
# NAPA COUNTY GRAND JURY
# 2014-2015

## MARCH 31, 2015

## FINAL REPORT

# MANAGEMENT OF GROUNDWATER AND RECYCLED WATER:

# IS NAPA COUNTY IN GOOD HANDS?

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# IS NAPA COUNTY IN GOOD HANDS?

## SUMMARY

Every year the Napa County Grand Jury is asked to be the citizensô watchdog of city and county government. It is the Grand Juryôs job to report on the performance of individual agencies and officials and make recommendations for improvements when warranted.

This Grand Jury chose to look at two distinct water supplies within the county:

- Groundwater
- Recycled Water

We investigated Napa Countyôs management of groundwater for the following reasons:

- Continued drought
- Napa Countyôs reliance on agriculture and its need for water
- Many newspaper articles expressing concern over increased development and asking, ñWhere will the water come from?ò

We investigated the management of recycled water to determine the following:

- Is recycled water a viable alternative to potable water for irrigation purposes?
- Who is using recycled water?
- Who is not using recycled water but should be?

Accordingly, the 2014-2015 Napa County Grand Jury chose to investigate current practices, criteria, regulations, and processes that have been put in place to govern the availability of groundwater and recycled water within Napa County.

The investigation was conducted through interviews with:

- Personnel of city, county and independent agencies
- Well drilling companies
- A major winery that owns and manages several vineyards in and outside of Napa County
- A groundwater geologist who has worked with individual Napa County cities, wineries, and vineyard owners on groundwater issues

The Grand Jury also reviewed many state and local governmental documents, newspaper and periodical articles, and did Internet research to complete this investigation.

## GROUNDWATER SUMMARY

After completing the investigation, this Grand Jury was impressed with the expertise, professionalism, and overall responsiveness to local conditions by the County and the agricultural community.

The Grand Juryôs investigation found that for many years the County has studied the hydrogeology of Napa County and has worked cooperatively with consultants and water users to establish guidelines and limits on groundwater extraction. Specific examples of the Countyôs involvement include but are not limited to the following:

- Monitoring the Valley floor and Pope Valley aquifers twice yearly through a network of 115 wells, which are mostly privately owned.
- Implementing a well permitting process requiring a Water Availability Analysis to study whether sufficient water is available for the requested project and the potential impact of new wells on nearby existing wells.
- Appointing a citizen Groundwater Resources Advisory Committee (GRAC) to advise them on effective measures to control groundwater usage, and to encourage groundwater users to conserve water and to join the Countyôs well monitoring program.
- Working with the Farm Bureau, the Watershed Information Center and Conservancy of Napa County (WICC), and other organizations to provide educational outreach programs to all involved with groundwater.

However, the investigation did uncover information that was troubling to the Grand Jury:

- The County does not monitor groundwater usage and thus is unable to enforce rules or guidelines on water extraction. Currently, all well monitoring is voluntary.
- Finding water on the countyôs hillsides is problematic when compared to the Valley floor. Water is easily found on the floor, but hillsides are a 50-50 proposition.

- The Countyôs use permit process may not be adequate to decide whether new vineyards should be planted on the hillsides.
- The County does not have a formalized contingency plan (What If) to manage its groundwater supply in case the drought continues.

**RECYCLED WATER SUMMARY**

Recycled water is becoming an important aid in the conservation of both groundwater and potable city water. Napa Sanitation District (NSD) is by far the largest source of recycled water in the county. However, they are limited in how much wastewater can be recycled due to storage and infrastructure limitations.

Currently, NSD processes 11,000 acre-feet (3.5 billion gallons) of wastewater annually and produces about 20% of this as recycled water. This percentage will grow to about 45% once the new Milliken-Sarco-Tulocay (MST) and the Los Carneros-Stanley Ranch pipelines are completed.

An opportunity to increase the use of recycled water further rests with the Napa State Hospital (NSH). NSH personnel told the Grand Jury they could cut their city water bill in half by converting their irrigation system to recycled water from city potable water. According to the City of Napa Water Department, NSH currently uses approximately 56 million gallons (172+ acre feet) of city water for irrigation of their common areas.

If NSD werenôt limited by wastewater storage and infrastructure capacity, they could produce substantially more recycled water for additional irrigation usage.

# GLOSSARY

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|---|---|
| DWR | Department of Water Resources (State) |
| GRAC | Groundwater Resources Advisory Committee |
| MST | Milliken-Sarco-Tulocay area (rural area east of Napa) |
| NSD | Napa Sanitation District |
| NSH | Napa State Hospital |
| SGMA | Sustainable Groundwater Management Act (State) |
| WAA | Water Availability Analysis |
| WICC | Watershed Information Center and Conservancy |

# BACKGROUND

## Groundwater

Napa County, like the rest of California, is suffering from a three-year drought. Despite sparse rainfall, residential, commercial, and agricultural development projects continue to be brought forward to the County Planning Department and eventually to the Board of Supervisors for approval. Locally, many citizens have expressed concern through ñLetters to the Editorò to the *Napa Valley Register* and have asked the question, ñ*Where will the water come from for additional development?"*

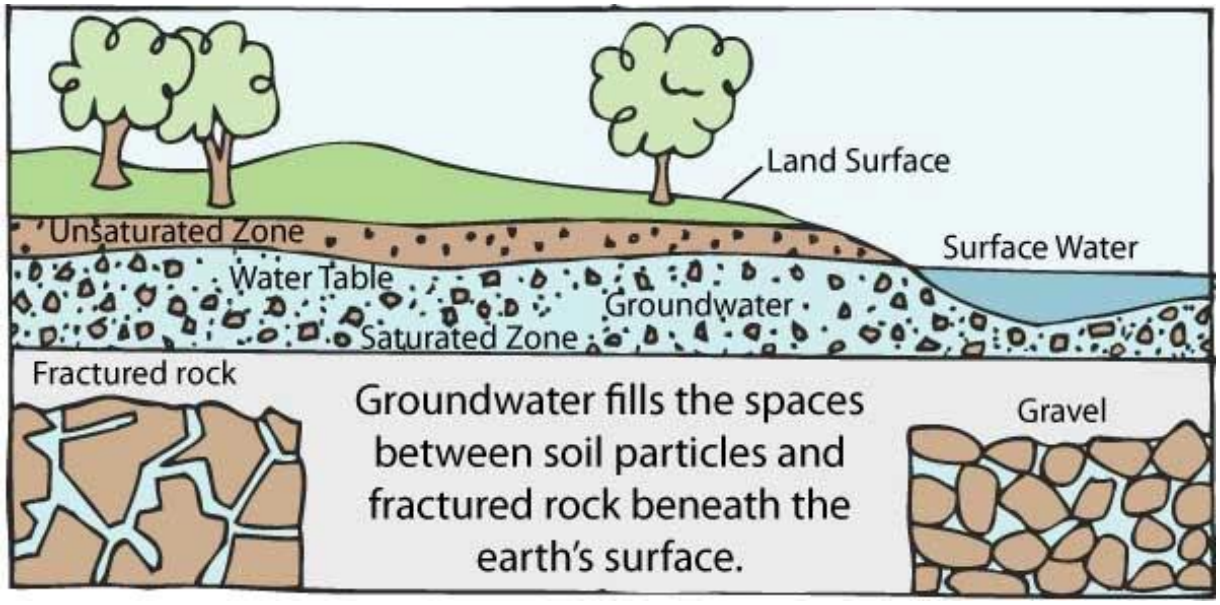
Many leading groundwater experts have said the state will need at least 150% of a normal rainfall year to begin to think of the drought ending. An article in the December 16, 2014 *San Francisco Chronicle* reported that California has a water deficit of 11 trillion gallons, about one and a half times the maximum volume of Lake Mead, Americaôs largest reservoir.

These concerns led the 2014-2015 Grand Jury to study the groundwater supply in Napa County. Because ñwaterò is such a huge and complex subject, we limited our research to whether the County is adequately measuring and managing its groundwater supply in order to insure its continued availability for generations to come. Specifically, the Grand Jury wanted to identify the following:

- Current practices, criteria, regulations, and processes that have been put in place to govern the continued availability, monitoring, and sustainability of groundwater within Napa County.
- The availability of recycled water as a viable alternative for irrigation use to reduce the pressure on both the groundwater and city potable water supplies.

### What is Groundwater?

*The Groundwater Foundation* describes groundwater as the water found underground in the cracks and spaces in soil, sand, and rock. It is stored in and moves slowly through geologic formations of soil, sand, and rocks called aquifers.




Groundwater is used for drinking water by more than 50% of the people in the United States and 99% of all people who live in rural areas. The largest use of groundwater is to irrigate crops. In Napa County approximately 80% of groundwater is used for agricultural purposes. Groundwater supplies are replenished or recharged by rain and snow melt that seeps down into the cracks and crevices beneath the landôs surface.

Water in aquifers is brought to the surface naturally through a spring or can be discharged into lakes and streams. Groundwater can also be extracted through a well drilled into the aquifer. A well is a pipe in the ground that fills with groundwater. This water can be brought to the surface by a pump. Most groundwater in Napa County is extracted through wells.

**What is Recycled Water?**

Recycled water is the fastest growing water supply in California. Recycled water is wastewater effluent that is treated and disinfected to provide a non-potable supply that is safe and suitable for food crop and landscape irrigation and some industrial processes. In California, recycled water is regulated by the California Department of Public Health for quality and usage. There are several categories of recycled water. The highest quality is ñdisinfected, tertiary treated waterò and the Grand Jury refers to this quality when speaking of recycled water. Recycled water is widely used and accepted as an environmentally responsible way to conserve scarce and expensive potable water supplies throughout the arid and semi-arid portions of the United States.

Recycled water is clean, clear, and safe. No health-related incidents have ever been linked to the use of recycled water. Recycled water quality standards are more stringent than those for surface streams, rivers, and the Bay. The California Department of Health Services and the California Regional Water Quality Control Board regulate the production, distribution, and use of recycled water. Californiaôs regulations are some of the most stringent in the world.

Napa Sanitation Districtôs recycled water meets the highest quality standard, óUnrestricted Use,ò as specified by the California Water Recycling Criteria, Title 22 of the California Code of Administration.

# METHODOLOGY

## Interviews

To complete this study, the Grand Jury interviewed personnel from the following local agencies:

- Napa County Public Works Department
- Napa Sanitation District
- City of Napa Water Department
- Napa County Farm Bureau
- Napa State Hospital
- Napa County Groundwater Advisory Committee

Additional interviews were conducted with:

- Personnel from several city, county, and independent agencies
- Well drillers with many years of experience drilling and maintaining wells in the county
- A major winery that owns and manages several vineyards in and outside Napa County, and
- A groundwater geologist who has worked with individual Napa County cities, wineries, and vineyard owners on groundwater issues

All interviewees were selected for their expertise and their willingness to speak candidly with the Grand Jury.

## Documents Reviewed

- Organization Charts for City of Napa Water Department
- Organization Chart for Napa County Public Works

- Contract between NSD and The City of Napa Water Department
- Contracts between NSD and landowners who sign up for the Recycled Water Pipeline in the MST and Los Carneros areas
- Documents produced by the State of California and County of Napa
- California Senate Bill 1739, SB1319, and Assembly Bill 1178 which were combined to form Californiaôs *Sustainable Groundwater Management Act* (SGMA)
- Napa County *Water Availability Analysis*
- Napa County *Groundwater Conservation Ordinance*
- ñ*Napa County Groundwater Monitoring Plan*ò ï January 2014 report from Luhdorff & Scalmanini Consulting Engineers
- ñ*Understanding Groundwater in Napa County*ò - March 2014 report from Luhdorff & Scalmanini Consulting Engineers
- *Understanding Groundwater in Napa County* ï Luhdorff & Scalmanini, Consulting Engineers ï Updated February 2015
- NSDôs *Strategic Plan for Recycled Water Use In the Year 2020* ï Adopted in 2005

**Internet Searches**

- Napa County Board of Supervisors: www.countyofnapa.org/bos/
- Napa County Public Works: www.countyofnapa.org/PublicWorks/
- Napa County Planning, Building and Environmental Services: www.countyofnapa.org/planning/grac
- Groundwater Resources Advisory Committee: www.countyofnapa.org/bos/grac/
- Napa County Assessor: www.countyofnapa.org/assessor /
- Napa Sanitation District : www.napasan.com
- Source Water Collaborative Forum: www.sourcewatercollaborative.org
- Groundwater Foundation : www.groundwater.org

# DISCUSSION

## Groundwater

Whether it is the source of your drinking water or the water used to grow the food on your table, groundwater is vital to life. As such, every person plays a role in protecting and conserving groundwater.

For decades the State has stumbled when it comes to managing groundwater supplies. California has managed the stateôs groundwater as if its supply were

unlimited, instead of considering it a precious resource that must be managed properly and efficiently.

- In its August 15, 2014 editorial, the ***Sacramento Bee*** notes that it was in 1962 that an Assembly Interim Committee on Water dodged the issue of needed groundwater management by advising the Legislature it should act if the situation got worse. It got worse.
- Sixteen years later in 1978 the *Governor's Commission to Review California Water Rights*, a group commissioned by Governor Jerry Brown, found the groundwater situation was critical and that comprehensive local management had not been undertaken in many overdrafted areas of the state. Again there was no action.
- An August 18, 2014, ***Los Angeles Times*** column said the State has been ignoring expertsô increasing warnings regarding groundwater depletions for decades holding off on groundwater regulation since statehood.
- Assembly Bill 1739 stated that between 2003 and 2009 the groundwater aquifers for the Central Valley and its major mountain water source, the Sierra Nevadas, lost almost 26 million acre-feet of water (greater than 8 trillion gallons of water), nearly enough water to fill Lake Mead, Americaôs largest reservoir.

On September 16, 2014, Governor Jerry Brown signed into law a historic three-bill package (SB1168/AB1739/SB1319) named the *Sustainable Groundwater Management Act* (SGMA) that creates a statewide system of groundwater regulations for sustainable management of Californiaôs groundwater basins. This is the first law enacted since statehood that focuses on the management of groundwater.

A key requirement of Californiaôs SGMA (Assembly Bill 1739, SEC. 19, Chapter 11) mandates that groundwater be managed locally, and if a local community fails to do so, the state will step in and take over the management of that communityôs groundwater supply.

Additional requirements include:

- By January 31, 2015: Department of Water Resources (DWR) is to prioritize and publish a list of all groundwater basins classified as high, medium, low, or very low priority based on the existence and severity of overdraft conditions (all of Napa County basins are classified as ñmediumò priority).
- By January 1, 2016: DWR is to adopt regulations on criteria for modifying groundwater basin boundaries.

- By June 30, 2017: Napa County must designate or elect a local agency (e.g., the Board of Supervisors) to be a sustainability agency for water basins.
- By January 31, 2020: Groundwater sustainability plans are required for medium and high-priority basins that are determined to be in critical overdraft.
- By January 31, 2022: Groundwater sustainability plans are required for medium and high-priority basins that are determined not to be in critical overdraft.
- Twenty years after plan adoption: Groundwater management plans to achieve the sustainability goal.

The SGMA is a good step forward and one that is long overdue. However, the SGMA is focused on long-term results and does not address immediate concerns about groundwater. It becomes incumbent upon local entities to be proactive and to take steps now to insure adequate groundwater is available into the future.

The Grand Jury learned during interviews with Napa County Public Works Department that 80% of groundwater use in Napa County is used by agriculture. However, a groundwater geologist we interviewed disputed the 80% figure, saying vineyards use relatively little water and that an acre of vineyards uses less water than an acre of average size residential homes would use. Regardless of the exact percentage, most agree that the County, grape growers, and large landowners must work together proactively to develop policies and procedures for managing groundwater efficiently and to insure its sustainability for generations to come.

## Napa County Groundwater Management

Napa County Public Works Departmentôs opinion is that the SGMAôs impact on Napa County will be minimal and that Napa County has been ahead of the curve for years on groundwater management.

The Grand Juryôs investigation shows that for decades the County has been ahead of the State regarding its position on groundwater being a resource that must be preserved. For example, they:

1. Studied for decades the availability of groundwater, especially as it impacts agriculture.

2. Employed technical consultants to conduct several geohydrologic studies of the county.

3. Implemented regulations and other actions to manage the groundwater supply, including well monitoring and stricter permitting rules.

4. Appointed in September 2011, the Groundwater Advisory Committee (GRAC), a 15 member committee consisting of volunteer citizens with a variety of backgrounds, to assist the County and outside consultants with the tasks of groundwater management. For over two years, GRAC was involved with collection and analysis of data, the development of a large well monitoring program, revisions of protocols and regulations, community educational outreach, and the development of county groundwater sustainability objectives.

5. Passed two key regulations that control the extraction and use of groundwater resources in the County and insure that groundwater use is beneficial and not wasteful:

A. ***Water Availability Analysis*** (1991)

- Sets up guidelines to determine if a proposed project will have an adverse impact on the groundwater basin as a whole or on the water levels of neighboring wells with the overriding benefit of helping to manage groundwater resources.
- Consists of three phases. If the amount of water to be extracted exceeds thresholds assigned to the parcel, then further study may be required before the permit is approved or denied.
  - Water extraction thresholds:
    - ✓ Valley Floor Land Parcels: 1 acre-foot per acre of land (an acre-foot of water is the amount of water it takes to cover one acre of land to a depth of one foot, or 325,851 gallons). Therefore, a 40-acre parcel will have an acceptable level of groundwater use of 40 acre-feet per year.
    - ✓ Hillside Parcels: Determined through the permitting process utilizing the Water Availability Analysis Report as a guide.
    - ✓ ñGroundwater Deficient Areasò as defined in the Groundwater Conservation Ordinance will have the threshold established for that specific area. The Milliken-Sarco-Tulocay Basin (MST) is currently the only ñgroundwater deficient areaò and has an established threshold of 0.3 acre-feet per acre per year. Thus, a 40-acre parcel has an acceptable level of water use of 12 acre-feet per year.

B. ***Napa County Groundwater Ordinance***, (first implemented in 1999)

- Purpose is to regulate to the greatest extent possible the extraction and use of groundwater resources in Napa County and to prohibit wasteful extraction for unreasonable or non-beneficial

purposes in order to promote groundwater conservation and best management practices and maximize the long-term beneficial use of the countyôs groundwater resources.

- Includes a Groundwater Permit section that applies to areas of the county that are designated as groundwater deficient. These requirements are currently applied only to the MST area of the county:
  - Metering of water use is mandatory.
  - Permit holders are required to take monthly meter readings and to submit their readings to the Public Works Department every six months.
  - If water use during any year exceeds the approved use, the permit holder is required to reduce water use the following year or face penalties as written into the Groundwater Conservation Ordinance.

These two regulations along with others have enabled the County to improve the well permitting process and to help insure approved projects requiring groundwater are in the best interests of the applicants, neighboring properties, and the county at large.

A key requirement of managing groundwater is to monitor the recharge of the aquifers. With the assistance of the GRAC, the County implemented an ongoing well monitoring program with 115 mostly individually owned wells. At the end of each October, when the wells are at their lowest levels, they drop a line into the wells and measure how far down the line goes to find the water levels. They repeat this process at the end of April, when the wells are at their highest levels. They then compare the results to past yearsô water levels and make a determination of the recharging ability of the aquifers.

Based on the data collected for years, Napa County Public Works states that the aquifers are recharging normally throughout the Valley floor and that a problem currently does not exist. (They do recognize that this is not necessarily the case on the hillsides where they say each parcel must be studied independently, and a generalization cannot be made as to the recharge ability of individual aquifers.)

However, a groundwater geologist had a different viewpoint and told the Grand Jury that aquifers are recharged only by rainwater and surface water runoff. If there is no rain or limited rain, the aquifer will not recharge to normal levels. There will be a steady decline in the water level until the rains come back.

In contrast to the Countyôs position, the well drillers reported that wells on the Valley floor must be drilled to depths of 300-750 feet and in some cases over 1,000 feet to find water vs. a drilling depth of 100-200 feet or less in previous years. They still find water on the Valley floor 90-95% of the time, just at lower depths.

The well drillers agree that it is far less certain that water will be found on the countyôs hillsides. Drillers that were interviewed said finding water there is a 50-50 proposition and that reports of wells drying up are not uncommon.

## Conclusions -- The County's Management of Groundwater

This Grand Jury believes that the County is doing a good job as stewards of groundwater and that Napaôs citizens should be pleased with the professionalism, expertise, and involvement of all parties (governmental, agricultural, and commercial) when it comes to groundwater management. It is our belief that those involved are qualified and are doing all they can to manage our groundwater supply

Despite the efforts by the County, this Grand Jury does have some concerns that we believe need to be addressed:

- The differences between what the well drillers and the geologist stated and what the County believes is happening on the Valley floor with respect to groundwater levels and aquifer recharge.
- The MST area has been overdrafted for decades and there are frequent groundwater problems in the Carneros area.
- Most well owners have groundwater extraction limits that cannot be enforced by the County. With the exception of the MST, their groundwater usage is not monitored, even for large water users. There are provisions in the new SGMA that would allow the local agency to impose fees to fund the costs of groundwater management, including the costs of monitoring usersô groundwater usage.
- The County does not have a groundwater management contingency plan in place should the drought continue.

This Grand Jury would stress that there are some troubling issues and that the County would be better served planning for a potential future disaster vs. waiting for it to happen and then trying to put a plan together quickly. Citizens should expect their governmental officials to be prepared for all potential outcomes and have procedures or policies in place that they may rely on when needed.

## Recycled Water

### Napa Sanitation District (NSD)

NSD provides wastewater collection, treatment, and disposal services to customers in the City of Napa and surrounding unincorporated areas. Each year they process over 3.5 bi1lion gallons of wastewater (11,000 acre-feet) and produce over 700 millions gallons of recycled water (2,200 acre feet) for agricultural and landscaping use. Current recycled water production represents about 20% of the total wastewater processed.

Operating in accordance with the Districtôs ***Strategic Plan for Recycled Water Use,*** NSDôs vision is to maximize the production of recycled water in order to reduce dependence on and to preserve groundwater supplies. Specifically, their goal is for all parks, cemeteries, schools, hospitals, vineyards, and other major users of potable water for irrigation to be converted to recycled water. Currently, Napa Valley College, the airport area, Napa Corporate Park, and golf courses in South Napa are all using recycled water.

To increase the availability and use of recycled water, NSD is in the process of building two pipelines that will carry recycled water to the MST and Los Carneros/Stanly Ranch areas. The pipelines are scheduled to be completed this year. Once the pipelines are completed, NSDôs recycled water production will increase from 20% to more than 45% of all wastewater processed.

1. **Milliken-Sarco-Tulocay (MST) Pipeline**

   MST customers will be assessed a flat amount on their tax bills for 20 years and also will be responsible for all costs associated with hooking up to the main pipeline. Additionally, the consumers will pay for the water they use. All hook-ups will be metered and monitored by NSD personnel.

   The pipeline will be available (on a voluntary basis) to all parcels along the pipeline route in the MST area. However, the primary focus is to convert large landowners and agricultural users to recycled water from groundwater for irrigation purposes.

   It should be noted that once a property ñopts inò to hook up to the pipeline, that property cannot later ñopt outò. Even if the property is later sold, the new owner will be obligated to remain on the pipeline and pay the tax assessment. NSD personnel reported that as more customers sign up for recycled water, the tax assessment may be decreased.

**2. Los Carneros/Stanly Ranch Pipeline**

Connecting to the pipeline in the Los Carneros/Stanly Ranch area is optional. However, if a landowner opts out, the pipeline may go around the property and the owner may not be able to connect in the future. The cost is $5,700 per acre plus hook up and water usage costs. Over 100 landowners have voluntarily signed up to date.

NSD has written agreements with each customer that opts in. These spell out how the recycled water is to be used. Water meters will be installed and read by NSD personnel to insure an individual property is not exceeding their approved amount of recycled water usage.

**3. Napa State Hospital Recycled Water Potential**

Another opportunity to reduce reliance on groundwater would be to convert Napa State Hospitalôs landscape irrigation from potable water to recycled water. Even though they are in the county, they are using Napa city potable water for all their water needs including irrigation.

According to the City of Napa Water Department, the State Hospital historically averages 142 million gallons (435 acre-feet) of potable water annually. An estimated 56 million gallons (172 acre-feet) is used for irrigation. Converting their landscape water needs to recycled water would increase NSDôs current recycled water production by 8%.

Those interviewed stated that Napa State Hospital could cut their city water bill substantially by converting their irrigation system to recycled water. The pipeline to the MST is already located underneath the hospital property and only needs to be hooked up to their irrigation system.

The Grand Jury was told the cost to do the hook-up was about $5,000,000 and the estimated payback would be 10 years. Funding has been requested multiple times, but the State of California has not approved this project as yet. This is a priority for the Hospital Administration and is supported by many at the state level; but so far, funding has not come through.

The State has made water conservation mandatory since 2014. It would make sense for the State to fund the conversion of the State Hospitalôs irrigation system to recycled water. This would be a true win-win situation. This Grand Jury strongly recommends that the County and City of Napa

get involved with the State through their local and state government officials and lobbyists to make this a priority for the State.

**NSD's Ability to Produce Additional Recycled Water**

Lack of available storage is keeping NSD from processing more recycled water. To increase storage, NSD would have to increase the size of existing ponds and/or build new ponds. However, finding large quantities of land that would be needed for new ponds is difficult and very expensive.

NSD works with the North Bay Water Reuse Authority, a group of water and sanitation agencies in Sonoma, Marin, and Napa Counties, to coordinate and seek state and federal funding for recycled water expansion projects. Funds for the pipelines under construction are coming from a variety of governmental sources including a federal grant, a state revolving loan from the State Water Board, and funds from Napa County Measure A.

NSD now has a new funding opportunity through the passage of California's Proposition 1, "Water Quality, Supply, and Infrastructure Improvement Act of 2014." This act authorizes $7.12 billion in general obligation bonds for state water supply infrastructure projects such as water system improvements, surface and groundwater storage, water recycling, and a myriad of other water related undertakings. Of the total money authorized, $725 million will be available for water recycling and treatment, which includes recycled water storage and infrastructure projects. To obtain grants or loans from the state NSD will have to compete against other projects requesting funds and must pay at least 50% of the project costs.

**NSD's Agreement with the City of Napa Water Department**

It was learned through interviews that NSD has an agreement with the City of Napa Water Department to reimburse the city one year's revenue for every customer switched from city water for irrigation purposes to recycled water. This agreement ends in 2017 and currently there are no renewal discussions scheduled.

This Grand Jury recommends that both NSD and the City of Napa Water Department begin discussions to ensure that this agreement is renewed at the appropriate time. Everyone wins by reducing the need for potable water and groundwater resources.

# FINDINGS – GROUNDWATER

F1. The County has done an effective job of managing groundwater resources to date. However, there is no contingency plan in place that details the steps to

be taken in case the drought continues and groundwater supplies are further depleted.

F2. Despite the continuing drought and some evidence that aquifers on the Valley floor may not be fully recharging, there appears to be sufficient groundwater available on the Valley floor at this time.

F3. Groundwater is less plentiful on the countyôs hillsides, and each parcel must be studied independently. There have been a number of reports of existing wells drying up, and finding water for new wells is often difficult.

F4. The County cannot enforce their usage restrictions effectively because they do not monitor usage of groundwater or enforce limits on groundwater extraction.

## FINDINGS – RECYCLED WATER

F5. The lack of adequate storage capacity and the need for additional infrastructure prevent NSD from maximizing the amount of recycled water that could be processed.

F6. There have been no discussions to date to renew the agreement between NSD and the City of Napa Water Department, expiring in 2017, requiring NSD to reimburse the city one yearôs revenue for every customer converted from city water to recycled water.

F7. Napa State Hospital could cut their potable water usage substantially if they converted their irrigation system to recycled water.

## RECOMMENDATIONS – GROUNDWATER

R1. By December 31, 2015, the Napa County Public Works Department to develop a contingency plan, approved by the Board of Supervisors, that lays out the major steps to be taken in the event of severe drought conditions.

R2. By June 30, 2016, the Napa County Public Works Department to require major groundwater users to meter and report their water usage on a quarterly basis to ensure all well owners are following prescribed usage rates.

R3. By June 30, 2016, the Napa County Public Works Department to adopt policies to encourage all other groundwater users to meter and monitor their well water usage.

## RECOMMENDATIONS – RECYCLED WATER

R4. NSD to immediately begin exploring additional opportunities to expand their wastewater storage and infrastructure capacity through funds that may be available from the passage of California Proposition 1, the $7.1 Billion ñWater Quality, Supply, and Infrastructure Improvement Act of 2014.ò

R5. By June 30, 2016, NSD and the City of Napa Water Department to begin negotiations to extend the current agreement that requires NSD to reimburse the Water Department for lost revenue when a city water customer converts to recycled water.

R6. By December 31, 2015, that NSD and the City of Napa Water Department to begin working with local officials, lobbying groups, and trade associations to persuade the State to fund the conversion of Napa State Hospital to recycled water for their irrigation purposes.

## REQUEST FOR RESPONSES

Pursuant to California Penal Code section 933.05, the 2014-2015 Grand Jury requests responses as follows:

- Napa County Board of Supervisors: R1, R2, R3
- Napa Sanitation District Board of Directors: R4, R5, R6
- City of Napa: R5, R6