

San Diego Water Board Practical Vision

A Vision for Achieving a Sustainable Local Water Supply

In order to maintain and improve water quality and provide sufficient water to meet the demands of the Region, the San Diego Water Board must use its leadership and regulatory authority to achieve a sustainable local water supply while concurrently ensuring that water quality supports beneficial uses. Reducing the Region's dependence on imported water is needed to improve water quality within and outside of our Region and to reduce greenhouse gas emissions associated with the transport of water. The creation of a sustainable local water supply includes three aspects: the environmentally responsible use of groundwater and surface water, the creation of new sources of fresh water such as, desalination, indirect potable reuse and direct use of recycled water, and conservation efforts to reduce water demand.

This Practical Vision describes the means by which the San Diego Water Board will help water and waste water agencies achieve the goal of a sustainable local water supply. A multi-phase approach will be used to increase the supply of local water and decrease the Region's water demand. Specific activities include: taking appropriate actions to protect and restore groundwater and surface water quality, developing approaches to increase the Region's use of recycled water while maintaining high water quality, and taking actions to encourage conservation to reduce our Region's demand for water.

Practical Vision Statement

An ample, diverse, and sustainable local water supply for the San Diego Region that, combined with conservation and water reuse, minimizes dependence on imported water while maintaining and improving water quality.

Mission Statement

To use the San Diego Water Board's leadership and regulatory authority to encourage, promote, and facilitate development of new and diverse sustainable local water supplies in an environmentally responsible manner.

The Values of this Practical Vision

The San Diego Water Board values environmental stewardship, effectiveness in protecting waters, environmentally responsible use of groundwater and surface water, and reuse of water. It strives to provide good public service and be a trustworthy and transparent organization.

Where We Are in 2013

Although the San Diego Water Board has limited authority to regulate water supply, it has an important role in the development of water supply as it supports water and waste water agencies through permitting, enforcement, and financial assistance. The San Diego Water Board regulates the production and discharge of recycled water through the issuance of Waste Discharge Requirements (WDRs), Water Reclamation Requirements (collectively referred to as “permits”), and waivers of WDRs. Additionally, it implements the State Board’s Recycled Water Policy, which includes the goals of increasing total recycled water use in California by 1 million acre-feet per year by 2020 and 2 million acre-feet per year by 2030.

Our Region’s water supply is a combination of water imported from outside of our Region, water from local surface and groundwater sources, and recycled water. Data from the San Diego County Water Authority (SDCWA)¹ indicates that approximately 71 percent of the Region’s water supply is imported from the Sacramento/San Joaquin River and the Colorado River. Since 1991, significant progress has been made to diversify the Region’s water supply, with an emphasis on reducing dependence on imported water. For example, progress by the SDCWA, the Region’s largest water supplier, is shown in Figure 1.

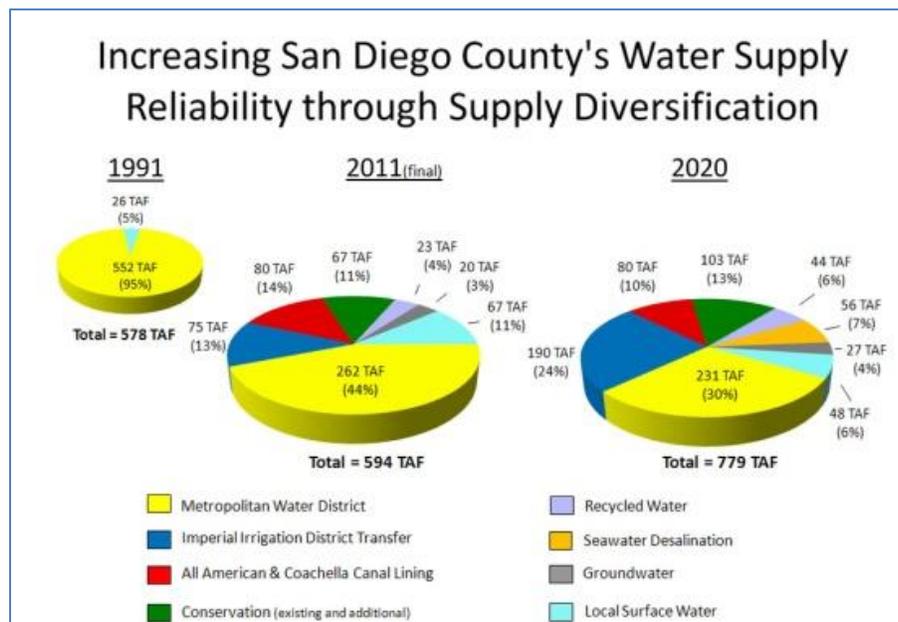


Figure 1: San Diego County Water Authority

¹ The SDCWA is a public agency serving the western portion of San Diego County. The data is considered typical of the Region’s water use, and considered as the same as the entire Region’s water demand and supply. For more information on water supply visit <http://www.sdcwa.org/>

Sustainable Local Water Supply

Groundwater accounts for 3 percent of the Region's water supplied by the SDCWA. The Marine Corps Base Camp Pendleton, the Rancho Municipal Water District, the Sweetwater Authority, and the cities of Lakeside, Oceanside, and San Juan Capistrano are currently providing local groundwater for municipal supply. Additionally, in the rural eastern portion of San Diego County, small communities like Julian and Santa Ysabel, and individual residences rely on groundwater as their sole supply. Groundwater supply is projected to meet a greater portion of the region's future water supply and storage needs. Several agencies within the San Diego Region have projects that could provide an additional 7,000 acre-feet of groundwater production by 2020 (Figure 1).

Local surface water accounts for 11 percent of the Region's water supply. Seven major stream systems originate in the mountains of San Diego County and drain to the Pacific Ocean.² Runoff from these seven watersheds supplies the 25 regional reservoirs with local water supplies. Some of the reservoirs are solely supplied by runoff, whereas others are supplied by runoff and imported water. These reservoirs supply water for normal use, emergency conditions, and imported water shortages. One of the practical visions the San Diego Water Board is committed to is a set of priorities for water quality that will achieve healthy waters in the Region's watersheds and ensure that local surface water supplies are drinkable (see Practicable Vision for Healthy Waters).

Between 1991 and 2011, water conservation efforts resulted in decreased water use; water demand in the Region decreased by 67,000 acre-feet despite a substantial increase in population.

Several water and wastewater agencies in the Region are implementing and/or expanding their water recycling projects. Recycled water is highly treated waste water suitable for appropriate reuse (i.e. irrigation, dust control, or indirect potable reuse). Approximately 49,000 acre-feet of recycled water was used in 2011. One promising project is the City of San Diego's Indirect Potable Reuse (IPR) project. IPR is a process whereby waste water is treated using standard and advanced water treatment to meet or exceed drinking water standards, then delivered to a reservoir to augment local and imported drinking water supply. The City of San Diego has identified three reservoirs where IPR may be used. This project may be the first use of IPR of its kind in California and could pave the way for other similar projects. If IPR is used in all three reservoirs the City of San Diego will increase its water supply by 143,000 acre feet per year, or about half the amount currently used.

Due to the Region's location next to the Pacific Ocean, desalination is a potential source of water for municipal supply. There are currently three desalination projects in planning and development, with an estimated production of 128 thousand acre-feet (TAF) per year. They are the Carlsbad Desalination Project (56 TAF), the Camp

² San Juan, Santa Margarita, San Luis Rey, San Dieguito, San Diego, Sweetwater, and Tijuana.

Pendleton Seawater Desalination Project (56 TAF), and the Dana Point Ocean Desalinating Project (16 TAF).³

Why this Practical Vision is a Priority

As author Wallace Stegner observes, the West is defined by its lack of rain and water, which means that the West is in a state of constant drought. A sustainable local water supply is needed to meet the needs of a growing population and to fulfill the mission of the San Diego Water Board of protecting and enhancing water quality. The San Diego Water Board is committed to help diversify the Region's water supply and reduce imported water.

A sustainable local water supply is needed because global climate change impacts, cyclic droughts, and pumping restrictions make the Delta and Colorado River supplies uncertain for the future. A local supply is also a matter of regional security, as the collection and transportation systems for imported water are vulnerable to disruption from earthquake damage.

The use of imported water causes degradation of water quality in the source basins, along the conveyance river system, and within the San Diego Region. For example, the Sacramento-San Joaquin Delta River (Delta) is part of the infrastructure to transport water from northern to southern California, and pumps used to transport the water cause significant damage to native and endangered fish in the Delta. The increased use of water in the naturally arid Region has resulted in hydromodification of streams, increased salt content of groundwater, and changes from salt to fresh water conditions in coastal lagoons. Reducing the Region's reliance on imported water should help lessen such adverse effects.

Reductions in the use of imported water, combined with conservation efforts to reduce water use, will reduce the emission of greenhouse gases. It is estimated that 5,100,000 megawatt hours of electricity is used each year to transport water from northern to southern California.⁴ A 1 percent reduction in the amount of water imported from northern California will result in an annual reduction of 4,590,000 tons of carbon⁵ dioxide or the equivalent of 918,000 cars.⁶

³ The SDCWA data is limited to San Diego County.

⁴ Drops of Energy, *Conserving Urban Water in California to Reduce Greenhouse Gas Emissions*, May 2011, UC Berkeley Center for Law, Energy & the Environment and UCLA Environmental Law Center.

⁵ The estimate of carbon dioxide emissions was made using the calculator found at www.carbonify.com.

⁶ The Environmental Protection Agency (www.epa.gov/cleanenergy/energy-resources/refs.html/#vehicles) estimated that the average car and commute results in carbon dioxide emissions of 5 tons per year.

Projects for Practical Vision Success

The projects developed in this Practical Vision use various approaches and are intended to reduce the Region's use on imported water and to assist local water suppliers in the responsible use of our local water resources.

1. Water Purveyor Outreach

a. Project Description or Purpose

Establish relationships with water suppliers and water agencies to partner with them on plans to increase local water supply.

b. Project Goals

Project goals are:

- i. Identify San Diego Water Board programs that can be used to increase our local water supply.
- ii. Identify water suppliers and contacts.
- iii. Identify governmental (such as the San Diego Integrated Regional Water Management group and the City of San Diego Water Policy Implementation Task Force) and non-governmental organizations that work towards creating sustainable local water supplies (collectively called Water Resource Management Organizations).
- iv. Identify activities and programs that play a part in increasing local water supplies.
- v. Identify programs/orders/policies that can be used or modified to increase a sustainable local water supply.
- vi. Establish priorities to direct staff to work on programs that can assist in increasing a sustainable local water supply.
- vii. Maintain relationships with water suppliers and Water Resource Management Organizations to be part of their planning.

c. Desired Outcomes

- i. Improving working relationships with water suppliers and Water Resource Management Organizations to encourage and promote projects within the Region that will result in a sustainable local water supply.

d. Values and Underlying Contradictions

Value	Description	How Embodied in Project	Underlying Contradiction
Good Public Service & Worthwhile Work	Working for the greater good.	Encouraging and assisting water suppliers and Water Resource Management Organizations in the development of a sustainable local water supply will benefit the people of the Region. By reducing the demand for imported water the environmental impacts to the Delta will be reduced and the amount of greenhouse gases needed to deliver the water will be reduced.	The process by which the operating budgets for the San Diego Water Board limits staff's ability to work across Units. This Practical Vision requires cross-Unit work and cooperation. Additionally, overall funding will limit the resources needed to complete this project.
Courage	Doing things that are right, not just expedient or safe.	The project requires people to venture into new areas, be creative with funding, and use our regulatory power; all of which requires courage to complete.	Traditionally the relationship between the San Diego Water Board and the water suppliers has been discharger vs. regulator. This project requires a change in this relationship that develops a partnership which encourages and promotes activities that will increase the Region's local water supply while maintaining high water quality.

e. Linkage to the Practical Vision

This project lays the foundation for better communication and trust between the San Diego Water Board and the water suppliers who serve the Region. The San Diego Water Board will be involved in projects early in the planning stages and will have the opportunity to provide input and assistance in getting these projects approved and implemented.

f. Schedule/Milestones

- i. 3 – 6 Month Milestones:
 - a. Develop a list of water suppliers and contacts.
 - b. Designate a team consisting of at least one staff person from each unit and one person from the Executive Management Team to develop a presentation on how the San Diego Water Board can assist water suppliers and Water Resource Management Organizations.

Sustainable Local Water Supply

- ii. 6 – 9 Month Milestones:
Meet with half of the water suppliers to find out how the San Diego Water Board can assist with the development of local water supplies.
- iii. 1 Year Milestones:
Meet with remaining water suppliers to find out how the San Diego Water Board can assist with the development of local water supplies.
- iv. Beyond 1 Year Milestones:
Meet with water suppliers on a semi-annual basis to continue the discussions and relationship building.

g. Resources Needed

One staff level person from each branch and one member from the executive management team will be needed. The level of effort for this group will be approximately 40 person hours per month.

Other Resources: Laptop computers and projectors will be needed for the presentations to the water suppliers as well as vehicles to meet transportation needs.

h. Tasks that Might Not be Done in Order to do this Project

Until all of the practical visions are approved it is impossible to predict what resources will be needed and therefore what projects won't get done.

2. Salt and Nutrient Management Planning Implementation Project

a. Project Description or Purpose

The Salt and Nutrient Management Planning Implementation Project will result in the adoption of salt and nutrient management plans (SNMPs) for several groundwater basins in the San Diego Region. Implementation of the SNMPs will facilitate increased recycled water use, while ensuring that groundwater quality meets Basin Plan standards. The increased use of recycled water will reduce the Region's use of imported water.

The State Recycled Water Policy (Policy) requires local stakeholders to develop SNMPs for all groundwater basins in California by May 2014. Development of the SNMPs involves stakeholder outreach, groundwater basin characterization, identification and quantification of salinity sources, supplemental monitoring, and assessment of salinity and nutrient management strategies. The Policy requires the San Diego Water Board to incorporate the relevant provisions of the SNMPs into the Basin Plan.

Guidelines for developing the SNMPs were adopted by the San Diego Water Board on November 10, 2010. Based on basin storage, yield, water quality, and municipal use the basins are placed in Tiers A, B, C, D, or E. Tier A and B basins are assigned the highest priority basins for developing SNMPs.

Sustainable Local Water Supply

The table below provides the status of planning efforts for basins for which lead agencies have been identified.

Table 1: Status of Planning Efforts

Tier	Groundwater Basin	Lead Agency	Status
Tier A	Lower Santa Margarita	United States Marines Corps Base Camp Pendleton (USMC Camp Pendleton)	Final SNMP submitted to the San Diego Water Board in November 2012, and is currently being reviewed.
	Temecula-Murrieta	Rancho California Water District	Draft SNMP to be submitted to the San Diego Water Board by January 2014.
	San Juan	Southern Orange County Water Agency (SOCWA)	SOCWA currently conducting groundwater modeling and salt and nutrient loading analyses. Draft SNMP will be submitted to the San Diego Water Board by October 2013.
	Santee El Monte	Padre Dam Municipal Water District (Padre Dam)	Padre Dam currently finalizing monitoring and evaluating projects. Draft SNMP will be submitted to the San Diego Water Board by October 2013.
	Hodges/San Pasqual	City of San Diego	Draft SNMP to be submitted to the San Diego Water Board in October 2013, while final SNMP will be submitted in May 2014.

Sustainable Local Water Supply

Tier	Groundwater Basin	Lead Agency	Status
Tier B	San Onofre	USMC Camp Pendleton	USMC Camp Pendleton has submitted a draft scope of work for the SNMP to the San Diego Water Board. The draft scope of work has been reviewed by San Diego Water Board.
	San Mateo	USMC Camp Pendleton	USMC Camp Pendleton has submitted a draft scope of work for the SNMP to the San Diego Water Board. The draft scope of work has been reviewed by San Diego Water Board.
	Escondido	City of Escondido	Rincon MWD will submit its draft SNMP to the San Diego Water Board by October 2013 and plans to hold a stakeholder meeting prior to submitting the draft SNMP.
	Gower	Ramona Municipal Water District	SNMP to be completed by December 2013.
Tier D & E	<p>Small saline coastal and inland basins:</p> <p>Oceanside Mission, Mission Valley, Lower Sweetwater, Bonsall/Moosa, Batiquitos, Buena Vista, Agua Hedionda, Encina, San Elijo, Lower San Dieguito, El Cajon, Otay, Lower Tijuana</p>	San Diego County Water Authority (SDCWA)	The SDCWA has developed a draft SNMP for all the tier D and E basins in the Region through its Integrated Regional Water Management Planning process. The San Diego Water Board has reviewed and provided comments to the SDCWA on the draft SNMP.

Sustainable Local Water Supply

Tasks:

- i. Complete the SNMPs for basins with identified lead agencies by May 2014.
- ii. Adopt the SNMPs by June 2015.
- iii. SNMPs implementation.

b. Project Goals

- i. Promote use of recycled water by streamlining and expediting permitting of recycled water projects, while protecting water quality and beneficial uses.

c. Desired Outcomes

- i. Reduced dependence on imported water.
- ii. Increased use of recycled water while protecting water quality and beneficial uses.
- iii. Implement salt and nutrient management strategies such as Indirect Potable Reuse, Groundwater Recharge, Stormwater Recharge, etc.

d. Values and Underlying Contradictions

Value	Description	How Embodied in Project	Underlying Contradiction
Quality Water	Waters that support healthy communities. The condition of the waters guides action and behaviors.	Developing SNMPs for groundwater basins will ensure recycled water is used in a manner that does not adversely affect water quality.	Imported water is a major contributor of salts to the Region's groundwater basins. The San Diego Water Board does not have authority to regulate water supply.
Leadership	Doing things that are right, not just expedient or safe.	We will need to provide clear direction and support to enable multiple agencies and stakeholders to work collaboratively to develop their SNMPs.	The Policy assigns the Regional Water Boards a supporting role rather than a lead role in SNMP development.
Communication	Effective sharing and understanding of ideas.	Communicating the expectations, goals, and benefits of the planning process is essential in ensuring effective cooperation of all stakeholders involved.	Most agencies are not used to working in partnership with the San Diego Water Board. Open communication with stakeholders has been difficult to foster.

e. Linkage to the Practical Vision

This project will facilitate streamlined and consistent permitting of recycled water projects, protect water quality and beneficial uses, and encourage increased use of recycled water. Implementation of the SNMPs will protect and enhance the Region's groundwater quality, and is consistent with one of the goals of the practical vision, which is to reduce the Region's dependence on imported water.

f. Schedule/Milestones

i. Completed Tasks:

- 1) Reviewed scope of work developed by stakeholders for individual SNMPs.
- 2) Developed Access database to track progress of SNMP development.

ii. 1-3 Year Milestones:

- a. Attend stakeholder workshops/meetings to provide input, assess and monitor progress, and identify obstacles to completing the SNMPs on schedule.
- b. Review draft SNMPs and provide comments to lead agencies. Review of draft SNMPs expected to be completed by January/February 2014.
- c. Submit SNMPs to State Board for peer review, (if necessary, and incorporate comments in Final SNMPs or basin plan amendment.
- d. Review Final SNMPs. Estimated completion date of review of final SNMPs is July 2014.
- e. Prepare basin plan amendments and present them to the San Diego Water Board for adoption by May 2015.

g. Resources Needed

Resources needed: 0.6 PY per year for 2 years from combination of WDRs, Non-Point Source and/or Basin Plan task codes.

h. Tasks that might not be done in order to do this project

Defer some WDR permit and/or enforcement activities.

3. Investigate Revision of the Nitrate Water Quality Objective for Groundwater

a. Project Description or Purpose

Increasing the use of recycled water is limited by the existing water quality objective (WQO) for nitrate in groundwater. The Basin Plan WQO in some groundwater basins is lower than the primary drinking water standard and lower than can be economically achieved for recycled water. This project is to investigate whether it would be appropriate to raise the nitrate WQO for

Sustainable Local Water Supply

groundwater to the primary drinking water standard, formerly known as the Maximum Contaminant Level (MCL). Raising the nitrate WQO to the MCL will allow for greater use of recycled water due to lower treatment cost of nitrate removal.

The WQO for nitrate in ground water is: *“Ground waters shall not contain nitrate (as NO₃) in concentrations in excess of the numerical objectives described in Table 3-3.”* Numerical objectives in Table 3-3 of the Basin Plan are 5, 10, 15, or 45 milligrams per liter (mg/l) for the various water bodies listed.

The MCL for nitrate (as NO₃) is 45 mg/l. The project, therefore, is to determine if it is appropriate to raise nitrate WQOs of 5, 10, and 15 mg/l to 45 mg/l, thus making the WQO for nitrate in groundwater 45 mg/l throughout the Region

b. Project Goals

- i. Determine if a WQO of 45 mg/l should replace the WQOs of 5, 10, and 15 mg/l in the Basin Plan.

c. Desired Outcomes

- i. A recommendation with supporting documentation on revising the nitrate objective
- ii. If revision is appropriate, prioritization of the Basin Plan amendment on the Triennial Review Workplan.
- iii. Increase the use of recycled water within the Region resulting from a more economical treatment costs.

d. Values and Underlying Contradictions

Value	Description	How Embodied in Project	Underlying Contradiction
Communication	Effective sharing and understanding of ideas	Effective communication is needed to accomplish the project, both internally among several programs and externally between staff and stakeholders.	Communication can sometimes be difficult due to limited staff resources and/or limited time to accomplish tasks.
Knowledge	Knowing what to ask, what you need to know, and how to apply that knowledge	Accurate and adequate knowledge relating to the nitrate water quality objective is essential for success of the project.	Information such as the origin of the current objective, water quality, and human health effects of changing (or not changing) the objective can be time consuming or costly to obtain.
Open-mindedness & Pragmatism	Open to new ideas; willing to change, to be flexible, to	Open-mindedness and pragmatism are needed when considering the pros and cons of whether to relax a water	Staff tends to support the most stringent protection of water quality, the prospect of relaxing an

	consider alternative solutions	quality objective.	objective might not be seen as a priority. Also, the process to revise an objective is rigid and lengthy.
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e. Linkage to the Practical Vision

Recycled water use will increase if the San Diego Water Board finds that the nitrate WQO for groundwater can be raised to the primary drinking water MCL. A consistent nitrate WQO throughout the Region would (a) better accommodate the use of recycled water and encourage its use, (b) simplify permit writing for entities that discharge to areas with different nitrate WQOs, (c) increase the use of recycled water, and (d) help decrease the Region’s reliance on imported water.

f. Schedule/Milestones

i. 1 Year Milestones:

- a. Complete a literature search to document the history and appropriateness of the numerical nitrate WQOs.
- b. Meet with water agencies and other stakeholders to gain public comment on the appropriateness of using the primary drinking water MCL for the nitrate groundwater WQO.
- c. Complete an anti-degradation analysis to support the revision.
- d. Seek outside funding to pay for any studies needed to complete the anti-degradation analysis and technical reports.
- e. Prepare a Technical Report summarizing results/findings and providing a recommendation on relaxing the nitrate groundwater WQO to the MCL.

ii. Beyond 1 Year Milestones:

- a. Implement the recommendation provided in the Technical Report.

g. Resources Needed

Approximately 1 PY is needed to conduct the investigation and make a recommendation.

h. Tasks that might not be done in order to do this project

Investigation of one or more of the suggested Basin Plan revisions on the “short list” adopted by the Board as part of the 2011 Basin Plan Triennial Review. [Project likely would supersede investigation of another highly ranked suggestion on the “R” list. The “R” list includes suggestions intended to make the Basin Plan more “reasonable” or “realistic.”]

4. Indirect Potable Reuse

a. Project Description or Purpose

The San Diego Water Board supports Indirect Potable Reuse (IPR) to increase the Region's sustainable local water supply. State law prohibits the direct use of recycled water for domestic use. IPR is a process whereby waste water is treated using standard and advanced water treatment to meet or exceed drinking water standards, delivered to a water supply reservoir, mixed with imported water, and then treated and supplied to customers.

The City of San Diego (City) issued the Final Draft San Diego Recycled Water Study (Study)⁷ which evaluated the potential to use IPR in reservoirs and groundwater basins. The Study identified three reservoirs (San Vicente, Lower Otay, and Hodges) where IPR may be used. If IPR is used in all three reservoirs the City's water supply could be increased by 143,000 acre feet per year, or approximately one half of what is currently delivered to customers.

The City's reservoir augmentation project may be the first use of IPR of its kind in California and could pave the way for other similar projects. Other municipalities in the Region are also looking into the possibility of IPR projects.

Challenges to the development of waste discharge requirements for the San Vicente Reservoir Augmentation project and other reservoir augmentation projects include current regulations and 303(d) listings. Regulations and the 303(d) listings need to be carefully analyzed to determine which water bodies may be used for IPR. The San Diego Water Board and the City are working with the California Department of Public Health to determine the required health criteria to be included in the draft waste discharge requirements.

b. Project Goals

The project goals are:

- i. Develop alternatives to the water quality objectives for biostimulatory substances (nitrogen: phosphorus, N:P) in the Basin Plan to make reservoir augmentation projects feasible. Two alternatives are site specific nitrogen to phosphorus ratios or site specific N:P objectives based on the State Water Board Draft Policy for Nutrients for Inland Surface Waters of the State of California.
- ii. Address 303(d) listing for total nitrogen for San Vicente Reservoir and any other reservoirs.
- iii. Prepare draft NPDES permit for the City's San Vicente Reservoir Augmentation Project.

⁷ March 2012

Sustainable Local Water Supply

- iv. Work with other municipalities looking into the possibility of reservoir augmentation projects.

c. **Desired Outcomes**

Reservoir augmentation projects will:

- i. Utilize a valuable resource rather than discharging it into the ocean.
- ii. Increase sustainable local water supply and decrease dependence on imported water.
- iii. Protect water quality for all affected reservoirs/ surface waters.
- iv. Encourage other similar projects in the San Diego Region.

d. **Values and Underlying Contradictions**

Value	Description	How Embodied in Project	Underlying Contradiction
Communication	Effective sharing and understanding of ideas, policies, and projects.	Effective communication is needed to accomplish the project, both internally among several programs and externally between staff, California Department of Public Health, and the public.	Communication can sometimes be difficult due to limited staff resources and/or limited time to accomplish tasks.
Knowledge	Knowing what to ask, what you need to know, and how to apply that knowledge	Accurate and adequate knowledge relating to the nitrogen and phosphorous water quality objective is essential for success of the project.	Information needed to develop TMDLs and/or site specific objectives can be time consuming or costly to obtain.

e. **Linkage to the Practical Vision**

Modifying regulations to allow municipalities to augment reservoirs with advanced treated wastewater, we are utilizing a valuable resource to increase sustainable local water supply.

f. **Schedule/Milestones**

- i. Beyond 1 Year Milestones:
 - a. Basin Plan Amendment: Complete a Basin Plan Amendment to include site specific nitrogen to phosphorus ratios or site specific N:P objectives based on the draft Policy for Nutrients for Inland Surface Waters of the State of California.

Sustainable Local Water Supply

- b. 303d Delisting: Determine if lakes or reservoirs that are “unnatural”/ composed of primarily imported water rather than natural run on from natural water bodies can be delisted from the 303d list.
- c. NPDES permit for San Vicente Reservoir Augmentation Project. Present tentative order to the San Diego Water Board for consideration.
- d. Evaluate other proposed reservoir augmentation projects in the San Diego Region. Continue working with municipalities to develop more indirect potable reuse projects in the Region.

g. Resources Needed

- i. Resources needed: 1.0 PY per amendment for site specific N:P WQOs in the Basin Plan and to evaluate 303(d) listed reservoirs and delist, if appropriate.
- ii. 0.5 PY to prepare NPDES permit for City of San Diego’s San Vicente Reservoir Augmentation.
- iii. 0.1 PY thereafter for staff to work with other municipalities to develop more indirect potable reuse projects in the San Diego Region.

h. Tasks that Might Not be Done in Order to do this Project

Implementing this project may delay other projects and tasks, such as inspecting facilities, reviewing monitoring reports, and indexing documents.

5. Low Impact Development

a. Project Description or Purpose

The San Diego Water Board evaluates discharger compliance with and enforces low impact development requirements (LID) in NPDES permits to help develop a sustainable local water supply and to improve LID regulations in future permit reissuances. LID contributes in many ways to a sustainable local water supply by using storm water for beneficial uses rather than allowing it to flow directly to receiving water. Additionally, LID capture and reuse practices such as cisterns and rain barrels help store water on a property using it for irrigation, which decreases reliance on imported supplies.

b. Project Goals

LID compliance evaluation and enforcement at new developments and redevelopments and retrofitting of existing developments will be priorities of the San Diego Water Board. Each Copermittee will be audited on compliance with LID requirements at public and private projects in the project planning and permitting process, design and construction phase, and LID BMP performance in wet and dry weather.

c. Desired Outcomes

Complete an audit report for each Copermittee on their compliance with existing LID regulations. These reports will assist the Copermittees in improving their oversight of LID within their jurisdiction. In extreme instances of non-compliance, enforcement will follow. A final report can recommend improvements to existing NPDES regulations requiring LID and retrofitting.

d. Values and Underlying Contradictions

Value	Description	How Embodied in Project	Underlying Contradiction
Communication	Effective sharing and understanding of ideas	Effective communication is needed to accomplish the project, both internally among several programs and externally between staff and copermittees.	Communication between programs can sometimes be difficult. Communication needs improvement.
Quality Water	Knowing what to ask, what you need to know, and how to apply that knowledge	Accurate and adequate knowledge relating to LID design and effectiveness is essential for success of this project.	We focus on processing permits and not enforcing or implementing them (i.e. performing inspections or evaluations to see if the permits are working).
Open-mindedness & Pragmatism	Open to new ideas; willing to change, to be flexible, to consider alternative solutions	Open-mindedness and pragmatism are needed when considering the pros and cons of LID.	Public perception is that LID is not pragmatic and that the requirements are unreasonable.

e. Linkage to the Practical Vision

Increased use of correctly implemented LID practices such as using storm water to recharge groundwater and to irrigate rain gardens will increase our local water supplies. Using storm water to infiltrate along the coast can assist in preventing salt water intrusion. LID capture and reuse practices such as cisterns and rain barrels decrease reliance on imported supplies and help lessen demand for local water supplies. All LID practices (including green roofs and other evapotranspiration practices) capture pollutants thereby protecting our existing surface water resources.

f. Schedule/Milestones

i. 6 – 9 Month Milestones:

Review and comment on Copermittees existing LID implementation and retrofitting program plans and reports.

Sustainable Local Water Supply

- ii. Beyond 1 Year Milestones:
 - a. Focus audits on the Copermitttees LID and retrofiting starting with Orange County, then Riverside County, and finally San Diego County.
 - b. Select several public and private development projects and retrofiting projects for compliance and effectiveness inspections.
 - c. Take enforcement actions and follow-up as necessary from the audits and inspections.
 - d. Review and assess the compliance and oversight of LID and retrofiting regulations. Compile the success and failures of LID and retrofiting recommendation. Estimate quantities of water conserved or infiltrated. Recommend changes to existing regulations that would improve LID and retrofiting implementation for the betterment of water quality and local water supplies.

g. Resources Needed

Ideally, 1.5 PYs full time should be sufficient to accomplish this project. Any high level enforcement may require additional PYs.

h. Tasks that Might Not be Done in Order to do this Project

The need for oversight of other programmatic areas naturally decreases over time as the dischargers come into compliance and are educated. To do this project, resources could be redirected from industrial storm water permit compliance. The existing development component of MS4 permits has seen little change since 2001; and construction storm water inspections can also include LID or retrofit compliance review; 401 certification review and issuance can also include LID and retrofit review.

6. Desalination

a. Project Description or Purpose

Desalination of ocean water or brackish groundwater will likely be an important municipal supply for the Region. There are currently three desalination projects in planning and development, with an estimated production of 128 thousand acre-feet (TAF) per year: the Carlsbad Desalination Project (56 TAF), the Camp Pendleton Seawater Desalination Project (56 TAF), and the Dana Point Ocean Desalinating Project (16 TAF). Desalination is the process by which dissolved minerals are removed from brackish or salt water to produce water suitable to meet drinking water supply and reliability needs.

There are several environmental issues that must be resolved before the San Diego Water Board can support the wide scale use of desalination to increase the Region's local water supply. Ocean desalination projects can negatively impact marine life due to impingement and entrainment associated with the intake of seawater. Desalination processes create waste by-products that must either be disposed of or reused, such as salt concentrate (brine), cleaning and conditioning

Sustainable Local Water Supply

reagents, and particulate matter. Desalination processes are also energy intensive and result in greenhouse gas emissions.

Currently, there are no California Ocean Plan water quality objectives that apply specifically to brine waste discharges from surface or ground water desalination facilities. Untreated brine waste discharged into the ocean "behaves" differently than either wastewater treatment plant freshwater effluent discharges or brine waste-freshwater mixture discharges.

The future California Ocean Plan amendment planned by the State Water Board will have three chief components: 1) a narrative objective for salinity, 2) limits on marine life impingement and entrainment from desalination intakes, and 3) an implementation policy. Specifically with regard to desalination intake effects, the Ocean Plan does not authorize flow augmentation for dilution purposes. Clarification of this constraint to the use of in-plant waste flow dilution will be included in the amendment. The State Water Board also plans to consider the need for the Ocean Plan amendment to regulate facilities conducting brackish groundwater treatment (such as done by SOCWA in the San Diego Region), desalination, and recycled wastewater treatment as municipal water supply facilities rather than industrial facilities. According to the State Board's website, the Ocean Plan amendment is targeted for adoption by the State Water Board in late 2013.

The San Diego Water Board regulates desalination projects by issuing a National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for the Discharge to the Pacific Ocean.

b. Project Goals

The project goals are:

- i. Participate in the development of the Ocean Plan amendment by attending scoping meetings and State Water Board workshops and by providing comments on the amendment.
- ii. Incorporate future Ocean Plan amendments into NPDES permits.
- iii. Expedite NPDES permits for desalination projects that are environmentally friendly.

c. Desired Outcomes

- i. Reduce dependence on imported water.
- ii. An Ocean Plan that facilitates NPDES permitting for desalination projects.

d. Values and Underlying Contradictions

Value	Description	How Embodied in Project	Underlying Contradiction
Good public service & worthwhile work	Working for the greater good.	Desalination will help sustainable local water supplies by providing a new source of potable water for the Region thereby reducing the demand for imported water.	Desalination projects come at a cost to the environment through energy consumption and greenhouse gas emissions.
Leadership	Doing things that are right, not just expedient or safe.	The project requires people to venture into new areas and be creative with use of our regulatory authority.	We have well established programs/permits that will have to incorporate proposed changes to the Ocean Plan.
Passion, commitment & dedication	Believing in our work and mission, dedicated to do our best and to accomplish tasks at hand	We promote knowledge and awareness of the value of water resources, the importance of water rights and water quality protection, public engagement in the protection of water resources, and an understanding of the mission of the San Diego Water Board.	We believe desalination can make a difference in this Region. Environmental impacts and energy consumption from desalination may limit the success of this project.

e. Linkage to the Practical Vision

This project will facilitate NPDES permitting for desalination projects. This in turn will decrease the amount of imported water needed in the Region.

f. Schedule/Milestones

- i. 6 – 9 Month Milestones
 - a. Attend workshops and scoping meetings on the California Ocean Plan amendment and provide comments on the amendment.
- ii. 1 Year Milestones
 - a. Incorporate amendments from Ocean Plan WQOs into NPDES.

g. Resources Needed

Approximately, 0.15 PYs should be sufficient to accomplish this project.

h. Tasks that Might Not be Done in Order to do this Project

Implementing this project may delay other projects and tasks, such as inspecting facilities, reviewing monitoring reports, and indexing documents. This project will provide a new source of water for the Region and protect water quality through the programs and permits of the San Diego Water Board.

7. Water Conservation

a. Project Description or Purpose

The San Diego Water Board is committed to encouraging water conservation within the administration of our programs. Water management strategies such as rainwater harvesting, water-efficient landscaping, drip irrigation, and grey water use for landscape irrigation can be encouraged through our permitting, waiver, basin planning, and cleanup programs.

Additionally, San Diego Water Board staff must “practice what we preach” within our own place of business, in our communities, and in our homes. Therefore, staff is committed to implementing water conservation strategies within our office and our homes and to providing informal presentations to help educate staff on water conservation practices.

b. Project Goals

The project goals are:

- i. Encourage the development and implementation of water conservation strategies in our permitting, waiver, basin planning, and cleanup programs.
- ii. Incorporate water conservation strategies within the office building.
- iii. Educate staff on water conservation strategies that can be used in permits, programs, and everyday life.
- iv. Assist municipalities to support their water conservation programs.
- v. Create web content describing water conservation strategies.

c. Desired Outcomes

- i. Reduce dependence on imported water through water conservation.
- ii. Reduce the emissions of greenhouse gases. Reductions in the use of imported water will help reduce the emission of greenhouse gases.
- iii. Reduce environmental impacts to the Delta and Colorado River by importing less water.
- iv. Increase awareness of water conservation strategies to encourage changes and behaviors regarding water use.

d. Values and Underlying Contradictions

Value	Description	How Embodied in Project	Underlying Contradiction
Good public service & worthwhile work	Working for the greater good.	Encouraging water conservation will help sustainable local water supplies by reducing the demand for imported water.	This Practical Vision requires cross-Unit work and cooperation.
Leadership	Doing things that are right, not just expedient or safe.	The project requires people to venture into new areas and be creative with use of our regulatory authority.	We have well established programs/permits that will have to incorporate water conservation strategies.
Passion, commitment & dedication	Believing in our work and mission, dedicated to do our best and to accomplish tasks at hand	We promote knowledge and awareness of the value of water resources, the importance of water rights and water quality protection, public engagement in the protection of water resources, and an understanding of the mission of the San Diego Water Board.	We believe water conservation can make a difference in this Region. Resource limitations, writing permits, and working with stakeholders may limit the success of this project.

e. Linkage to the Practical Vision

This project will encourage water conservation strategies within the San Diego Water Board permits/programs. This in turn will decrease the amount of imported water needed in the Region thereby reducing environmental impacts to the Delta and Colorado River and impacts from greenhouse gas emissions.

f. Schedule/Milestones

- i. 6 – 9 Month Milestones:
 - a. Form an innovative project team, one person from each unit and a branch manager that will investigate, identify, and encourage water conservation strategies within the San Diego Water Board permits and programs.
 - b. Educate staff on water conservation strategies.
- ii. 1 Year Milestones:
 - a. Create web content on the San Diego Water Board website promoting the successful use of water conservation strategies used on approved Board projects.
 - b. Attend regular meetings with other agencies/stakeholders supporting water conservation strategies.

Sustainable Local Water Supply

- c. Work with building management to implement water conservation strategies at the office.
- iii. Beyond 1 Year Milestones:
 - Integrate water conservation strategies into programs and permits.
- g. **Resources Needed**

Approximately 8 person hours per quarter will be needed for the project team. Since water conservation will enhance water quality, the hours could be charged to existing programs.
- h. **Tasks that Might Not be Done in Order to do this Project**

This project will conserve water and enhance water quality through the programs and permits of the San Diego Water Board. Therefore, it should not interfere with any regular tasks.

Conclusion

This Practical Vision describes the means by which the San Diego Water Board will help water and waste water agencies achieve the goal of sustainable local water supplies. A sustainable local water supply is needed to meet the needs of our growing population and to fulfill the mission of the San Diego Water Board of protecting and enhancing water quality. The projects developed by the Sustainable Local Water Supply Workgroup entail the use of both regulatory (permitting, enforcement, development of water quality objectives) and non-regulatory (outreach, education) approaches. This multi-faceted approach will be used to help water purveyors increase the supply of local water and decrease the need for imported water in the Region.

Aspirational Goals

As leaders in this work the San Diego Water staff is committed to implement water conservation strategies within our new office location and our residences. Many of our colleagues at the San Diego Water Board have already installed grey water capture and treatment systems, installed rainwater capture and harvesting systems, installed artificial turf, and converted lawns to low water use landscaping.

An aspirational goal is that, by 2014, the San Diego Water Board staff will use the appropriate means necessary to reduce our office and home water use by 30 percent.

