have increased monitoring schedules due to the presence of contaminants including: nitrate, PCE, dibromochloropropane (DBCP), and perchlorate. As a result, the City of Riverside has implemented blending plans, increased monitoring schedules, and installed well-head treatment to address these elevated levels. Blending plans also are being used to reduce nitrate levels in wells exceeding allowable limits  Suggested Text; Several areas in the Riverside basin are impacted by the presence of nitrate, dibromochloropropane (DBCP), and perchlorate. As such, the City of Riverside has increased monitoring schedules at select production well sites and have implemented blending plans and provide treatment for DBCP removal at its Palmyrita GAC plant.  Comment: The City of Riverside does not have any problems with PCE at its potable production wells in the Riverside Basin and has nitrate and perchlorate concerns only at a few of its 15 active potable production wells in the Riverside Basin. Riverside Public Utilities uses its Palmyrita GAC Treatment plant for removal of DBCP from 4 wells in the Riverside basin. | Chapter 5.5 Beneficial Use Assurance, Page 47, Middle Santa Ana River Basin | Suggested text has been added to the Chapter. |
| Greg Herzog  City of Riverside Public Utilities | The table describes the groundwater management zones of the Riverside basin however, the table title does not imply this. | Chapter 5.5 Beneficial Use Assurance, Page 48, Water Quality Objectives for Arlington, Elsinore, Corona Area Management Zones | Table heading revised. |
| Seth Zielke  Fontana Water Company | Original Text: Table 5.5-26 Groundwater Quality Goals, Strategies, and Tactics  Groundwater treatment Pump and treat for local plumes Wellhead treatment (e.g., for arsenic)  Suggested Text: Perchlorate should be added as an (e.g.). | Chapter 5.5 Beneficial Use Assurance, Page 51 | Perchlorate has been added to the list as recommended. |
| Brian Powell  Eastern Municipal Water District | Original Text: Of the many broad watershed management strategies proposed under OWOW 2.0, the highest priority strategy to meet future water demands, as well as the most cost efficient, is water use efficiency.  Suggested Text: Delete this sentence.  Comment: Water use efficiency is a vital tool in our battle for reliability but many low‑cost water use efficiency programs have already been implemented and per capita demand in many places is at or below 20% by 2020 levels. Moving forward water use efficiency programs are likely to increase in cost and become more challenging, especially as we look for ways to change behaviors and expectations people have about landscaping. | Chapter 5.6 Water Use Efficiency, Page 1, Background | Edits made. Please see page 19 of the Executive Summary. |
| Ileene Anderson  Center for Biological Diversity | The conservation and management of precious water in arid southern California, is of  great concern to the Center for Biological Diversity (the Center) because so many of southern  California’s iconic and highly vulnerable species are associated with water at some point in their lifecycle. The Center for Biological Diversity strongly supports the conservation and management of water to benefit our endemic and iconic flora and fauna. As you know, California is an internationally recognized biodiversity hotspot. Therefore, water conservation and management should be thoughtfully planned to minimize impacts to the environment. In particular, one of the pillars of the OWOW 2.0 should include managing and conserving these valuable waters in support of our species and habitats – our local natural heritage legacy. Only by maintaining the highest environmental standards with regard to local management, and effects on species and habitat, can our water and watershed be truly sustainable.  While the OWOW 2.0 devotes a chapter to Environment and Habitat Enhancement (Chapter 5.7), there are a number of inaccuracies and omissions in it. For example, the Upper Santa Ana River Wash Land Management and Habitat Conservation Plan has never been issued even as a draft plan and the Upper Santa Ana River Land Management & Habitat Conservation Plan has yet to have public notice or scoping. We appreciate the inclusion of the current conditions on the reservoirs, riparian, some of the subwatersheds and constructed wetlands for all the benefits that they provide not only for water quality but also for habitat. The chapter still lacks any vision for actually enhancing habitat. There are no goals or objectives mentioned. This lack of vision is particularly egregious for threatened and endangered species that are in desperate need of recovery habitat in order to bring them to robust enough populations so they no longer warrant Endangered Species Act protections. For example, the Santa Ana sucker is mentioned twice – once in relation to fire impacts and a second time as occurring along “Reach 4” of the Santa Ana River. The document also fails to recognize that both “Reach 4” and “Reach 5” is federally designated critical habitat for the Santa Ana sucker. Reach 5 is also federally designated critical habitat for the endangered San Bernardino Merriam’s kangaroo rat (*Dipodomys merriami parvus*). Furthermore, the chapter completely fails to mention the endangered southern California steelhead population (*Oncorhynchus [=salmo] mykiss*), which has not been studied in the watershed and may indeed be “landlocked ” in the upper streams of the watershed. These omissions and lack of vision this “pillar” for the native species and habitats in the watershed renders of the OWOW 2.0 wholly off-balance at best, and increasingly damaging to these species, some of which are already teetering on the brink of extinction, at worst. | Chapter 5.7 Land Use and Water Planning | Comments addressed in Chapter 5.9. Edits include removing the Wash Plan and listing the Upper Santa Ana River Plan as a draft. The steelhead additions address that species and information is added on critical habitat. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | The recognition of the role of riparian habitat in flood protection is an important concept; this should be reflected in several of the sections noted below. | Chapter 5.7 Land Use and Water Planning, Page 18 | Added emphasis with terms “preservation and restoration” regarding benefits. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | The Prado basin, while providing valuable habitat for a number of terrestrial species, has created a habitat blockage for a variety of species that rely, now or historically, on the Santa Ana River as a migratory corridor. This should be clarified in this section of the draft Plan. | Chapter 5.7 Land Use and Water Planning, Page 23 | New text added to clarify the wildlife corridor blockage created by Prado Dam. |
| Robert G. Taylor  USDA Forest Service | Aren’t the listed Pillars from the OWOW 1.0 process; shouldn’t the Figure be updated with the appropriate Pillar names? | Chapter 5.7 Land Use and Water Planning, Page 44, Figure 5.7-14 | Figure 5.7-14 update. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Page1. “Priority Issues” should also include riparian habitat restoration.  Page2. “Policy and Procedure Recommendations” Floodplain functions should include riparian habitat functions, as well as groundwater recharge.  “Implementation Recommendations” Riparian habitat restoration should be included explicitly. | Chapter 5.8 Stormwater: Resource and Risk Managerment, Page 1 and 2 | Revised text on pages 1, 2, and 3 to specify riparian habitat preservation and restoration as a priority. |
| Robert G. Taylor  USDA Forest Service | If SAWPA is in need of a wildfire GIS layer past 2008, that can be provided. | Chapter 5.8 Stormwater: Resource and Risk Managerment, Page 16, Figure 5.8-2 | In progress – update being made. |
| Robert G. Taylor  USDA Forest Service | There is a figure earlier in the report (and 5.9-1) that shows critical habitat for Gnatcatcher. For consistency across the document, a paragraph on this bird should be included. | Chapter 5.9 Natural Resource Stewardship, Page 4, Birds | Text added in 5.9, page 4 under Wildlife, Birds. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | See comments above regarding the decline and current status of steelhead/rainbow trout (*O. mykiss*) in the Santa Ana River watershed. This language should also be added to this section | Chapter 5.9 Natural Resource Stewardship, Page 4, Fishes | Issue addressed earlier with two additions on page 5-8. |
| Robert G. Taylor  USDA Forest Service | Original Text: As previously mentioned, the Santa Ana sucker is listed by the federal government as a “threatened” species pursuant to the Endangered Species Act. Currently, the western brook lamprey, steelhead, and unarmored threespine stickleback are known to be extirpated from the Watershed.  Comment. Unarmored threespine stickleback is not extirpated. There are three current occurrences:  Shay Pond, Juniper Springs pond, and Sugarloaf Meadow pond.  During high water conditions, Shay Creek and Baldwin Lake are also occupied.  Historically, they extended up Caribou Creek (Van Dusen Canyon) but water diversions and re-routing of drainages have made that unlikely these days.  Juniper Springs drains to Arrastre Creek which drains to the Mojave Desert.  It doesn’t get to the Mojave River.  Shay Pond/Creek drain to Baldwin Lake.  Baldwin is considered a mountain playa lake and historically didn’t have an outlet.  The connection to Big Bear Lake is an artificial flood control man-made connection.  So now it will drain to Big Bear Lake if there’s an extreme flood condition. (per Robin Eliason, Mountaintop District wildlife biologist) | Chapter 5.9 Natural Resource Stewardship, Page 4, Fishes | Information was added to the document under Aquatic Life, Fishes in Chapter 5.9, page 5. |
| Robert G. Taylor  USDA Forest Service | As stated in comment above; T&E species of amphibians should get a short paragraph for consistency with other T&E species (mountain yellow legged frog, arroyo toad) | Chapter 5.9 Natural Resource Stewardship, Page 5, Amphibians | Issue addressed on page 8. |
| Robert G. Taylor  USDA Forest Service | Original Text: Arundo on the Santa Ana River mainstem has been nearly completely eradicated in an area that stretches upstream …  Comment: The San Bernardino National Forest has projects to work on Arundo removal; the language should be clarified. The NR4 description on p.38 of this section should be consistent. | Chapter 5.9 Natural Resource Stewardship, Page 13, Invasive Species | Issue addressed in both areas (pages 16 and 41). |
| T. Winston Vickers  Wildlife Health Center, UC Davis | I have however been thinking about that area quite a bit and have only really come up with what is sort of obvious about improving connectivity across 91 – namely revegetating the coal canyon ramp undercrossing, improving oak-riparian structure coming down the drainage that leads to the large culvert there to enhance the likelihood that certain wildlife like mt lions even approach the crossing, keeping the culvert clear of heavy sediment but with a sandy or dirt floor, cutting light and noise impacts at the crossing with sound walls or other measures, moving Caltrans and other equipment and construction-related activities to other locations, and possibly improving some of the fencing along that entire stretch, at least in some locations.  Not rocket science but hard to accomplish apparently between Caltrans and army corps projects and just general bureaucratic and monetary reasons. | Chapter 5.9 Natural Resource Stewardship, Page 15-16; 34-35, Wildlife Linkages | This was edited and added to the NR2 proposal on page 40. |
| Robert G. Taylor  USDA Forest Service | Original Text: In the forest …  Suggested Text: On National Forest managed lands …  Comment: This statement on feral pigs should be better clarified to identify which National Forest is being talked about as well as changing the language. | Chapter 5.9 Natural Resource Stewardship, Page 15, Other invasive species | Revision made. |
| Robert G. Taylor  USDA Forest Service | Original Text: There are, however, no designated areas for such uses and efforts to restrict access have had limited success.  Comment: Clarification should be made that Dispersed recreation on the National Forest is a valid use. The aspects of the discussion regarding trash and alteration of natural hydrology through dam building is valid. If the report would like information on the rules and restrictions associated with National Forest lands, it can be provided. | Chapter 5.9 Natural Resource Stewardship, Page 16, Unsanctioned Recreational Uses | Clarification was made, see page 19. |
| Robert G. Taylor  USDA Forest Service | Original Text: For example, approximately 20 percent of the Watershed is within the San Bernardino National Forest.  Comment: As the overall National Forest percentage is stated in the Executive Summary/Intro as ~33% and the amount of the Cleveland in the watershed is much smaller than the San Bernardino, I would suggest verifying this 20% value. | Chapter 5.9 Natural Resource Stewardship, Page 19 | GIS calculation show that 29% of watershed is covered by Forest Land, and that SB National Forest makes up 18% of that land. Edits made to reflect the correction. See page 13 of Chapter 3.0. |
| Greg Herzog  City of Riverside Public Utilities | The City of Riverside has over 50 parks. Perhaps the City of Riverside could be included under the “City Parks” section. This would be similar to what was done for the San Bernardino County section. | Chapter 5.9 Natural Resource Stewardship, Page 22, Table 5.9-2 Regional Recreational Resources by County | Information was added to the table on page 25. |
| Robert G. Taylor  USDA Forest Service | Original Text: The California Department of Fish and Game (CDFG) permits  Comment: The name should be changed to reflect the current name | Chapter 5.9 Natural Resource Stewardship, Page 29, Innovative Conservation | Revision made. |
| Robert G. Taylor  USDA Forest Service | A number of the acronyms are not being used in the document after the first description and the acronym in parentheses. Either don’t list the acronyms every time or use them. | Chapter 5.9 Natural Resource Stewardship, Page 32 | Revisions made. |
| Marsha Westropp  Orange County Water District | Section 4.4.1 incorrectly states that OCWD is a signatory to the Chino Basin “Peace Agreement.”  Section 6.2.1 at the end of the first paragraph delete “is interested in participating in a joint project with IEUA to benefit from such a project” and add “is willing to discuss this potential project in more detail.” | Chapter 5.10 Operational Efficiency and Water Transfer | Typo – OCWD was changed to WMWD; text modified on page 17. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Climate Change. Climate change projections at a regional scale are preliminary, and are undergoing constant refinement. In addition to changes in precipitation patterns (including more extreme events) and related surface and groundwater hydrology responses, projections also include changes in surface water temperature, local wind patterns (Santa Ana winds), and wildland fires. These are expected to have potentially significant, yet poorly understood, effects on ecological conditions, including those affecting listed species such as steelhead, and other species of special concern. For a general discussion of the effects of projected climate change on southern California steelhead see the chapter 5 “Southern California Steelhead and Climate Change” in NMFS’s Southern California Steelhead Recovery Plan (2012). | Chapter 5.10 Operational Efficiency and Water Transfer, Page 3-4 | Text added to reflect regional climate change projections are preliminary. |
| Seth Zielke  Fontana Water Company | Original Text: Regarding the use of Lytle Creek Surface Flows  Suggested Text: Fontana Union Water Company (Fontana Union) is a mutual water company and does not directly deliver water to domestic customers. Fontana Union has longstanding adjudicated vested rights to Lytle Creek surface and subsurface flows. It delivers its available water to its shareholders in accordance with its Articles of Incorporation, Bylaws, and mutual water company law. Fontana Union is 97 percent owned by Cucamonga Valley Water District and San Gabriel Valley Water Company. Fontana Water Company, a division of San Gabriel Valley Water Company, diverts and produces water pursuant to its rights as Fontana Union’s agent in accordance with a court approved  agreement.  Comment: From Upper Santa Ana River Watershed Integrated Regional Water Management Plan November 2007 | Chapter 5.10 Operational Efficiency and Water Transfer, Page 13 | Text modified to recognize Fontana Union’s water rights from Lytle Creek. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Page 5. “DAC Challenges and Opportunities”. Suggest adding: “Limited, accessible, low-cost, outdoor recreational opportunities”. Note the Santa Ana River corridor provides a potentially significant opportunity for passive and active open-space recreational activities along many reaches (including some which are currently developed with regional parks).  Page10. Tribal Challenges and Opportunities. See comment above. | Chapter 5.11 Disadvantages & Tribal Community, Page 5 and 10 | Text has been revised to reflect comment on page 14-15 of the Executive Summary and in Chapter 5.7 Land and Water Use Planning on page 3. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Appendix H Resource Guide  Update the NMFS contact information:  Irma Lagomarsino, Assistant Regional Administrator  California Coastal Area Office  West Coast Region  National Marine Fisheries Service  (707) 825-5160  ima.lagomarsino@noaa.gov  Anthony Spina, Branch Chief  Southern California Coast Branch  West Coast Region  National Marine Fisheries Service  (562) 980.4045  anthony.spina@noaa.gov  Mark H. Capelli  South-Central/Southern California Steelhead Recovery Coordinator  West Coast Region  National Marine Fisheries Service  (805) 963-6478  mark.capelli@noaa.gov | Chapter 5.12 Government Alliance | These updates will be made to the next edition of the Resource Guide which is to be released mid-year 2014. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Page 31. Add a fourth “No Regrets Strategy”, “Maintain Instream Flow Beneficial Uses”.  Page 33. Add the following corresponding discussion under “Maintain Instream Flow Beneficial Uses”: “Streamflows control a number of features of aquatic habitats that are of critical importance to the life-cycle of fishes, amphibians, and other species closely associated with riverine and riparian habitats. The management of surface and subsurface water diversions is critical in ensuring the pattern and magnitude of surface flows necessary to support aquatic species. While it is not often possible to recreate original flow conditions in highly modified river systems such as the Santa Ana River, the closer that the managed stream flow mimics the natural or pre-impact streamflow regime, the more likely the managed streamflow regime will meet the life history requirement of species indigenous to a watershed. Developing ecologically effective stream flow regimes requires quantitatively estimating the unimpaired pattern and magnitude of stream in the watershed (*i.e.,* the timing, frequency, duration and rate of change of flows). Specific metrics derived from hydrologic estimates can be subsequently refined in collaboration with stakeholders to guide development of stream flow management program. To ensure that naturally limited water resources are allocated efficiently, streamflow recommendations, including water releases from water projects, should include criteria that promote synchrony of water release within natural hydrologic conditions and the instream timing of the life stages of the indigenous aquatic species. Uncertainty regarding the response of individual species to a managed flow regime should be addressed through an adaptive management program based on the collection of empirical data and a mechanism for altering the flow regime to better support the life history of indigenous species, with particular attention to listed species, or species of special concern.” | Chapter 5.13 Energy and Environmental Response, Page 31 and 33 | The existing No Regrets strategy of “Resource Stewardship” is inclusive of “Maintain Instream Flow Beneficial Uses” so an additional strategy is not included. Response to “Maintain Instream Flow Beneficial Use” is addressed in detail under Chapter 5.9. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Add seventh element in the “shared vision”: “A watershed that sustainably supports a full suite of indigenous species and ensures the protection and recovery of federal and state listed species, and species of special concern.” | Chapter 5.14 Integration and Implementation, Page 1 | As previously indicated, the shared vision which remains consistent with OWOW 1.0 plan does address this issue under “environmental sustainability” which includes endangered and threatened species as indicated under the previous goal section. |
| Chapter 6 Project/Program Review, Evaluation and Prioritization | | | |
| Marsha Westropp  Orange County Water District | This chapter describes the process used for evaluating and scoring projects that were submitted for funding consideration. During the Round 1 cycle, the numerical scores and ranking for individual projects were posted as well as the reviews of the independent interview panel. This transparent process provided stakeholders the opportunity to see how their projects and other projects were scored according to pre-determined and agreed upon criteria. The manner in which the independent panel fact checked and evaluated individual projects was made available to all.  We suggest that this same transparent process that was developed for Round 1 also be utilized for Round 2 and 3. Scores for Round 2 projects based on the ranking model and the results of the reviews of the independent review panel have not been posted. Even though project selection has been completed and submitted to DWR answers to some fundamental questions from the Round 2 process such as how did the panel chose the portfolio and how was the level of funding for individual projects determined will be important for improving the process for Round 3 funding. | Chapter 6, Project/Program Review, Evaluation, and Prioritization | The process used for scoring and project selections for Round 3 is likely to be similar to Rounds 1 and 2 but is subject to approval of the OWOW Steering Committee and SAWPA Commission. The independent review panel did prepare comments regarding their evaluation. Projects selected for funding and funding levels for Round 2 were prepared by the panel and were determined by consensus among the panel members. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | See comment above regarding “Maintain Instream Beneficial Uses”:  (These sections should include some specific reference to the instream beneficial uses of the Santa Ana River watershed; these include both habitat functions, individual species uses, and non-consumptive human uses, including recreation, outdoor education, and scientific research endeavors.) | Chapter 6.0 Project/Program Review, Evaluation, and Prioritization, Page 3 | This section describes the criteria and evaluation used under Round 2 funding. The future Round 3 criteria will be discussed based on DWR grant criteria and with the OWOW Steering Committee guidance and cannot be defined in this plan at this time. |
| Chapter 7.0 Impacts and Benefits of Sustainable Integrated Solutions | | |  |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Stormwater Capture. See comments above regarding the stormwater capture under section “1.3 Moving Into Implementation”.  (This section articulates many key concepts (*e.g.,* upstream/downstream dynamic, restoring natural systems hydrology), but also appears to rely on the “capture of more stormwater upstream.” It should be recognized that storm-water flows are an important mechanism for creating and sustaining basic stream channel morphologic features such as pools, runs, glides, undercut banks, gravel bars, and lagoonal sandbar formation and breaching. Other basic physical functions of variable streamflow include the flushing of fine sediments, distribution of nutrients, recruitment and sorting of spawning gravels and large woody debris, and the maintenance of multiple stages of riparian vegetation. These habitat features are of critical importance not only to steelhead (either migrating adults or rearing juveniles), but also a wide variety of other indigenous aquatic and riparian-dependent species in the Santa Ana River watershed.) | Chapter 7.0 Impacts and Benefits of Sustainable Integrated Solutions, Page 5 | This chapter describes the impacts and benefits of Round 1 and 2 projects. Benefits and impacts regarding the environmental impacts of stormwater capture will be addressed in Chapters 5.9 and 5.8 |
| Chapter 8 Finance | | |  |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Funding Options for Integrated Regional Planning Efforts. The Southern California Steelhead Recovery Plan identified a number of federal, state, regional, and local funding sources for carrying out recovery actions identified in the Recovery Plan (Appendix E, “Recovery Action Costs Estimates for Steelhead Recovery Planning”. These should be included in the appropriate section of the Finance chapter:  Federal funding sources include:  • NOAA/NMFS Restoration Center Community-Based Restoration Program  • NOAA/NMFS Restoration Center Open Rivers Initiative  • NOAA/NMFS Proactive Species of Concern Grant Program  • NOAA National Sea Grant College Program  • NOAA Coastal and Estuarine Land Conservation Program  • NOAA/ACOE/USFWS/EPA/NRCS Estuary Habitat Restoration Program  • EPA Wetlands Protection Grants and Near Coastal Waters Programs  • US. Department of Transportation Highway Bridge Rehabilitation and Replacement Program  • U.S. Fish and Wildlife Service National Coastal Wetlands Conservation Grant Program  • U.S. Fish and Wildlife Service Coastal Program  • U.S. Fish and Wildlife Service Partners for Fish and Wildlife Program  • U.S. Fish and Wildlife Service North American Wetland Conservation Act  • National Resource Conservation Service  • Federal Highway Administration – Road Aquatic Species Passage Funding  State funding sources include:  • California Department of Fish and Game Pacific Coast Salmon Restoration Fund (Fisheries Restoration Grant Program)  • California Coastal Conservancy Proposition 84 Funds  • California Coastal Conservancy Southern California Wetlands Recovery Project  Community Wetland Restoration Grants  • California Wildlife Conservation Board  • California State and Regional Water Quality Control Board Clean Water Grant Program  • California Integrated Watershed Management Grant Program Proposition 50 Funds  • California Department of Parks and Recreation Habitat Conservation Fund  • CalTrans Environmental Enhancement and Mitigation Program  • U.C. California/NOAA California Sea Grant College Program  In addition to federal and state funding sources, there are also numerous private national, regional and local funding sources for southern California habitat restoration projects, such as:  • National Fish and Wildlife Foundation | Chapter 8 Finance, Page 3 | Suggested additional funding sources have been added to the Chapter. |
| Eric Grubb  Cucamonga Valley Water District | Original Text: Application Fee for Project Grant Submittals  Fee for Project Successful In Obtaining Grant  Comment: CVWD is sensitive to any additional fees that would have to be paid to participate in the grant process. | Chapter 8 Finance, Page 5 | Application fee was discussed merely as an optional approach. Sensitivity to any new fee is noted. |
| Appendices | | | |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | As noted above in addition to the four major threats noted here, a fifth significant issue is the permanent loss of indigenous species. See comment above. | Appendix A Assessment of the Health of the Santa Ana Watershed, Page 1, Introduction | As indicated under earlier response to this issue, the original four watershed challenges were developed under OWOW 1.0. Text changes to describe this challenge and corrective implementation suggestions are included in Chapter 5.9 Natural Resources Stewardship and 5.14 Integration and Implementation and in the Executive Summary. |
| Marsha Westropp  Orange County Water District | Section 4 – From Concept to Reality – Recommended Next Steps for OWOW describes a process to further advance the OWOW 2.0 plan. The outline presented here is labor intensive and reliant on volunteers to accomplish an ambitious agenda. Recasting this as a strawman proposal would allow stakeholders to fully discuss and refine the ideas presented here. | Appendix B, OWOW Santa Ana River Watershed Planning Framework | This document was previously accepted and approved by the OWOW Steering Committee and now included here as a reference and cannot be changed. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Add a specific reference to NMFS’s Southern California Steelhead Recovery Plan (2012): “The Santa Ana River watershed is also included within the recovery planning area of the Southern California Steelhead Recovery Plan for the federally listed southern California steelhead.” | Appendix B, OWOW Santa Ana River Watershed Planning Framework, Page 21-22 | Text added to Chapter 5.9. |
| Al Shaikh  City of Anaheim Public Utilities | Original Text: Appendix A  Suggested Text: Appendix C (or delete) | Appendix C, Watershed Recycled Water Demands and Projections, Page 1 | Text added. |
| Al Shaikh  City of Anaheim Public Utilities | Please add the following information about Anaheim recycled projects to Appendix C – Recycled water:  *City of Anaheim*  Anaheim indirectly participates in regional water recycling through the Groundwater Replenishment System (GWRS) by the Orange County Water District (OCWD) and Orange County Sanitation District (OCSD). The City has also been purchasing the GWRS water for use at its newly constructed Canyon Power Plant (CPP) since 2011. This water is used to control and/or reduce air emissions and for landscape irrigation at the CPP. GWRS water will also be used for cooling tower make up water, toilet flushing, and landscape irrigation at the Anaheim Regional Transportation Intermodal Center (ARTIC), which is currently under construction.  Anaheim recently completed a water sustainability campus including a phased 100,000 gallons per day (gpd) water recycling demonstration facility at the City Hall complex. The facility, which consists of a Membrane Bioreactor (MBR) wastewater treatment plant, treats wastewater taken from a nearby sewer line to Title 22 standards for toilet and urinal flushing and landscape irrigation uses. The project is expected to ultimately save approximately 110 AFY of potable water.  Anaheim has also developed several recycled water project alternatives through its citywide water recycling study. The study analyzed using recycled/non-potable water from various sources for potential reuse opportunities throughout the city, and defined and prioritized feasible water recycling projects. The potential recycled water users include parks, golf courses, school yards, homeowners associations, and freeway/street landscaping.  In 2012, Anaheim completed a feasibility study for delivering recycled/non-potable water to Disneyland and Platinum Triangle area. The potential sources of water include GWRS pipeline and local shallow groundwater. The potential customers include Disneyland, Anaheim Resort, and the Platinum Triangle, and potential customers along Ball Road. The recycled water would supply cooling towers, commercial laundry facilities, toilet and urinal flush water in new dual plumbing buildings, and parks, schools, and streetscape/landscape irrigation. | Appendix C, Watershed Recycled Water Demands and Projections, Page 1 | Text added. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | NMFS has published a Technical Memorandum which deals with the issue of planning for recovery of southern California steelhead in an highly urbanized environment in the face of projected climate changes: Boughton, D. A. 2010. A Forward-Looking Scientific Frame of Reference for Steelhead Recovery on the South-Central and Southern California Coast. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-466.  This Technical Memorandum should be referenced. | Appendix F Technical Memorandum No. 86-68210-2013-02, Climate Change Analysis for the Santa Ana River Watershed Santa Ana Watershed Basin Study, California Lower Colorado Region | Update will be made to the next Plan’s literature review section. |
| Anthony Spina  National Marine Fisheries Service  West Coast Region | Appendix H Resource Guide  Update the NMFS contact information:  Irma Lagomarsino, Assistant Regional Administrator  California Coastal Area Office  West Coast Region  National Marine Fisheries Service  (707) 825-5160  ima.lagomarsino@noaa.gov  Anthony Spina, Branch Chief  Southern California Coast Branch  West Coast Region  National Marine Fisheries Service  (562) 980.4045  anthony.spina@noaa.gov  Mark H. Capelli  South-Central/Southern California Steelhead Recovery Coordinator  West Coast Region  National Marine Fisheries Service  (805) 963-6478  [mark.capelli@noaa.gov](mailto:mark.capelli@noaa.gov) | Appendix H One Water One Watershed (OWOW), Resource Guide Edition 1 | These updates will be made to the next edition of the Resource Guide which is to be released mid-year 2014. |