SUMMARY
The City of San Diego (City) provides drinking water to over 1.3 million people and presently imports 85 percent of its water. The City needs reliable local drinking water and has no “silver bullet” for supplying water to its residents.¹

The 2013-2014 San Diego County Grand Jury (Grand Jury) understands this, but it appears that we are waiting for a “silver bullet” to solve our problems. The irony is that a silver bullet is available but before it can be used to solve our problems someone needs to “pull the trigger.”

- The ongoing drought has led to historic restrictions in water supply deliveries. There are continuing uncertainties with imported water supply reliability.

- The City must move forward to protect its citizens from the results of drought as emphasized by the declaration of a drought emergency by Governor Brown and monetary response from the federal government.

Clearly, drought in Northern California will affect the water supply in San Diego and Southern California in general.

The past three Grand Juries have examined:

1. Water-use strategy.
2. The cost of water to ratepayers.
3. Reducing dependence on imported water.

The Grand Jury has considered six methods for increasing local water supplies. Only two would make a significant difference; they are desalination and water purification. This report, while reiterating the present water sources, will focus on the two most presently feasible sources, desalination and water purification.

- Desalination
- Water Purification
- Conservation
- Local surface water
- Groundwater
- Recycled water

This report will emphasize that all the best long range plans and projects recommended by the San Diego Public Utilities Department (SDPUD) and San Diego County Water Authority

(SDCWA) are of no avail unless the San Diego City Council approves the plans and funds the actions needed to implement such plans. They need to “pull the trigger.” The real solution thus lies in the hands of the City Council which must assume the mantle of leadership and provide funding for future water projects. The statement “the buck stops here” applies to the City Council.

The Grand Jury has had many interviews with water officials and here are some of the quotes from those interviews:

- “What we need is for all of the stakeholders to be on the same page when it comes to conservation.”
- “We are not at a level that any of these plans are actually practical.”
- When asked, of all of these plans, what is funded? The answer: “Nothing.”
- “When it comes to taking on future projects, what makes it difficult is that in the future we don’t know what the regulations will be that allow things to go forward.”
- What is the real story on moving projects? “Leadership and political will is the answer.”
- “Overall the level of confidence is low that things will get done.”
- “Morale is low.”
- “Feel good meetings waste time and prevents staff from doing meaningful work.”

If San Diego waits for the tipping point where buying water from Metropolitan Water District (MWD) costs the same as desalination and water purification, it will be too late. Will this be another part of this generation’s legacy of not planning for the future?

**PROCEDURE**

The Grand Jury interviewed personnel from SDCWA and SDPUD. In addition, the Grand Jury reviewed reports from the following:
- San Diego City Engineering Department
- San Diego County Water Authority
- San Diego Public Utilities Department
- Metropolitan Water District
- City of San Diego Water Purification Demonstration Project
- City Council’s Response dated 10/16/2013 to the 2012/2013 San Diego County Grand Jury Report
- San Diego County Water Authority’s Response dated 8/1/13 to the 2012/2013 San Diego County Grand Jury report

Reviewed the minutes from meetings of the following:
- San Diego City Council
- Natural Resources and Culture Committee
- San Diego County Water Authority

Reviewed press releases from the following:
- San Diego County Water Authority
- San Diego Public Utilities Department
• San Diego City Council

The Grand Jury visited:
• North City Water Reclamation Plant
• The San Vicente Dam Project

DISCUSSION
Desalination
After the first year of construction, the Carlsbad Desalination Project is 25 percent complete and on its way to producing water for the region, on time and on budget, in 2016.

Poseidon Water is developing the plant and pipeline with joint-venture contractor Kiewit Shea Desalination. The project will deliver up to 50 million gallons a day of drought-proof, highly reliable water that will become a core, day-to-day resource for the region. It is projected to meet 7 percent of San Diego County’s total water demand in 2020, and about one-third of all the water generated locally.

In November 2012, the SDCWA signed a 30-year agreement to purchase at least 48,000 acre-feet of desalinated seawater each year from Poseidon, as long as it meets pre-set quality and quantity requirements. The SDCWA may purchase up to 56,000 acre-feet annually, enough to serve about 112,000 typical single-family homes.

The reverse osmosis plant in Carlsbad will connect to the SDCWA’s aqueduct via a 10-mile pipeline through Carlsbad, Vista, and San Marcos. Pipeline installation is nearing completion in San Marcos and Vista; construction in Carlsbad is under way and expected to be completed in 2015. In addition, the Water Authority is making about $80 million in upgrades to its own facilities so it can deliver desalinated seawater into its Twin Oaks Valley Water Treatment Plant for distribution throughout the region.²

Advantages
• We live next to the Pacific Ocean which is a reliable source of water; unlike rainfall, which sometimes falls and sometimes does not, the ocean is always there. Desalination offers a secure source of water.
• A desalination plant serves as a very flexible means of water output, allowing for differing quantities of seawater to be processed according to the level of demand.
• Desalination water is safe, free of chemicals and salt. There are more than 17,000 desalination plants in operation today worldwide.³

Water Purification

³ Desalination By The Numbers-- http://idadesal.org/desalination-101/desalination-overview/
The City’s long history with water purification is now paving the way for future local water reliability. The City’s efforts to bring purified water to San Diego will increase the supply of the available drinking water and decrease our dependence on imported water.

To determine the feasibility of a full-scale water purification project, a demonstration project was operated from 2009 to 2013. Advanced water treatment technologies were examined at this pilot facility for one year. Following the year-long testing, it was determined that water purification is a viable option for San Diego. The results showed that the purified water met drinking water quality standards set forth by the California Department of Public Health. The complete findings and results of this demonstration project were documented in a report and shortly thereafter adopted by the City Council.4

At this meeting, the City Council directed staff to undertake a number of new tasks. The full report can be found online.5 In the full report, the Advanced Water Purification Facility (AWPF) was directed to continue to operate and test the water through Fiscal Years 2014 and 2015. The City's cost for operations and electricity during this time is estimated to be $720,000. This will allow AWPF to be available for public tours and to continue this aspect of public outreach. There is actually another reason for this action which will be referred to later in this report. According to the project report entitled Water Purification Plan; funds are available to build a pipeline from the North City Water Reclamation Project (NCWRP) to San Vicente Reservoir. This reservoir is owned by the City. A water official stated that the amount of water from purification put into San Vicente will roughly equal the amount of evaporation averaged out daily. This may substantiate a water official’s comment that the water pipeline will most likely not be built, especially taking into the consideration the cost of the last seven hundred feet due to elevation change.

The NCWRP, which has been proven to be safe and cost effective, would provide anywhere from 15 million to 100 million gallons of drinking water per day, depending on the size of the plant.

A full scale potable reuse facility would be beneficial in several ways. It would continue operating for many years, producing at the very least two billion gallons of drinking water every five months. The question becomes: Since millions of dollars have been spent to build a small-scale demonstration plant that has proven the efficacy and safety of potable water reuse, why is the City Council delaying moving forward with a much larger plant now?

The answer may be in the politics of water. A City water official provided an answer to the Grand Jury, namely that the Environmental Protection Agency’s (EPA) waiver for the Point Loma waste water treatment plant expires July 31, 2015. The waiver allows the Point Loma Wastewater Treatment Plant to continue to discharge partially treated wastewater into the ocean ("advanced primary treatment") instead of upgrading to secondary treatment as required by the Clean Water Act. The current waiver was granted on condition that the City recycle more water and greatly reduces the amount of wastewater discharged at Point Loma. Thus, there is an urgent

4 Request for Council Action, City of San Diego, Potable Reuse Project, 07/19/2013 http://docs.sandiego.gov/councilcomm_agendas_attach/2013/NRC_130731_7.pdf
5 Ibid
need to continue the use of the demonstration plant in hopes of obtaining another renewal of the EPA waiver.

“In order to avoid steep financial penalties and be forced to upgrade the Point Loma facilities at great expense, the city will try to negotiate for yet another waiver by demonstrating its commitment to divert ever-larger amounts of wastewater from Point Loma into a large-scale potable reuse program.”  

The following charts represent the possible locations of the proposed full scale water purification facilities and their pipeline configurations. Note that the proposals use 2035.

\[\text{NCWRP staff during a Grand Jury visit to NCWRP}\]
Conservation

Conservation is not new to the City of San Diego or any other water district in San Diego County. Conservation is not a new source of water; it merely results in a new normal for usage data. Why, with that in mind, would the City inform its citizens that it does not anticipate any water-use restrictions for San Diego in 2014? “Thanks to strong regional conservation efforts
and the investment the agencies have made in diversifying the region’s water supply portfolio, we are in better shape than many parts of California.”

Conservation is important to San Diego and will continue to be important, because it is a semi-arid to arid region and will become home for a significant share of the 20 million new residents California will gain in the next two decades. There will also be increased demands from neighboring states for Colorado River water. But instead of mandating conservation, the growing trend among water districts and agencies throughout the state, including Metropolitan Water District of Southern California and its member agencies, is to market conservation as a kinder, gentler lifestyle choice. It is also noted that the local water availability problem is not solved simply by stating that Northern California has a more severe drought situation than Southern California.

The public is confronted with conflicting statements and mixed messages concerning conservation by those local agencies which provide water. SDCWA officials in 2014 stated: “San Diego should have a sufficient supply next year, eliminating the need to implement restrictions on water use.” A SDPUD representative advised that there are restrictions, but we do not have the staff to enforce them. The Grand Jury also learned from SDPUD officials that the conservation efforts of San Diego citizens have been impressive, with water consumption now 15.3 percent lower than it was in 2007.

In January 2014, Governor Brown declared a drought emergency throughout California, including a call for a voluntary statewide reduction in water consumption. A pamphlet published by the Otay Water District in early 2014 states, “Severe drought in other parts of our state is still a concern, but statewide advisories do not necessarily apply to San Diego County and our own local water situation.” With conflicting public statements from government officials, what is the public supposed to believe? Several of these quotations send the message that San Diego County does not have a current water problem and the can will appropriately be kicked down the road. The public is ready to express concern about street potholes and broken sidewalks because they impact their daily lives; on the other hand, the public appears to be complacent about the water supply because they do not hear any alarms sounded by agencies responsible for providing water. The citizenry will demand action only when restricted access to the use of water occurs.

Water agencies may be facing conflicting priorities, according to The Equinox Center: “Is conservation the best answer when it comes to supply and cost savings? Although many water utilities are doing what they can to promote the message of conservation, at the same time, they have to cover their capital costs and operation costs. And one of the ways they do that is by selling more water.”

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9 Ibid
11 Otay Water District, Pipeline pamphlet, winter 2014
There is a hue and cry from citizens who say, “Why do I conserve and use less water and still see my bill continue to rise?” According to the Cost of Service study, “since 2008, the effective rate that the City pays for purchased water from SDCWA has doubled. Infrastructure investments by both SDCWA and Metropolitan Water District of Southern California, restricted allocations . . . from the Colorado River, and the Bay-Delta all of which continue to drive costs up, while declining sales reflect conservation efforts drive revenues down.”

According to a SDWA official, “This reduction in available deliveries means that Southern California would likely have to take about another 100,000 acre feet of water out of storage to meet demand. We were already expecting storage to come down several hundred thousand acre feet if conditions were to remain dry.”

**Groundwater**

Groundwater is a finite water source and will not grow at a rate necessary to keep up with the demand needed for a larger population. Utilization of groundwater as a water supply to the San Diego region requires the extraction of water from underground basins, known as aquifers.

The groundwater in the San Diego region is mostly saline brackish water. Brackish water requires a more intense desalination treatment process. Although groundwater supplies are less plentiful in the San Diego region than in some other areas of California, the SDCWA is still exploring undeveloped supplies that may exist.

With an eye on politics, notice that the costs, timelines, and lengths of time to actually build and start a water project don’t exactly evoke a sense of urgency in decision makers. We have the classic “study, plan, estimate project cost, restudy, re-plan, re-estimate cost, etc.” syndrome, which ultimately does nothing but delay the project.

**Local Surface Water**

Depending on rain water to increase our supply is like rolling the dice. Southern California’s water cycle is drought, followed by flood, followed by drought. The rainfall in San Diego is just above the desert threshold. Such dramatic weather episodes will likely get worse as the climate changes. This means we need to be more proactive in our response to water management. Historically in San Diego when it does rain a great deal, there is too much water that simply runs off and ends up in the ocean.

**Recycled Water (non-potable)**

A number of water and wastewater agencies in San Diego County are implementing and expanding their water recycling projects. One acre foot of water is enough for two average households for a year. Approximately 30,000 acre feet of recycled water (also known as “purple pipe water”) are beneficially reused within the SDCWA’s service area annually. This number is projected to increase to over 43,000 acre feet per year by 2020.  

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12Cost of Service Study City of San Diego, CA 5 September 2013  
13Jason Foster, director of public outreach and conservation with the San Diego County Water Authority.  
Water recycling is the use of treated and disinfected municipal wastewater to provide a water supply suitable for non-drinking purposes. SDCWA uses recycled water to fill lakes, ponds, and ornamental fountains; to irrigate parks, campgrounds, golf courses, freeway medians, community greenbelts, school athletic fields, food crops, and nursery stock; and to control dust at construction sites.

Recycled water can also be used in certain industrial processes and for flushing toilets and urinals in non-residential buildings. As an example, there are a few local bio-tech firms that have dual-plumbed their buildings to allow the use of recycled water for toilet and urinal flushing and for use in their cooling towers.  

One of the elements identified in the SDCWA’s resource mix is the optimization of recycled water use. Every gallon of recycled water used within the region reduces the need to import or develop other water supplies.

**STRICTLY POLITICS**

On February 18, 2014, President Obama stated: “Water politics in California can be very complicated.”

Throughout California’s colorful and sometimes chaotic history, water has always been at the forefront because of the Golden State’s vast and mostly dry landscape. San Diego is no exception. Recently it was noted in the *Cost of Service Study*[^17] that historically, the City has passed increased rates from SDCWA through to its customers.

SDCWA in late June 2012 authorized a 9.7 percent increase in its wholesale prices, mostly to offset jumps in prices levied by its main provider, the Metropolitan Water District, and to cover costs associated with projects designed to develop alternative supplies.

However, over the past two years (2012 and 2013), SDPU has used one-time revenue sources, implemented operational efficiencies, and identified additional local supplies to absorb the SDCWA pass-through increases, which are estimated to be approximately $35 million. Increases are anticipated to continue on an annual basis. Continuing to absorb these increases creates a structural deficit that is not sustainable.

While a SDCWA official represents that all is well for 2014, we need to look beyond the next 365 days to assure an adequate water supply. The same official emphasized, “San Diego County has adequate water supplies for 2014 due to large storage reserves, such as Diamond Valley Lake in Hemet, which is currently at 72 percent capacity. In all, Southern California has 2.4 million acre feet of water stored.”[^18]

The question that must be asked is why weren’t the costs passed on during the last two years? Answer: It was politically decided to draw down local supplies rather than purchase imported water, i.e., hold rates down rather than risk offending voters with higher water bills.

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[^17]: *Cost of Service Study* [www.sandiego.gov/water/.../jan20142015costofservicestudy](www.sandiego.gov/water/.../jan20142015costofservicestudy).

[^18]: Ibid.
Is it also a political issue to increase rates 7.25 percent next year and then 7.5 percent the following year to cover failure to pass rate increases for 2 years, then claim these increases are necessary to make up for this failure?

A Councilmember casting the only vote against the new rates, complained, “We’ve said all along that we’ve absorbed the rate increases on ratepayers for the last two years, but in this case we’re going back and trying to recover those rate increases — as if to suggest that SDPUD absorbing the rate increase over the two years meant that in the future customers should never have to pay the true cost of imported water.”\textsuperscript{19} Perhaps it was just political posturing.

Water agencies typically pass on the cost of wholesale rate increases, along with other costs, such as electricity and infrastructure upgrades. While the City elected to draw the line on rate increases, other water districts did not follow suit. Oceanside, Poway, Valley Center and Sweetwater all raised rates.

An investigative news source claimed that the City had built a cushion by raising rates and not finishing as many water projects as planned. Rates climbed between 16 percent and 22 percent between July 1, 2005, and July 1, 2010, according to the nonprofit journalism center based at San Diego State University.\textsuperscript{20}

With no increases imposed for 2012 and 2013, the incoming mayor in 2014 was met with a proposal to increase the water rates nearly 15 percent over the first two years of his new term.

There appears to be an assumption that San Diego may be in jeopardy of having its bond rating affected unless water rates are not raised 7.25 percent in 2014 and then 7.50 percent in 2015, a total of 14.75 percent. Other reasons offered for this rate hike are water infrastructure investments, ongoing drought conditions and regulatory restrictions putting upward pressure on purchased water costs.\textsuperscript{21}

As the years have gone by, water rates rose due to the need to import increasingly higher priced water. The citizens of San Diego need a much clearer understanding as to why their SDPUD operates the way it does. This would include transparency as to how projects are being prioritized and are actually funded. Long range planning without priority stops at the City Council level.

Historically, requests for rate hikes were routinely voted down by the City Council in order to look better to the voters. What have resulted are the postponement of water infrastructure projects, band aid repair jobs, and an ever increasing list of problems with water delivery and wastewater management. The City’s water decisions are guided more by political considerations than sound public policy that is in the best interest of the citizens of San Diego County.

\textsuperscript{19} San Diego City Council meeting minutes 10/09/2013
\textsuperscript{20} http://inewssource.org/?s=Feb+2010
\textsuperscript{21} Ibid
While water from city reservoirs is cheaper, it is not all that plentiful. Of the 194,100 acre-feet delivered by the City to its ratepayers in 2011-2012, just 25,758 acre-feet were drawn from its own reservoirs. The rest was purchased from the SDCWA for $171.4 million.

As an example of water politics, the City plans to draw down two billion gallons of water from City-owned Lake Morena over an approximate five month period. This will be at a substantial detriment to the community and tourism at Lake Morena, as well as decreasing firefighting water sources needed as the weather gets warmer and drier.

The City now plans to take that decision one step further. The City’s stated position is: “Now it [Lake Morena] is only 4 percent full and 4 percent full it will stay. We intend to essentially run the lake at about this current level as long as we possibly can so we can capture and use the local runoff to the benefit of our rate payers,” 22 The City owns the lake and is well within its rights to do so; however, is this in the best interests of the citizens of San Diego County?

San Diego’s former mayor, Bob Filner, had stopped the drawdown. The interim mayor, Todd Gloria, and new mayor, Kevin Faulconer, have restored it. A change in political power made a difference in this water decision. The City actually had a chance to increase local storage due to the recent storms in late February 2014, but political inaction prevented it.

The only feasible way we can increase our local water supply and rely less on MWD is through water desalination and water purification. These options would also raise our water rates. It is the conclusion of the Grand Jury that water will continue to be more expensive each year for the foreseeable future.

**FACTS AND FINDINGS**

*Fact:* Desalination will make a substantial difference to San Diego’s local water supply.

**Finding 01:** Part of the future of San Diego’s local supply of water depends on desalination of ocean water.

*Fact:* The purified water from the NCWRP drinking water passed quality standards set forth by the California Department of Public Health.

*Fact:* The complete findings and results of the project were documented in a report and adopted by the City Council.

*Fact:* The Advanced Water Purification Facility has been funded for Fiscal Years 2014 and 2015 and is estimated to cost $720,000.

**Finding 02:** Millions were spent to build a small-scale demonstration plant to purify water; it proved the efficacy and safety of potable water reuse.

*Fact:* Conservation is a necessity for all San Diego County water districts.

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22 Journalism for the Common Good, [http://inewssource.org/2014/03/06/lake-morena-reservoir-is-4-percent-full-and-will-stay-that-way/](http://inewssource.org/2014/03/06/lake-morena-reservoir-is-4-percent-full-and-will-stay-that-way/)
**Finding 03:** The practice of conservation reduces the amount of water used, but also always increases rates because infrastructure to deliver the water will have to cost more in order to make up for revenue lost due to lower amounts of water being used.

*Fact:* The rainfall in San Diego amounts to just over the desert threshold.

*Fact:* San Diego is the third driest large city in the United States.

**Finding 04:** Using water reserves during years when rainfall is below normal instead of purchasing water from MWD only delays price hikes.

*Fact:* Approximately 30,000 acre feet of recycled water are beneficially reused within the Water Authority's service area annually.

*Fact:* There are a few local firms that have dual-plumbed their buildings to allow the use of recycled water.

**Finding 05:** Every gallon of recycled water used saves a gallon of drinking water

*Fact:* Today imported water comprises 85 percent of our water supply; 53 percent of that amount is purchased from MWD.

*Fact:* Water rates were kept artificially low in 2012 and 2013 as a political decision to gain favor from ratepayers.

**Finding 06:** San Diegans are now facing a nearly 15 percent increase in water rates to cover losses incurred during 2012 and 2013.

**RECOMMENDATIONS**

The 2013-2014 San Diego Grand Jury recommends that the San Diego Mayor and San Diego City Council:

14-73: Stop funding NCWRP and move on to build full-size plants.

14-74: Establish realistic timelines based on likely funds available to move forward with water projects.

14-75: Support the need for Capital Improvement Projects designated for water management.

14-76: All new construction should include dual plumbing so recycled water can be used as it becomes available in their area.

14-77: Establish policy that requires water rates go up to cover the new rate when the cost of water purchased from MWD goes up.
The 2013-2014 San Diego Grand Jury recommends that the San Diego County Water Authority:

14-78: Consider an economic reward for conservation measures taken by ratepayers.

14-79: Be more transparent in their explanations of how and why projects are prioritized and funded.

REQUIREMENTS AND INSTRUCTIONS
The California Penal Code §933(c) requires any public agency which the Grand Jury has reviewed, and about which it has issued a final report, to comment to the Presiding Judge of the Superior Court on the findings and recommendations pertaining to matters under the control of the agency. Such comment shall be made no later than 90 days after the Grand Jury publishes its report (filed with the Clerk of the Court); except that in the case of a report containing findings and recommendations pertaining to a department or agency headed by an elected County official (e.g. District Attorney, Sheriff, etc.), such comment shall be made within 60 days to the Presiding Judge with an information copy sent to the Board of Supervisors.

Furthermore, California Penal Code §933.05(a), (b), (c), details, as follows, the manner in which such comment(s) are to be made:

(a) As to each grand jury finding, the responding person or entity shall indicate one of the following:
   (1) The respondent agrees with the finding
   (2) The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefor.

(b) As to each grand jury recommendation, the responding person or entity shall report one of the following actions:
   (1) The recommendation has been implemented, with a summary regarding the implemented action.
   (2) The recommendation has not yet been implemented, but will be implemented in the future, with a time frame for implementation.
   (3) The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a time frame for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This time frame shall not exceed six months from the date of publication of the grand jury report.
   (4) The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefor.

(c) If a finding or recommendation of the grand jury addresses budgetary or personnel matters of a county agency or department headed by an elected officer, both the agency or department head and the Board of Supervisors shall respond if requested by the grand jury, but the response of the Board of Supervisors shall address only those budgetary or
personnel matters over which it has some decision making authority. The response of the elected agency or department head shall address all aspects of the findings or recommendations affecting his or her agency or department.

Comments to the Presiding Judge of the Superior Court in compliance with Penal Code §933.05 are required from:

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