

ENVIRONMENTAL, ENERGY, & CLIMATE CHANGE

LAW AND REGULATION REPORTER

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ENVIRONMENTAL NEWS

U.S. BUREAU OF RECLAMATION REPORT SUMMARIZES FACTORS IMPACTING WATER RESOURCES IN THE WESTERN UNITED STATES

In January, the U.S. Bureau of Reclamation released its 2021 SECURE Water Act Report, which provides a summary of projections on several factors that influence water resources and management in the western United States. The report discusses projections for temperature, precipitation, snowpack, streamflow, drought, water demand, and groundwater in eight river basins, including the Sacramento-San Joaquin River and Klamath River basins. The report also outlines mitigation strategies the Bureau is undertaking in response to the projected risks to water supplies in the West.

Background

The U.S. Bureau of Reclamation (Bureau) is the nation's largest wholesale water supplier, operating 338 reservoirs and providing water to 140,000 farmers in the western United States. The Bureau is also the second largest producer of hydroelectric power in the United States with 53 power plants. In 2009, Congress passed the SECURE Water Act (Act), which authorizes the Bureau to assess the risks from climate change to water supplies in each major Bureau river, analyze the impact on various water uses and services as a result of such changes, and develop appropriate mitigation strategies. The Bureau is required to submit a report to Congress every five years on these issues. In January of this year, the Bureau issued its third such report under the Act (Report). The Report summarizes basin reports and factsheets for each of the eight major river basins identified in the Act and a 2021 West-Wide Climate and Hydrology Assessment (2021 Assessment).

Eight major river basins are identified under the Act and discussed in the Report. Among the basins reviewed are arguably two of the most important water basins in California: the Sacramento and San Joaquin River basins. Given the closely interrelated water management issues of these two basins, the Report discusses them jointly. The other basins discussed in the report are the Klamath river basin, Truckee

and Carson River basins, the Colorado River Basin, Columbia River Basin, Missouri River Basin, and Rio Grande Basin.

Summary of the Report

The Bureau uses observations and future projections to operate its reservoirs, deliver water and power, and develop water management strategies. These observations and future projections on water supply and demand are based on the assessment of seven factors: temperature, precipitation (rainfall and snowfall), snowpack, streamflow (runoff), droughts, water demands, and groundwater.

Temperature and Precipitation Models

The Bureau's future projections of temperature and precipitation are based on two models, both of which generally yielded similar broad trends. In general, the Report projects that temperatures will increase over the West during the 21st century, with temperature increases becoming greater over time. For example, the area around the Sacramento-San Joaquin rivers at Delta are projected to increase in temperature between 2-3 degrees Fahrenheit through the 2020's and increase between 4-6 degrees Fahrenheit in the 2070s. Projections under scenarios with higher greenhouse gas (GHG) concentrations generally yield more severe increases in temperature than scenarios with lower GHG concentrations. Precipitation is projected to increase over the northwestern and northcentral United States, particularly in the Columbia and Missouri River basins, but decrease in the southwestern and southcentral portion of the country. The Bureau projects decrease snowpack overall in the West. Snowmelt is also projected to occur sooner, changing the timing and quantity of streamflow. The Report predicts that many locations are likely to experience increased stream flow from December through March and decreased streamflow from April through July.

Droughts are projected to increase in duration, severity, and frequency. While periods of drought are not uncommon in the West, the Bureau's projection is particularly significant because these projected increases are in relation to droughts of the distant past. Drought maps provided in the Report project that large portions of California, Nevada, Arizona, and southern Idaho, as well as several central states, will experience more severe droughts on average over the coming century. Drought is also expected to generally last longer overall. The Bureau predicts that increased temperatures and longer growing seasons will result in increased evaporation and irrigation requirements. While natural groundwater recharge is generally predicted to follow changes in precipitation and increased evaporation from soil, the Report acknowledges that the unique circumstances within each area will play an important role in natural groundwater recharge.

Anticipated Impacts to Water Uses

In addition to providing projections of the foregoing factors and summary of the 2021 Assessment, the Report also includes a summary of expected impacts to water uses. In particular, due to the projections of the foregoing factors, water supplies are expected to become less predictable and water deliveries more difficult to manage. The Report points out that end-of-year water storage is projected to decrease in areas, including reservoirs identified in a 2016 Sacramento-San Joaquin Rivers basin study. The Bureau also notes that warming water temperatures and shifts in streamflow may have an effect on water quality and fish populations. Recreation may suffer from the negative impact of climate change in some areas leading to shortened fishing seasons, diminished wildlife viewing opportunities, and a reduction in hunting game. Reduced hydropower operational flexibility may also occur during summer months causing supply and demand problems on communities dependent on hydropower.

Mitigation Strategies

The Report also discusses actions the Bureau has taken to develop appropriate mitigation strategies,

including strategies in water delivery, hydropower, habitat, ecosystem and reaction, and risk management. According to the Report, the Bureau has about 350 active construction activities, including new delivery systems and storage, recreation rehabilitation activities, and dam safety projects. The Report also highlights certain projects supported in part by Water Infrastructure Improvements for the Nation (WIIN) Act and WaterSMART funding. Among these projects is a North-of-Delta Off-Stream Storage Investigation, which was finalized using WIIN Act funding. The Bureau also notes that it provides grant funding through the Title XVI Water Reclamation and Reuse Program for projects that reclaim and reuse wastewater and impaired ground and surface water. One project cited under Title XVI is the Pure Water Monterey Title XVI Project, which is expected to produce up to 8,200 acre-feet of water for communities in Monterey County, California. The project includes collection and conveyance facilities and an advanced treatment plant. The Report provides many more details about its mitigation strategies, including drought planning and managing risks from increasing wildfires.

Conclusion and Implications

The projections provided by the Bureau in its Report provide a starting point for stakeholders and affected parties to begin planning for the projected changes affecting water resources in the West. While the Report provides general trends and observations, it is important for stakeholders to understand the projected changes specific to their region and how those changes may affect their water resources over time. Stakeholders may check the Bureau's climate website after March 2021 to review more detailed information provided in associated documents summarized in the Report. Stakeholders may also want to research further into the various funding programs and mechanism mentioned in the Report when assessing their own mitigation strategies with regard to their water resources and requirements. The Bureau's Report is available online at: <https://www.usbr.gov/climate/secure/docs/2021secure/2021SECUREReport.pdf> (Steve Anderson)

MIAMI PROPOSES PLAN TO DEAL WITH SEA-LEVEL RISE

Officials in Miami-Dade County (County), where models project two feet or more of sea-level rise by 2060, have released strategy for adapting to changing sea levels. The plan focuses on elevating homes and roads, densifying inland construction, and creating more open space to account for increased flooding in low-lying areas.

Background

The plan portrays rising seas as a manageable issue given the County's low-lying area and a century of experience managing water. Climate experts are somewhat skeptical, warning that the plan downplays the magnitude of the threat and fails to sufficiently caution residents and developers about the risk of continuing to build near the coast in a county which is heavily dependent on waterfront real estate.

The debate is part of a larger discussion over the best way to respond to the growing threat of climate change. As floods, wildfires and other climate catastrophes increase in occurrence and severity, disaster experts increasingly urge local officials to incorporate these considerations into large-scale planning discussions. Consensus advice is to encourage people to leave vulnerable areas, but cities and counties tend to resist that approach, on the thinking that a sense of retreat would hurt the economy and property values.

Southern Florida has become a hot spot for this larger fight, because so much of its coastline is at risk from rising sea levels. In the Florida Keys, officials recently argued it is not economically feasible to protect every home from sea-level rise because the small population would never provide enough revenue to pay for the projects required.

What happens in Miami is likely to become a case study for other jurisdictions facing sea-level rise. Among major U.S. metropolitan areas, it is likely the most exposed to sea-level rise, the result of its low, flat geography. The County also has some of the most expensive coastal real estate in the world, giving it an ample tax base to experiment with and increasing economic incentive to develop solutions which will keep buyers and investors interested in the area.

The Motivation to Act

Local officials say they cannot stand by and do

nothing. By 2040, more than \$3 billion worth of property could be consumed by daily tidal flooding without action to reduce the threat, per a [report](#) last fall by the Urban Land Institute. Yet the County is opting to try to keep those areas livable even in the face of rising tides.

The County's strategy focuses on a series of actions, including elevating homes onto stilts or trucking in dirt and rocks to raise the level of the ground itself. Each of these is far easier for new construction than for existing structures, and neither will guarantee that the roads leading to the homes will remain passable during times of flooding.

The Cost of Adaptation

The strategy also calls for building denser housing on higher land further from the coast. Yet those areas are home to many of the county's low-income families and people of color, who could be pushed out of their homes by rising costs, a consequence of "climate gentrification," a phenomenon likely to increase in the coming years.

Solving this issue will require building more homes for low-income residents, and the strategy does not address efforts to reduce greenhouse gas emissions.

The strategy focuses more on adapting to a changing climate than combating it, and assumes the ability to build around rising sea-levels. However, experts agree it may be impossible to build around this issue in the long run, and that rising sea-levels will almost certainly eventually mean ceding land, pushing people inland or requiring construction of sea walls.

Conclusion and Implications

Many of America's largest cities are built on coastal land which will inevitably be effected by rising sea levels, and some of the country's most valuable real estate may be submerged in the coming decades. The fight to address sea-level rise is multi-faceted, but only through a combination of innovative planning and dedicated reductions in greenhouse gas emissions can a livable equilibrium be found. The city's strategy to deal with sea level rise is available online at: <https://miami-dade-county-sea-level-rise-strategy-draft-mdc.hub.arcgis.com> (Jordan Ferguson)

LEGISLATIVE DEVELOPMENTS

CONGRESS INTRODUCES BILL TO COORDINATE RIVER RESTORATION EFFORTS BETWEEN THE UNITED STATES AND MEXICO AND TO PROTECT THE SALTON SEA

On January 25, 2021, U.S. House of Representatives Members Raul Ruiz (CA -36) and Juan Vargas (CA-51) introduced HR 491, the “California New River Restoration Act of 2021,” which would direct the administrator of the U.S. Environmental Protection Agency (EPA) to establish a federal restoration program for the California New River that flows from Mexico to the Salton Sea.

Background

The Salton Sea is California’s largest lake, situated along the San Andreas Fault in southern California, between Imperial and Riverside counties. In addition to its size, the Salton Sea is notable for its low elevation (226 feet below sea level) and high salinity (25 percent higher than the Pacific Ocean). The Salton Sea serves as an important stopover for hundreds of species of migratory birds traversing the 5,000-mile Pacific Flyway, and has been identified by the National Audubon Society as a bird area of global significance. It provides habitat for numerous listed species, including the desert pupfish, the brown pelican, and the Yuma clapper rail. The Salton Sea started as a freshwater lake formed by Colorado River floods in the early 20th century, but became saline over time due to declining water levels and the steady inflow of agricultural tailwaters high in salts and nutrients from the Imperial, Coachella, and Mexicali valleys.

While it was once regarded as one of California’s most productive fisheries, the Salton Sea has become less hospitable to wildlife, due in part to reduced inflows, climate fluctuations, and a lack of natural outlets beyond evaporation and seepage. Over the past few decades, deteriorating conditions in the Salton Sea have led to fish and bird die-offs, a reduction in overall bio-diversity, and an increased threat of harmful dust storms due to reduced water levels and exposed lake bed. Numerous programs and initiatives have been developed to address conditions in the Salton Sea, including one of its primary pollutant sources, the New River.

The New River originates near the City of Mexicali, Mexico and flows north through agricultural lands in the Imperial Valley, to the Salton Sea. Once regarded as one of the most polluted rivers in the country, the New River contributes nearly 400,000 acre-feet of water to the Salton Sea each year, constituting approximately 10-15 percent of the annual inflow. As such, the discharge of urban runoff, agricultural tailwater, treated municipal waste, and partially treated industrial waste in the New River affects the water quality and habitat conditions in the Salton Sea, as well as human health and economic development in the Imperial Valley.

New River Restoration

The California-Mexico Border Relations Council (CMBRC) was created in 2006 to coordinate inter-agency programs, initiatives along the California-Mexico border between California agencies and their counterparts in Mexico. In 2010, the CMBRC formed a New River Technical Advisory Committee to oversee the development of a New River Strategic Plan to monitor, study, and address prevailing water quality concerns in the New River. The Technical Advisory Committee released a Strategic Plan to the public in 2012, which it revised based on community input in 2016. The revised Strategic Plan delivered to the California legislature included recommendations to construct a trash screen, disinfection facility, and associated conveyance structures in Calexico to remove pollutants from the New River. California’s legislature appropriated \$1.4 million to provide grants and contracts to implement the planning, design, and permitting work needed for the recommended project components.

Citing a need for coordination of federal and non-federal funding and resources to assist restoration efforts in the New River, Representatives Ruiz and Vargas introduced HR 491 to direct the EPA to form the California New River Restoration Program (Program). Under the Program, the EPA adminis-

trator would facilitate restoration and protection activities for the New River among Mexican, federal, state, local, and regional agencies and groups. The objectives of those activities include the enhancement of habitat restoration and protection activities, the improvement of water quality to support fish and wildlife, enhancement of water and flood management, and increased opportunities for public access to, and recreation in, the New River.

The EPA administrator would coordinate and consult with representatives of the Mexican government, the United States Department of the Interior, Department of Agriculture, and Department of Homeland Security, the California Natural Resources Agency, California Environmental Protection Agency, State Water Resources Control Board, and Department of Water Resources, as well as local government agencies and other stakeholder groups, to implement the Program.

HR 491 also calls for the provision of federal grants and technical assistance to state and local governments and other stakeholders, both in the U.S. and in Mexico, to carry out the aforementioned purposes of the Program. These grants would incorporate criteria

developed to ensure that the activities are aligned with and accomplish the goals of the Program, and include a federal cost-sharing allotment of up to 55 percent. While HR 491 does not directly involve projects in the Salton Sea, the New River restoration activities would reduce the volume of pollutants entering the Salton Sea and work to improve overall water quality.

Conclusion and Implications

House Resolution 491 declares federal coordination and funding is needed to build on and support activities already in motion to restore conditions in the New River. However, similar federal legislation introduced in 2016, 2017, and 2019, was unsuccessful. After its introduction, HR 491 was referred to the House Committee on Transportation and Infrastructure, the Committee on Natural Resources and the Subcommittee on Water Resources and Environment for review and consideration.

A copy of HR 491, the California New River Restoration Act of 2021, is available at: <https://www.congress.gov/bill/117th-congress/house-bill/491/text?r=24&s=1>
(Austin C. Cho, Meredith Nikkel)

AS CLIMATE CHANGE EXACERBATES WILDFIRE RISK, WESTERN STATES ADOPT AND INTRODUCE LEGISLATION TO REDUCE WILDFIRE RISK

In recent years, the United States has experienced unprecedented wildfires. (AB 3074, 2020 Reg. Sess., Ch. 259 (Ca. 2020).) In 2020, the U.S. wildfire season broke records and burned 10.2 million acres. (National Oceanic and Atmospheric Administration, Billion-Dollar Weather and Climate Disasters: Events (2021), <https://www.ncdc.noaa.gov/billions/events/US/2010-2020>.) The structural damage in 2020 was historic; approximately 10,500 structures were damaged or destroyed across California and over 2,000 structures burned in the state of Oregon (NOAA). In 2020 five of the six largest wildfires in California history took place. (AB 9, 2021-2022 Reg. Sess. (CA 2021).) As such, after a record-breaking wildfire season in 2020, states across the western United States have adopted and introduced legislation to reduce wildfire risk through several methods includ-

ing removing barriers on prescribed burns, increasing required defensible space around homes, and funding fuel reduction.

Background

The air quality across the United States is increasingly impacted by wildfires. Wildfires account for up to approximately 25 percent of PM2.5 across the United States, and up to half in Western states. (Burke et al, the Changing Risk and Burden of Wildfire in the United States, PNAS (Jan. 12, 2021) <https://www.pnas.org/content/118/2/e2011048118>.) Moreover, large increases in wildfire activity result in substantial increases in the number of days with smoke in the air across the United States, as indicated by satellite data. (Burke, et al.) Smoke that originates in the western United States is transported

to other regions, affecting the air quality nation-wide. ([Burke, et al.](#))

The increased size and intensity of wildfires is due, in part, to climate change. (AB 3074, 2020 Reg. Sess., Ch. 259 (CA 2020).) Climate change causes higher average and peak temperatures, increased dry weather conditions, extended droughts. (AB 9, 2021-2022 Reg. Sess. (CA. 2021).) As the climate continues to warm, there is a potential for wildfire-related particulate emissions to double in fire-prone areas. ([Burke, et al.](#)) Wildfires are also exacerbated by increased fuel loads due to fire suppression, insect infestations, plant diseases, and fuel aridity. (AB 9; [Burke, et al.](#))

In addition, the expansion of homes into the wildland-urban interface has placed substantially more residential homes and the lives of the inhabitants at risk. (AB 3074, 2020 Reg. Sess., Ch. 259 (CA 2020).) In the United States, approximately 50 million homes are in the wildland-urban interface. One in four residential structures in California are located within or in wildfire movement proximity of “high” or “very high” fire hazard severity zones. (AB 9, 2021-2022 Reg. Sess. (CA 2021).)

Summary of Western States’ Actions to Address Wildfire

California

In 2021 a number of bills that endeavor to reduce California’s wildfire risk went into effect in California. Assembly Bill 3074 increased the requirements for defensible space surrounding homes in a the very high fire hazard severity zone. (AB 3074, 2020 Reg. Sess., Ch. 259 (Ca. 2020).) Prior to the legislation, these homes were required to maintain defensible space of 100 feet. (AB 3074, 2020 Reg. Sess., Ch. 259 (CA 2020).) This new law requires more intense fuel reductions between five and 30 feet around the structure in addition to an ember-resistant zone within five feet of the structure. (AB 3074, 2020 Reg. Sess., Ch. 259 (CA 2020).) This requirement will go into effect once the state board enacts specified updates to its regulations. (AB 3074, 2020 Reg. Sess., Ch. 259 (CA 2020).)

The California Legislature has introduced additional legislation addressing wildfire, including Senate Bill 45, which would authorize the issuance of

\$2.2 billion to finance projects for a wildfire prevention, drought, or other natural disaster prevention and community resilience from climate change. (SB 45, 2021-2022 Reg. Sess. (CA 2021).) Senate Bill 63 would impose a state-mandated local program by requiring the Department of Forestry and Fire Protection to identify moderate and high fire hazard severity zones, and require local agencies to make this information available for public review and comment. (SB 63, 2021-2022 Reg. Sess. (CA 2021).) It would also remove some limitations on a landowner from expanding its defensible space beyond their property line. (SB 63, 2021-2022 Reg. Sess. (CA 2021).) Assembly Bill 52 would update the California Global Warming Solutions Act of 2006 to require the California Air Resources Board (CARB) to include recommendations for achieving the maximum technologically feasible and cost-effective reductions of emissions of greenhouse gases and black carbon from wildfires when updating each scoping plan. (AB 52, 2021- 2022 Reg. Sess. (CA 2021).)

Washington State

In Washington State, the Legislature has introduced House Bill 1168 which would create a treasury account for wildfire response, forest restoration, and community resilience. (HB 1168, 67th Leg. Reg. Sess. (Wash. 2021).) It includes funding for fire preparedness, such as expansion in firefighting capacity and investments in equipment and technology, as well as fire prevention activities to restore and improve forest health and reduce vulnerability to drought, insect infestation, and disease, and fire protection activities for properties, including control lines or fuel breaks. (HB 1168, 67th Leg. Reg. Sess. (Wash. 2021).)

Oregon

The State of Oregon has proposed House Bills 2571 and 2572 which aim to further use of prescribed burning in the state. House Bill 2571 directs the Department of Consumer and Business Services and in consultation with the State Forestry Department, Oregon State University and the Oregon Prescribed Fire Council, to study liability for prescribed fires, including access to insurance coverage, barriers to increasing insurance coverage, the frequency of escaped prescribed fires, and which states have adopted liability standard of negligence and gross negligence

for prescribed fires. (HB 2571, 81st Leg. Assemb. (Or. 2021).) House Bill 2572 proposes allowing owners or operators of forestland to conduct prescribed fires if both sides of the ownership agree. HB 2571, 81st Leg. Assemb. (Or. 2021).) It also directs the State Board of Forestry to initiate rulemaking to establish the State Certified Burn Manager program to supervise prescribed burns. (HB 2572, 81st Leg. Assemb. (Or. 2021).)

New Mexico

In New Mexico, the legislature is also considering legislation reducing restrictions on prescribed burns. (HB 57, 55th Leg. (N.M. 2021).) This legislation seeks to change the State's historic fire-suppression policy, which legislators believe has contributed to the risk of wildfires. (HB 57, 55th Leg. (N.M. 2021).)

Potential Federal Action to Address Wildfire

There is also potential for federal legislation to

provide assistance to communities affected by wildfire. In February 16, 2021 members of the United States Congress from Colorado and Utah launched the Bipartisan Wildfire Caucus new congressional caucus to elevate awareness and bipartisan consensus around wildfire management and mitigation, and wildfire preparedness and recovery. The co-chairs of the caucus introduced the Wildfire Recovery Act, which would assist communities in obtaining federal funds for recovery from wildfires. (HR 8945.)

Conclusion and Implications

Given the urgency of recurring wildfires, it remains to be seen whether the western states will enact and implement these proposed bills in time to protect the lives and property threatened by catastrophic wildfire seasons in the future.

(Natalie Kirkish, Hina Gupta)

CALIFORNIA LEGISLATORS PROPOSE BAN ON FRACKING

New legislation would ban all fracking in California by 2027, in an effort to reduce reliance on the oil and gas industry. This proposal joins the recent plan to ban the sale of new gasoline-powered cars by 2035, in an effort for the Golden State to meet its ambitious climate goals.

Background

California prides itself on its status as a national leader in the fight against climate change, requiring solar panels on new homes and passing a law to ensure California relies entirely on renewable energy by 2045.

Yet environmental activists argue California's leadership has long made excuses for the oil and gas industry, which has wielded its political power to derail or substantially weaken legislation aimed at curtailing production in the state.

That could be changing, however. Last year, Governor Gavin Newsom announced steps to ban the sale of gas-powered cars and called on lawmakers to go further by banning fracking, a technique used to extract oil and gas embedded in rock deep beneath the surface that climate activists argue harms the environment and threatens public health.

The Proposed Ban—Senate Bill 467

Democratic State Senators Scott Wiener of San Francisco and Monique Limon of Santa Barbara announced a measure that would halt new fracking permits or renewals by January 1, 2022, and would ban the practice all together by 2027. The senators say they will amend the bill to halt new oil and gas permits within 2,500 feet of homes or schools by January 1, 2022 as well.

The plan met with immediate opposition from the oil and gas industry, arguing the legislation is so broad and ambiguous it would lead to an effective ban on oil production in California.

A History of Production

California has been among the top oil producing states in the country in recent decades, reaching a peak of 394 million barrels in 1985. By 2017, however, production had dropped significantly, with the state ranking behind Texas, North Dakota, New Mexico, Oklahoma, Colorado, and Alaska, according to the U.S. Energy Information Administration.

This is partially because the industry has exhausted much of California's easily extractable oil reserves.

What remains is embedded deep in rock underground and requires immense energy to extract. Extraction can be accomplished through processes including fracking, cyclic steaming, acid well stimulation and water and steam flooding to separate the oil from the rock. Each of these processes would be banned in the state by 2027 under the new proposed legislation.

Environmental groups argue those methods cause significant harm to air quality and water supplies. A new study published last month by a team at Harvard University estimates that 8.7 million people worldwide died prematurely from fossil fuel pollution in 2018, including 34,000 people in California. (<https://www.sciencedirect.com/science/article/abs/pii/S0013935121000487>)

Critics of the legislation argue that halting California's oil production will not stop the state's reliance on oil because millions of people still drive gas-powered cars. Those opponents argue that California produces oil in the most environmentally responsible way possible, and that a ban would force the state to rely on foreign sources for oil which have fewer environmental regulations in place. California has more than 5,500 oil wells that have likely been abandoned, and which could cost more than half a billion dollars to clean up, according to an assessment by the Cali-

fornia Council on Science and Technology. Under the legislation, the state would have to offer incentives to cleanup companies which hire laid off oil and gas workers to do that work, but those incentives are not defined within the proposed bill.

Conclusion and Implications

A fracking ban would continue California's trajectory towards the cutting edge of climate legislation and would undoubtedly assist its efforts to become wholly dependent on renewable energy by 2045. A fracking ban alone would not solve the issue, however, and cooperation across industries will be necessary to successfully transition California's economy into the climate cognizant future. A link to the text and history of the bill is available here: https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB467#:~:text=SB%20467%2C%20as%20introduced%2C%20Wiener,steaming%3A%20prohibition%3A%20job%20relocation.&text=This%20bill%20would%2C%20until%20January,stimulation%20treatments%20within%20its%20jurisdiction (Jordan Ferguson)

CLIMATE CHANGE SCIENCE

RECENT SCIENTIFIC STUDIES ON CLIMATE CHANGE

Pollen Season Intensifying Due to Climate Change

When most people think about climate change, allergy season is usually not top of mind. Pollen, the driving trigger of allergy season, is released by plants and can cause allergic reactions and asthma-related health effects. In recent laboratory studies, scientists have found that plants release more pollen when exposed to higher temperatures or elevated carbon dioxide concentrations. Both temperature and carbon dioxide concentration increases are known effects of climate change, yet very little work has been done to estimate the effects that climate change could have on pollen season in North America.

A team of researchers across North America performed a detection and attribution analysis to identify any historic trends in pollen metrics, determine if these trends are associated with climate factors, and ultimately assign causal relationships between climate factors and pollen metrics. They investigated ten pollen metrics (including daily extreme pollen concentration, start date of pollen season, end date of pollen season, length of pollen season, and total pollen amounts) using historic data from 1990-2018 in North America. These data were used to perform a sensitivity analysis using a number of climate models that tested for eight climate factors. From this analysis, the researchers found that mean annual temperature was the strongest predictor of an intense pollen season, and that climate change has significantly worsened pollen seasons over the past few decades. Of the various pollen metrics studied, climate change is most notably worsening the length of pollen season and the total amount of pollen released during that season. Thus, as anthropogenic climate change intensifies, we can expect more pollen to be released over a longer period of time.

Pollen triggers health problems, including allergies and asthma, in many Americans, contributing to long-term medical problems, lost schooldays and workdays, and emergency room visits. Based on this work, as the effects of anthropogenic climate change continue to worsen, so will pollen season and its

effects on human health and wellbeing. With many other known negative impacts of climate change on human health, pollen-related allergies and asthma can exacerbate long-term health problems and should motivate more aggressive climate mitigation strategies.

See: Anderegg, W. R. L., et al. Anthropogenic climate change is worsening North American pollen season. PNAS, 2021; [DOI:10.1073/pnas.2013284118](https://doi.org/10.1073/pnas.2013284118)

Comparison of Self-Reported Greenhouse Gas Inventories by 48 US Cities to Vulcan V3.0 Dataset

Access to accurate greenhouse gas (GHG) inventories is a key part of developing the most effective and impactful mitigation measures for combating climate change, especially on a local level. It is estimated that cities generate nearly three quarters of total annual fossil-fuel CO₂ emissions (FFCO₂). These emissions come from a variety of sectors, such as transportation, power generation, and industrial facilities. Although many large cities have developed GHG inventories for the purposes of setting emission reduction goals, these inventories do not necessarily follow a standardized method or undergo peer review.

A recent study published in *Nature Communications* by Gurney *et al.* of Northern Arizona University analyzed self-reported inventories (SRI) from 48 of the top 100 emitting cities across the US and compared them to emissions estimated using Vulcan v3.0, a data tool developed by Gurney and others in collaboration with Oak Ridge National Laboratory. Vulcan v3.0 relies on publicly available data sets from 2010-2015 and the resulting emissions estimates are highly aligned with atmospheric measurements of CO₂ in the US (within 1.5 percent). Gurney *et al.* ensured a true “apples to apples” comparison between the Vulcan v3.0 emissions and the original SRIs by restricting Vulcan v3.0 calculations to the same geographic boundaries and emissions sectors and sources as the SRIs. This means there could still be sources of emissions that remain unaccounted for by Vulcan. Despite this, Gurney *et al.* observed a mean relative

difference of 18.3 percent between the two data sets, with Vulcan emissions higher in the majority (37 of 48) of sample cities. This is equivalent to 19,076,760 metric tons of carbon per year (tC/year) unaccounted for across the 48 SRIs analyzed. When this value was extrapolated to the entire US based on the percentage of emissions and population that these 48 cities represent, Gurney *et al.* estimated that 129,219,255 tC/year are unaccounted for. Placed in context, this emissions gap is almost 25 percent higher than the 2015 GHG emissions for the entire state of California.

The study discussed several possible reasons for this underreporting, ranging from methodology differences to administrative burdens. For example, many cities calculate on-road emissions from vehicles using fuel sale records. This approach omits emissions generated by vehicles operating within city boundaries but fueled by gasoline or diesel purchased outside of boundaries. On the administrative side, Gurney *et al.* recognized that compiling inventories is a time consuming and expensive undertaking – this can lead to data gaps, lack of independent verification, and incomplete documentation of methods. On the last point, Gurney *et al.* acknowledges that despite attempts to replicate the boundaries of the SRIs, there was not always sufficient documentation to do so—as a result, variations in emissions between Vulcan and the SRIs may ultimately need further refinement.

Gurney *et al.* concludes that tools such as the Vulcan 3.0 dataset can help cities improve the accuracy of their self-reported inventories, including the baseline inventory used for GHG mitigation policy making decisions.

See: Gurney, K.R., Liang, J., Roest, G. *et al.* Underreporting of greenhouse gas emissions in U.S. cities. *Nat Commun* 12, 553 (2021). <https://doi.org/10.1038/s41467-020-20871-0>

Observational Constraints on Cloud Feedbacks Suggests Moderate Climate Sensitivity

Climate models, also known as general circulation models (GCMs), use rigorous mathematical equations to represent Earth's many complex exchanges of energy and matter in order to accurately predict how changes in radiative forcing will impact the future of our climate (NOAA). Increases in radiative forcing as a result of anthropogenic greenhouse gas emissions are expected to cause increases in global

temperatures; however, not every geographical region is expected to warm equally. Regional warming is dependent on the positive or negative feedback cycles that are triggered by increases to net radiative forcing, which can strengthen or weaken forcing impacts depending on their direction. Accurate quantification and description of such feedback cycles is key to building strong climate models that can robustly predict future changes to our climate.

Tropical low cloud feedback is the biggest uncertainty to climate model sensitivity, specifically the impact of low-level stratocumulus (Sc) and shallow cumulus (Cu) clouds. Currently, Sc and Cu clouds are assumed to cause strong positive feedbacks to warming because they reflect less solar radiation; however, individual climate models do not agree on the direction or strength of this feedback. Researchers for a new study published in *Nature Climate Change* hypothesized that the uncertainty in tropical low cloud feedback for GCMs arises from treating Sc and Cu clouds as equivalent when, in fact, they produce very different feedback conditions because of their different cloud processes. Most studies do not analyze Sc and Cu clouds independently of each other. As a result, little is known of their respective feedbacks, causing larger uncertainty.

To rectify this, Cesana *et al.* used the Cumulus and Stratocumulus CloudSat-CALIPSO Dataset (CAS-CCAD), remote sensing satellite data on low cloud fraction from NASA, alongside cloud controlling environmental factors such as sea surface temperature (SST) and estimated inversion strength (EIS) to estimate the change in low cloud fraction in response to changes in temperature. The study found that GCMs have been overestimating sensitivity to Sc and Cu clouds. Cu clouds were found to be insensitive to warming despite climate models predicting large positive cloud feedback in regions where Cu clouds are abundant. Instead, long term low cloud feedback was found to be most impacted by Sc clouds. Cesana *et al.* estimate that this is the result of GCMs creating artefact clouds with overestimated sensitivity in these regions, and/or an incorrect parametrization.

While Sc clouds were found to be sensitive to warming and inversion strength, the study also found that models tend to overestimate the Sc clouds positive feedback and that Sc clouds are more moderately sensitive than the models predict. This is because of a discrepancy in future trends in the cross-Pacific SST

gradient as estimated by GCMs versus historical data. GCMs estimate that the cross-pacific SST gradient will weaken, causing strong positive low cloud feedback. However, historical trends in the Pacific gradient indicate that this prediction may be incorrect. When Cesana *et al* used projections in the Pacific gradient based on historical data rather than GCM outputs, they found that tropical low cloud feedback is expected to be 2 times smaller than predicted.

By analyzing Sc and Cu cloud feedback independently, Cesana *et al* were able to conclude that GCMs overestimate their respective sensitivity to global warming, causing uncertainty in future climate projections. As a result, they highlight the importance of parametrizing these factors separately in GCMs to better estimate the impacts of anthropogenic increases in our net radiative forcing, and better estimate our changing climate.

See: Cesana, G.V., Del Genio, A. D. Observational constraint on cloud feedbacks suggests moderate climate sensitivity. *Nat. Clim. Chang.* (2021). <https://doi.org/10.1038/s41558-020-00970-y>

See also: Cesana, G., Del Genio, A. D. and Chepfer, H., 2019: [The Cumulus And Stratocumulus CloudSat-CALIPSO Dataset \(CASCCAD\)](#), Earth Syst. Sci. Data, 1745-1764, doi:10.5194/essd-11-1745-2019.

See also: Climate models: NOAA Climate.gov. (n.d.). Retrieved February 18, 2021, from <https://www.climate.gov/maps-data/primer/climate-models>

Planetary Warming Effects of Forest Carbon Storage and Albedo

Forests are known staples in the arsenal of natural resources that help mitigate climate change. It is well established that forest preservation retains carbon stored in trees and soil, and that planting trees creates additional carbon sinks as the new growth uptakes additional CO₂. There are many carbon offset strategies focused on forest preservation or tree growth. Additionally, governments and companies alike have looked to planting trees as a strategy for reducing planetary warming. While forests do store carbon that may otherwise be released to the atmosphere, thus contributing to planetary warming, carbon storage

is not the only factor through which forests impact warming—the albedo of a forest also has an impact. Albedo is a measure of how much solar radiation that hits a surface is reflected from the surface without being absorbing. A surface with a lower albedo absorbs more solar radiation, in turn contributing to planetary warming. Conversely, a higher albedo surface such as a snow-covered plain would reflect more radiation, preventing planetary warming.

New research out of Clark University's School of Geography led by Williams, *et al.* explores the planetary warming trade-offs of forest carbon storage and forest albedo. The research group used satellite remote sensing data to study land masses that had been converted from forest to non-forest areas. The use of observational data provides a more detailed analysis to a question that has been previously mostly assessed with computer models. The researchers quantified the biomass carbon release to the atmosphere that resulted from the land change. Then, they identified which category the land was converted into (urban, agriculture, grassland, shrubland, pasture, or other), as well as the difference in reflected radiation.

The results from the study show that some forests have a net warming effect due to the forest albedo, and that deforestation does not always lead to planetary warming. The Intermountain U.S. region is an example of where forest loss does not result in net planetary warming. Forest loss east of the Mississippi River and in West Coast states does, however, contribute to net planetary warming.

While reforestation and protecting forests play a crucial role in ecosystem health and mitigating climate change, the results of this study provide important insight on which geographies tree planting efforts should be focused on to avoid a net warming effect. Large-scale tree planting efforts from governments, companies, and NGOs could use these insights to avoid counter-productive climate impacts from tree planting.

See: Williams, C.A., Gu, H., Jiao, T. Climate impacts of U.S. forest loss span net warming to net cooling. *Science Advances* Vol. 7, no. 7. (2021). <https://advances.sciencemag.org/content/7/7/eaax8859> (Abby Kirchofer, Libby Koolik, Shaena Berlin Ulissi, Ashley Krueder)

REGULATORY DEVELOPMENTS

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD ADOPTS NEW ORDER ESTABLISHING STATEWIDE WASTE DISCHARGE REQUIREMENTS FOR WINERIES

On January 20, 2021, the State Water Resources Control Board (SWRCB or Board) voted unanimously in favor of the adoption of a resolution that will establish waste discharge requirements for wineries throughout the state. With the adoption of this new Winery Order, the SWRCB is seeking to protect California's surface and ground water sources while streamlining and improving permitting consistency, but the Order has so far seen a mixed reception by industry members.

Statewide General Waste Discharge Requirements for Wineries

Up until the adoption of the Winery Order, waste discharge requirements and permitting has been handled by Regional Water Quality Control Boards (RWQCBs) on a case-by-case basis. Because of this, many large wineries spanning multiple counties had been subject to the permitting and discharge requirements of multiple RWQCBs.

Furthermore, the utilization of the regional water boards in handling these matters led to most wineries remaining outside the purview of the Board's permitting requirements. Of California's roughly 3,600 bonded wineries, only 589 wineries held permits from RWQCBs to protect water quality.

The new system—adopted in the Board's Winery Order—would implement statewide rules for waste discharge from wineries. Specifically, the SWRCB developed general Waste Discharge Requirements for winery process water for wineries and similar facilities that generate winery waste and discharge it to land for reuse or disposal.

A Tiered System by Size

Classifying wineries by size, the Winery Order uses a tiered system which exempts wineries generating less than 10,000 gallons of processed water discharge annually and imposes the most stringent requirements

on wineries producing over 1,000,000 gallons annually.

Among the requirements introduced by the Winery Order, winery operators can expect to see reporting requirements established or increased for process water discharges and new requirements for water treatment systems and ponds. Winery operators will also see caps to the amount of processed water they can dispose of through land applications and subsurface disposal. Additionally, the state's largest wineries—those producing more than 1,000,000 gallons in processed water discharges annually—will also be subject to groundwater monitoring requirements.

Over 2,000 wineries that apply winery process water to land for reuse and disposal will be affected by the new regulation once implementation by regional water boards begins, which will likely occur sometime after the state board adopts a fee schedule for the statewide order at its meeting scheduled for March 9.

Conclusion and Implications

The State Water Resources Control Board has given wineries a three-year window for permitting under the Winery Order, with an additional five-years to come into compliance, meaning the ultimate aim of this new system won't fully come to fruition for nearly a decade.

With that said, critics on both sides have issues with the Order at the outset. On one side of the aisle, smaller winery owners have expressed concerns that the implementation of more strict discharge and reporting requirements will impose a financial burden these wineries are not in the position to endure—especially in a time like now where wineries are seeing increased challenges from both Covid-19 and California's increasingly common wildfires.

On the other hand, the Order has been attacked as not going far enough. The California Coastkeeper Alliance, in a recent news release on the Winery Order,

expressed their concerns with the Order's limited groundwater monitoring and absence of stricter spill prevention requirements. Just last January, for example, Sonoma County had one of the worst spills in state history when a local winery's tank failed, spilling nearly 97,000 gallons of wine into Reiman Creek, a tributary to the Russian River.

For better or worse, the new statewide system will at least serve as a step in the for seeking to protect California's groundwater and surface water resources. The final Resolution and Winery Order documents will be available soon on the State Water Resources Control Board's website at: https://www.waterboards.ca.gov/water_issues/programs/waste_discharge_requirements/winery_order.html
(Wesley A. Miliband, Kristopher T. Strouse)

PENALTIES & SANCTIONS

RECENT INVESTIGATIONS, SETTLEMENTS, PENALTIES AND SANCTIONS

Editor's Note: Complaints and indictments discussed below are merely allegations unless or until they are proven in a court of law of competent jurisdiction. All accused are presumed innocent until convicted or judged liable. Most settlements are subject to a public comment period.

Civil Enforcement Actions and Settlements— Air Quality

•January 27, 2021 - The U.S. Environmental Protection Agency (EPA) has reached a settlement with Des Moines Cold Storage Co. Inc. to resolve alleged violations of federal Clean Air Act Risk Management Program regulations at the company's three refrigeration storage and processing facilities in Des Moines, Iowa. In response to the EPA inspection findings, the company took the necessary steps to return the facilities to compliance. As part of the settlement, the company will pay a \$65,008 civil penalty. At the time of the EPA inspections in March 2020, each facility contained over 10,000 pounds of anhydrous ammonia, making them subject to Risk Management Program regulations intended to protect communities from accidental releases of toxic and/or flammable substances. During the inspections, EPA determined that Des Moines Cold Storage Co. Inc. failed to submit and implement risk management plans and a hazard assessment concerning the potential release of anhydrous ammonia. EPA has found that many regulated facilities are not adequately managing the risks they pose or ensuring the safety of their facilities in a way that is sufficient to protect surrounding communities. Approximately 150 catastrophic accidents occur each year at regulated facilities. These accidents result in fatalities, injuries, significant property damage, evacuations, sheltering in place, or environmental damage. Many more accidents with lesser effects also occur, demonstrating a clear risk posed by these facilities.

•January 29, 2021 - The Justice Department and EPA announced a settlement with Illinois-based

Stericycle, Inc. resolving alleged violations of the federal Clean Air Act and Utah air quality regulations at its medical waste incinerator in North Salt Lake, Utah. The settlement, set forth in a consent decree lodged with the U.S. District Court for the District of Utah, requires Stericycle to comply with EPA regulations applicable to medical waste incinerators, pay a \$600,000 civil penalty, and conduct a Supplemental Environmental Project requiring the company to spend at least \$2 million to purchase low-emitting school buses for a local school district. The settlement resolves violations alleged in the United States' complaint, which was also filed. The complaint alleges that Stericycle operated its waste incinerator in a manner that exceeded regulatory limits for nitrogen oxides (NOx), failed to properly conduct stack tests, and failed to comply with reporting requirements. The school bus replacement is a Supplemental Environmental Project, or SEP, which is an environmentally beneficial project required in a settlement that is not otherwise required by law. Diesel emissions reduction SEPs have been expressly authorized by Congress. EPA expects the SEP in this case will replace as many as 20 buses, leading to significant reductions in NOx, carbon monoxide, and diesel particulate matter and substantial fuel savings. NOx is a key component in the formation of ground-level ozone, a pollutant that irritates lungs, exacerbates diseases such as asthma, and can increase susceptibility to respiratory illnesses, such as pneumonia and bronchitis.

•January 27, 2021 - EPA, the Department of Justice and the Louisiana Department of Environmental Quality (LDEQ) announced a settlement with Dow Chemical Company and two subsidiaries, Performance Materials NA Inc. and Union Carbide Corporation, that will eliminate thousands of tons of air pollution from four of Dow's petrochemical manufacturing facilities in Texas and Louisiana. The settlement resolves allegations that Dow and its subsidiaries violated the Clean Air Act by failing to properly operate and monitor industrial flares at their

petrochemical facilities, which resulted in excess emissions of harmful air pollution. Under the settlement, the companies will spend approximately \$294 million to install and operate air pollution control and monitoring technology to reduce flaring and the resulting harmful air pollution from 26 industrial flares at the companies' facilities in Hahnville, La.; Plaquemine, La.; Freeport, Texas; and Orange, Texas; pay \$3 million in civil penalties; and perform three state-authorized beneficial environmental projects in Louisiana. The complaint alleges that Dow and its subsidiaries "oversteamed" their flares and failed to comply with other key operating parameters that ensure the volatile organic compounds (VOCs) and hazardous air pollutants contained in the gases routed to the flares are effectively combusted. The settlement is also expected to reduce toxic air pollutants, including benzene, by nearly 500 tons per year. Well-operated flares should have high "combustions efficiency," meaning they combust nearly all harmful waste gas constituents, like VOCs and hazardous air pollutants, and turn them into water and carbon dioxide. The agreement is designed to improve Dow's flaring practices. In order to minimize the waste gas sent to the flares at each facility, Dow will operate flare gas recovery systems that recover and "recycle" the gases instead of sending them to be combusted in a flare. The flare gas recovery systems will allow Dow to reuse these gases as a fuel at its facilities or a product for sale. Dow will also create waste minimization plans for each facility to further reduce flaring. For flaring that must occur, the agreement requires that Dow install and operate instruments and monitoring systems to ensure that the gases sent to its flares are efficiently combusted. Dow will also perform air quality monitoring that is designed to detect the presence of benzene at the fence lines of the four covered plants and pay a civil penalty of \$3 million. The LDEQ will receive \$675,000 of the \$3 million total civil penalty, in addition to the beneficial environmental projects.

- February 9, 2021 - American Zinc Recycling Corp. (AZR) has settled a federal-state lawsuit citing violations of air, water and hazardous waste environmental laws at its facility in Palmerton, Pennsylvania, delivering environmental and public health benefits, including reduced lead dust exposure, for nearby residents. Lead exposure poses particular health risks

to young children and pregnant women. In settlement papers filed on January 19 in federal court in Scranton, Pennsylvania, AZR has agreed to carry out an estimated \$4.3 million in measures to comply with federal and state environmental laws. AZR is the corporate successor of Horsehead Corporation, which emerged from bankruptcy in September 2016. The AZR facility in Palmerton is located on Aquashicola Creek, which flows into the Lehigh River. The facility, which has operated for more than 100 years, reclaims zinc from electric arc furnace dust, a hazardous waste. The facility also generates waste kiln rubble, which includes hazardous lead and cadmium. Aboveground oil tanks at the facility have an aggregate 61,000-gallon storage capacity. This is the second time that the U.S. and Pennsylvania have jointly taken federal judicial enforcement action for violations at this facility.

- February 10, 2021—EPA and Equilon Enterprises LLC, doing business as Shell Oil Products US, have agreed on a legal settlement resolving violations of the federal Clean Air Act stemming from a February 2015 release of toxic vapors from the company's Puget Sound Refinery in Anacortes, Washington. Shell paid a penalty of \$191,000. In the Consent Agreement and Final Order filed in late December, EPA alleged that during maintenance activities on February 20, 2015, Shell employees deviated from the facility's operating procedures which resulted in the release of un-combusted toxic vapors. Shell calculates its errors caused the release of about 700 pounds of un-combusted air pollutants including hydrogen sulfide, dimethyl sulfide, mercaptans, pyrophoric iron, and benzene. The release lasted from about 1 pm to 4:30 pm. More than 550 people in these areas were impacted by the release, some of whom sought medical attention. During an inspection following the release, EPA identified several violations of the Risk Management Program requirements of the Clean Air Act, including violations of the Hazard Assessment Requirements, Process Safety Information Requirements, Operating Procedure and Management of Change Requirements, and Mechanical Integrity Requirements. The Clean Air Act's Risk Management Program requires Shell to develop and implement a Risk Management Plan and program to detect and prevent or minimize accidental releases and to provide a prompt emergency response to any such

releases to protect people's health and the environment. Shell has corrected the violations.

- February 12, 2021—EPA announced that it has settled with “Wright Brothers, the Building Company” and “First Team Restoration Inc.” for violations of federal asbestos regulations committed during renovation of a commercial building in Boise, Idaho. Asbestos is a known carcinogen with no known safe level of exposure. In the consent agreement and final order filed on January 26, EPA alleged that the two companies failed to comply with important asbestos regulations when they failed to test and inspect dry-wall and joint compound for asbestos before removing it, and failed to notify EPA of their intent to renovate the building at least 10 working days before beginning the renovation. The companies agreed to pay a combined penalty of \$36,300. Asbestos fibers may be released into the air by the disturbance of asbestos-containing material during product use, demolition work, building or home maintenance, repair, and remodeling. In general, exposure may occur only when the asbestos-containing material is disturbed or damaged in some way to release particles and fibers into the air.

- February 17, 2021—EPA announced a settlement with GreenGate Fresh, LLC for violating the Clean Air Act. GreenGate Fresh will pay a penalty of \$80,000 and restore its Salinas facility to compliance with federal law on an established schedule. This facility chills and stores produce-related products for the food service industry using anhydrous ammonia for refrigeration. On July 23, 2019, EPA performed an inspection of the facility and found violations of the Clean Air Act's Risk Management Plan regulations. When properly implemented, risk management plans help prevent chemical releases and minimize their potential impacts at facilities that store large amounts of hazardous substances. Thousands of facilities nationwide make, use, and store extremely hazardous substances, including anhydrous ammonia. Catastrophic accidents at these facilities—historically about 150 accidents each year—result in fatalities and serious injuries, evacuations, and other harm to human health and the environment.

Civil Enforcement Actions and Settlements— Water Quality

- January 27, 2021 - EPA has announced a settlement with Keehi Marine, Inc. to resolve Clean Water Act (CWA) violations for discharge of contaminants into Honolulu's Ke'ehi Lagoon. Under the settlement, Keehi Marine will pay a \$127,821 penalty and will maintain preventative measures to reduce the discharge of pollutants like lead, zinc, and copper through stormwater runoff. Such discharges harm aquatic life and sensitive coral reef ecosystems. Keehi Marine completed the terms of an Administrative Order EPA issued to the facility on November 3, 2020, after EPA identified CWA violations at the facility. Under the Order, Keehi Marine has: 1) Developed a Stormwater Pollution Control Plan to control pollutants; 2) Resurfaced the 1.3-acre boatyard area to prevent discharges from work areas; 3) Implemented a plan to monitor for copper, lead, zinc and other pollutants; 4) Conducted employee training and daily inspections; 5) Installed a stormwater treatment system to remove pollutants from their stormwater discharge; and 6) Implemented sample analysis policies and practices.

EPA's settlement with Keehi Marine resolves CWA violations found at the facility and is subject to a 30-day public comment period prior to final approval.

- January 27, 2021—EPA has announced a settlement with Guam Industrial Services, Inc., doing business as Guam Shipyard, over Clean Water Act (CWA) violations for discharge of contaminants into Apra Harbor. Under the settlement, Guam Shipyard will pay a \$68,388 penalty and will install preventative measures in to reduce the discharge of pollutants like sandblast and paint debris in stormwater to the harbor. Sandblast and paint debris contain metals that harm aquatic life and sensitive coral reef ecosystems. Guam Shipyard has completed the terms of an Administrative Order EPA issued to the facility on September 5, 2019, after EPA identified numerous violations at the facility.
found at the facility.

- February 2, 2021 - The City of Pittsburgh and the Pittsburgh Water and Sewer Authority (PWSA) are

required to adhere to a schedule of corrective actions to address stormwater inspection and enforcement violations under a consent agreement announced by EPA. Under the agreement, the city and PWSA are required to:

- 1) submit an updated stormwater code for approval to the Pittsburgh city council by July 2021;
- 2) hire additional inspectors and enforcement staff for 2022; and
- 3) put management partnership procedures in place by the end of January 2022.

The violations included failure to implement inspections and enforcement procedures for construction site erosion and sediment control measures, and for post-construction stormwater management best management practices. The agreement requires the city and PWSA to comply with a schedule of activities to ensure full compliance with these requirements by March 31, 2022 and to submit quarterly progress reports to EPA. EPA coordinated with the Pennsylvania Department of Environmental Protection in developing the settlement.

•February 10, 2021—EPA announced a Clean Water Act (CWA) settlement with Fleur de Lis Energy and Fleur de Lis Operating, LLC (Fleur de Lis) in which the companies have agreed to pay \$1.9 million for alleged Clean Water Act violations associated with the operation of oil and gas facilities in the state of Wyoming. The settlement, lodged in the United States District Court for the District of Wyoming, involves six separate discharges of crude oil and produced water from Fleur de Lis operated facilities into waters of the United States and their adjoining shorelines; inadequate Spill Prevention Control and Countermeasure (SPCC) Plans for five facilities; inadequate Facility Response Plans (FRP) for three facilities; and no FRP for one facility. EPA alleges Fleur de Lis oil and gas operations were responsible for spills of oil and produced water to surface waters in Wyoming between October 5, 2016, through May 29, 2018, including one spill in the Linch Complex Field in Johnson County and five spills in the Salt Creek Field in Natrona County. Each of the spills impacted adjoining shoreline and/or caused a sheen

on tributaries to Salt Creek, a tributary of the Powder River. Discharges from these facilities have the potential to impact tributaries to Salt Creek in the Salt Creek Field and Indian Draw, a tributary to Salt Creek in the Linch Complex Field. In addition, EPA alleges that Fleur de Lis failed to prepare adequate FRPs, or had no FRPs in place, from April 2015 through December 2017 at four facilities and failed to develop and implement a facility response training and drill/exercise program. The planning distance for these four facilities, which represents the extent of potential impacts associated with a worst-case spill scenario, extends over 90 miles to the Powder River. The Clean Water Act prohibits discharges of oil to waters of the United States that violate applicable water quality standards; or cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines; or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. The Oil Pollution Prevention requirements of the Clean Water Act are intended to prevent and facilitate the response to the discharge of oil from non-transportation-related onshore facilities. All facilities with 1,320 gallons of oil that have the potential for a spill to reach waters of the United States are required to have an SPCC Plan. Facilities with storage capacity of one million gallons or more and have the potential to impact fish, wildlife and sensitive environments are also required to meet FRP requirements. The \$1.9 million penalty will be deposited into the Oil Spill Liability Trust Fund, a fund used by federal agencies to respond to discharges of oil and hazardous substances.

•February 11, 2021 - EPA announced it has settled a Clean Water Act case it brought against KAG West, LLC, a petroleum transport and delivery facility in Tacoma, Washington for violations of the Washington Industrial Stormwater General Permit. The company agreed to pay a penalty of \$133,225. In the agreement, the agency noted that between March 2017 and March 2019 KAG West did not comply with its permit when it failed to: 1) install and/or maintain Best Management Practices to reduce stormwater pollution; 2) immediately cleanup spills; 3) use secondary containment to contain spills; 4) follow sampling and monitoring procedures; 5) file required annual reports, and 6) train its employees on the company's stormwater pollution prevention plan.

EPA estimates the company's failure to comply with its permit requirements resulted in 14,000 pounds of pollutants to annually enter Blair Waterway and Commencement Bay, a Superfund site. This settlement is the latest in a series of enforcement actions taken by EPA Region 10 to address stormwater violations from industrial facilities and construction sites throughout the Pacific Northwest and Alaska.

Civil Enforcement Actions and Settlements— Chemical Regulation and Hazardous Waste

•January 19, 2021 - EPA and Joint Base Elmendorf-Richardson in Anchorage, Alaska announced a settlement for violations of federal laws governing the handling, storage, and disposal of hazardous wastes. On October 9, 2019, JBER self-disclosed that approximately 200,000 pounds of expended small-arms cartridge casings (ESACCs) had been stockpiled and were determined to be toxic from lead contamination. The Base had successfully recycled all its brass casings until 2017, when the recycling was discontinued. The resolution of this case sets the stage for a resumption of the ESACC recycling program, and the proceeds will fund other base-wide recycling efforts at JBER. Under the terms of the settlement, EPA is allowing JBER to recycle the brass ESACCs rather than dispose of them in a permitted RCRA treatment, storage, and disposal facility. In accordance with a structured timeline, JBER must decontaminate the building where the scrap brass cartridges are stored, report to EPA on its progress recycling the ESACCs, and notify EPA when the recycling is completed. This settlement also resolves universal waste management violations identified during an October 7-9, 2019, EPA Base inspection. JBER demonstrated a cooperative attitude during the course of settlement negotiations and is in the process of correcting the violations and instituting new measures to prevent their recurrence. The Base has paid a \$61,554 penalty as part of the settlement.

•January 19, 2021—EPA and the U.S. Department of Justice (DOJ) announced a settlement with U.S. Magnesium (USM) to resolve violations of the Resource Conservation and Recovery Act (RCRA) and require response actions under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) at its Rowley, Utah facility. The settlement includes extensive process modifica-

tions at the facility that will reduce the environmental impacts from its production operations and will ensure greater protection for its workers. This settlement includes construction of a barrier wall around 1,700 acres of the operating portions of the facility to prevent leaks or breaches of hazardous materials to the Great Salt Lake; construction of a filtration plant to treat all wastewater; and provides for financial assurance to ensure cleanup and closure of the facility. The company will also spend at least \$37 million to implement the terms of the settlement and will pay a civil penalty of \$250,000. A consent decree formalizing the settlement was lodged in the U.S. District Court Central Division Utah and is subject to a 30-day public comment period and approval by the federal court.

•February 8, 2021—EPA has settled with Emerald Kalama Chemical, LLC for alleged hazardous waste storage and handling violations at their Kalama, Washington facility. These violations related to the storage and handling of hazardous wastes containing volatile organic compounds (VOCs) and the emissions standards applicable to storage containers and equipment. Emerald Kalama Chemical shares the airshed with the town of Kalama (home to over 2,000 residents) in Cowlitz County, Washington. RCRA gives EPA the authority to control hazardous waste from the “cradle-to-grave.” This includes the generation, transportation, treatment, storage, and disposal of hazardous wastes containing VOCs. The Department of Ecology administers RCRA within Washington State via its Dangerous Waste program. EPA has the authority to enforce Washington's Dangerous Waste program.

•February 9, 2021 - The Seattle office of EPA announced that it has issued a “stop sale” order to Amazon.com to prevent sales on the platform of potentially dangerous or ineffective unregistered pesticides and pesticide devices making illegal and misleading claims, including multiple products that claimed to protect against viruses. This action adds 70 products to a June 6, 2020 EPA order which contained over 30 illegal products. This is the third pesticide stop-sale order issued by the agency to Amazon in the last three years. The agency advises consumers who have purchased an unregistered pesticide product or a misbranded pesticidal device to safely dispose of it in

accordance with local, state, and federal laws. This is especially important for consumers seeking to protect against SARS-CoV-2, the virus that causes COVID-19. EPA recommends that consumers only purchase products on EPA's "List N of Disinfectants for Coronavirus (COVID-19)." EPA expects all products on this list to kill the coronavirus SARS-CoV-2 (COVID-19) when used according to the label directions.

- February 11, 2021 - EPA has announced settlements with Par Hawaii Refining, LLC, over violations of the federal Clean Air Act and the Resource Conservation and Recovery Act (RCRA) at its oil refining facilities on Komohana Street and Malakole Street in Kapolei. Par Hawaii will carry out changes to reduce the risk of chemical accidents at the Malakole Street facility and conduct sampling at the Komohana Street facility to determine whether improper management of hazardous wastes contaminated local soil. Par Hawaii will also pay a combined \$219,638 civil penalty. In March 2019, EPA inspec-

tors found violations of the Clean Air Act's chemical accident prevention requirements under the facility's Risk Management Plans (RMPs). These included process safety errors, such as incorrect maximum inventories for some crude unit vessels and inaccurate piping and machine diagrams. EPA also found operating procedures that were unclear and not current, such as an outdated emergency shutdown operating procedure in the control room. A September 2018 EPA inspection found the Komohana Street facility improperly managed hazardous waste from its refinery processes. The contaminants of concern included hexavalent chromium and benzene, which can escape into the environment and groundwater through improper waste management practices. The settlement requires Par Hawaii to develop and implement a sampling plan to determine the possibility of localized hazardous waste contamination on-site. This settlement is part of EPA's National Compliance Initiative (NCI): Reducing Accidental Releases at Industrial and Chemical Facilities.
(Andre Monette)

RECENT FEDERAL DECISIONS

D.C. CIRCUIT OVERTURNS EPA'S 2019 AFFORDABLE CLEAN ENERGY RULE

American Lung Association v. U.S. Environmental Protection Agency,
___F.3d___, Case No. 19-1140 (D.C. Cir. 2021).

On January 19, 2021, the D.C. Circuit Court of Appeals issued a 185-page opinion vacating the U.S. Environmental Protection Agency's (EPA) 2019 Affordable Clean Energy Rule (ACE Rule), reasoning that it rested on an erroneous reading of the federal Clean Air Act (CAA or the Act). The ACE Rule replaced the Obama-era Clean Power Plan, and would have regulated greenhouse gas (GHG) emissions from existing coal-fired power plants. The D.C. Circuit held that the EPA's narrow statutory interpretation of 42 U.S.C. § 7411 (Section 111) of the CAA to apply only to measures that can be applied "at and to a stationary source" misinterpreted the Act.

Background

Section 111 of the CAA directs EPA to follow a specific procedure in order to regulate new and existing stationary sources of air pollutants. After the EPA determines that a category of sources causes or contributes significantly to air pollution that may reasonably endanger public health or welfare (called an Endangerment Finding), it must publish regulations establishing standards of performance for new sources in that category. These standards of performance are the standards for emissions that reflect the best system of emission reduction that the Administrator deems adequately demonstrated. The standards of performance also include a consideration of the cost of reduction. Once a new source regulation is promulgated, the Administrator must also issue guidelines for already-existing stationary sources. Once EPA issues the emissions standards, each state must submit a plan that shows how it will implement the standard of performance. If a state plan is inadequate, or a State does not submit the plan, the EPA will prescribe a plan for that state.

In *Massachusetts v. EPA*, the U.S. Supreme Court established that carbon dioxide and other GHGs are

considered air pollutants under CAA and as such, EPA must take action unless it finds, and explains why, those GHGs do not contribute to climate change. In 2009, the EPA found compelling evidence that emissions of carbon dioxide and GHGs polluted the atmosphere and endangered human health by causing damage to the environment and issued an Endangerment Finding in the context of motor vehicle emissions. In 2015, EPA studies reaffirmed the 2009 Endangerment Finding and explained that fossil-fuel fired power plants were the largest stationary source of GHGs, which allowed the EPA to regulate said sources.

Under the 2015 Clean Power Plan, EPA identified three "building block" methods of emission reduction: 1) heat-rate improvements to reduce the amount of coal burned to produce one watt of electricity; 2) increased amount of substituting higher emission power plants with lower-emitting natural gas combined cycle units; and 3) prioritize the use of zero-emitting renewable sources over electricity. Building blocks 2 and 3 were a unique development because these allowed for regulation beyond the fenceline of power plants. As such, states were required to develop compliance plans for the power sector as a whole as opposed to the best source of emission reduction at the source itself.

In 2019, EPA adopted the ACE Rule to repeal and replace the Clean Power Plan. The ACE Rule determined a new best system of emission reduction for coal-fired power plants, limited to measures that "can be applied at and to a stationary source." Notably, the ACE Rule did not include other type of fossil-fuel fired plants like oil or natural gas. The ACE Rule relied solely on heat-rate improvement technology (building block 1 of the Clean Power Plan) rather than generation-shifting technology (building blocks 2 and 3). The agency also explicitly excluded natural gas co-firing and carbon capture and storage from its

best system. EPA detailed the new degree of emissions limitations by producing a chart with heat rate improvement ranges, organized by power plant size.

The D.C. Circuit's Decision

Legal Challenges to the ACE Rule

The *American Lung Association* consolidated various claims made by three groups of petitioners challenging the ACE Rule. The first group challenged the ACE Rule's conclusion that reduction measures can only be implemented and applied to the source. The second group challenged EPA's failure to make a specific endangerment finding about carbon dioxide from coal-fired power plants, and that EPA should be regulating carbon dioxide under the National Ambient Air Quality Standards (NAAQS). The third group objected to the ACE Rule's determination that States may not count biomass co-firing as a method of complying with numerical limitations.

Emissions Reduction Measures 'At and to a Stationary Source'

In the ACE Rule, EPA's interpretation of CAA Section 111 found that the "best system of emission reduction" are measures that "can be applied at and to a stationary source." This was a considerably narrower interpretation than the Clean Power Plan and the D.C. Circuit found it to be inconsistent with the text of the statute and intent of Congress. The court reasoned that the plain language of the statute does impose some limitations on EPA's authority to determine the best system (like cost, non-air health and environmental impacts, and energy), but "at and to the source" measures were not one of those limitations. Furthermore, the legislative history demonstrated that Congress intentionally avoided imposing such limitations on existing source categories. The D.C. Circuit therefore found EPA's reading of the CAA to limit the best system of emissions reduction to measures "at and to" the stationary source was erroneous. Subsequently, it reasoned that EPA's exclusion of certain methods like trading and biomass co-firing (which are not source-specific), was also invalid.

Prior Endangerment Findings Were Sufficient

Petitioners claimed that in order to promulgate the ACE Rule, EPA had to make a specific finding that

carbon dioxide emissions from coal-fired power plants was a significant source of danger to public health and welfare. However, the D.C. Circuit held that the previous findings in 2009 and 2015 were sufficient as a predicate to the ACE Rule. In the 2009 New Source Rule, EPA made an Endangerment Finding for the harms posed by GHGs in connection with motor vehicles. In the 2015 New Source Rule, additional studies since 2009 continued to support the 2009 Endangerment Finding. In 2015, EPA also explained that fossil-fuel-fired power plants are the largest sources of GHG emissions in the United States. The D.C. Circuit found that the explanation of why EPA regulated power plants in the 2015 New Source Rule a sufficient finding to promulgate the ACE Rule.

Harmonizing CAA Sections 111 and 112

Petitioners also argued that the Hazardous Air Pollutants program, 42 U.S.C. § 7412 (Section 112), subjected power plants to regulation already, and therefore, the EPA should not be able to subject those sources to additional regulation under Section 111. However, the court disagreed reasoning that Section 111 was intended to be a catchall for existing stationary sources that did not fall under NAAQS or the Hazardous Air Pollutants program. Section 112's regulation of power plants for mercury does not exempt those plants from carbon dioxide regulation under Section 111(d). The D.C. Circuit relied on House and Senate amendment history and the U.S. Supreme Court reasoning in *American Electric Power Co. v. Connecticut* to determine that regulation under Sections 111 and 112 is pollutant-specific. Therefore, because current power plant regulation under Section 112 is specific to mercury, EPA was not precluded from using Section 111 to regulate carbon dioxide emissions.

Change in Timeframe in Amended Implementing Regulations

Finally, petitioners argued that the time frame adjustments EPA made to the implementing regulations were arbitrary and capricious because EPA failed to justify such an extension given the urgency of controlling harmful emissions. The ACE Rule amended the time period for regulatory implementation determined by the implementing regulations. Prior to the ACE rule, States had nine months to

develop their compliance plans, EPA had six months to submit its own plan if a state failed to do so, and one year for the states to demonstrate compliance. Under the ACE Rule, states had three years to create a plan, EPA had two years to submit its own if a state fails, and states had more than 2 years to demonstrate compliance. The D.C. Circuit agreed that EPA was required to articulate a satisfactory explanation that included a rational connection between the facts found and choice made. EPA's failure to justify prolonged public exposure to harm from pollutants ignored "arguably the most important aspect" of the problem and was irrational.

Judge Walker's Partial Dissenting Opinion Favoring Regulation under Section 112

Judge Walker's partial dissent focused on the regulation of power plants under Section 112. The dissent focused on a 1990 amendment, in which Congress excluded source categories regulated under Section 112 from regulation under Section 111. Therefore, because coal-fired power plants were subject to some regulation under Section 112, he did not agree that those sources should also be subject to regulation under Section 111.

D.C. CIRCUIT FINDS THAT THE FLEXIBLE OZONE OFFSETS PROGRAM NOT AUTHORIZED UNDER THE CLEAN AIR ACT

Sierra Club v. U.S. Environmental Protection Agency, 985 F.3d 1055 (D.C. Cir. 2021).

Congress sought to diminish state discretion to regulate six specific air pollutants by its 1990 amendments to the Clean Air Act. Those amendments did not include sufficient flexibility to allow an emission offset trading program that allowed offsets of one ozone precursor to stand in for offsets of another. At the D.C. Circuit Court of Appeals, the court was tasked with and ruled, on January 29, 2021, as follows:

In these consolidated cases, we consider challenges to four provisions of the Environmental Protection Agency's 2015 and 2018 rules implementing the National Ambient Air Quality Standards for ozone. For the reasons set forth

Conclusion and Implications

The D.C. Circuit Court of Appeals vacated the 2019 ACE Rule on the eve of President Biden's inauguration. The remand to the agency to re-interpret the statutory language will likely produce a different outcome given the change in presidential administrations and agency leadership. Whereas if the opinion had not been rendered, the EPA likely would have sought a stay or abeyance in this case, the vacatur gives the new administration an opportunity to start with a blank slate immediately. Additionally, in response to questions from the regulated industry about the status of reinstating the Clean Power Plan, the EPA issued a memorandum stating that the agency would not revive the Clean Power Plan on February 12, 2021. Instead, the agency expressed intent to engage in a new rulemaking procedure altogether. That said, *American Lung Association* appears to allow EPA to consider controls beyond the stationary source, thus providing the agency a pathway to adopt an sector-wide approach to regulating GHG emissions from power production sources, similar to what was included in the Clean Power Plan.
(Alexandra Lizano, Darrin Gambelin)

below, we vacate two provisions—the precursor trading program and the interpretation of the Clean Air Act's contingency measures requirements—because they contravene the statute's unambiguous language. We vacate another provision—the implementation of the milestone compliance demonstration requirement—because it rests on an unreasonable interpretation of the statute. Lastly, we deny the petition for review with respect to the alternative baseline years provision.

Background

The federal Clean Air Act (CAA or Act) requires that the U.S. Environmental Protection Agency

(EPA) set primary and secondary National Ambient Air Quality Standards (NAAQS) for each “criteria” air pollutant the agency has found “may reasonably be anticipated to endanger public health or welfare,” setting the NAAQS at a level that allows “an adequate margin of safety” while protecting public health (for primary NAAQS) or welfare (for secondary NAAQS). 42 U.S.C. §§ 7408(a)(1)(A), 7409(b)(1)-(2). Regions that do not meet the NAAQS for a particular pollutant are deemed to be in “nonattainment,” those that are NAAQS-compliant are designated as in “attainment,” while “unclassifiable” regions when “available information” does not allow NAAQS compliance to be determined. 42 U.S.C. § 7407(d)(1)(A). For the majority of the pollutants regulated under the Act, states are then responsible for reaching or maintaining attainment.

Congress, however, amended the Act in 1990 to more prescriptively regulate six pollutants, including ozone, in “Subpart 2.” Ozone, while “an essential presence in the atmosphere’s stratospheric layer,” is dangerous to human health at ground level. *South Coast Air Quality Management District v. EPA (South Coast I)*, 472 F.3d 882, 887 (D.C. Cir. 2006). Pertinent to this case, ozone is not emitted as a direct result of human activity, but rather “forms when other atmospheric pollutants—ozone ‘precursors’—react in the presence of sunlight.” *American Trucking Associations, Inc. v. EPA*, 283 F.3d 355, 359 (D.C. Cir. 2002). Ozone precursors include volatile organic compounds (VOCs) and oxides of nitrogen (NOx)—themselves, pollutants subject to NAAQS.

Subpart 2 directs that each ozone nonattainment area shall be classified as “marginal,” “moderate,” “serious,” “severe,” or “extreme” based on how much the ozone level in that area exceeds the NAAQS. *Id.* §§ 7511(a)–(b). Nonattainment areas must achieve the primary NAAQS “as expeditiously as practicable,” *id.* § 7511(a)(1), although “[a]n area that exceeds the NAAQS by a greater margin is given more time to meet the standard but is subjected to progressively more stringent emissions controls for ozone precursors,” chiefly, VOCs and NOx. *South Coast Air Quality Management District v. EPA (South Coast II)*, 882 F.3d 1138, 1143 (D.C. Cir. 2018) (internal quotation marks omitted).

In 2008, EPA set new ozone NAAQS, and in 2015 the agency promulgated regulations implementing the 2008 NAAQS. 73 Fed. Reg. 16,436 (Mar. 27,

2008); 80 Fed. Reg. 12,264 (Mar. 6, 2015). The 2015 regulations included an “interprecursor trading program” that was subject to challenge and voluntarily reconsidered by EPA. The agency once again included the program in 2018 implementing regulations following on ozone NAAQS adopted in 2015. 80 Fed. Reg. 65,292 (Oct. 26, 2015); 83 Fed. Reg. 62,998 (Dec. 6, 2018). Sierra Club and other environmental advocacy petitioners challenged the program.

The D.C. Circuit’s Decision

The Clean Air Act requires a permit be obtained via a state’s New Source Review program prior to modification or construction of a “major stationary source” of criteria pollutants “to assure” that the relevant NAAQS “are achieved.” 42 U.S.C. § 7410(a)(2)(C). A permit may issue if the applicant has obtained “sufficient offsets, or emissions reductions,” from another source in the relevant nonattainment area, such that total allowable emissions from existing sources in the region, from new or modified sources which are not major emitting facilities, and from the proposed source will be sufficiently less than total emissions from existing sources.” 42 U.S.C. § 7503(a)(1)(A). Overall reductions result from the purchase of offsets via a series of ratios, so that a new source that will emit 1.0 of VOCs will have to obtain offsets at a ratio of “1.1 to 1 for marginal areas, 1.15 to 1 for moderate areas, 1.2 to 1 for serious areas, 1.3 to 1 for severe areas, and 1.5 to 1 for extreme areas.” (Internal citations omitted.)

The 2018 interprecursor trading program interpreted Subpart 2’s extension of the offset concept to ozone to allow a requirement for ozone-related offsets to be satisfied by obtaining offsets of ozone’s precursors, VOCs and NOx. Further, the program allows offsets for one precursor “to sand in for the other,” subject to further ratios to ensure that the offset “provide[s] an equivalent or greater ozone air quality benefit in the applicable ozone nonattainment area.”

Petitioners argued the interprecursor trading program violated the plain terms of the Act. Applying *Chevron* deference, the D.C. Circuit agreed. *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-843 (1984).

Recall that Subpart 2’s offset provisions related to ozone and its precursors specify that “the ratio of total emission reductions of volatile organic compounds to total increased emissions of such air pollutant shall

be” the various ratios previously laid out. 42 U.S.C. §§ 7511a(a)(4), (b)(5), (c)(10), (d)(2), (e)(1) (emphasis added). The statute generally extends these offset ratios to NO_x. See 42 U.S.C. § 7511a(f)(1).

The D.C. Circuit interpreted “such” in the quoted language of the Act as referring “back to VOCs,” and noted the identically phrased Subpart 2 language regarding NO_x. “By contrast, the word ‘ozone,’ which EPA interprets ‘such air pollutant’ to mean, last appears five subsections above the first precursor offset provision and 334 words before the phrase ‘such air pollutant.’” 42 U.S.C. § 7511a(1)(C).

The court found that had Congress intended to allow interprecursor trading for offsets, it would have used the phrase “ozone precursors” instead of “such air pollutant,” as it does elsewhere in the contemporaneously enacted provisions of Subpart 2. See, e.g., 42 U.S.C. §§ 7511d(e), 7511f. The plain language of the statute thus requires that increased VOC emissions be offset with reductions in VOC emissions, and the same is true for NO_x emissions under most circumstances.

Ultimately, the D.C. Circuit rejected the agency’s reliance on the “general” language permitting offsets in Subpart 1, 42 U.S.C. § 7503(c)(1), as running afoul of the:

... ‘basic principle of statutory construction that a specific statute. . . controls over a general provision. . . particularly when the two are interrelated and closely position.’ *Adirondack Medical Center v. Sebelius*, 740 F.3d 692, 698 (D.C. Cir. 2014), quoting *HCSC–Laundry v. United States*, 450 U.S. 1, 6 (1981).

Conclusion and Implications

As new appointees rapidly jettison many of the previous administration’s regulatory proposals that had not yet been finalized, the court continue to work through challenges to those regulations promulgated over the past eight years. Here, the flexibility to reduce one ozone precursor as a stand-in for reductions of another contravened the strict approach to compliance that Congress expressly commanded when it amended the Clean Air Act by enacting Subpart 2. The court’s January 29, 2021 opinion is available online at: http://documents.nam.org/law/amicusbriefs/2021/SierraClub_v_EPA_DCCir_Opinion_012921.pdf (Deborah Quick)

D.C. CIRCUIT VACATES FEDERAL EASEMENT AWARDED TO DAKOTA ACCESS PIPELINE, FINDING U.S. ARMY CORPS VIOLATED NEPA BY FAILING TO PREPARE AN EIS

Standing Rock Sioux Tribe v. U.S. Army Corps of Engineers, 985 F.3d 1032 (D.C. Cir. 2021).

In *Standing Rock Sioux Tribe v. United States Army Corps of Engineers*, the U.S. Court of Appeals for the D.C. Circuit found that the U.S. District Court did not abuse its discretion in vacating an easement granted by the U.S. Army Corps of Engineers (Corps) for the Dakota Access oil Pipeline to cross under a federally-regulated reservoir that provided Native American tribes with water resources. The appellate court agreed that the Tribes’ concerns about the pipeline’s oil leak detection system presented an unresolved controversy that required the Corps to prepare an environmental impact statement, but reversed the District Court’s order directing the pipeline to shut down and be emptied of oil.

Facts and Procedural Background

In 1958, the Corps constructed Lake Oahe and the Oahe Dam on the Mississippi River, between North and South Dakota. To construct the dam and reservoir, the Corps flooded over 160,000 of lands owned by the Standing Rock Sioux Tribe and the Cheyenne River Sioux Tribe. Since its creation, Lake Oahe provides successor tribes of the Great Sioux Nation with water for drinking, agriculture, industry, recreation, and sacred religious and medicinal practices.

The Dakota Access Pipeline (DAPL) stretches nearly 1,200 miles and moves more than half a million gallons of crude oil per day from North Dakota to Illinois. In June 2014, pipeline operator, Dakota Access, sought an easement from the Corps under

the Mineral Leasing Act to construct a portion of the pipeline's pathway under the federally-owned Lake Oahe. In December 2015, the Corps published a draft Environmental Assessment (EA) for the easement, which found that it would yield no significant environmental impacts. Tribes and federal agencies submitted comments on the EA, which contended the Corps insufficiently analyzed the risks and consequences of an oil spill on water resources.

In July 2016, the Corps published its Final EA and a Mitigated Finding of No Significant Impact (FONSI), concluding that with mitigation measures, the Lake Oahe crossing would not significantly affect the quality of the human environment. Several Tribes sued for declaratory and injunctive relief under the National Environmental Policy Act (NEPA). Though the court did not enjoin the project, the Departments of Justice, Interior, and Army immediately issued a joint statement in September 2016, explaining the Corps would not issue the easement and that construction could not move forward until the Army reconsidered its previous decisions.

In January 2017, the Corps published a notice of intent to prepare an EIS for the pipeline easement. Two days later, the Trump administration took office and directed the Corps to expedite the DAPL approvals and consider whether to rescind the notice of intent. The Corps ultimately decided not to prepare an Environmental Impact Statement (EIS), and granted the DAPL easement in early February 2017. After the District Court denied their renewed requests for a preliminary injunction and temporary restraining order, the Tribes moved for summary judgment. The District Court remanded the Corps' easement decision to address deficiencies in its NEPA analysis, including whether the project's effects were likely to be "highly controversial."

In February 2019, the Corps completed its remand analysis and maintained an EIS was unnecessary. The Tribes again moved for summary judgment on grounds that the Corps failed to remedy its NEPA violations. In March 2020, the District Court concluded that, in light of comments pointing to serious gaps in the Corps' analysis, the easement's effects were likely to be highly controversial. The court directed the Corps to complete an EIS, and finding that vacatur was warranted, ordered Dakota Access to shut down the pipeline and empty it of all oil by August 2020. Both parties appealed.

The D.C. Circuit's Decision

The D.C. Circuit Court of Appeals partially upheld the District Court's decision that the Corps violated NEPA by failing to prepare an EIS and affirmed the vacatur of DAPL's easement, but reversed the lower court's injunction ordering Dakota Access to shut down and empty the pipeline of oil.

The Court of Appeals first considered whether the District Court abused its discretion in finding the Corps violated NEPA. Under the statute, consideration of a project's potentially significant impacts depends on its "context" (regional, locality) and "intensity" (severity of impact). In assessing a project's "intensity," NEPA's operative regulations set forth ten factors that should be considered—triggering any one of the ten requires preparation of an EIS. Here, the Corps' easement grant concerned whether the "degree to which the effects on the quality of the human environment are likely to be highly controversial."

'Highly Controversial' Agency Decisions and the *National Parks* Decision

Per the District Court's separate opinion in *National Parks Conservation Association v. Semonite*, an agency's decision is "highly controversial" if "a substantial dispute exists as to the size, nature, or effect of the major federal action." For example, extensive and repeated criticism from specialized government agencies and organizations suggests a "substantial dispute" exists. In such circumstances, the lead agency must resolve, rather than merely confront, outside criticism; failure to do so will leave a project's effects uncertain, and thus warrant preparation of an EIS.

The Corps and Dakota Access argued that the District Court applied the wrong legal standard by relying on *National Parks*. The Corps also contended that it adequately addressed comments that had rendered its easement decision "highly controversial." The D.C. Circuit rejected both claims. Contrary to the Corps' summation, the appellate court properly looked at only at whether the agency succeeded in resolving the controversies raised. Here, the Corps' responses to comments failed to materially address and resolve serious objections to its analysis. The appellate court also rejected the Corps' position that opposition to the project only came from Tribes and their consultants, rather than from disinterested public officials. Because Tribes are sovereign nations

that possess stewardship responsibility over the natural resources implicated by the Corps' analysis, they are not merely "quintessential...not-in-my-backyard neighbors." Tribes' unique role and their "government-to-government" relationship with the United States demands that their criticism be treated with appropriate solitude. For these reasons, the District Court appropriately applied the legal standard set forth in *National Parks*.

Unresolved Scientific Controversies

Under this lens, the appellate court considered whether four disputed facets of the Corps' analysis involved unresolved scientific controversies that triggered NEPA's "highly controversial" factor: 1) DAPL's leak detection system; 2) DAPL's operator safety record; 3) impacts of winter conditions on oil spills; and 4) the worst-case-discharge estimate used in DAPL's spill-impact analysis.

As to each issue, the Tribes had submitted credible expert reports that raised concerns about the efficacy of the Corps' analysis. Agreeing with the District Court, the D.C. Circuit found that the Corps had failed to adequately respond to the Tribes' criticism in a manner that actually resolved the controversies raised. For example, by claiming that leaks would "eventually be found," the Corps failed to adequately address the Tribes' expert report that found the detection system DAPL intended to use would not detect "pinhole leaks," which can result in substantial oil spills. Similarly, the appellate court found that the Corps failed to validly explain why it relied on general pipeline safety data, rather than DAPL's operator safety record, which Tribes noted was significantly worse than industry averages. As such, the court held that several serious scientific disputes existed, thereby rendering the effects of the Corps' easement decision "highly controversial."

The Remedy and Requisite Findings

As to the remedy, the D.C. Circuit agreed that the District Court properly ordered the Corps to prepare an EIS. The appellate court rejected the appellants' contention that the District Court abused its discretion in vacating the pipeline's easement in the in-

terim. The Court of Appeals explained that a *vacatur* was appropriate because the Corps was unlikely to resolve the controversies on remand, having failed to do so on previous remands without *vacatur*. The District Court also properly considered the disruptive nature of the *vacatur*, but reasoned that vacating the easement did not yield the same effect as shutting down the project.

While vacating the easement was proper, the D.C. Circuit found that the District Court failed to make requisite findings to issue an injunction ordering the pipeline be shut down and emptied of oil. The District Court's characterization that an injunction is simply a "consequence of *vacatur*" subverts Supreme Court precedent requiring an injunction to issue under the traditional test. Here, vacating the easement did not necessitate the shutdown of the pipeline. For these reasons, the appellate court affirmed the order vacating DAPL's easement and directing the Corps to prepare an EIS, but reversed the District Court's order directing the pipeline be shutdown.

Conclusion and Implications

Notwithstanding the controversial nature of the Dakota Access Pipeline, coupled with a new administration, the D.C. Circuit's opinion reaffirms an agency's responsibilities under NEPA, particularly when a project is "highly controversial." An agency that receives significant criticism from highly specialized agencies and interested parties must do more than simply responding. Rather, the agency must make concerted efforts to resolve the controversies by amply explaining its decision and the information upon which it relied. The court's opinion also reaffirms the appropriate remedy for a NEPA violation—an order directing preparation of an EIS and, in certain cases, a *vacatur* of the agency's decision. However, a *vacatur* does not automatically necessitate injunctive relief. For an injunction to issue, the court must employ the traditional test to determine whether such relief is appropriate. The D.C. Circuit's opinion is available online at: [https://www.cadc.uscourts.gov/internet/opinions.nsf/3FEF9DA2426A19048525866900562121/\\$file/20-5197-1881818.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/3FEF9DA2426A19048525866900562121/$file/20-5197-1881818.pdf)
(Bridget McDonald)

DISTRICT COURT DISMISSES CLEAN WATER ACT CITIZEN SUIT FOR FAILURE TO SHOW AN ENVIRONMENTAL INJURY TO ESTABLISH STANDING

Glynn Environmental Coalition, Inc., et al. v. Sea Island Acquisition, LLC,
___F.Supp.3d___, Case No. 2:2019-cv-00050 (S.D. Ga. Jan. 29, 2021).

The U.S. District Court for the Southern District of Georgia recently granted a motion to dismiss a Clean Water Act citizen suit. The ruling held that plaintiffs failed to establish Article III standing due to the failure to plead a specific injury-in-fact.

Factual and Procedural Background

On February 20, 2013, the U.S. Army Corps of Engineers (Corps) authorized defendant Sea Island, LLC to fill 0.49 acres of wetland (Subject Wetland) located on St. Simons Island, Georgia. Plaintiffs, the Glynn Environmental Coalition (GEC) and Center for a Sustainable Coast (CSC), initially filed suit against Sea Island on April 17, 2019 for alleged violations of the federal Clean Water Act (CWA), alleging that defendant failed to construct a commercial structure on the Subject Wetland in violation of their Nationwide Permit. Plaintiffs further alleged that defendant was required to obtain an individual § 401 certification and § 404 permit to fill the Subject Wetland, requiring a more stringent permitting process. By filling the Subject Wetland, plaintiffs contended that defendant harmed the surrounding vegetation and habitat as well as the aesthetic and recreational uses of Dunbar Creek, a body of water downstream of the Subject Wetland.

The U.S. District Court found that the plaintiffs failed to show standing and granted leave to amend their complaint. On March 23, 2020, the plaintiffs filed an amended complaint, joining Jane Fraser (Fraser) as a plaintiff to the suit. According to the amended complaint, Fraser is a member of GEC and CSC who owns interests in real property in the immediate vicinity of the Subject Wetland. Fraser further alleged that she recreates in and enjoys the aesthetics of the Subject Wetland. In response to the amended complaint, defendant moved to dismiss the amended complaint for lack of standing and failure to state a claim.

The District Court's Decision

To establish standing under Article III of the United States Constitution, plaintiffs have the burden to show: 1) they have suffered an “injury in fact” that is actual or imminent; 2) the injury is traceable to the challenged action of the defendant; and 3) it is likely that the injury will be redressed by a favorable decision. An organization has standing to sue on behalf of its members when: 1) one of its members would have standing to sue individually; 2) the member's interests at stake in the suit are germane to the organization's purpose; and 3) neither the claim asserted nor the relief requested requires participation of individual members in the lawsuit. Plaintiffs asserted standing was proper in this action because Fraser had standing to sue in her individual capacity and GEC and CSC had associational standing.

Issue of Individual Standing

Based on the elements of Article III standing and organizational standing, the District Court reasoned that the motion to dismiss turned on whether Fraser had individual standing to sue. As a result, the District Court analyzed whether Fraser suffered an “injury in fact.” In the amended complaint, Fraser alleged that she suffered environmental and procedural injuries.

With regards to environmental injuries, the plaintiffs generally alleged that the filling in of the Subject Wetland allowed non-point source pollutants to make their way into Dunbar Creek. The District Court found that plaintiffs offered no specific factual allegations that the fill of the Subject Wetland has caused pollution in Dunbar Creek. While there may be a possibility of an increase in pollution, the mere possibility is not an “actual or imminent” injury. Fraser also claimed that she owns real property that adjoins and is located in the immediate vicinity of the Subject Wetland. She asserted that filling the Subject Wetland disturbed habitats surrounding the

Subject Wetland, impacting her real property. Again, the District Court found these allegations to be conjectural and conclusory because Fraser do not allege that any specific disturbance to her property interest had or will occur. The allegations merely speculated the type of harm generally associated with the fill of wetlands.

While generalized harm will not support standing alone, environmental plaintiffs can adequately allege injury in fact when they aver that they use the affected area and are persons for whom the aesthetic and recreational values of the area will be lessened by the challenged activity. Fraser alleged that she regularly recreated in and enjoyed the aesthetics of the Subject Wetlands. The District Court found that Fraser failed to allege a specific recreation, distinguishing Fraser's allegations from the body of case law providing for a recreational injury. Fraser also alleged that while driving, she noticed a significant difference in the water quality in Dunbar Creek. However, the District

Court again found this allegation to be broad and conclusory because Fraser failed to establish how this allegation led to an environmental injury suffered by Fraser.

Conclusion and Implications

As a result, Fraser failed to show an environmental injury sufficient to confer standing. Because the District Court found that Fraser failed to show standing, GEC and CSC did not have organization standing, and the motion to dismiss was granted.

It remains to be seen if this matter will be appealed. However, this case highlights the importance of pleading with particularity in order to avoid a motion to dismiss. For environmental cases, potential plaintiffs should take care to avoid merely stating conclusory statements in allegations in order to establish a specific injury.

(Jeremy Holm, Rebecca Andrews)

RECENT STATE DECISIONS

CALIFORNIA COURT OF APPEAL FINDS CALIFORNIA WATER BOARDS APPROPRIATELY CONSIDERED ECONOMIC FACTORS WHEN ISSUING CLEAN WATER ACT MS4 PERMIT

City of Duarte v. State Water Resources Control Board,
___Cal.App.5th___, Case No. G058539 (4th Dist. Jan. 28, 2021).

The California Court of Appeal for the Fourth District recently upheld a federal Clean Water Act (CWA) municipal stormwater discharge permit issued to 86 entities in Los Angeles County, reversing a lower court decision. The court of appeal determined that the State Water Resources Control Board (SWRCB or Board) and Los Angeles Regional Water Quality Control Board (RWQCB) acted within their discretion when analyzing the economic considerations of issuing the permit.

Factual and Procedural Background

In 2012, the RWQCB for the Los Angeles Region, issued a Clean Water Act, National Pollutant Discharge Elimination System (NPDES) discharge permit to 86 municipal entities that own or operate municipal separate storm sewer systems (MS4s) in Los Angeles County, including the City of Duarte (City). In June 2015, the SWRCB upheld the permit with modifications (Permit). The Board's decision upholding the Permit noted that, while all MS4 discharges must reduce pollutants to the maximum extent practicable, as required by federal law, strict compliance with water quality standards by imposing numeric effluent limitations is at the discretion of the permitting agency.

In July 2015, the City challenged the Permit, alleging that the Regional and State Boards (collectively: Water Boards) abused their discretion by imposing numeric effluent limitations in excess of federal law requirements without considering factors, including "economic considerations," set forth in the California Water Code. At trial, the City argued that the numeric effluent limits in the Permit were more stringent than what was required under the CWA, and therefore the Water Boards were required to consider the Water Code factors. The trial court agreed,

finding that the Permit's numeric effluent limitations were more stringent than required by federal law and concluding that the Water Boards did not comply with the Water Code in adopting the numeric effluent limitations. Specifically, the trial court found that the Water Boards failed to sufficiently take into account the economic considerations factor before issuing the Permit because it did not include any reference to or estimate of the possible cost or range of costs of compliance with the numeric effluent limitations. Under the trial court's reasoning, economic consideration without some kind of estimate of cost was insufficient. The trial court thus issued a writ of mandate and judgment ordering the Water Boards to set aside all Permit provisions pertaining to numeric effluent limits and to reconsider the Permit. The Water Boards appealed.

The Court of Appeal's Decision

The parties to the appeal agreed that the issue on appeal was two-fold: 1) did the numeric effluent limitations in the Permit require more than federal law required? 2) If so, did the Water Boards sufficiently consider the economic considerations factor required by the Water Code?

The Court of Appeal first determined that it did not need to rule on whether the Permit was more or less stringent than federal law. The court assumed, without deciding, that the numeric effluent limitations were more stringent than federal law.

Consideration of Economic Factors

The court next considered whether the Water Boards sufficiently considered the economic considerations factor as required under the Water Code. As an initial matter, the court of appeal observed that while a regional board must consider the cost

of compliance when setting effluent limitations in a wastewater discharge permit, case law does not define “economic considerations” or describe how an agency may comply with statutory requirements. Rather, the Water Boards may consider and comply with the Water Code requirements within the bounds of their discretion. The court thus examined whether the Water Boards acted within their discretion.

In this case, the court focused on what facts the Water Boards considered in the process of issuing the Permit. The court noted that the Permit included findings analyzing the economic considerations of both regulating and not regulating MS4 discharges. In particular, the court found that the Water Boards explained that the cost of regulating the MS4 discharges was highly variable among the permittees, provided ranges and cost data averages, considered how much more the permittees’ costs could be under the Permit’s terms, identified potential funding sources to cover such costs, and determined that lack of regulation would increase health-related expenses. Based on this review, the court concluded that the Water Boards had explained their reasoning and that analysis of these economic considerations was well within their discretion. The court thus found that the Regional Board developed an economic analysis of the Permit’s requirements that satisfied statutory requirements.

Cost Consideration for Each Permittee

The Court of Appeal also disagreed with the City’s argument that the Water Boards abused their discretion as a matter of law by failing to analyze cost considerations for each permittee in more detail. On this point, the court noted that there was no precedent supporting the City’s contention. The court further stated that, with regard to implementation of total maximum daily load requirements, estimated costs of several types of compliance methods and a cost

comparison of capital costs and cost of operation and maintenance is adequate.

Covid-19 Economic Impacts

Finally, the Court of Appeal addressed an argument by *amici curiae* that the economic situation caused by the Covid-19 pandemic establishes the need for the Water Boards to consider the cost to permittees. While acknowledging the exceptional financial downturn suffered throughout the country as a result of the Covid-19 pandemic, the court nonetheless rejected this argument. Specifically, the court concluded that the Water Boards are required to take into account economic considerations and not merely costs of compliance. The court further opined that later developments in the global economy is not relevant to the question of whether the Water Boards abused their discretion in 2012 and 2015. Having concluded that the Water Boards complied with their statutory obligations with regard to the Permit, the court of appeal reversed the trial court’s ruling.

Conclusion and Implications

This opinion is significant in that it offers some direction for analyzing the economic considerations factor for permit requirements that exceed federal law, which was previously undefined in case law. Under the court’s approach, a court looks at what facts were considered in issuing a permit to determine whether the Water Boards acted within their discretion. While the opinion provides an example of the extent of this discretion, the court was careful to caution that every case will differ as to what economic considerations must be evaluated and that such discretion is not unlimited and remains subject to judicial review. The court’s opinion is available at: <https://www.courts.ca.gov/opinions/documents/G058539.PDF>

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