

**SOUTHERN NEVADA WATER AUTHORITY  
BOARD OF DIRECTORS  
REGULAR MEETING  
NOVEMBER 16, 2023  
MINUTES**

CALL TO ORDER 9:04 a.m.

BOARD MEMBERS PRESENT Marilyn Kirkpatrick, Chair  
Dan Stewart, Vice Chair  
Scott Black  
Olivia Diaz (by telephone)  
Jim Gibson  
Justin Jones  
Steve Walton

BOARD MEMBERS ABSENT None

STAFF PRESENT John Entsminger, Dave Johnson, Doa Ross, Tabitha Simmons, and Kevin Bethel

OTHERS PRESENT None

*Unless otherwise indicated, all members present voted in the affirmative.*

**COMMENTS BY THE GENERAL PUBLIC**

*For full public comment, visit [snwa.com/apps/snwa-agendas/index.cfm](http://snwa.com/apps/snwa-agendas/index.cfm)*

Ed Uehling spoke concerning item 2. He asked about the Authority's plans to bring additional water to Southern Nevada or any efforts to reduce new construction. He recalled reading about a Southern California family that uses more water than the 2.5 million residents of Southern Nevada, and that family was willing to sell water to other users. He said that the Authority should stop spending money on conservation advertising, instead the money should be used in purchasing water from willing sellers.

Pete Foley spoke concerning item 4. He said that the Board of Directors should not sign off on the interlocal agreement since not all of the water purveyors instituted excess usage fees in their jurisdictions. He also spoke concerning item 9. He said that more information on the amount that the Authority spends on marketing should be made available.

Diane Henry spoke concerning item 7. She said that artificial grass saves water but is toxic to the environment. She said that saving water should not come at the expense of the environment.

Laura McSwain spoke concerning items 3, 4, 7 and 9. She provided written comments for the record. A copy of her comments are attached to these minutes.

Julie Wignall spoke concerning item 7. She said that the Authority's decisions regarding water and grass have impacts on health, air quality, quality of life, rising temperatures and mental health. She said that removing grass in Southern Nevada is having an adverse effect on the environment.

Sue A. and Sheri Cole also submitted written comments. A copy of their comments are attached to these minutes.

**ITEM NO.**

1. ***For Possible Action:* Approve agenda with the inclusion of tabled and/or reconsidered items, emergency items and/or deletion of items, and approve the minutes from the regular meeting of September 21, 2023.**

FINAL ACTION: Vice Chair Stewart made a motion to approve the agenda for this meeting, and to approve the minutes from the regular meeting of September 21, 2023. The motion was approved.

**CONSENT AGENDA Items 2 – 6 are routine and can be taken in one motion unless a Director requests that an item be taken separately.**

2. ***For Possible Action:* Adopt the Annual Operating Plan for the Southern Nevada Water System.**
3. ***For Possible Action:* Ratify the execution of an assistance agreement between the Bureau of Reclamation and the Authority to accept a grant in an amount not to exceed \$2,000,000 for the Water Efficient Technologies Program and authorize the General Manager to approve future modifications if the future modifications do not impact the Authority.**

4. ***For Possible Action:*** Approve and authorize the General Manager to sign, in substantially the same form as attached hereto, an interlocal agreement among Clark County, Boulder City, the City of Henderson, the City of Las Vegas, the City of Mesquite, the City of North Las Vegas, the Regional Transportation Commission of Southern Nevada and the Authority to participate in a Regional Climate Collaborative to help further the actions recommended in the All-In Community Sustainability and Climate Action Plan in Southern Nevada.
5. ***For Possible Action:*** Approve a resolution authorizing the submission of a grant proposal to the Nevada Department of Conservation and Natural Resources' Nevada Water Conservation and Infrastructure Initiative grant program to seek funding to purchase and retire groundwater rights within the over-appropriated Lower White River Flow System, and, if awarded, authorize the General Manager, or his designee, to enter into any future funding agreement for the project.
6. ***For Possible Action:*** Approve a resolution authorizing the General Manager, or his designee, to submit a grant proposal to the Bureau of Reclamation's WaterSMART Applied Science Grants program for Fiscal Year 2023 seeking \$307,955, contribute matching funds of up to \$405,840 if awarded, and enter into and execute an agreement with the Bureau of Reclamation for WaterSMART Applied Science Grants funding.

FINAL ACTION: Director Gibson made a motion to approve staff's recommendations. The motion was approved.

#### **BUSINESS AGENDA**

7. ***For Possible Action:*** Adopt a resolution setting forth the requirements defined in Assembly Bill 220 for the installation of new turf on land parcels served by Colorado River water.

FINAL ACTION: Director Walton made a motion to approve staff's recommendation. The motion was approved.

8. ***For Possible Action:*** Approve a resolution approving the form of the Amended and Restated SNWA/LVVWD Master Bond Repayment Agreement and authorizing Authority Officers to execute the Agreement and take all actions necessary to effectuate the provisions of the Resolution.

FINAL ACTION: Vice Chair Stewart made a motion to approve staff's recommendation. The motion was approved.

9. ***For Possible Action:*** Accept the Authority's Annual Comprehensive Financial Report, including the corresponding Independent Auditor's Report on Financial Statements and Other Supplementary Information for the Fiscal Year ended June 30, 2023, and authorize its submission to the Nevada Department of Taxation.

Kevin Bethel, Chief Financial Officer, presented the Authority's Annual Comprehensive Financial Report. Mr. Bethel said that the audit with Baker Tilly US, LLP, went extremely well. He said that within the auditor's required communications, there were no findings, and it was an unmodified, or clean, audit.

FINAL ACTION: Director Jones made a motion to approve staff's recommendation. The motion was approved.

10. ***For Information Only:*** Receive an update from staff on water resources including, but not limited to, drought conditions in the Colorado River Basin, conservation programs and initiatives, activities on the Colorado River, and water resource acquisition and development.

John Entsminger, General Manager, gave an update on water use and conservation initiatives. A copy of his presentation is attached to these minutes.

Director Jones asked what the Authority was doing outside of conservation to work with the Bureau of Reclamation and the other Colorado River Basin states to address the drought. Mr. Entsminger said that earlier this year, Nevada, California, and Arizona negotiated and agreed to the largest interstate water conservation program in the history of the Colorado River, which will save 3 million acre-feet of water dedicated to rebuilding storage in Lake Mead. Also, Nevada's work to implement a non-functional grass law has led to a memorandum of agreement among 35 communities in six other states to reduce non-functional grass. He said that over the past summer and fall Nevada, California, and Arizona have come together on a proposal on how to operate the major system reservoirs in the post-2026 environment since all of the agreements put in place in 2007 are set to expire.

Vice Chair Stewart asked about the community's consumptive use reductions. Mr. Entsminger said that Southern Nevada used 325,000 acre-feet of water in 2002. This year, the Authority projects that the community's consumptive use will be 188,000 acre-feet of water. He said that the reduced water use is the result of all the conservation measures that the Board has implemented over the past 20 years.

**NO ACTION REQUIRED**

**Public Comment**

Laura McSwain said that other communities are conserving water without implementing heavy-handed restrictions and fees, such as have been implemented by the SNWA and LVVWD. She said the SNWA and LVVWD need to be creating fairness. She questioned the Authority's watering practices, whether it had leaks at its offices and how much water was used at the Springs Preserve. She said that it was unfair that excessive use due to leaks was penalized at residential properties but not at commercial properties. She said that her community was experiencing blight due to reduced water being applied on legacy trees.

Judy Tobler said that she has removed trees, grass, evaporative cooler, and her garden to reduce water consumption at her home, but her water bill remains high. She said that it was time to limit the number of people that can move to the community. She questioned what was being done with the money collected from the increased water rates and fines.

Ed Uehling said the Authority gave the Howard Hughes Corporation 40,000 gallons per house to build homes on the other side of the freeway while putting a high-ranking Hughes executive on the non-functional turf committee. He said that there is no conservation in Southern Nevada. He said that there is just a transfer of water from weak, ordinary people to developers. He said that cows in the Imperial Valley in California get 10 times more water than the people in Las Vegas. He said that the water problem in Las Vegas is not a demand issue; it is a supply issue, and the Authority needs to do more to increase the supply. He said that eminent domain needed to be used to bring in more supply.

Alisa Ohlson spoke concerning the Water Smart Landscape program requirements. She also spoke about the LVVWD's excessive use charge and the difficulties converting grass on her large property.

Pete Foley said that he was concerned with the SNWA's and LVVWD's advertising and communication spin. He said that the water conservation achievements over the last 20 years cannot continue since the community has already been wrung dry. He said that residents are now being asked to make ridiculous water cuts. He said that the Authority takes an adversarial position against its customers, because it is a monopoly instead of trying to take a collaborative approach.

**Adjournment**

There being no further business to come before the Board, the meeting adjourned at 10:00 a.m.

**Copies of all original agenda items and minutes, including all attachments, are on file in the General Manager's office at the Las Vegas Valley Water District, 1001 South Valley View Boulevard, Las Vegas, Nevada.**



*The road to hell is paved with good intentions.....*  
Proverb

November 16, 2023

SNWA Board of Directors  
100 City Parkway, 7<sup>th</sup> Floor  
Las Vegas, NV 89106

Dear Board of Directors,

I come before you to comment on today's agenda specifically on items 3, 4, 7, and 9 and submit additional documentation in support of those comments.

**Regarding item 3:** Removing turf on 22 fields at 11 high schools within the Clark County School district. Other areas of the country are coming to recognize the hazards of synthetic turf including its toxicity, contribution to heat island, heat stroke, and burn injury. It is of great concern that this body is considering as a consent agenda item moving forward to accept funding to replace turf on athletic fields with artificial turf. Is a savings of 337 acre-feet of water "expected" to be saved, worth the health risks to our youth, added heat island impacts and toxins being added to our air and soil? Who will be responsible for the health consequences? Per the agreement, the Federal Government is to be held harmless.

**Regarding item 4:** All-In Community Sustainability and Climate Action Plan. Of concern are a number of the WHEREAS acknowledgments in the agreement that are already being compromised with this body's support of policies that are compromising our air quality, natural resources and basic quality of life elements this document seeks to improve upon and protect. There is much about climate that humans have no control over. We do, however, have control over the decisions being made that have arguably ushered in and exacerbated the higher than average heat trajectory our valley has experienced over the last 20 years. Fortunately, this is a voluntary agreement, and it is hoped that a broad, holistic and transparent approach will be applied to exploring policies best suited for the sustainability and future habitability of Southern Nevada. Requests for supporting documentation used to adopt Excessive Use Charges that have been applied only to Las Vegas and unincorporated parts of Clark County, reflect that there was no environmental considerations or studies performed on the negative impacts to our quality of life let alone the financial hardships born by residents directly bearing this burden. In fact, the only negative (Con), identified in a report provided by what looks to be a division of SNWA (Enterprise Conservation), to implementing what they call a "moving super-tier" was public/political pushback from impacted customers. The millions of dollars in lost trees and other landscaping investments, not to mention the negative ecological impacts, were not considered, nor were the impacts on the elderly now having to choose between water and food.

**Regarding item 7:** Adopt requirements defined in Assembly Bill 220. We are advocating for a return the "Oasis Concept" as it relates to the use of natural turf as outlined in the publication "Southern Nevada guide to Trees", sponsored by SNWA. It is a balanced approach which introduces turf in a way that acknowledges our desert climate

and the need to mitigate the heat increased by development, provide an enjoyable home environment, and still be mindful of the need to limit water use in a responsible way.

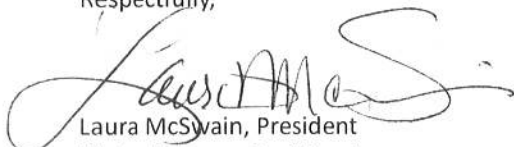
**Regarding item 9:** The financial information provided in condensed form does not allow for scrutiny of expenditures, particularly of those not directly related to providing water supply to the valley's customers. It seems reasonable that the public has a right to scrutinize such operations as the Great Basin Ranch that competes with private interests in Northern Nevada as one example. Also, the adversarial policies and related advertising both by SNWA and LVVWD as well as the reporting of certain media outlets raises questions about expenditures in outreach and advertising. Sponsorship of sports teams and other organizations should also be available for public visibility. As a non-profit agency tasked with providing water to Southern Nevada, all expenditures not related specifically to that function should be identified. Proposed expenditures in the 2023-2024 budget reflect \$3,750,000 in expenditures to R & R Advertising Partners and over \$2mil to Spring Valley Associates, LLC in Ranch Management services with other expenditures related to Great Basin Bird Observatory, Great Basin Institute, Great Basin Irrigation. What revenues offset these expenses specifically? How are our alfalfa fields performing? Regarding R & R Advertising Partners, what services and who are they paying, specifically, on SNWA's behalf?

**Regarding item 10:** No supporting material provided for review prior to this meeting was available online.

The statement on your website regarding "Environmental Stewardship" falls flat in the face of the adversarial position being taken most recently. You state that SNWA minimizes its environmental footprint and works to conserve and preserve the environment's natural resources for future generations. In fact, you are taking water from existing customers who made investments outlined in a publication you sponsored in 1990 and are now putting them at risk. By doing so you put the entire valley at risk. The residents of Southern Nevada are as deserving of the respect of the environments they have created as are those you identify in the 500-page document called the Lower Colorado River Multi-Species Conservation Program.

It is time to stop reacting and restore balance, consider existing residents, and thoughtfully approach growth. While SNWA and LVVWD have led the way in recycling and other technologies that contribute to water availability, other communities moving toward water use reduction have not burdened existing residents and well-established communities in such harsh terms. Please reset your priorities before you completely squander the respect for the good work that this agency has done in providing reliable water to Southern Nevada since its inception. The priority needs to shift to water sustainability for the long term.

Respectfully,



Laura McSwain, President  
Water Fairness Coalition, Inc

Environment Once it was hailed as a drought fix — but now California's

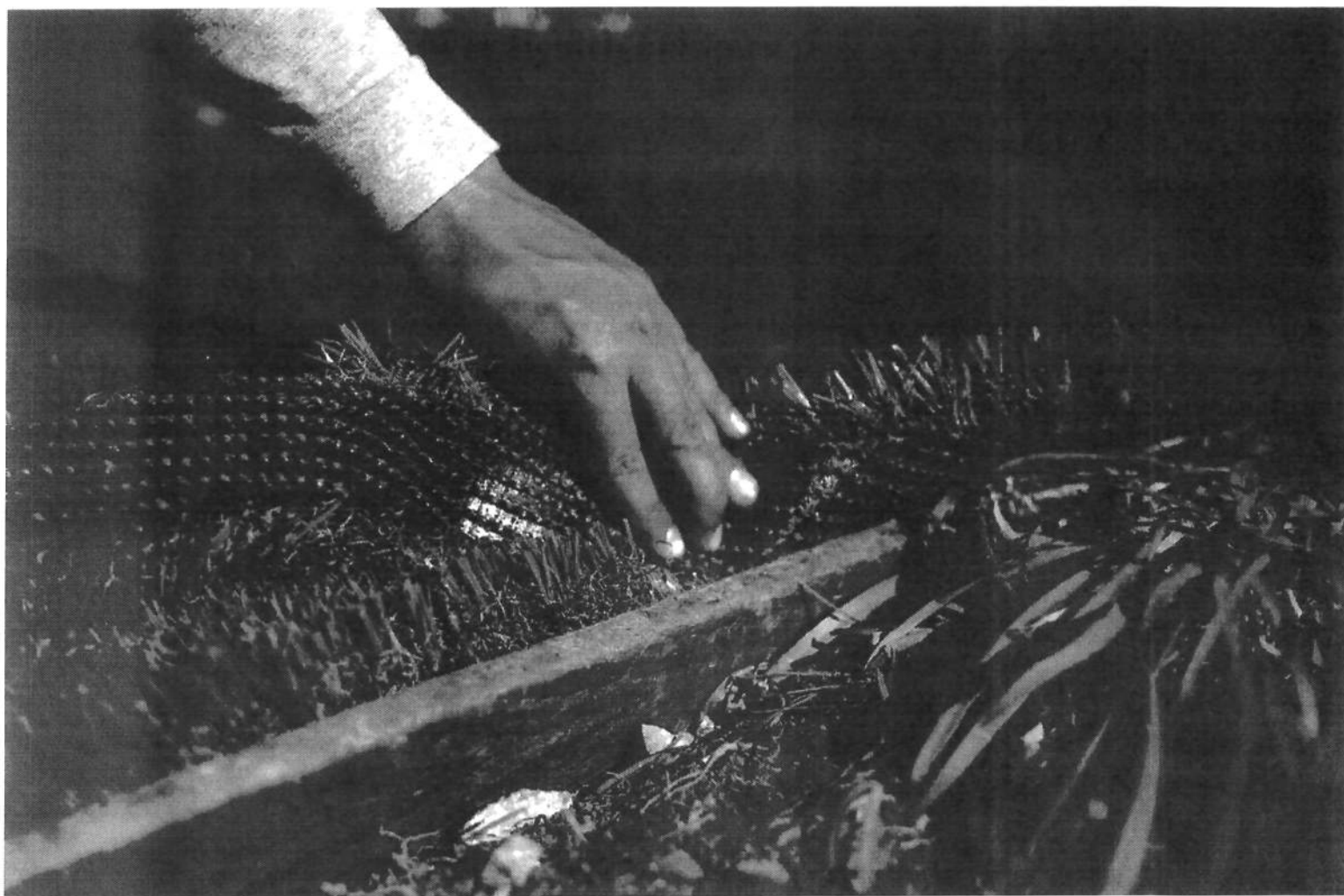
## ENVIRONMENT

## Once it was hailed as a drought fix — but now California's moving to restrict synthetic turf over health concerns



BY SHREYA AGRAWAL

OCTOBER 18, 2023 UPDATED OCTOBER 23, 2023



Workers install artificial turf in the yard of a home in Los Angeles in 2015. Photo by Lucy Nicholson, Reuters

Listen to this article



## IN SUMMARY

California cities can ban synthetic turf under a law Gov. Gavin Newsom signed. He rejected a bill to ban PFAS in fake lawns.

*Lea este artículo en [español](#).*

Gov. Gavin Newsom last week passed on a chance to limit the use of the **so-called “forever chemicals” in legions of plastic products** when he vetoed a bill that would have banned them in synthetic lawns.

His veto of an environmental bill that overwhelmingly passed the Legislature underscores California’s convoluted guidance on the plastic turf that some homeowners, schools and businesses use in place of grass in a state accustomed to drought.

Less than a decade ago then-Gov. Jerry Brown signed a law prohibiting cities and counties from banning synthetic grass. At the time, the state was in the middle of a crippling drought and fake lawns were thought to be helpful in saving water.

But this year Democrats in the Legislature went in a different direction, proposing bills that would discourage synthetic turf. They’re worried about health risks created by the chemicals present in these lawns, including perfluoroalkyl and polyfluoroalkyl substances, also known as **PFAS** chemicals. Some chemicals in the crumb rubber base of synthetic turf, such as bisphenol A, commonly known as BPA, can leach out during extreme heat. These chemicals have been linked to various chronic diseases including cancers, diabetes and neurological impairments.

Dianne Woelke, a retired nurse in San Diego, is among the Californians who’ve grown concerned about their neighbors’ synthetic lawns. She joined a group called Safe Healthy Playing Fields to advocate against their use.

“It’s staggering the depth of minutia involved in this product. It’s just a lot of plastic with a lot of chemicals leaching from it,” Woelke said.

One of the bills Newsom signed, for instance, **undoes the Brown-era law** and allows cities and counties to again ban artificial turf. Some California cities have already begun moving to prohibit fake lawns, including Millbrae in San Mateo County and San Marino in Los Angeles County.

“Emerging research is making it clear that artificial turf poses an environmental threat due to its lack of recyclability and presence of toxins such as lead and PFAS,” said state Sen. Ben Allen, the Redondo Beach Democrat who authored the bill. With the new law “local governments will again be able to regulate artificial turf in a way to both protect our environment in the face of drought and climate change but also by preventing further contribution to our recycling challenges and toxic runoff,” he said.

### Learn more about legislators mentioned in this story



**BEN ALLEN**

State Senate, District 24 (El Segundo)

[Expand for more about this legislator](#)



Manufacturers of synthetic turf say they are working to address concerns about the materials they use, although for the most part they have been unable to entirely remove PFAS. Some have switched to **sand** and **other safer products** in an attempt to replace rubber crumb.



"Our members are already working with existing customers, states, and local governments to demonstrate the continued safety of our products and are committed to ensuring their products contain no intentionally added PFAS," Melanie Taylor, president of the Synthetic Turf Council, wrote in a statement to CalMatters.

Newsom in vetoing the PFAS chemicals bill wrote that he "strongly" supports the intent of the legislation, but he was concerned that the state was not positioned to ensure its effectiveness.

The bill "does not identify or require any regulatory agency to determine compliance with, or enforce, the proposed statute," he wrote in his veto message.

He also wrote that he's directing his administration to consult with lawmakers on "alternative approaches to regulating the use of these harmful chemicals in consumer products," suggesting the issue could return in the next legislative year.

### **Chemical risks from fake lawns**

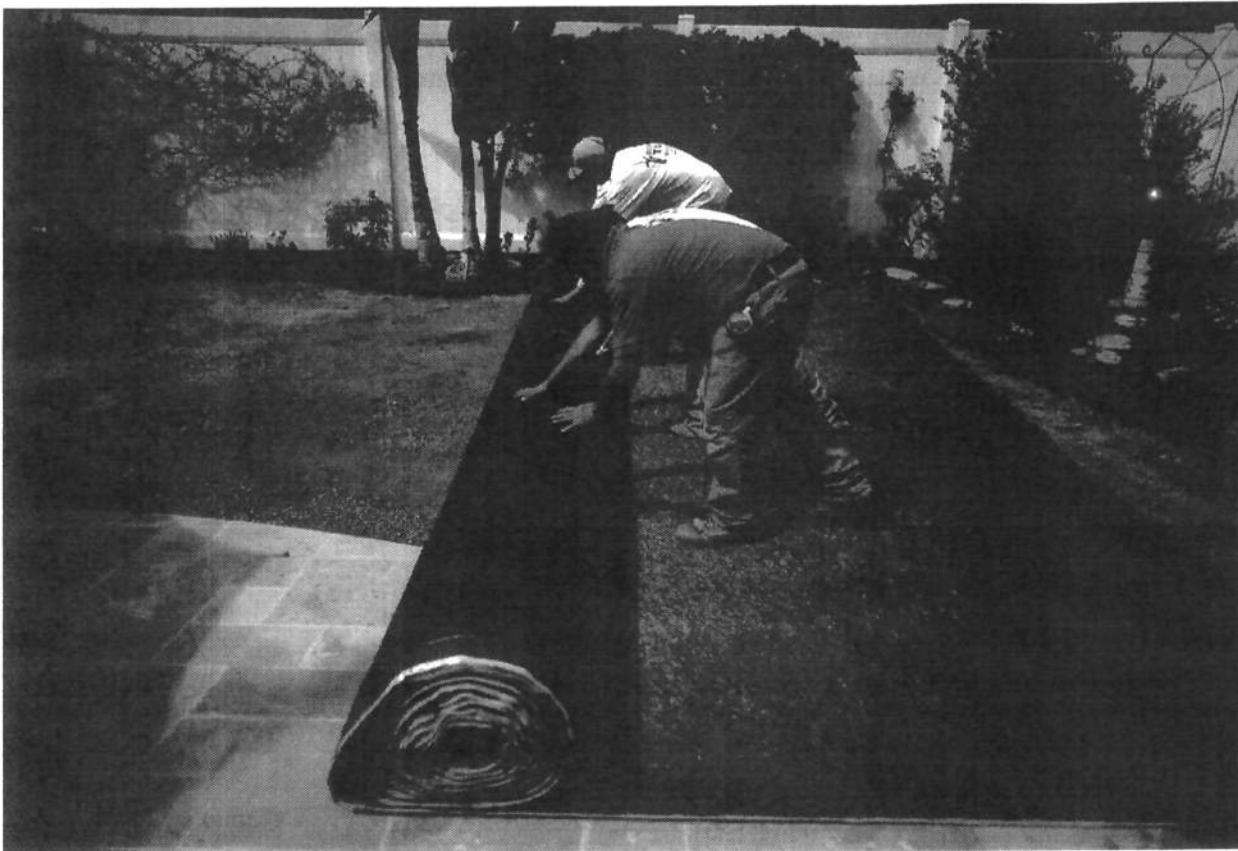
Synthetic turf is a man-made, non-living replacement of turfgrass that requires little water or maintenance. The grass blades are made of fibers such as nylon or plastic while the base is typically a crumb rubber made from used tires, plastic pellets or sand.

Synthetic grass usually contains PFAS chemicals. According to the Environmental Protection Agency, PFAS chemicals are a known carcinogen which can interfere with hormones, reproduction, immunity and cause developmental delays in children.

Adam Smith, an associate professor of environmental engineering at the University of Southern California, said although research is still being done to understand fully what the health implications of the chemical are, current research suggests that "PFAS is absolutely bad for human health."

"Certainly, in terms of the drought, (synthetic turf) seems great, but there's all of these downsides," Smith said.





Workers roll out artificial turf after digging up a lawn due to the drought, at a home in Laguna Niguel in 2015. Photo by Lucy Nicholson, Reuters

According to experts, these chemicals can enter the human body through contact with skin, by breathing the particles in or through water sources, especially groundwater sources, that can get contaminated during leaching.

Microplastics from the grass blades and crumb rubber can also leach into groundwater and freshwater bodies.

“These molecules are actually entering the food chains in the ocean, and they’re in our system, they’re in our blood, they’re in our muscles,” said Sylvia Earle, a marine life advocate and former chief scientist at the National Oceanic and Atmospheric Administration.

“We’ve changed the nature of nature through actions that we’ve taken. Now they are coming back to haunt us.”

### **At what temperatures is it a risk?**

Research by the National Toxicology Program shows that high heat can cause chemicals to leach out of the crumb rubber base of synthetic turf, which is made of recycled tires. These leached chemicals are known to cause cell death in humans.

Synthetic turf, like other artificial surfaces including asphalt and pavement, heats up by several degrees more than living lawns.

According to Kelly Turner, associate director of the UCLA Luskin Center for Innovation’s Heat Equity Initiative, the material can trap heat and radiate it back slowly, staying warm for longer periods of time.

“It is one of the hottest surface materials,” she said. “It is hotter than asphalt.”

Janet Hartin, horticulture expert at UC Extension in Los Angeles County, measured various types of surfaces in Palm Springs, where air temperatures around 100°F are common during the summer.

On days around 100°F or more, she reported temperatures of synthetic turf and other artificial substances around 175°F.

### Alternative approaches

Hartin said the best alternative to any artificial surfaces are living plants.

“We want to increase the population of our habitat pollinators, and plant climate-resilient plants that provide shade, buffer sun exposure, provide windbreaks, help reduce stormwater runoff and reduce soil and water erosion. And you can’t do that with synthetic grass,” she said.

There are several drought-friendly approaches to landscaping, including warm-season grasses such as Bermuda grass and Buffalo grass, or doing away with grass altogether and planting trees or drought-resilient varieties of plants that are endemic to California.

Hartin said that even though plants require water and maintenance, their cooling benefits and ecosystem benefits go far beyond the water savings one could get through synthetic turf.

“You have choices,” she said. “What we plant today is going to maximize society and urban ecosystem benefits by the time that you’re in your later years.”

*Supported by the California Health Care Foundation (CHCF), which works to ensure that people have access to the care they need, when they need it, at a price they can afford. Visit [www.chcf.org](http://www.chcf.org) to learn more.*

#### MORE ON FOREVER CHEMICALS

### Forever chemicals: California unveils health goals for contaminated drinking water

It's California's first big step toward regulating “forever chemicals,” which are ubiquitous in California and around the globe. The proposed goals — which aim to make the cancer risk negligible — are many times lower than federal guidelines for drinking water.



by Rachel Becker JULY 21, 2021

### Well water throughout California contaminated with ‘forever chemicals’

They’re everywhere. They last forever. They’re dangerous. They’re expensive to remove. And many Californians don’t even know they’re drinking them.



by Rachel Becker NOVEMBER 19, 2020

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## Health harms associated with long-chain and short-chain PFAS commonly detected in drinking water and used in consumer or industrial products

Chemical	Harm to the immune system	Harm to development and reproduction	Harm to the endocrine system	Metabolic changes	Changes in the liver	Increased risk of cancer
	Weaker immune response; lower antibody production in response to vaccination; increased allergic response; increased risk of asthma; changes in spleen and thymus	Reduced birth weight; pregnancy-induced hypertension; preeclampsia; reduced fertility; reduced duration of breastfeeding; altered mammary gland development; harm to the male reproductive system	Changes in hormone levels, including thyroid and reproductive hormones; thyroid disease; hormone receptor activation	Increased cholesterol and lipids; weight gain; diabetes	Increased liver weight; changes in liver enzymes	Increased risk of testicular, kidney or breast cancer; increased tumors in laboratory animals; evidence of one or more of the key characteristics of carcinogens

### Long-chain PFAS

PFOA <sup>#</sup>	■	■	■	■	■	■
PFOS <sup>#</sup>	■	■	■	■	■	■
PFNA <sup>#</sup>	■	■	■	■	■	●
PFHxS <sup>#</sup>	■	■	■	●	■	●
PFDA <sup>#</sup>	■	■	■	■	■	●
PFDoA <sup>#</sup>	●	●	●	▲	■	●
PFUA <sup>#</sup>	●	■	●	▲	■	●

# 3



Chemical	Harm to the immune system	Harm to development and reproduction	Harm to the endocrine system	Metabolic changes	Changes in the liver	Increased risk of cancer
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Short-chain PFAS

GenX*	■	■	■	▲	■	■
PFHxA**	■	■	■	▲	■	●
PFBS**	●	■	■	●	■	●
PFBA**	●	■	●	▲	■	●
PFHpA#	▲	▲	●	▲	■	●
6:2 FTOH	■	●	●	▲	▲	●
6:2 FTSA*	▲	▲	▲	●	■	▲
PFPeA**	▲	▲	▲	▲	▲	●
PFPeS*	▲	▲	▲	▲	▲	●

Sources: The Agency for Toxic Substances and Disease Registry; the National Toxicology Program; Environmental Protection Toxicity Assessments for PFBS and GenX; and other sources from the peer-reviewed scientific literature.

\* PFAS chemicals **detected by EWG** in U.S. public drinking water supplies.

# PFAS included in ATSDR toxicological profile.

KEY

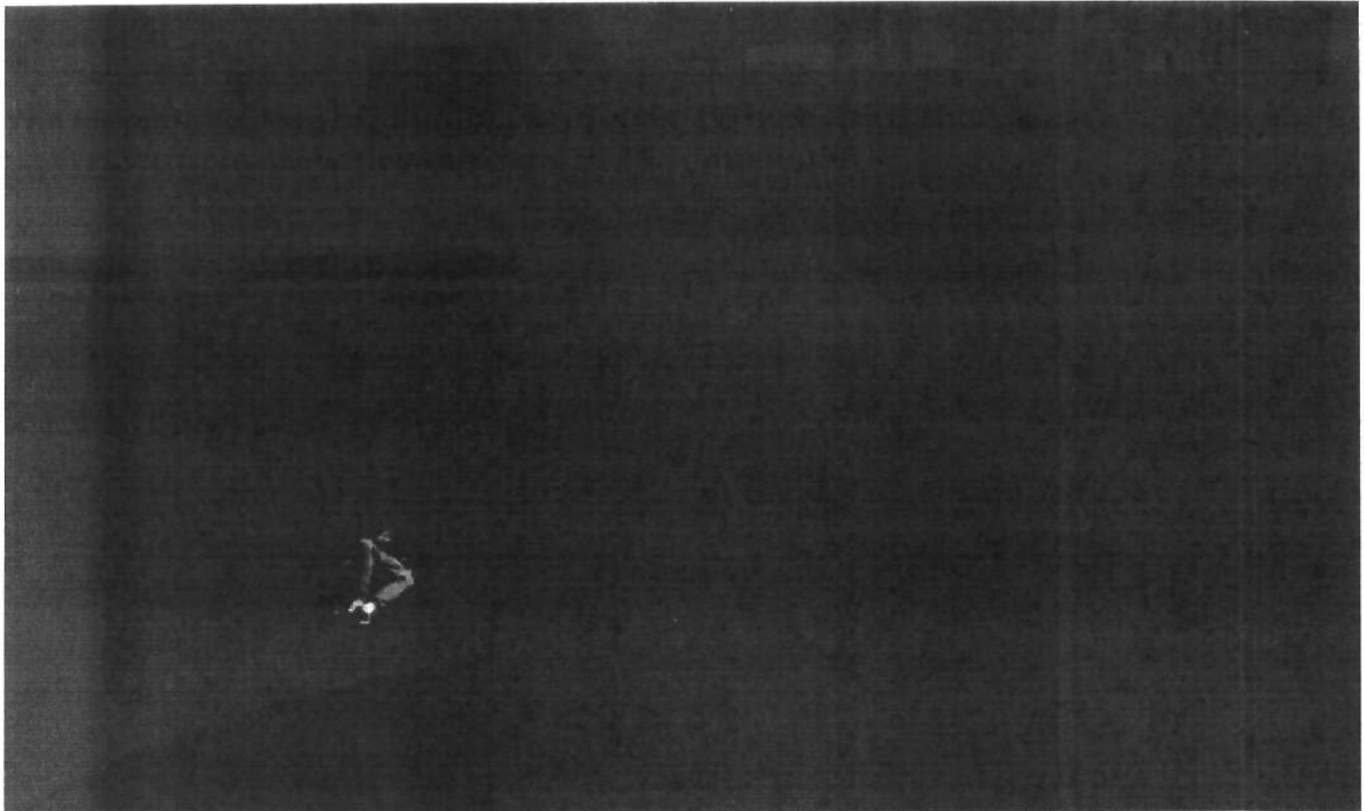
- Strong evidence of health effects documented in people or in laboratory animal studies.
- Moderate evidence of health effects documented in people or in laboratory animal studies.
- ▲ Not studied or no reported association in available studies.

## PFAS

● This article is more than 1 year old

# Boston bans artificial turf in parks due to toxic 'forever chemicals'

**The city joins a growing number across the US in limiting the use of artificial turf made with dangerous PFAS compounds**



📷 Until recently, artificial turf was made with ground-up tires. Photograph: Justin Lane/EPA

## Tom Perkins

Fri 30 Sep 2022 06:00 EDT

Boston's mayor, Michelle Wu, has ordered no new artificial turf to be installed in city parks, making Boston the largest municipality in a small but growing number around the nation to limit use of the product because it contains dangerous chemicals.

All artificial turf is made with toxic PFAS compounds and some is still produced with ground-up tires that can contain heavy metals, benzene, VOCs and other carcinogens that can present a health threat. The material also emits high levels of methane, a potent greenhouse gas, and sheds microplastics and other chemicals into waterways.

“We already know there are toxic chemicals in the products, so why would we continue to utilize them and have children roll around on them when we have a safe alternative, which is natural grass?” asked Sarah Evans, an environmental health professor for the Icahn School of Medicine at Mount Sinai.

Beyond chemical risks, the fields can act as heat islands that increase playing field temperatures to as much as 93C (200F), Evans noted. National Football League players are pressuring the league to ban artificial turf because of injuries, while the US national soccer teams will only play on natural grass for the same reason.

The federal government estimates 12,000 synthetic turf fields exist in the US, and at least 1,200 more are installed annually. Proponents say they are easier to maintain than grass fields and are not prone to “flooding”, though they do also require significant maintenance. The product is also increasingly used on playgrounds or as alternatives to lawns in drought-plagued regions.

But in recent years, municipalities have begun limiting their use via bans or moratoriums, including at least four in Massachusetts before Boston, two in California’s Bay Area and several in Connecticut.

In a statement to the Guardian, a spokesperson for Wu said: “The city has a preference for grass playing surfaces wherever possible and will not be installing playing surfaces with PFAS chemicals moving forward.”

Elsewhere, battles over proposed artificial fields are playing out. In Martha’s Vineyard, the school district is suing the city for prohibiting an artificial field from being installed because of concerns that it would contaminate an aquifer from which the town draws its drinking water. Meanwhile, voters in Malden, just north of Boston, may settle a heated debate over a proposed artificial field.

In Portsmouth, New Hampshire, city officials thought they had ordered a PFAS-free artificial turf field, but later testing revealed that it contained high levels of the chemicals. A state-level proposal to ban artificial turf recently failed in Massachusetts, and public health advocates and legislators in another state are planning to propose a ban on the material, though they declined to say on the record which state until the proposal is introduced.



Artificial turf is made with several layers including plastic grass blades, plastic backing that holds the blades in place and infill that weighs down the turf and helps blades stand upright. Until recently, infill was always made with recycled rubber tires called crumb rubber. However, independent and Environmental Protection Agency testing found the material contains high levels of dangerous chemicals.

“It seems kind of nonsensical to put ground-up tires in a field where children are playing,” said Kyla Bennett, a former EPA official and director of science policy at Public Employees for Environmental Responsibility (Peer).

Some companies have begun using cork as infill, but industry has said the grass blades and backing cannot be made without PFAS.

PFAS, or per- and polyfluoroalkyl substances, are a class of about 12,000 chemicals often used to make products resist water, stain and heat. They are called “forever chemicals” because they don’t naturally break down, and are linked to cancer, liver problems, thyroid issues, birth defects, kidney disease, decreased immunity and other serious health problems.

PFAS can be absorbed through the skin, inhaled, ingested or get in open wounds as they break off from the plastic blades, and children are considered more vulnerable to exposure because they are smaller and their bodies are still developing.

Some manufacturers have claimed the amount of PFAS used in artificial turf isn’t high enough to be dangerous, or that they use “safe” PFAS. “Independent research has shown time and time again that synthetic turf systems provide many community benefits and continue to meet and exceed regulatory standards for human health, safety and performance,” the Synthetic Turf Council, an industry trade group, said in a statement to the Guardian.

But no studies have been completed on how PFAS or other chemicals move from artificial turf to children, so the industry doesn’t know if it’s safe, Evans said. Moreover, the fields are another of myriad potential daily exposures to PFAS in consumer products, food and water, Evans said.

Public health advocates note all PFAS studied have been found to accumulate in the environment and be toxic to humans, and, once in the environment, “safe” compounds used in manufacturing break down into unsafe chemicals.

Testing of multiple artificial fields has found the presence of highly toxic PFAS compounds like 6:2 FTOH and PFOS. The EPA recently revised its health advisory for PFOS to state that effectively no level of exposure in drinking water is safe.

“It’s only a matter of time before [artificial turf] is banned,” Bennett said. “In a few years we’re going to be asking, ‘How on Earth did we ever allow this to happen?’”

# SINGLE-FAMILY RESIDENTIAL SEASONAL EXCESSIVE USE SURCHARGE

## RESOURCE AND FISCAL IMPLICATIONS

Produced by Enterprise Conservation

## Background

Early in 2021, the Executive Team requested development of a suite of potential Drought Response Measures with the potential to appreciably reduce consumptive water use

Among the measures developed was a tier adjustment that would impact only high-use single-family residential customers as, beyond a relatively modest volume for indoor uses, all additional usage is consumptive

After exploring rate alternatives used around the country, Enterprise Conservation staff developed a novel structure that combines a seasonal water rate with a surcharge for high use, effectively creating a “moving super-tier”

This Seasonal Excessive Use Surcharge is designed to impact only the top decile of single-family residential customers, who depending upon the month use between two and four times as much water as the median customer

## Key Elements and Considerations

Water use within single-family residential sector is unevenly distributed, with the top decile using significantly more water than the median customer and vastly more than water-efficient customers

Traditional seasonal water rates would not be effective in Southern Nevada because they are designed to mitigate peak summer usage; conversely, the greatest savings opportunities in the LVVWD service area exist during fall and winter

The excessive use surcharge would be aligned with the seasonal watering restrictions, and are designed to focus on the top decile of single-family residential customers whose usage is inordinately high and linked to outdoor usage

Customer surveys have revealed overwhelming public support for such a surcharge

## SFR Seasonal Excessive Use Surcharge Entry Usage Threshold by Season

For simplicity and because monthly usage is similar within seasons, the surcharge threshold is synchronized with the mandatory watering schedule

Season	Dates Applied	EUS Threshold (KGAL)	EUS Threshold ADU (GAL)	% of Bills Impacted by EUS
Winter	Nov. 1 - Feb. 28	14	467	12%
Spring	Mar. 1 - Apr. 30	16	533	9%
Summer	May. 1 - Aug. 31	28	933	9%
Fall	Sep. 1 - Oct. 31	26	867	10%

All Bills: 10%

## SFR Seasonal Excessive Use Surcharge Usage/Revenue Impact Details by Decile

By design, impacts are almost exclusively confined to the highest water users

SFR Decile	Total Bill Segments	Bills Impacted		Initial Prorated Usg (KGAL)		Change in Demand (KGAL)			Change in Bill	
	Frequency	Frequency	%	Sum	Average	Sum	Average	%	Sum	Average
1	435,176	4,446	0.0%	502,411	1.15	-650	0.00	-0.1%	\$1,781.94	\$0.00
2	439,739	5,649	0.0%	1,129,344	2.57	-1,570	0.00	-0.1%	\$5,636.28	\$0.01
3	451,236	4,258	0.0%	1,688,430	3.74	-2,099	0.00	-0.1%	\$10,087.89	\$0.02
4	426,169	3,997	0.0%	2,072,762	4.86	-2,369	-0.01	-0.1%	\$12,107.45	\$0.03
5	430,111	5,788	0.0%	2,617,116	6.08	-4,172	-0.01	-0.2%	\$19,769.82	\$0.05
6	458,591	3,734	0.0%	3,413,278	7.44	-3,160	-0.01	-0.1%	\$14,013.22	\$0.03
7	427,930	5,350	0.0%	3,924,841	9.17	-5,863	-0.01	-0.1%	\$26,912.53	\$0.06
8	429,532	8,293	1.9%	4,976,423	11.59	-10,604	-0.02	-0.2%	\$48,536.53	\$0.11
9	445,404	122,044	27.4%	7,117,147	15.98	-162,184	-0.37	-2.3%	\$325,705.16	\$0.73
10	436,875	288,839	66.1%	15,616,180	35.75	-2,214,178	-5.07	-14.2%	\$17,715,662.26	\$40.55
Total	4,380,763	452,398	10.3%	43,057,932	9.83	-2,406,848	-0.55	-5.6%	\$18,180,213.08	\$4.15



## Pros and Cons

### **Pros:**

- Projected annual water savings (LVVWD only) – 2.4 billion gallons (~7,500 acre-feet)
- Projected revenue impacts -- \$18.2 million increase
- Strong public support as a conservation measure

### **Cons:**

- Public/political pushback from impacted customers

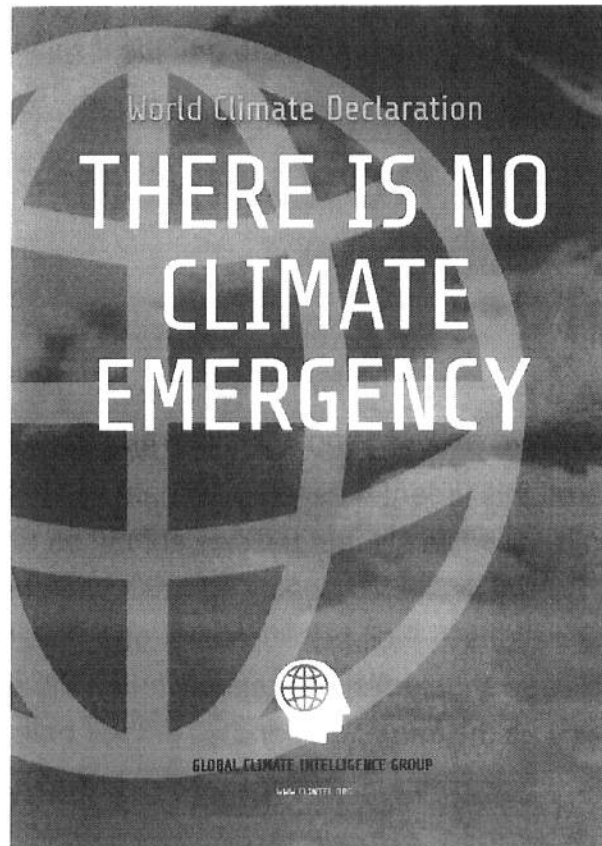




## NO CLIMATE EMERGENCY

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World Climate Declaration plus all signatories in pdf

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*Climate science should be less political, while climate policies should be more scientific. In particular, scientists should emphasize that their modeling output is not the result of magic: computer models are human-made. What comes out is fully dependent on what theoreticians and programmers have put in: hypotheses, assumptions,*

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*relationships, parameterizations, stability constraints, etc. Unfortunately, in mainstream climate science most of this input is undeclared.*

*To believe the outcome of a climate model is to believe what the model makers have put in. This is precisely the problem of today's climate discussion to which climate models are central. Climate science has degenerated into a discussion based on beliefs, not on sound self-critical science. We should free ourselves from the naïve belief in immature climate models. In future, climate research must give significantly more emphasis to empirical science.*

# There is no climate emergency

A global network of over 1800 scientists and professionals has prepared this urgent message. Climate science should be less political, while climate policies should be more scientific. Scientists should openly address uncertainties and exaggerations in their predictions of global warming, while politicians should dispassionately count the real costs as well as the imagined benefits of their policy measures.

## **Natural as well as anthropogenic factors cause warming**

The geological archive reveals that Earth's climate has varied as long as the planet has existed, with natural cold and warm phases. The Little Ice Age ended as recently as 1850. Therefore, it is no surprise that we now are experiencing a period of warming.

## **Warming is far slower than predicted**

The world has warmed significantly less than predicted by IPCC on the basis of modeled anthropogenic forcing. The

gap between the real world and the modeled world tells us that we are far from understanding climate change.

### **Climate policy relies on inadequate models**

Climate models have many shortcomings and are not remotely plausible as global policy tools. They blow up the effect of greenhouse gases such as CO<sub>2</sub>. In addition, they ignore the fact that enriching the atmosphere with CO<sub>2</sub> is beneficial.

### **CO<sub>2</sub> is plant food, the basis of all life on Earth**

CO<sub>2</sub> is not a pollutant. It is essential to all life on Earth. Photosynthesis is a blessing. More CO<sub>2</sub> is beneficial for nature, greening the Earth: additional CO<sub>2</sub> in the air has promoted growth in global plant biomass. It is also good for agriculture, increasing the yields of crops worldwide.

### **Global warming has not increased natural disasters**

There is no statistical evidence that global warming is intensifying hurricanes, floods, droughts and suchlike natural disasters, or making them more frequent. However, there is ample evidence that CO<sub>2</sub>-mitigation measures are as damaging as they are costly.

### **Climate policy must respect scientific and economic realities**

There is no climate emergency. Therefore, there is no cause for panic and alarm. We strongly oppose the harmful and unrealistic net-zero CO<sub>2</sub> policy proposed for 2050. If better approaches emerge, and they certainly will, we have ample time to reflect and re-adapt. The aim of global policy should be 'prosperity for all' by providing reliable and affordable energy at all times. In a prosperous society men and women are well educated, birthrates are low and people care about their environment.

### **Epilogue**

The World Climate Declaration (WCD) has brought a large variety of competent scientists together from all over the world\*. The considerable knowledge and experience of this group is indispensable in reaching a balanced, dispassionate and competent view of climate change.

From now onward the group is going to function as "Global Climate Intelligence Group". The CLINTEL Group will give solicited and unsolicited advice on climate change and energy transition to governments and companies worldwide.

*\* It is not the number of experts but the quality of arguments that counts*

World Climate Declaration plus all signatories in pdf

## World Climate Declaration AMBASSADORS

NOBEL LAUREATE PROFESSOR JOHN F. CLAUSER / USA  
NOBEL LAUREATE PROFESSOR IVAR GIAEVER NORWAY/USA  
PROFESSOR GUUS BERKHOUT / THE NETHERLANDS  
DR. CORNELIS LE PAIR / THE NETHERLANDS  
PROFESSOR REYNALD DU BERGER / FRENCH SPEAKING CANADA  
BARRY BRILL / NEW ZEALAND  
VIV FORBES / AUSTRALIA  
DR. PATRICK MOORE / ENGLISH SPEAKING CANADA  
JENS MORTON HANSEN / DENMARK  
PROFESSOR LÁSZLÓ SZARKA / HUNGARY  
PROFESSOR SEOK SOON PARK / SOUTH KOREA  
PROFESSOR JAN-ERIK SOLHEIM / NORWAY  
STAVROS ALEXANDRIS / GREECE  
FERDINAND MEEUS / DUTCH SPEAKING BELGIUM  
PROFESSOR RICHARD LINDZEN / USA  
HENRI A. MASSON / FRENCH SPEAKING BELGIUM  
PROFESSOR INGEMAR NORDIN / SWEDEN  
JIM O'BRIEN / REPUBLIC OF IRELAND  
PROFESSOR IAN PLIMER / AUSTRALIA  
DOUGLAS POLLOCK / CHILE  
DR. BLANCA PARGA LANDA / SPAIN  
PROFESSOR ALBERTO PRESTININZI / ITALY  
PROFESSOR BENOÎT RITTAUD / FRANCE  
DR. THIAGO MAIA / BRAZIL  
PROFESSOR FRITZ VAHRENHOLT / GERMANY

#4

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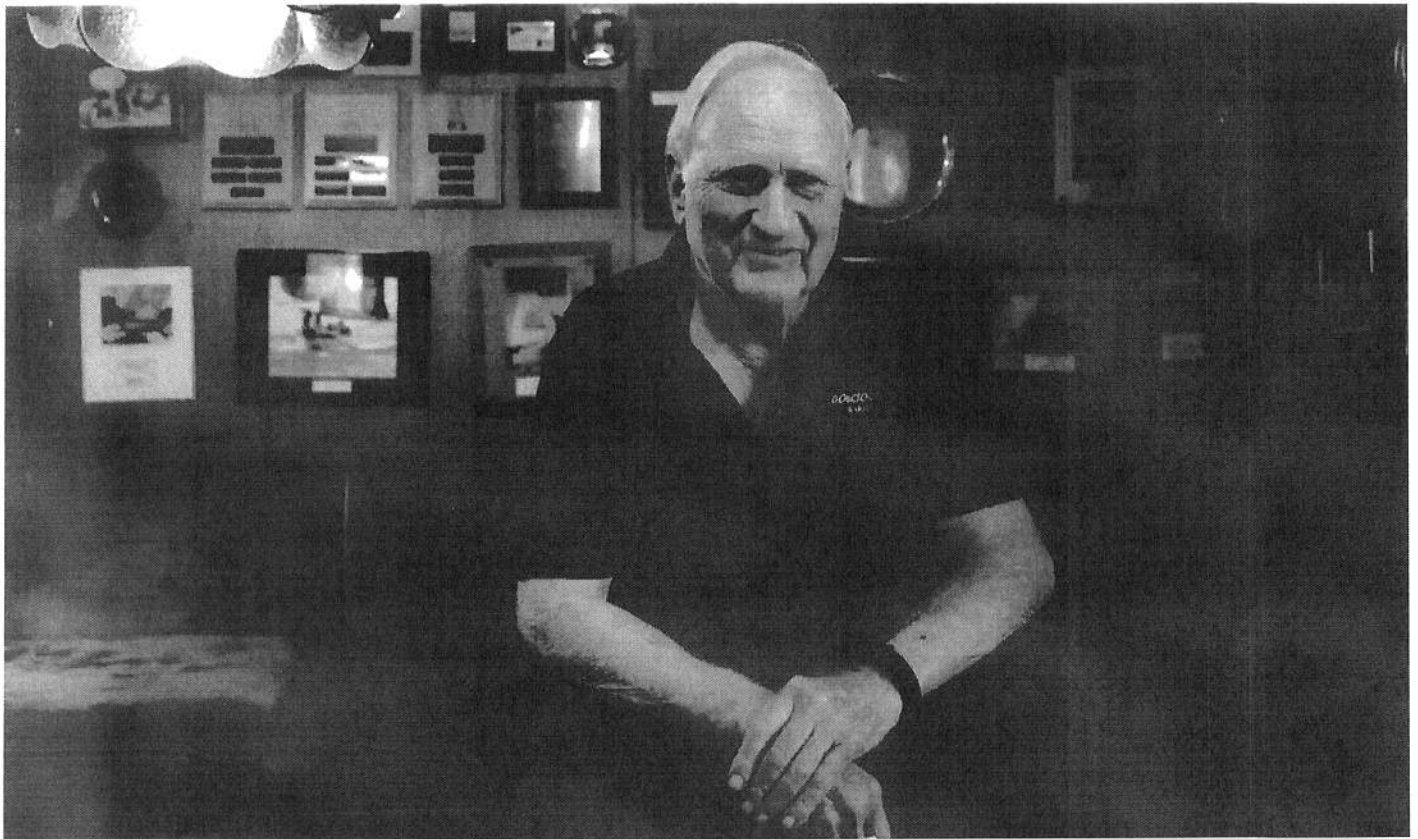




US &gt; US NEWS

# Nobel Winner Refutes Climate Change Narrative, Points Out Ignored Factor

Nobel Prize laureate John Clauser has challenged prevailing climate models, which he says have ignored a key variable.



Research physicist John F. Clauser poses for a photo at his home in Walnut Creek, Calif., on Oct. 4, 2022. (Justin Sullivan/Getty Images)



By [Jan Jekielek](#) and [Mimi Nguyen Ly](#)

**A** Print

9/9/2023 Updated: 9/13/2023

Nobel Prize laureate John Clauser has recently been in the spotlight for challenging prevailing climate models, which he said have ignored a key variable.

Mr. Clauser, who was a recipient of the 2022 Nobel Prize in Physics for his contributions to quantum mechanics, holds degrees from Caltech and Columbia University. He has served in roles at Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory, and the University of California–Berkeley. In 2010, he was honored with a portion of the Wolf Prize in Physics.

Recently, Mr. Clauser joined another Nobel laureate and more than 1,600 professionals in signing the World Climate Declaration (WCD) organized by Climate Intelligence. This declaration asserts that there's no "climate emergency," that climate change science isn't conclusive, and that the Earth's history over thousands of years shows a consistently changing climate.

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The WCD highlights the limitations of current climate models, stating that they overemphasize the effects of greenhouse gases such as carbon dioxide (CO<sub>2</sub>).

"In addition, [climate models] ignore the fact that enriching the atmosphere with CO<sub>2</sub> is beneficial," the WCD reads.

The declaration further notes that both natural and human activities contribute to climate change and that the actual warming observed is less than as predicted by the climate models, revealing our incomplete understanding of climate change.

#4

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Study Finds Sun—Not CO<sub>2</sub>—May Be Behind Global Warming

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In an interview with The Epoch Times' "American Thought Leaders," Mr. Clauser voiced his reservations about current climate research quality and contended that U.S. climate policies are misguided.

## Clouds

Prominent climate reports, such as those by the Intergovernmental Panel on Climate Change (IPCC), National Academy of Sciences, and The Royal Society, emphasize the role of CO<sub>2</sub> but miss the mark on the critical role of clouds in the climate system, according to Mr. Clauser.

His curiosity about clouds began when he was a sailboat racer.

Mr. Clauser said: "I raced across the Pacific Ocean at least a dozen times. I had set up the boat with solar panels to charge the batteries. ... I had an ammeter on the power output from the solar panels, and I noticed every time we sailed under a cloud, the output from the solar panels dropped by 50 percent to half of its value that it was, and then we came out from behind the cloud and boom, their power went back up. And I thought, 'I wonder why it's just about a factor of two.'

# It's No Longer Global Warming—UN Chief Says It's the 'Era of Global Boiling': Gregory Wrightstone



[CLIP] Nobel Laureate John Clauser: Climate Models...

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"This is how I became very curious as to how clouds work. When the climate issues came along, I very quickly realized that cloud cover has a profound effect on the earth's heat input that the clouds are reflecting a massive amount of light back out into space.

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"And so I read all of the various IPCC reports, National Academy reports on this. As a physicist, I'd worked at some excellent institutions—Caltech, Columbia, Cal Berkeley—where very careful science needed to be done. And reading these reports, I was appalled at how sloppy the work was. And in particular, it was very obvious, even in the earliest reports, and all carried on through to the present, that clouds were not at all understood. ... It's just simply bad science."

Mr. Clauser highlighted insights from former President Barack Obama's science adviser, Steve Koonin. In Mr. Koonin's book, "Unsettled: What Climate Science Tells Us, What It Doesn't, and Why It Matters," the author noted the inconsistency of the IPCC's 40 computer models, emphasizing their inability to explain the past century's climate and suggesting that these models lack a crucial piece of physics.



Clouds pictured in Guna Yala Comarca, Panama, near the island of Carti Sugtupu in the Caribbean Sea, on Aug. 28, 2023. (Luis Acosta/AFP via Getty Images)

## 'The Missing Piece'

"I believe I have the missing piece of the puzzle that has been left out in virtually all of these computer programs," Mr. Clauser said. "And that is the effect of clouds."

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Many theories of anthropogenic climate change naturally focus on the effects of human-produced CO<sub>2</sub>, but he said these models overlook the significance of cloud dynamics.

Mr. Clauser referenced the 2003 National Academy report, which he said "totally admitted" its lack of understanding about clouds and made "a whole series of mistaken statements regarding the effects of clouds."

Referring to former Vice President Al Gore's film, "An Inconvenient Truth," Mr. Clauser said, "[Mr. Gore] insists on talking about a cloud-free Earth." According to Mr. Clauser, this cloudless portrayal of the earth reflects the approach taken by many in the climate science community.

"That's a totally artificial Earth," he said. "It is a totally artificial case for using a model, and this is pretty much what the IPCC and others use—a cloud-free Earth."

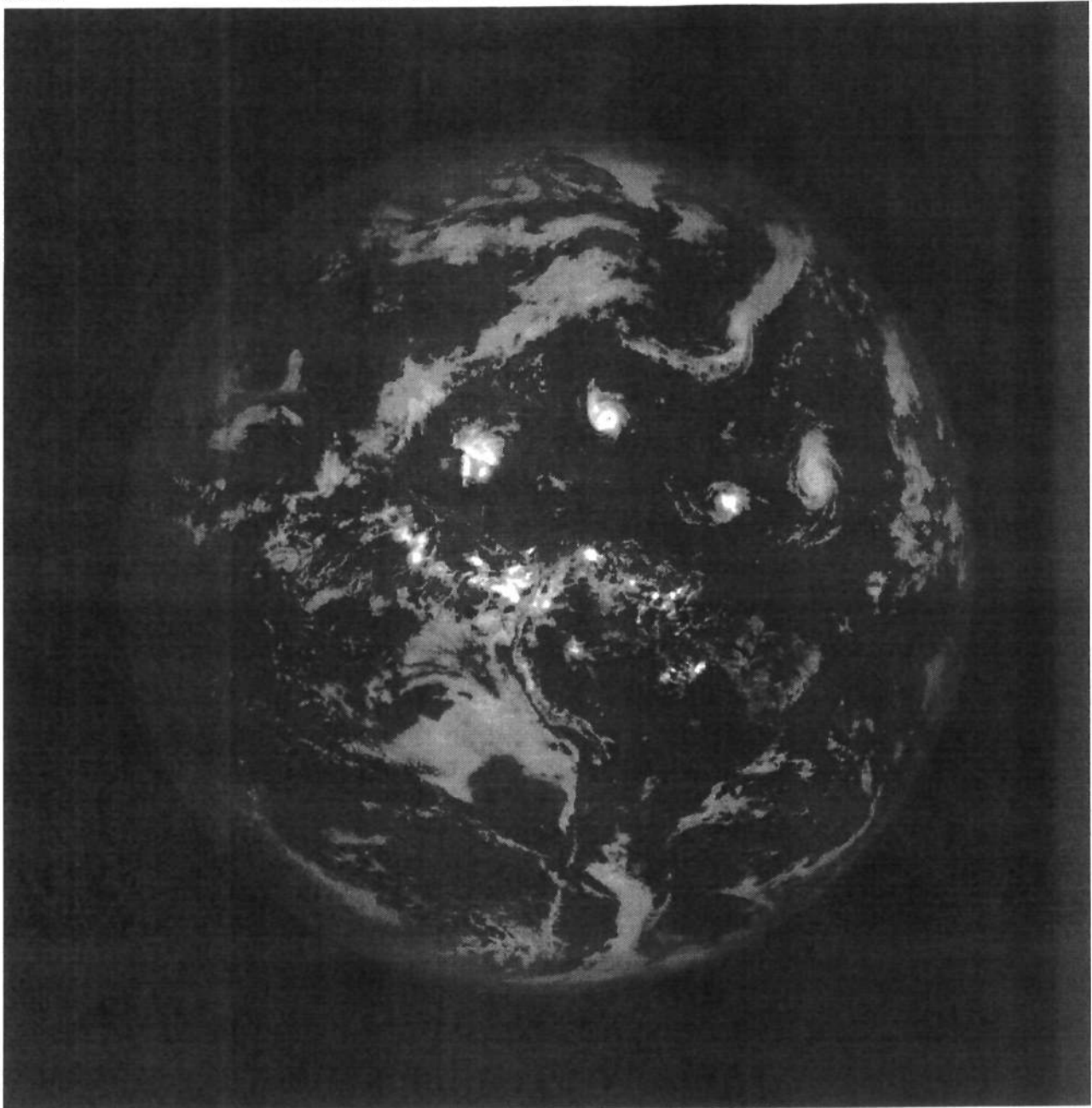
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Mr. Clauser pointed out that satellite images consistently show wide variances in cloud cover, which can span anywhere from 5 to 95 percent of the Earth's surface.

"The cloud cover fraction fluctuates quite dramatically on daily weekly timescales. We call this weather. You can't have weather without having clouds," he said.





A photo of planet Earth from NASA's Earth Polychromatic Imaging Camera on the DSCOVR satellite on Sept. 11, 2018. (NASA Earth Observatory)

## Effect of Clouds Compared With CO<sub>2</sub>

Clouds play a significant role in regulating the Earth's temperature, serving as a "cloud-sunlight-reflectivity thermostat" that "controls the climate, controls the temperature of the Earth, and stabilizes it very powerfully and very dramatically," according to Mr. Clauser.

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Because they make up two-thirds of the Earth's surface, oceans are instrumental in cloud formation, he said.

Minimal clouds result in heightened sunlight exposure to the ocean, triggering increased evaporation and subsequent cloud formation, resulting in more clouds. Abundant clouds reduce this sunlight, thus curbing evaporation rates and cloud formation, resulting in fewer clouds, according to Mr. Clauser.

This balance acts like a natural thermostat for the earth's temperature, he said.

Mr. Clauser contends that this "thermostat" mechanism has a vastly greater influence on Earth's temperature than the effect of CO<sub>2</sub> or methane. He presented to The Epoch Times preliminary calculations that suggest that the effect of this cloud-reflectivity mechanism might overshadow CO<sub>2</sub>'s influence by 100 or even 200 times.

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All clouds, irrespective of their altitude or type, appear bright white when viewed from the direction of the sun, according to Mr. Clauser. They usually reflect almost 90 percent of incoming sunlight, he said. The reflectivity fraction is referred to as albedo. The albedo has been inaccurately kept constant in various climate models, according to Mr. Clauser.

He said he finds it baffling that these significant variations, ranging from 5 to 95 percent cloud cover, have been overlooked.

Mr. Clauser also said clouds are integral to weather dynamics, yet current climate models, whose authors "admit up front that their models cannot predict weather," have been wielded to foretell drastic climatic shifts, including "climate crisis apocalypse."

The term "climate" refers to weather condition averages over the long term, usually at least 30 years. While reliable weather forecasts are limited to about a week with standard weather prediction models, which take into account the role of clouds, Mr. Clauser pointed out a contradiction noted in Mr. Koonin's book: Just a 5 percent rise in cloud cover can largely counterbalance the temperature effect of doubling atmospheric CO<sub>2</sub>. Despite such nuances, the IPCC's models persistently assume constant albedo and ignore the vast cloud cover variations, according to Mr. Clauser.

## 'Very Dishonest Disinformation'

Mr. Clauser observed that the drive to address human-induced climate change is increasingly shaping political agendas and influencing the strategic direction of entire nations.

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#4

"The whole world is doing all of this. A lot of the pressure is actually coming from Europe, all of these various world conferences," he said, speculating that much of this push might have its roots in Mr. Gore's "An Inconvenient Truth," which he feels has incorporated inaccurate science.

Mr. Gore's film claims that humanity is triggering a dire climate crisis that necessitates global action. But Mr. Clauser said that "'climate change' is actually very dishonest disinformation that has been presented by various politicians."

He pinpointed a 2013 Physics Today [article \(pdf\)](#) by Jane Lubchenco and Thomas Karl as pivotal in shaping the narrative, especially during the period when "global warming" was being rebranded as "climate change."

"The reason that was given was, 'Well, because it's really more than just warming,'" he said. The article champions a "U.S. Climate Extremes Index," claiming that anthropogenic climate change led to a significant increase in extreme weather events over the three decades ending in 2012.

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The index is supposedly backed by a century's worth of data from the National Oceanographic and Atmospheric Association (NOAA) and is said to combine various metrics, including floods, hurricanes, and droughts.

Curiously, Mr. Clauser noted, the index leaves out the frequency of EF3-plus tornadoes—perhaps because, as highlighted by Mr. Koonin in his book, those were on a noticeable decline.

"This, in my opinion, is a rather egregious breach of honesty by the U.S. government by NOAA," Mr. Clauser said.

He used data from the article and plotted it chronologically and also in reverse. He observed that the two plots were virtually indistinguishable, challenging the assertion of an obvious rise in the index.

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"Are you really willing to bet trillions of dollars that you know which [plot] is right? ... Is it really increasing? It is clearly not," Mr. Clauser said.

"Not only, as I understand it, are these extreme weather events not increasing, but our ability to mitigate them has increased. So they're just not as much of an issue.

44

"This worry about CO2, the worry about methane, the worry about global warming, is all a total fabrication by shock journalists and/or dishonest politicians."

He said he even agrees with the CO2 Coalition, which argues that CO2 is a beneficial gas.

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"Historically, for example, when dinosaurs roamed the earth, the CO2 levels were 10 times bigger than what we are experiencing right now," Mr. Clauser said. "Dinosaurs couldn't have survived on this earth with this low CO2 level [today], because you don't grow trees fast enough and foliage fast enough to feed them."

"Promoting CO2 as being actually a beneficial gas, as far as I can tell, there's nothing wrong with [that]. And in particular, as I have just mentioned earlier, it is not at all significant in controlling the earth's climate."

He criticized U.S. government efforts to reduce CO2 and methane as a colossal misuse of resources better allocated for humanitarian endeavors. Such initiatives "should be stopped immediately," he said.

"[It's] a total waste of money and time and effort. It is strangling industry," Mr. Clauser said.

But he said he isn't holding his breath.

"My suspicion is what I am saying here will be totally ignored because people don't like being told that they've made big mistakes of this magnitude," Mr. Clauser said.

**Jan Jekielek**

Author (Senior Editor)

Jan Jekielek is a senior editor with The Epoch Times and host of the show "American Thought Leaders." Jekielek's career has spanned academia, media, and international human rights work. In 2009, he joined The Epoch Times full time and has served in a variety of roles, including as website chief editor. He was an executive producer of the award-winning Holocaust documentary film "Finding Manny."

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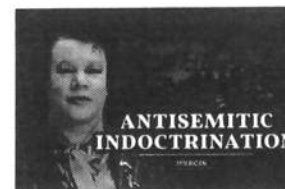
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#7

## SOUTHERN NEVADA GUIDE TO TREES



*Las Vegas, circa 1915*

# TREES

*for*

# TOMORROW



A new way of designing the home landscape has emerged in recent years — the Oasis concept (sometimes called the mini-oasis). Recognizing both scarce resources in the desert as well as the need for a pleasant home landscape, the Oasis concept draws on venerable traditions from ancient desert cultures and adapts them to today.

Oasis landscaping is based on a concept of zones, with the highest water-using plants including turf closest to the house, medium-use plants next, with the toughest and most water-efficient plants ringing the outside of the lot.

Turf takes up only 20-30% of the landscape, and is sited to be most visible and useful for the resident of the home. Areas such as courtyards, patios, entryways and atri-ums are planted with exotic and colorful plants that take more care, but are more pleasurable for being viewed close up. Deciduous trees are sited to

give shade in the summer and allow warming sun in the winter. Best locations are usually the southern and western edges of the lot. Large shrubs and trellis are located to deflect vicious spring and winter winds, making outdoor living more pleasant.

Water conservative and native plants are used to fill out the remainder of the yard. Surprisingly, many of the lowest water-use plants are lush appearing, and can give an almost tropical feeling to the yard. Low-water use areas can be left open, with natural dirt cover, or can be planted with efficient ground covers. Some people prefer to use a decorative layer of rock between their low-water plants.

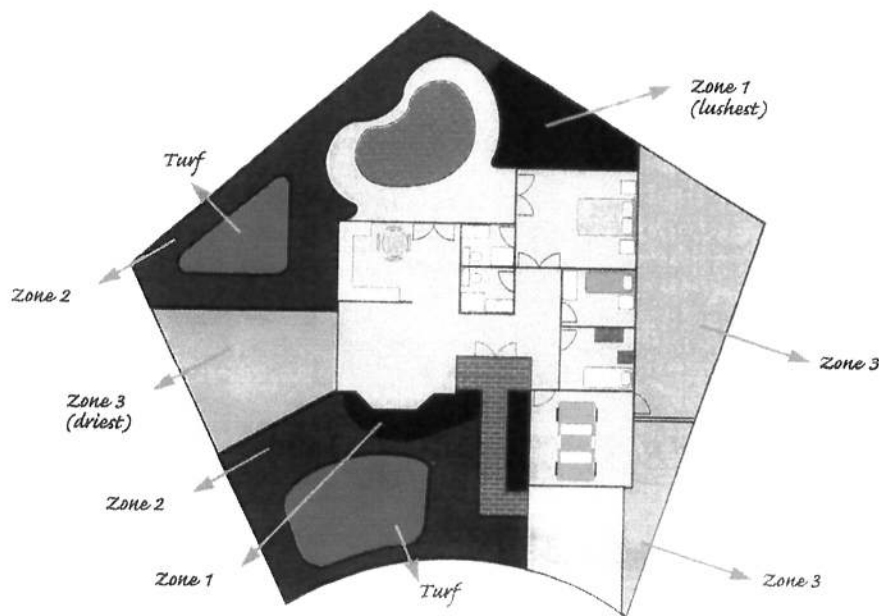
The goal of oasis landscaping is to give the most visual and environmental pleasure to the homeowner, using water wisely to create a living desert oasis and adding to the value of the home.



Las Vegas

# THE OASIS CONCEPT

# BUILD



The health of the tree or plant is overlooked when you have been asked, "What grows best in response to this soil?" The answer is, "The amendments I need for the best chance for the tree to live!"

Wherever you find that no appreciable life exists in your soil, a microorganism that lives in the soil. If you live in the desert, you have lots of sand, clay and caliche shelves. In both cases, adding organic matter is necessary to allow good soil does organic matter and beneficial insects.

#9

# SCHEDULE OF EXISTING CONTRACTS

Budget Year 2023-2024

Local Government: Southern Nevada Water Authority

Contact: E. Kevin Bethel

E-mail Address: kevin.bethel@lvwvd.com

Daytime Telephone: 702-822-8809

Total Number of Existing Contracts: 116

Vendor	Effective Date of Contract	Termination Date of Contract	Proposed Expenditure FY 2023-24	Proposed Expenditure FY 2024-25	Reason or need for contract:
AB Sciex LLC	03/11/19	03/10/26	\$ 500,000	\$ 500,000.00	Annual PM Services And Repairs
Ice Fire Systems, LLC	12/18/20	12/17/25	25,000	25,000	Annual Fire Extinguisher Inspections and Servicing
Agilent Technologies	04/01/19	03/31/26	239,547	263,502	Annual PM Services On Agilent Instruments
Alarmco	10/01/18	09/30/27	4,200	4,200	Alarm Monitoring Services - WSNA
Amzalone Pumps Inc.	04/12/18	04/11/25	250,000	250,000	Irrigation Well Maintenance
Amzalone Pumps Inc.	07/31/18	08/30/25	100,000	100,000	Well and Pump Systems Parts, Maintenance and Repairs
Arizona Machinery LLC	01/01/16	12/31/25	30,000	30,000	John Deere Repair Parts And Service For GB Ranches
Artel	04/01/20	03/31/27	10,000	10,000	Annual PM service agreement
ASM Affiliates Inc	01/05/21	01/04/24	74,543	-	Closeout Cultural Survey for the Las Vegas Wash
Association of Metropolitan Water Agencies	01/01/21	12/31/27	74,000	74,000	Administrative Support for WUCA Climate Change
B&W Trucking	01/01/16	12/31/25	24,000	24,000	Transportation Services For Livestock And Agricultural Products For Grm Ranches
Basin Engineering	04/29/19	04/28/27	25,000	25,000	Engineering and Geotechnical Services
Beckman Coulter Inc.	01/01/20	12/31/26	100,000	100,000	Annual PM Services
Bio-Rad Laboratories Inc.	05/01/19	04/30/26	100,000	100,000	Annual PM Services
Bio-West, Inc.	09/05/19	09/04/26	150,000	150,000	Professional Biological Services
Board of Regents Nevada System of Higher Education On Behalf of The					
Desert Research Institute	11/18/2021	11/17/2026	50,000	50,000	Spring Mountains Cloud Seeding
ESA Environmental Services	07/01/19	06/30/26	35,000	35,000	Zooplankton Analysis For Water Quality Div.
Capital Project Law Group	01/21/22	01/20/24	50,000	-	CMAR Projects Services
DM Smith	12/08/20	12/07/27	488,232	-	Evaluation of AMS/RM ozone treatment systems
Community Based Outreach Services	7/1/2024	06/30/27	40,500	40,500	Community Based Outreach Services

Corporate Air Mechanical Services Inc	10/07/19	02/06/24	50,090	50,090	50,090	HVAC Replacement Services
osco Fire Protection Inc	08/13/18	08/12/25	25,000	25,000	25,000	Fire System Upgrades
osco Fire Protection Inc	12/03/18	12/02/25	100,000	100,000	100,000	Fire System Repairs
JP Video Productions LLC	04/10/18	04/09/24	17,750	17,750	17,750	Develop, Manage & Maintain A Website
yno Plumbing	11/14/18	11/13/25	25,000	25,000	25,000	On-Call Plumbing Services SNWA
MD Consulting Group, LLC	02/21/19	02/20/24	25,000	25,000	25,000	Executive Search
inpark Cleaning Services	09/18/18	09/17/24	25,000	25,000	10,000	Carpet Cleaning Services
urofins NDSC Environment Testing						
mericas, Inc.	11/1/2021	10/31/2022	500,000	500,000	500,000	Water Sample Analysis Services
airchild Shearing LLC	02/04/19	02/03/25	50,000	50,000	50,000	Sheep Shearing Services
EL Company	12/05/19	12/04/24	35,000	35,000	35,000	Annual PM Services On The Company's Aspx
old Standard Diagnostics Horsham	09/09/19	09/08/24	100,000	100,000	100,000	Explorer VR Instrument
						PM Service Agreement
reat Basin Bird Observatory	1/1/2021	12/31/27	66,251	66,251	66,251	Las Vegas Wash Restoration Site Avian Monitoring
reat Basin Institute	12/18/17	10/31/26	60,000	60,000	40,000	WSNA Vegetation Control And Docent Staffing
reat Basin Irrigation	01/01/16	12/31/25	40,000	40,000	40,000	Irrigation Systems Parts And Maintenance
lach	04/11/20	06/06/24	100,000	100,000	-	PM Service Agreement
erndon Solutions Group	9/20/2021	09/19/28	2,763,607	2,763,607	2,763,607	Specialty Staff Augmentation Services
igh Sierra Waterlab	11/19/19	11/30/26	40,000	40,000	40,000	Nutrient Chemical Analysis on Water Samples
olds Water LLC	05/13/20	04/21/25	75,000	75,000	75,000	Consulting on Water Resources Matters
olland and Hart	07/01/20	06/30/28	100,000	100,000	100,000	General Counsel Services PUC
						Legal Services-Environmental Compliance and
olland and Hart	01/20/21	01/19/28	1,500,000	1,500,000	1,500,000	Water Resources
olley Driggs	12/10/19	12/09/26	15,000	15,000	15,000	Professional Services
loriba	01/04/20	01/03/27	100,000	100,000	100,000	PM Service Agreement
IRA Inc	12/17/19	12/16/27	90,000	90,000	90,000	Archaeological Evaluations
						On-call Services for National Historic Preservation
IRA Inc.	03/06/19	03/05/25	49,500	49,500	33,000	Act Section 106 Compliance
chrom Solutions	02/06/21	02/05/28	50,000	50,000	50,000	PM Service Agreement
lumina	12/31/18	12/31/25	48,323	48,323	50,739	Annual Support Maintenance Services On Illumina
R Ashleman	09/29/19	09/08/26	30,000	30,000	30,000	Miseq System Integrated Instrument.
						Plan Attorney For Retirement Plan
&M Trucking	12/30/20	12/29/23	115,000	115,000	-	Concrete, Sand, Gravel and Misc. Building Supplies
acobs Engineering Group Inc	01/27/21	01/26/27	300,000	300,000	300,000	SNWA Misc Engineering Services
ena Antonchuk	7/16/2021	07/15/26	95,000	95,000	95,000	Conservation and Environmental Protection
						Educational Projects Consultation Services

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Joseph Guild & Associates LLC	01/23/19	01/22/26	40,000	40,000	Ranch and Agricultural Consulting Services-Water Resources
Joshua Tree Productions	07/01/18	06/30/24	-	90,000	Video Production Services
T Fasteners	01/01/21	12/31/23	-	10,000	VMI Fasteners and Other Consumables
Thornight & Leavitt Associates, Inc.	7/1/2021	06/30/25	50,000	50,000	Desert Tortoise Services Rate Structure Amendment
Kyle Thompson (KYLE THOMPSON)	08/24/21	08/23/28	-	11,000	PFA's in Waste Water Treatment Facilities
Landscape Specialties Inc.	10/03/20	10/03/25	100,000	100,000	Landscape Maintenance Services - SNWA Facilities
Lawrence Roll-Up Doors Inc	08/20/18	08/19/25	25,000	25,000	SNWA Door Repair Services
Life Technologies Corporation	03/08/20	03/07/25	51,547	55,000	I881451791-Equipment PM Services
Lantech (USA) Inc	12/29/18	01/05/24	35,000		I855200000-Equipment PM Services
Larch Counsel, LLC	07/01/17	06/30/24	100,000	100,000	Legal Services For Energy Matters
Larcus G. Faust PC	07/01/18	06/30/28	150,000	150,000	PSA Governmental Affairs Consulting Services
MDC Research	01/01/22	12/31/28	150,000	150,000	Data Collection Services SNWA
Metropolitan Water District	09/19/19	09/18/29	212,476	212,476	Support Water Utility Climate Alliance Initiatives
Midi Inc	04/01/20	03/31/27	500,000	500,000	PM Service Agreement
Milestone Inc	06/05/19	06/04/26	500,000	500,000	PM Service Agreement
Moyle Irrigation	01/01/16	12/31/25	50,000	50,000	Pivot Irrigation System Parts And Maintenance Services For Gb Ranches
Muddy Valley Irrigation Company	07/16/20	07/15/24	200,000	200,000	Reimbursement for Attorney Fees in MVWR Case.
Nancy Weaver	09/26/19	06/30/26	98,000	98,000	Communications Consulting Services
Naturaldry Carpet Cleaning	09/25/18	10/31/23	-	12,000	Carpet Cleaning
Navigant Consulting Inc	08/10/17	08/10/24	60,000	60,000	Transmission Evaluation Services
Nevada Division Of Forestry, Conservation Camp Billing	07/01/19	06/30/25	266,250	266,250	Grounds Maintenance
N'Flarety Plumbing And Heating	01/01/16	12/31/25	35,000	35,000	Plumbing Repair Services For Gb Ranches
Ontario Refrigeration	08/13/19	08/12/26	100,000	100,000	Chiller Preventive Maintenance And Repair Services
Ork Landscape	02/01/19	01/31/28	69,156	69,156	On Call Landscape Maintenance WSNA
Perkinelmer Health Sciences Inc.	08/01/19	07/31/26	26,000	26,000	Annual PM Services
Phycotech Inc.	08/01/19	07/31/26	100,000	100,000	Provide Phytoplankton Analysis On Water Samples
Prodajsa USA, Inc. dba HCI Advertising	7/1/2021	06/30/25	-	450,000	Spanish Language Conservation and Water Quality Advertising & Marketing Services
Protein Combination & Controls	11/11/19	11/11/25	50,000	50,000	Dairier Drains Station Maintenance/Repair Services



Q&R Partners Inc.	07/01/21	06/30/25	✓ 3,750,000	3,750,000	Integrated Marketing and Communication Services
Rayos Group	09/24/19	09/23/26	86,500	86,500	Risk Resilience Assessment
Red Star Fence Company	09/11/19	09/10/24	100,000	33,000	On-call Tortoise and Chain Link Fencing Installand Repair
Reward Strategy Group	10/27/21	10/26/27	95,000	95,000	SNWA Job Classifications & Compensation Plans
Sanitary Septic Service, Inc.	02/04/19	02/03/24	10,000	-	Septic Tank Services
Sanitoro Whitmire LTD	11/06/18	11/05/25	-	-	Coyote Spring Valley Case A-18-778039-C
Sanitoro Whitmire LTD	11/07/18	11/06/25	-	-	Legal Services Csi Vs. State Eng.
Seal Analytical	05/15/19	05/14/26	25,000	25,000	Annual PM Services on Seal Instruments
Shimadzu Scientific Instruments	11/01/19	10/31/26	100,000	103,000	Annual PM Service On Shimadzu Instruments
Silver Reef Biomedical	03/01/20	02/28/24	11,400	-	Annual PM Service On Sterilization Equipment
Silver State Analytical Laboratories, Inc.					
Sierra Environmental Monitoring	11/1/2021	10/31/2022	500,000	500,000	Wash Water Sampling Analysis Services
Silver State Analytical Labs	10/30/21	10/31/28	88,555	88,555	BOR Grand Funded Protion of Wash Water Sampling Services Contract
Simmons Group	07/11/19	07/10/25	20,000	20,000	Employee Development Training
SL Robbins & Associates	02/26/19	02/25/25	69,950	69,950	Workshop And Video Learning Series
Soil Tech	08/02/18	08/01/25	753,618	753,618	SNWA Revegetation and Restoration Program
Southern Nevada Environmental, Inc.	08/09/17	08/07/24	50,000	10,000	Environmental Consulting services
Spring Valley Associates LLC	09/22/20	09/21/26	2,139,367	2,139,367	Ranch Management Services
Stradling Yocca Carlson & Rauth, A Professional Corporation	12/05/17	12/05/24	50,000	50,000	Bond Disclosure Counsel Services
Stukenholtz Laboratory Inc.	11/18/19	11/17/27	10,000	10,000	Soil Testing, Chemical Analysis And Agronomy Consulting Services
Teledyne Tekmar	11/19/19	11/18/26	11,558	11,558	Annual PM Services on Teledyne Instruments
The Law Offices Of Rory Reid	06/21/18	05/31/25	31,000	31,000	Legal Services
Thermo Electron North America LLC	03/01/19	03/01/26	500,000	525,000	Annual PM Service On Thermo Scientific Instruments
Tri-County Weed Control	1/1/2021	12/31/27	23,040	23,040	Weed Control Services
TRussell Technologies	07/01/20	06/30/27	85,000	85,000	Water Research Foundation bromate control measures on ozone and downstream treatment systems
University Corporation For Atmospheric Research	03/26/19	03/25/26	150,000	150,000	B880254117-Climate Downscaling Project in the Colorado River Basin
					WRF 5104 "Use of DNA Nanostructure as Viral

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VSP USA Solutions Inc.	02/07/17	02/06/24	40,000	25,000	8829 Eng. Serv. for C-1477 Paradise Road Waterline Replacement Project
Black & Veatch Corporation	04/20/22	04/19/29	90,000	90,000	Evaporative Cooling Alternatives Study
Blanc Canvass, Inc.	03/31/22	03/30/24	50,600	-	Springs Preserve Fundraising Development analysis and Management
Lincoln County Power District No. 2	01/01/22	12/31/22	73,712	-	Electric Service - Decker Substation
Alt Wheeler Power	01/01/22	12/31/22	204,267	-	Electric Service - No. Resources Ranch Residences & Irrigation
Siad Macchine Impianti Spa	02/01/22	01/31/28	500,000	500,000	SIAD-SNWA PM Services Agreement
State Of Nevada Colorado River Commission (Colorado River Commission)	01/01/22	12/31/22	552,346	-	Design Engineering Services Boulder Flats Switchyard
United Soil Science	01/26/22	01/25/28	500,000	500,000	Fertilizer Application Services
Total Proposed Expenditures			\$ 23,485,899	\$ 20,949,389	

Additional Explanations (Reference Line Number and Vendor):

## Submitted for Public Comment by Sue A - SNWA - November 16, 2023 Meeting

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**From:** Sue A <MissSueSA@outlook.com>  
**Sent:** Wednesday, November 15, 2023 5:56 PM  
**To:** &PublicComment  
**Subject:** {External} AB220, septic tank bans and excessive water fees for large lots with big families

Dear SNWA,

It has come to my attention, on short notice, of a meeting tomorrow which is open for public comments regarding recent new laws and fees created to bully residents via abusive, unfair and punitive water use fees for Southern Nevadans. By use of chilling ads showing the aftermath of the drop in Lake Mead last year, that was not a result of residential water use or waste. Just as the pandemic ushered in mandates, the headlines of dead bodies and old boats up in the air gave way for an opportunity to unfairly raise rates, outlaw septic tanks "for water credits" and unsubstantiated environmental soil contamination via nitrates, and all but destroy the value of property of owners who bought a home on septic. The septic ban demands a property owner tie into a sewer line that is not already there and has not been provided to our neighborhoods by the city sewer infrastructure. But, for unknown reasons, if a property owner has a well plus a septic tank, then a septic tank is acceptable. Please explain. Also, please explain the EQUALITY of excessive water use tiers, the higher cost of water for a 1" inlet pipe my home was purchased WITH (circa 1976). Why doesn't the LVVWD replace that pipe for residents? How is EQUALITY a part of the water cost infrastructure equation when you use the same water use calculations for a family of two residents, as is for my family of ten on a half-acre property? Stop the endless development of Southern Nevada rather than punish native Las Vegas residents. Most residents are happy to conserve but are not happy to be bullied out of the ordinary enjoyment and use of our homes and property.

Sincerely,  
7030 Coley Ave  
89117

11-15-2023

Dear SNWA Board of Directors:

I have an acre of land that we built on 35 years ago we have we had fruit trees vegetable gardens Big trees bushes that shade our property keep the heat down and not because of this water control I lost all my vegetable garden all my fruit trees My Bushes fried in the heat. It is really unfair that Las Vegas valley water district is the only one with this controlled rate. Boulder City the most they pay is \$3.73 Henderson the most they pay \$6.64 in North Las Vegas \$4.94 and they can use as much as they want we're all drawing from lake Mead we have to all be on this rate program not just LVVWD and one size does not fit all I have an acre there could be 12 to 15 homes in my acre and I use way, way, way, less water than any of them. Therefore, this needs to be oriented towards the size of your property not a little tiny piece of land or nobody has any yards or any trees and bushes this is totally unfair and also they need to stop the building which I know SNWA is only required to supply water to all of us well they don't need to add any more take water from me and add more to them. And they get billions from all the water meters and lines for these new homes stop the building like they did in the 60s quit taking BLM land and making houses out of it our police are fire are hospitals are water are sewer can't sustain it there are actually no hospitals in North Las Vegas for all these North Las Vegas people according to my insurance company so this needs to be reevaluated now.

Sheri Cole