

Water Conservation Plan
November 2022



# **Table of Contents**

Introduction	Page 1				
Making Water Conservation a California Way of Life	Page 5				
Community Expectations	Page 6				
Conejo Recreation & Park District Response to Drought Conditions	Page 6				
Water Conservation Plan	Page 8				
1. Use Water Efficiently in Agency Facilities	Page 8				
2. Install Water Conservation Devices in Existing Building and Parks	Page 9				
3. Use Drought-Tolerant Plants in Agency Parks					
4. Use Recycled Water and Ground Water for Agency Parks	Page 11				
5. Create a Procedure for Residents to Report Broken Sprinklers at Agency Parks	Page 11				
6. Develop a Design Criteria to Reduce Runoff and Promote Ground Water Recharge	Page 12				
7. Conduct Water Audits for Agency Properties	Page 12				
8. Provide Public Outreach to Inform and Educate	Page 13				
How is The District Doing?	Page 13				
Conclusion	Page 13				

# Exhibit 1

Additional Drought Guidelines

# Exhibit 2

Turf Conversion California Native & Drought-Tolerant Plant List

# Exhibit 3

Table 1: 2007-2022 Water Actual Use

Graph 1: Water Usage Per Acre Table 2: Water Use Comparison

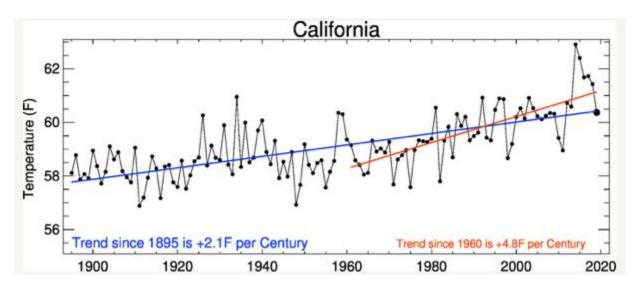
Table 3: Park Acreage

# Exhibit 4

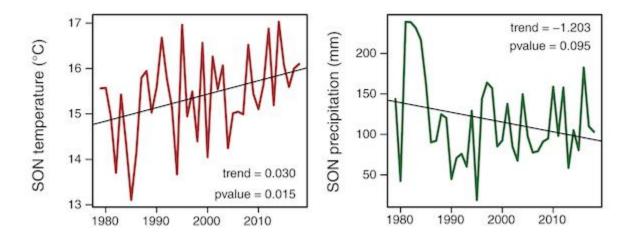
Links and References Usage

#### **Historical Conditions**

California's serious water shortages, brought on in part by drought conditions, have persisted over time. California's climate has been heating up and periods of drought have been deepening and lengthening. Using surface temperature data, a team led by University of Maryland atmospheric chemist Clark Weaver calculates that California, since 1895, has been growing warmer at a rate of about 2.1° Fahrenheit per century. The warming sped up over that time: From 1960 to today, the rate is 4.8° per century.



Additionally, an August 2020 study in Environmental Research Letters finds that since 1979, there have been rising temperatures and falling average precipitation. The researchers report trends for the months of September, October, and November (SON) in both temperatures (up about 1° Celsius) and precipitation (down an average of 30 percent).



Page 1 November 2022

#### **State Current Conditions**

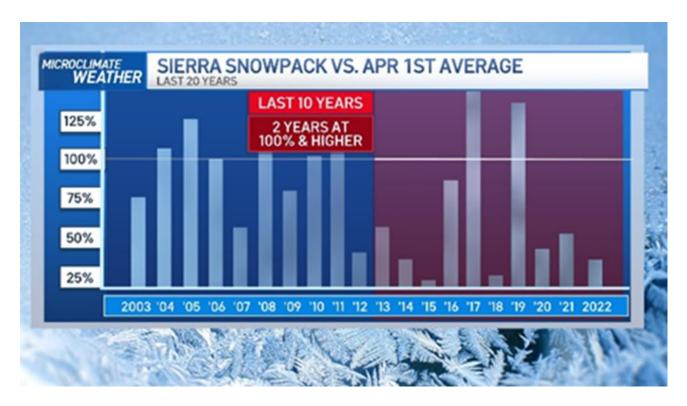
The state of California's new water year (from October 1 to September 30) has begun and with it comes concerns about a fourth year of extreme drought for the state.

Water Year 2022 featured continued extreme drought with historically dry months and a record-shattering heatwave. Now, the focus shifts to the months ahead with state officials preparing for a fourth dry year.

During the past water year, California saw extreme swings between record-breaking storms and dry conditions driven by our changing climate. In October 2021, parts of Northern California experienced the highest single-day rain totals ever, followed by a dry November and then a record snowfall in parts of the Sierra in December. Conditions took a turn again with the driest January, February, and March in over 100 years.

Water Year 2022 ended with statewide precipitation at 76 percent of average. Statewide reservoir storage is 69 percent of average for this time of year. Lake Oroville, the State Water Project's largest reservoir, sits at 64 percent of average for this time of year.

Water Year 2022 will end as a third consecutive year of drought during which annual precipitation, Sierra snowpack, and resultant runoff levels are below that which is needed to both replenish key reservoirs and meet current water demands.



The current drought from 2020 to 2022 is now the driest three-year period for the state on record, breaking the old record set by the previous drought from 2013 to 2015. This extended, extreme drought is having an impact on all Californians.

Page | 2 November 2022

#### **Local Current Conditions**

Calleguas Municipal Water District operates as a member agency of the Metropolitan Water District of Southern California. Metropolitan provides Calleguas with imported water supplies, which Calleguas in turn distributes on a wholesale basis to water agencies that serve local communities and cities in southeast Ventura County, including the Conejo Recreation and Park District. Imported water supplies account for approximately 80 percent of all potable water uses in this area.

Virtually all imported supplies delivered by Calleguas originate from the State Water Project (SWP). The SWP is a 700-mile network of reservoirs, aqueducts, and pumping facilities that convey water from the Feather River Watershed (northern Sierra Nevada Mountain Range) to southern California. The SWP system relies on Sierra snowpack conditions, which have experienced a shift in both mean climate and year-to-year variability

On March 18, 2022, the California Department of Water Resources, operator of the SWP, announced a reduced water allocation from the SWP system following a historically dry winter. The new limited allocation has led to restrictions on outdoor watering as priority must be given to ensuring the health and safety needs of residents.

Metropolitan is limited in its ability to provide water from the Colorado River Aqueduct to Calleguas and other areas in southern California to make up for the shortfall in SWP supplies. Calleguas is known as a SWP Dependent Area within the Metropolitan service area

As a result, on May 24, 2022, the Thousand Oaks City Council adopted Level 4 water restrictions due to water supply shortage requiring a reduction of 31-40% and one day a week watering for landscape (with parks are allowed an additional day of watering). This was further modified on August 30, 2022, with a reduction of watering per station from 15 minutes to 10 minutes for standard spray sprinklers in approved areas. Low flow or drip systems are not subject to the time limit but are subject to the one-day-per-week use.

As of September 29, 2022, the citywide water use is 33% higher than the target/limit.

Water agencies have indicated that if regional reduction goals are not met, all outdoor watering may be banned. The decision to exclude parks or how parks fit into this future restriction is unknown at this time.

# **District Response to Current Conditions**

On March 3, 2022, District staff provided and the Board approved additional drought guidelines (Exhibit 1). Staff has been/will be implementing Tier 1 Guideline measures and removing additional turf at various parks.

More specifically, the District has:

- Completed the new 14.1 acre Paige Lane Neighborhood Park as approved with landscaping shrubs and tree plantings, but not including the planned approximate 3 acres of turf.
  - The designed turf areas are mulched to keep park in a clean and dust free condition.
  - Depending on drought conditions, the turf will be installed Spring 2023
- Placed signs in every park describing our water conservation efforts.

Page | 3 November 2022

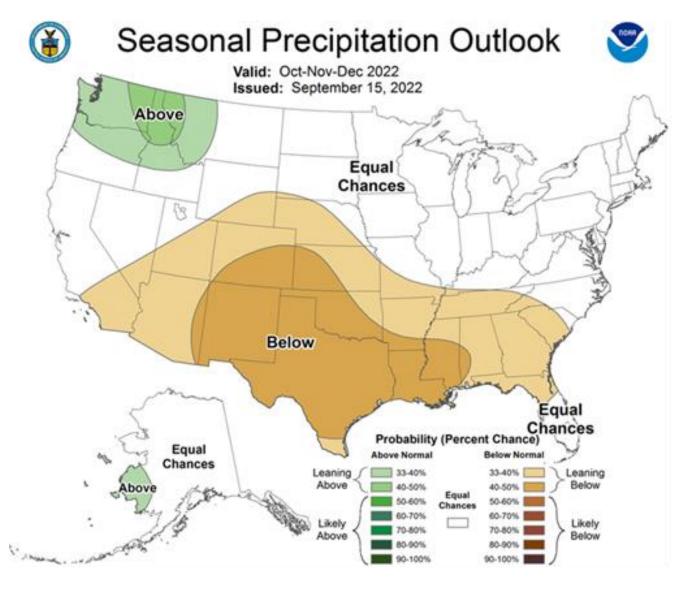
- Since the end of May 2022, turned off the irrigation in select areas (approximately 3.08 acres total) at various parks, turf conversions/beautifications on going.
- Planning for implementation of additional irrigation/turf conversions/beautifications at various parks.
- Modified field refurbishment practices

The District's Tier 1 Guideline measures, as well as actions at Paige Lane Neighborhood Park, and any additional District water conservation efforts, must be accompanied by a significant reduction in residential and commercial water usage to achieve the desired current overall reduction goals. As such, the District is providing significant resources (i.e. on-site signage, newspaper advertisements, website updates) towards public education for water conservation efforts.

#### **Future Outlook**

California faces uncertainties for the near and longer-term water picture as a result of the impacts of climate change on water supplies.

Near term modeling suggests the possible continuation of the drought through December 2022.



Page | 4 November 2022

Long range climate modeling strongly indicates a hotter and drier southern California, thus making water conservation an important element of contemporary California life. In response to the 2012 – 2016 drought, in May 2016, the Governor's Executive Order B-37-16 (Making Water Conservation a California Way of Life) required California to move beyond temporary emergency drought measures and adopt permanent changes to use water more wisely and to prepare for more frequent and persistent periods of limited water supply.

Local forecasts mirror the statewide picture. Key impacts from a June 2019 study completed by the Desert Research Institute for Projected Changes in Ventura County Climate are:

- Extreme heat an extra 8-10 days per year above 95 degrees
- Precipitation similar total precipitation, but occurring on fewer days; more intense storms and greater flooding potential
- Drought warmer temperatures will reduce the snowpack and higher evapotranspiration will result in more frequent and more intense droughts.

Thus, it is evident that the District must continue to take steps to reduce the amount of water it uses and do its "fair share" and be a leader in the community with regards to water conservation. Without a strong commitment by the Conejo Recreation and Park District to water conservation, the water resources in the Conejo Valley are jeopardized.

# **Making Water Conservation a California Way of Life**

The California Water Action Plan contains ten principles, including "Making Water Conservation a California Way of Life". Executive Order B-37-16 instructs State agencies to help Californians adopt permanent changes to use water more wisely, building upon past success by laying out a framework for a more durable approach for water conservation.

In May 2018, Assembly Bill (AB) 1668 and Senate Bill (SB) 606 were approved, building on previous Governor Brown's and current Governor Newsom's ongoing efforts to make water conservation a way of life in California. AB 1668 and SB 606 establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards. The two bills strengthen the state's water resiliency in the face of future droughts with provisions that include:

- Establishing water use objectives and long-term standards for efficient water use that apply to urban retail water suppliers; comprised of indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters, water loss, and other unique local uses.
- Providing incentives for water suppliers to recycle water.
- Identifying small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability and provide recommendations for drought planning.
- Requiring both urban and agricultural water suppliers to set annual water budgets and prepare for drought.

Page | 5 November 2022

Executive Order B-37-16's four broad objectives - Using Water More Wisely, Eliminating Water Waste, Strengthening Local Drought Resilience, and Improving Agricultural Water Use Efficiency and Drought Planning - are valuable guidelines which assist local agencies in identifying key issues to consider to understand the options available to their agencies.

# **Community Expectations**

At District properties, the Conejo Valley community enjoys over 1,100 acres of parkland, with over 180 acres of grass turf (approximately 70 acres of grass turf were converted to drought-tolerant planting and mulch between 2015 and 2017), an estimated 70 miles of irrigation lines, and nearly 10,000 irrigation heads.

District programs, as well as community sports groups such as baseball, soccer, softball, football, lacrosse and volleyball, day camps, youth sport classes, and many special events, rely on safe quality turf, as do the family-friendly community events which occur regularly throughout our local park system. We live in a very active community with many people engaged in healthy lifestyles, exercise and sports.

The District's patrons, as does staff, expect the District to grow and maintain healthy, quality turf. The District takes great pride in our parks and is committed to saving water and keeping our parks functional and beautiful for the enjoyment of the general community.

# Conejo Recreation and Park District Response to Drought Conditions and Making Water Conservation a California Way of Life

# **Strategic Planning Efforts**

In 2008, the District developed its initial Strategic Plan, a top level document to set clear direction over all operational aspects of the District's mission. Displaying the District's commitment to resource conservation, included in the original Strategic Plan was the following broad goal regarding conservation practices:

6.9 Evaluate enhanced recycling and energy conservation practices. Evaluate and enhance our recycling and energy conservation practices within the District and at District properties and events to assure that we continuously improve the District's recycling, energy conservation, resource utilization and related practices to strive to become an environmentally considerate and sustainable operation.

In order to further emphasize the District's commitment to resource conservation, in 2010 the District added a more specific water related conservation goal:

2.9 Continue to incorporate water saving practices into standard operations. Follow through with drought-related turf conversions in the parks and consider and implement a variety of cost effective water-saving solutions.

Continuing in its efforts to emphasize the District's commitment to resource conservation, in 2019 the District created a new Strategic Element – Sustainability and Resiliency. The former goals mentioned above (6.9 Evaluate enhanced recycling and energy conservation practices and 2.9 Continue to incorporate water saving practices into standard operations) were folded into and expanded in the new Sustainability and Resiliency Strategic Element.

Page | 6 November 2022

The objective of the Sustainability and Resiliency Strategic Element is to operate the District in an environmentally and economically sustainable manner. The strategy is to evaluate new ideas, embrace change and continuously move the District toward environmentally sustainable and cost-effective operations. More specific water related goals include:

- 8.4 Conserve water and favor California natives as well as drought tolerant landscaping through the board-approved landscape palette.
- 8.5 Continue to incorporate water saving practices into standard operations. Continue the drought response related irrigation and landscape improvements, and continue to seek opportunities to save water in the parks, expand and diversify the District's water supply portfolio and consider and implement a variety of cost-effective water-saving solutions.
- 8.6 Evaluate enhanced recycling and energy conservation practices. Evaluate and enhance our recycling and energy conservation practices within the District and at District properties and events to assure that we continuously improve the District's recycling, energy conservation, resource utilization and related practices.

# **Expenditures and Future Costs**

Since 2015, the District has expended over \$4,950,000 on approximately 70 acres of turf conversions and various capital projects (such as projects to modify and upgrade irrigation systems and projects to use reclaimed irrigation) districtwide. These one-time expenditures are necessary in ensuring the viability of District parks and long-term water conservation efforts.

Annual, on-going costs for potable water usage continue to rise. Water costs have steadily risen since Fiscal Year 2007-2008 as compared to the current Fiscal Year.

2021-2022 \$1,719,611  COMPARISON 107.73% increase		249,332 units <b>24.14% decrease</b>	\$6.897 <b>173.80% increase</b>
2024 2022		240 222 !+-	¢c 007
2007-2008	\$827,808	328,665 units	\$2.519
FISCAL YEAR	POTABLE WATER EXPENDINTURE	POTABLE WATER USED	COST PER UNIT

<sup>\*1</sup> unit equals 748 gallons

The District is committed to providing the resources necessary to respond to the ongoing and future droughts. Since Fiscal Year 2017-2018, and with the intent to continue annually, the District has committed at least \$300,000 each year (with the exception of 2020 – 2021 which was \$235,000) for Annual Drought Response Irrigation Improvements. Furthermore, the District allocates any water budget savings from the prior Fiscal Year into the following Fiscal Year's Annual Drought Response Irrigation Improvements.

As costs continue to rise, the District will continue to make best efforts for water conservation and thus budgetary savings. Overwatering turf not only wastes money and water but is actually harmful and can lead to fungus, insects, puddles, and weak roots. As costs from water suppliers and distributors continue to rise, the District will be forced to allocate funds from different programs and sources to meet the basic needs of providing and maintaining healthy and quality turf.

Page | 7 November 2022

# Conejo Recreation & Park District Water Conservation Plan

Utilizing the District's Strategic Plan, historical usage, and Making Water Conservation a California Way of Life recommendations (which provide the framework for outdoor irrigation standards utilizing evapotranspiration rates for the area, and irrigated and irrigable landscape areas), the District has set an annual water consumption target of 503 units of water per developed acre (1 unit of water equals 748 gallons). However, it must be noted that rainfall totals and patterns, and temperature deviations well outside historical norms and averages are expected to affect the units per acre necessary to keep turf and landscaping healthy.

The District's Water Conservation Plan expands on the practices and resource utilization described in the Strategic Plan that will be utilized to maintain and/or reduce its water consumption target. The Water Conservation Plan will assist the District in this effort and help the public interpret subsequent changes to parks, facilities, and open space.

The District's Water Conservation Plan discusses multiple issues related to water conservation. With each issue, the Water Conservation Plan will discuss the District's current practice regarding the issue, further District objectives regarding the issue, and challenges in accomplishing the objectives.

# 1. Use Water Efficiently at Agency Facilities

#### **Current Practice:**

- The District utilizes in-house maintenance reporting software and telephone reporting for irrigation and other plumbing problems; this allows the District to fix leaks and breaks in a timely matter in order to reduce water waste.
- The District utilizes the iCentral Irrigation Control System at all parks with advanced irrigation principles in all new development. The District has approximately 10,000 irrigation heads controlled by an internet weather-based "iCentral Control" System. These controllers monitor the weather in real time via the internet and adjust watering times and volumes accordingly. If it rains or the humidity is high enough, these controllers will simply shut the irrigation system off altogether.
- The District performs annual field refurbishments and turf establishment periods, mostly at sports fields. The athletic fields are well-used, to the point that our fields annually require 6-8 weeks of down time for "field refurbishment". During field refurbishment, the fields are fenced and reseeded in an effort to restore the worn out turf. The reseeding requires daytime watering, especially during intensely hot weather, so that the newly germinated seedlings do not wither and die in the hot sun. Once the turf establishes a sufficient root structure, the daytime watering is curtailed and eventually eliminated.
- In 2015, the District added an Irrigation Technician to its field staff. The Irrigation Technician's primary duty is to investigate and develop new methods and/or improvements to existing methods that result in effective management and conservation strategies of limited water resources. The Irrigation Technician is also tasked with educating and sharing these methods with other District staff.

Page | 8 November 2022

#### **Objectives:**

- Develop an electronic reporting system that links its website to the existing maintenance program. This will include an automatic email response when the problem is fixed.
- Keep current on technology upgrades, best management practices, and training.
- Improve irrigation cycles and timing.
- Restrict permitted use on sports fields to reduce usage and thus reduce/modify field refurbishments with less intensive water use.
- Hire additional staff with primary duties for water conservation.

#### **Challenges:**

- Costs of creating and maintaining advanced technological systems.
- Parks have a limited watering window; typical irrigation occurs after 10:00 p.m., when the parks are closed, in an effort to have the irrigation off by early morning so patrons using the park the next day enjoy a relatively dry park. This leaves a much shorter time "window" to water a large park. In order to meet this limited irrigation window, at some locations especially sports fields watering may be spread over five or six nights per week. Because of the size of the parks, the number of irrigation stations and the limited time window, it may not be physically possible to irrigate in only three days in a week.
- Community expectations of field availability; loss of revenue from permitted groups.
- Costs of adding additional staff.

# 2. Install Water Conservation Devices in Existing Buildings and Parks

#### **Current Practice:**

- The District uses low volume urinals and toilets; approximately 50% fitted with infra-red automatic valves.
- Tennis courts are cleaned on an as needed basis, the District utilizes high-pressure, low volume cleaning equipment.
- The District utilizes water budgeting equipment, iCentral satellite-based controllers, automatic valve shutdown, pumps, and gate valves for maintenance projects. These products are used to minimize waste during routine maintenance by allowing staff to close the irrigation network piping to avoid draining large quantities of water prior to repair. 100 percent of the 10,000 irrigation heads within the Park District are now operated by these iCentral Controllers.
- The District is complete in installing master flow valves, flow sensors, and low water use irrigation heads at larger parks and continues to install isolation valves at various parks.

Page | 9 November 2022

• The District is starting a fertigation system program (2 parks per year) where fertilizers are automatically included in the irrigation system rather than applied and then watered in.

### **Objectives:**

- Research advanced plumbing equipment that will improve on our current low-water infrastructure. This includes ultra-low/waterless water urinals, toilets, and controlled valve sink faucets.
- Install automatic valves on all urinals and toilets.
- Create a District-wide standard for all future construction and retrofits and reference California Green Building Code.
- Install fertigation systems throughout the parks districtwide.
- Consolidate irrigation clocks at parks districtwide.
- Take inventory of current facilities and note where improvement is needed.

#### Challenges:

- Costs and availability of reliable additional equipment.
- Staffing availability to perform labor intensive tasks.

# 3. Use Drought Tolerant Plants in Agency Parks

#### **Current Practice:**

- The District has taken approximately 70 acres (30 acres starting in 2012/2013 and additional 40 acres in 2015) of non-essential portions of a park (other than sports fields and high-use public areas) and cap irrigation heads and converted the ground cover to mulch. The 70 acres of turf to be converted were identified in consultation between Parks Division and Recreation Division staff. In general, the areas identified were non-essential portions of the parks (other than sports fields and high use public areas/amenities that require turf as an essential necessity for the full enjoyment and function of the public area/amenity).
- The District utilizes drought-tolerant species when and where applicable.
- The District is converting turf at some play areas (most recently over 200,000 SF at Rancho Conejo Playfield and Dos Vientos Community Park) to Bermuda turf which requires less intensive watering
- The District has developed a drought-tolerant planting palate. (Exhibit 2)

#### **Objectives:**

- Research turf alternatives such as synthetic turf for playfields. For 2021 2022, the District partnered and provided a grant to Conejo Valley Little League to install synthetic turf on one field infield at Fiore Playfield, project completion pending.
- Explore additional alternative uses (such as off-leash areas, fitness areas, bike skills stations) for non-turf outlying park areas.

Page | 10 November 2022

• Increase native planting and emphasizing drought-tolerant species in existing and new developed park acreage.

### **Challenges:**

• Drought-tolerant planting, turf alternatives, and mulched areas have faced considerable challenges due to financial issues and the public perception and familiarity that parks should be lush and green.

# 4. Use Recycled Water and Ground Water for Agency Parks

#### **Current Practice:**

• One of the three District's water suppliers, California Water Service, through the Las Virgenes Municipal Water District (LVMWD), provides recycled water at North Ranch Neighborhood Park and Triunfo Community Park. This saves approximately 10,000 units of potable water annually.

### **Objectives:**

- Additional recycled water availability in the Westlake area from California Water Service through LVMWD to serve additional parks on the east side of the District. (i.e. North Ranch Playfield, Evenstar Neighborhood Park).
- Additional recycled water availability throughout the District.
- Ground water availability throughout the District to serve all parks Districtwide.

#### **Challenges:**

- Two of the three District's water suppliers, the City of Thousand Oaks and California American Water, do not have recycled water readily available for District parks. The treated wastewater from the City's Hill Canyon Treatment Plant is discharged into Calleguas Creek where it is sold to Camrosa Water District where it is reused downstream primarily for crop irrigation in the Oxnard plain.
- Costs associated with making additional recycled water available.
- Quality of ground water available.
- Costs and economic feasibility of utilizing ground water for District parks.

# 5. Create a Procedure for Residents to Report Broken Sprinklers at Agency Parks

#### **Current Practice:**

• The District staff and public report leaks, breaks and faulty irrigation via telephone, email, and the Do Report Irrigation Problems (DRIP) program. Phone calls and emails from DRIP are received from park patrons and interfaced to grounds staff. This system allows real time reporting during operating hours.

#### **Objectives:**

• Develop additional systems such as Apps to complement the existing systems.

Page | 11 November 2022

# Challenges:

• Costs associated with the additional technology and implementation.

# 6. Develop a Design Criteria to Reduce Runoff and Promote Ground Water Recharge

#### **Current Practice:**

- Many District park sites, generally developed or retrofitted since 2001, are designed to absorb storm water.
- New parks are being outfitted with bioswales and older parks are beginning to be retrofitted with bioswales intended to capture, slow, and filter storm water.

# **Objectives:**

- Utilize EPA MS4 guidelines that allow park sites to accept and treat municipal storm water runoff through the creation of bioswales. In this program, developers and local municipalities can divert runoff from conventional storm drains into bioswales that will treat and diffuse storm water.
- All future parks and park retrofits will utilize these design practices as outlined in the California Green Building Code.

#### **Challenges:**

• As the District is nearing build out, opportunities to incorporate this design in new parks are dwindling; thus, the vast majority of opportunities are for retrofitting existing parks. Retrofitting existing parks presents economic and operational challenges.

# 7. Conduct Water Audits for Agency Properties

#### **Current Practice:**

- Grounds and maintenance staff, including a certified landscape irrigation auditor, check each system at least once a month for leaks and spray accuracy. This is one reason patrons may occasionally see sprinklers on during the day.
- Since the hire of the Irrigation Tech, labor intensive water audits and training for staff are being implemented more frequently.

#### **Objectives:**

 Conduct annual auditor's report which includes auditing facilities water use in addition to the existing landscape irrigation audit. These two reports will help track progress and assist in planning efforts by providing real-time data on each park and the District as a whole.

#### **Challenges:**

The current system is extremely labor intensive and manually analyzed and implemented.

Page | 12 November 2022

# 8. Provide Public Outreach to Inform and Educate

#### **Current Practice:**

- The District attends and conducts community meetings and provides information via print and social media.
- The District provides monthly and annual reports to the Board of Directors regarding water use and water saving projects and activities to date.

### **Objectives:**

- Increase public outreach via partnerships with water suppliers and distributors.
- Provide project-specific neighborhood meetings.

# Challenges:

• Staff time and availability.

# How is the District Doing?

In Exhibit 3, Table 1 and Graph 1 represent water usage for the past thirteen years (2007/2008 through 2019/2020) and comparison to the District's water target of 503 units per acre.

In 2021/2022 (most recent completed year), the District was 15.5% below its water target of 503 units per acre.

The District has **decreased its water use by 32.3%** when comparing water consumption in 2021/2022 (most recent completed year) to 2007/2008 units per acre.

Exhibit 3, Table 2, shows the vast difference between doing nothing (unmitigated water use utilizing actual 2007 units -1 unit of water equals 748 gallons - per acre rate) and progressively reducing water use per acre (mitigated water use utilizing actual units per acre rate from Table 1). The column to the far right depicts the quantity of this difference. Cumulatively, since 2007/2008, because of the improvements, the District has **saved approximately 967,500 units (over 723,750,000 gallons) and over \$5,707,000.** On an annual ongoing basis, if no improvements had been made within the District and no increase in developed acreage, future use would increase approximately 39,600 units (over 29,613,000 gallons) per year and \$272,000 more per year above the water use target.

# **Conclusion**

The District is committed to resource utilization, water cost savings, and striving to become an environmentally considerate and sustainable operation. However, there are no simple avenues to meet this commitment; the District already limits irrigation of park landscaping so that the health of the grass and landscaping is near failure level. Irrigating at the bare minimum, coupled with a further reduction, would result in significant turf damage and lead to a difficult recovery.

Staff is continuously making efforts to balance aggressive water conservation efforts with turf playability and quality and to preserve healthy landscaping; the recent and recurring drought conditions make it prudent for staff to develop, consider, and implement an effective Water Conservation Plan.

Page | 13 November 2022

In order to monitor efforts, monthly reports of the District's water use, water savings projects, and activities to date will be provided to the Board and published.

The Water Conservation Plan will be updated and submitted to the Board on an annual basis. As part of the annual review, staff will consider and incorporate the latest information from the Executive Order Agencies (California Department of Water resources, State Water Resources Control Board, California Department of Food and Agriculture, California Public Utilities Commission, and California Energy Commission) in order to keep the plan current and relevant.

P a g e | 14 November 2022



Additional Drought Guidelines

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Action	Notification	Recovery Costs	Estimated Annual WaterSavings	Overall Cumulative Savings				
	Tier 1 Guideline							
Remove up to approximately 11 acres of turf at various parks.	Post turf reduction maps on CRPD website at least 7 days prior to implementation.  Post public signage, including turf reduction maps website, at affected parks at least 7 days prior to implementation.	None. This would be a permanent water reduction measure.	15,300 units	Reduction of overall annual water usage by 6% (\$102,500)				
		Tier 2 Guideline						
Remove up to an additional approximately 35 acres of turf at various parks.	Present analysis/information to Board for action.  Notify neighbors prior to Board meeting/implementation	\$350,000	48,900 units	Reduction of overall annual water usage by 25% (\$428,700)				
		Tier 3 Guideline						
Remove additional remaining acreage (approximately 53 acres of turf) from neighborhood parks.	Present analysis/information to Board for action.  Notify neighbors prior to Board meeting/implementation	\$530,000	74,100 units	Reduction of overall annual water usage by 53% (\$923,300)				
Notes:								

Notes:

1 unit of water = 748 gallons

Recovery Costs - Once irrigation ceases for any significant length of time, there will still be some growth as many native and non-native weed species are able to survive without supplemental irrigation. Mowing, and other maintenance activities would still need to occur, leaving a mottled condition in the park. In the future, if water were to become available for recovery of turf acreage, the refurbishment would be time consuming and expensive. Estimated recovery cost of an 'extreme' refurbishment is approximately \$10,000 per acre in materials, supplies, staff time and increased water for establishment.

Figures for Estimated Water Savings, Overall Cumulative Water Savings are based upon District water consumption data for Fiscal Year 2021/2022.



# Turf Conversion California Native and Drought-Tolerant Plant List

# TREES

# **BOTANICAL NAME**

Arbutus unedo Arbutus 'Marina' Cassia fistula Cassia leptophylla Cedrus

Cercidium floridum Cercis occidentalis Chilopsis linearis

Cupressus sempervirens Lagerstroemia indica

Laurus nobilis

Schinus molle

Olea europaea (Fruitless) Parkinsonia aculeata

Pinus

Pistacia chinensis
Plantanus racemosa
Quercus agrifolia
Quercus lobata
Rhus lancea

# COMMON NAME

Strawberry Tree Marina Strawberry Tree Golden Shower Tree Gold Medallion Tree

Cedar Palo Verde

Western Redbud California Orchid Tree

Italian Cypress
Crape Myrtle
Sweet Bay
Fruitless Olive
Mexican Palo Verde

Pines

Chinese Pistachio
California Sycamore
Coast Live Oak
Valley Oak
African Sumac
California Pepper Tree

# SHRUBS / GROUNDCOVER

#### **BOTANICAL NAME**

Aeonium

Agave Americana

Agave Americana var. Medio-Picta 'Alba'

Agave attenuata

Aloe

Anigozanthos

Arctostaphylos 'Emerald Carpet'

Arctostaphylos uva-ursi

Baccharis pilularis 'Pigeon Point'

Bougainvillea

Carex

Ceanothus 'Concha'

Ceanothus g. horizontalis 'Yankee Point' Ceanothus thyrsiflorus 'Snow Flurry'

Cistus

Cotinus coggygria

Cotoneaster Echeveria

# COMMON NAME

Aeonium

Century Plant

White Striped Centry Plant

Foxtail Agave

Aloe

Kangaroo Paw

Carpet Manzanita

Manzanita

**Dwarf Coyote Brush** 

Bougainvillea

Sedge

Concha Ceanothus

California Lilac

Snow Flurry Ceanothus

Rockrose

Smoke Tree

Cotoneaster

Echeveria

**BOTANICAL NAME** 

Eschscholzia californica

Fefstuca glauca

Feijoa

Fremontodendron

Heteromeles arbutifolia

Heuchera

Hesperaloe parviflora

Lavandula

Lantana montevidensis

Leptosphermun

Mahonia

Myrtus communis

Pélargonium Pyracantha Rhanmus

Rhus integrifolia

Rhus Ribes

Phormium tenax Romneya coulteri

Rosa banksiae

Rosmarinus officinalis Irene

Rosmarinus officinalis 'Tuscan Blue'

Salvia leucantha

Salvia leucophylla 'Point Sal Spreader'

Sambucus Sedum

Senecio mandraliscae

Teucrium Thymus

Verbena lilacina 'De La Mina'

Westringia fructicosa

Zauschneria

COMMON NAME

California Poppy

Blue Fescue

Pineapple guava

Flannel Bush

Toyon

Coral Bells

Red Yucca

Lavender

Lantana

Tea Tree

Barberry

Myrtle

Geranium

Firethorn

Buckthorns

Lemonade Berry

Sumac

Currant New Zealand Flax

Matilija Poppy

Lady Bank's Rose

Trailing Blue Rosemary

Upright Rosemary

Mexican Sage

Purple Sage

Elderberry

Stonecrop

Blue Iceplant

Germander

Thyme

Verbena

Coast Rosemary

California Fuchsia



Table 1: 2007-2022 Water Actual Use

Rainfall (inches)	Fiscal Year	Water Usage (Units)	Developed Acreage	Target Units Per Acre	Actual Units Per Acre	% Saved Compared to 2007/2008 Units Per Acre	% Saved Compared to Target Units Per Acre
5.71	2007/2008	328,665	523	503	628	-	-24.9%
6.47	2008/2009	325,461	523	503	622	1.0%	-23.7%
8.82	2009/2010	280,610	540	503	520	17.3%	-3.3%
20.51	2010/2011	285,694	540	503	529	15.8%	-5.2%
8.74	2011/2012	345,627	540	503	640	-1.9%	-27.2%
4.86	2012/2013	370,483	565	503	656	-4.3%	-30.4%
5.00	2013/2014	372,275	565	503	659	-4.8%	-31.0%
8.38	2014/2015	287,699	565	503	509	19.0%	-1.2%
5.56	2015/2016	236,840	565	503	419	33.3%	16.7%
19.44	2016/2017	260,841	565	503	462	26.5%	8.2%
5.97	2017/2018	261,619	569	503	465	26.0%	7.6%
17.57	2018/2019	219,906	586	503	375	40.3%	25.4%
11.69	2019/2020	228,866	586	503	390	37.9%	22.5%
0.89	2020/2021	259,771	586	503	442	29.6%	12.1%
11.31	2021/2022	249,332	586	503	425	32.3%	15.5%

<sup>•</sup> Developed Acreage as per Table 3



- Unit of water equals 748 gallons.
- Historical rainfall data is from Weather Underground (<u>www.wunderground.com</u>)
- Projected Rainfall data is the average historical rainfall for the area.
- Fiscal year runs from 1 July- 30 June.

# Table 2: Water Use Comparison

Fiscal Year	Unmitigated Water Use (Units)	Mitigated Water Use (Units)	Savings (\$\$)	Savings (Units)
2007/2008	328,665	328,665	\$0	0
2008/2009	328,665	325,461	\$9,035	3,204
2009/2010	339,348	280,610	\$197,125	58,738
2010/2011	339,348	285,694	\$208,607	53,654
2011/2012	339,348	345,627	-\$25,787	-6,279
2012/2013	355,059	370,483	-\$70,427	-15,424
2013/2014	355,059	372,275	-\$83,223	-17,216
2014/2015	355,059	287,699	\$346,835	67,360
2015/2016	355,059	236,840	\$643,701	118,219
2016/2017	355,059	260,841	\$543,919	94,218
2017/2018	357,572	261,619	\$578,215	95,953
2018/2019	368,256	219,516	\$936,828	148,350
2019/2020	368,256	228,394	\$878,573	139,390
2020/2021	368,256	259,292	\$723,267	108,485
2021/2022	368,256	249,332	\$820,716	118,924
TOTALS	5,281,265	4,312,348	\$5,707,384	967,576

# Table 3: Park Acreage

Park Name	Total Acres	Developed Acres	Undeveloped Acreage	Projected Development	Projected Year	Notes
Estella Park	1.9	1.9	0.0	None		
Banyan Park	7.4	7.4	0.0	None		
Morrow Circle	4.0	0.0	4.0	None		
Del Norte	3.7	0.0	3.7	None		
Old Meadows Park	31.0	6.7	24.3	None		
Stagecoach Inn Museum	5.0	5.0	0.0	None		
Hickory Park	4.6	4.6	0.0	None		
Cypress Park	5.0	5.0	0.0	None		
Borchard Community Park	28.7	28.7	0.0	None		
Suburbia Park	2.0	2.0	0.0	None		
Thousand Oaks Community Park	35.8	22.0	13.8	None		
Oakbrook Neighborhood Park	13.5	13.5	0.0	None		
Evenstar Park	4.0	4.0	0.0	None		
Lynn Oaks Park	8.8	4.0	4.8	None		Initial planning exercises for development started Fall 2021
Russell Access Strips	1.0	1.0	0.0	None		
Russell Park	7.0	7.0	0.0	None		
Triunfo Park	23.4	23.4	0.0	None		
Conejo Creek North	44.1	44.1	0.0	None		Will be reduced from 44.1 to 36.0 acres (deeded 8.1 acres to CTO early 2022 in exchange for RPCEC) in Water Conservation Plan 2023; Reduction not included in total park acreage for WCP 2022; will be included in WCP 2023
Fiore Playfield	9.6	7.1	2.5	None		
Beyer Park	4.0	4.0	0.0	None		
Conejo Creek West (NW)	51.1	44.0	7.1	7.1	2030/2031	
Conejo Creek South	54.7	50.3	4.4	None		
Conejo Community Park	38.4	20.0	18.4	None		
Wendy Park	4.3	4.3	0.0	None		
Glenwood Park	5.2	5.2	0.0	None		
Conejo Valley Botanic Garden	39.6	39.6	0.0	None		
Waverly Park	5.5	5.5	0.0	None		
Thousand Oaks Teen Center	0.0	0.0	0.0	None		

# Table 3: Park Acreage (continued)

Park Name	Total Acres	Developed Acres	Undeveloped Acreage	Projected Development	Projected Year	Notes
Paige Lane Neighborhood Park	14.1	0.0	14.1	14.1	2022/2023	Construction completed Fall 2022. 14.1 acres will be included as developed acres in WCP 2023.
Goebel Senior Center	0.0	0.0	0.0	None		·
Knoll Park	21.1	0.0	21.1	None		
Pepper Tree Playfield	21.7	21.7	0.0	None		
Wildwood Neighborhood Park	5.8	5.8	0.0	None		
Cañada Park	9.2	4.0	5.2	None		
Sunset Hills Park	5.8	5.8	0.0	None		
Spring Meadow Park	7.2	7.2	0.0	None		
Wildflower Playfield	19.0	19.0	0.0	None		
Stagecoach Inn Park	4.9	4.9	0.0	None		
Kimber Park	8.3	8.3	0.0	None		
Walnut Grove Park	6.5	6.5	0.0	None		
Southshore Hills Park	4.5	4.5	0.0	None		
Northwood Park	8.5	8.5	0.0	None		
Newbury Gateway Park	6.9	2.3	4.6	None		
Crowley House	0.0	0.0	0.0	None		
El Parque de la Paz	4.8	4.8	0.0	None		
North Ranch Neighborhood Park	12.0	12.0	0.0	None		
North Ranch Playfield	12.0	12.0	0.0	None		
Lang Ranch Neighborhood Park	10.4	7.0	3.4	None		
Sapwi Trails Community Park	124.0	17.0	107.0	None		
McCrea Ranch	219.4	0.0	219.4	None		
Rancho Conejo Playfield	12.7	12.7	0.0	None		
Dos Vientos Neighborhood Park	5.2	5.2	0.0	None		
Walnut Grove Equestrian Center	13.0	4.5	8.5	None		
McCrea Ranch West	58.9	0.0	58.9	None		
Hillcrest Center	8.8	4.0	4.8	None		
Dos Vientos Community Park	27.8	27.8	0.0	None		
Sycamore Neighborhood Park	4.5	4.5	0.0	None		

# Table 3: Park Acreage (continued)

Park Name	Total Acres	Developed Acres	Undeveloped Acreage	Projected Development	Projected Year	Notes
Del Prado Playfield	26.0	16.0	10.0	None		
Rancho Potrero Community Equestrian Center	19.9	19.9	0	None		Deeded from COSCA in exchange for CCN property in early 2022. Special Facility - developed acreage not included in total as water use controlled by operator
Rolling Oaks Neighborhood Park	5.5	0	5.5	None		Acquired Spring 2022
Total	1151.7	586.3	545.5	21.2		
*Bold Denotes Future Park Acreage						

- Projected development as per June 2021 10-Year Capital Improvement Plan/Notes.
- In response to this projection, the District concludes there will be approximately 21 acres of new development over the next 10 years (2021/2022-2030/2031). This justifies a continued increase in total annual water consumption despite a continuous reduction in per acre water use, as illustrated by the graph and tables 1 and 2.



# **California Department of Water Resources**

https://water.ca.gov/Programs/Water-Use-And-Efficiency

# **California Green Building Code**

https://www.hcd.ca.gov/building-standards/calgreen

# **California Storm Water Quality Association**

https://www.casqa.org

#### **California Water Action Plan**

https://resources.ca.gov/CNRALegacyFiles/docs/California water action plan/Final California Water Action Plan.pdf

## **California Water Association**

https://www.calwaterassn.com

# City of Thousand Oaks Sustainability and Water

https://www.toaks.org/departments/public-works/sustainability https://www.toakswater.org/

# Conejo Recreation & Park District 5-Year Strategic Plan (2019-2023)

https://www.crpd.org/5-YearSP

# Conejo Recreation & Park District 10-Year Capital Improvement Plan (FY 2021/2022 – FY 2030/2031)

https://www.crpd.org/10CIP

# Conejo Recreation & Park District Water Conservation page, including a complete set of turf conversion maps for each park

https://www.crpd.org/water

# National Integrated Drought Information System

https://www.drought.gov

# Making Water Conservation a California Way of Life

https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Make-Water-Conservation-A-California-Way-of-Life/Files/PDFs/Final-WCL-Primer.pdf

# **Water Supply Conditions Report**

https://www.mwdh2o.com/WSCR

# **Weather Underground**

https://www.wunderground.com/weather/us/ca/camarillo/93010