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GOLDEN GATE UNIVERSITY ENVIRONMENTAL LAW JOURNAL

VOLUME 12 NUMBER 1 SPRING 2020

TABLE OF CONTENTS

ARTICLES

WHY IT IS TIME FOR A "CALFIRE DIVORCE": THE CASE FOR ESTABLISHING AN INDEPENDENT FOREST AND RESOURCE MANAGEMENT AGENCY TO SECURE HEALTHY FORESTS IN CALIFORNIA

RICHARD A. WILSON[1] *AND SHARON E. DUGGAN*[2]

[1] Richard A. Wilson served three terms on the California Coastal Commission from 1973 to 1979, served on the California State Board of Forestry & Fire Protection from 1979 to 1984, and was director of the California Department of Forestry & Fire Protection ("Department") from June 1991 to mid-March 1999. Mr. Wilson also founded the Californians for Free Flowing Rivers, which was instrumental in developing legislation signed by Governor Ronald Reagan that designated the Eel, Smith, and Klamath Rivers as wild and scenic in 1971. This initiated development of the federal Wild and Scenic Rivers Act. Recognized as one of California's leading conservationists, Mr. Wilson has been actively involved in helping shape policy for environmental protection and rural planning for more than 50 years. His tenure with the Board of Forestry and as Director of the California Department instilled in him a specific commitment to providing leadership and skills to ensure the Forest Practice Act's policy for sustainable forestry. In 2018 Mr. Wilson created the non-profit organization Why Forests Matter to educate the public and our elected officials about, and provide incentives to restore, the mandate of California's Forest Practice Act to ensure a sustainable supply of high quality forest products while giving due consideration to watershed health, carbon sequestration, wildlife, and recreation.

[2] Sharon E. Duggan is a licensed attorney in California, who for decades has successfully represented environmental advocacy groups through litigation to protect private forestlands and natural resources, resulting in numerous published state and federal court opinions. For many years, Ms. Duggan served as staff counsel for the Environmental Protection Information Center, a prominent public interest leader protecting California's forests and its resources. She is co-author with Tara Mueller of "Guide to the California Forest Practice Act and Related Laws, Regulation of Timber Harvesting on Private Lands in California," Solano Press Books, 2005. Ms. Duggan currently serves on the Board of Directors for Why Forests Matter, and is a co-founder of Our Children's Trust, dedicated to supporting youth in seeking scientific based solutions to the climate crisis catastrophe.

The authors would like to acknowledge the work of Laura Tracey and Jessica B. Jandura, Doctor of Jurisprudence candidates, May 2020, Golden Gate University Law School, with gratitude and appreciation.

I. INTRODUCTION

Nearly one-third of California is forested, with 33 million acres of private and state forestlands.[3] These forests provide critical resources for our state, and most particularly source at least 60% or more of our necessary water supply.[4] California's forest resources and timberlands "are among the most valuable of the natural resources of the state."[5] Historically, California's Department of Forestry and Fire Protections ("CalFire") has been charged with protecting these resources, with a twofold mission: (1) the protection of commercial timber on all nonfederal lands from improper logging activities and (2) the protection of watersheds from wildland fire in lands identified as part of the State Responsibility Area ("SRA").[6]

CalFire is required to protect California's forests and their resources, by governing private-land logging to ensure that forest productivity "is restored, enhanced, and maintained" and to achieve "maximum sustained production of high quality timber products" for this and future generations.[7] California's Forest Practice Act was created and is intended to ensure healthy forests with protection of their environmental, economic, and community resources. Protection of California's forest natural resources is the only way productivity of high-quality wood products can be achieved. That has not happened. Instead, today many of California's forests are in "an unhealthy condition," with increased forest density containing more small trees, fewer large trees, and more dead trees, creating intensified and devastating wildfire conditions.[8]

CalFire carries an increasingly immense responsibility as a premier fire-fighting agency, top-ranked in the world. Every year, the demand to contain and stop devastating fires throughout our state increases. Fire prevention efforts have driven the agency's financial budget, whereas forest resource management has been captive to politics largely driven by industrial timberland owners. Each year the budget for fire prevention increases exponentially to respond to the expanding demand to fight catastrophic fires during longer designated fire seasons. CalFire's failure to adequately govern private-land logging has created conditions which contribute to increased fire risk, resulting in a growing disparity favoring

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[3] Mac Taylor, Improving California's Forest and Watershed Management 1 (2018).

[4] *Id*. at 3.

[5] Pub. Res. Code § 4512(a).

[6] Taylor, *supra* note 3, at 8-9.

[7] Pub. Res. Code §§ 4512, 4513.

[8] Legislative Analyst's Office, Improving California's Forest and Watershed Management 1 (2019); *see* Taylor, *supra* note 3, at 18-22.

funding for fire suppression rather than resource management governance.

California now has a damaging gap in the governance of its forests. California's core sustainable forest management program — intended to ensure healthy forests and thus prevent fire prone conditions — has been relegated to ineffectiveness. CalFire's lack of governance has resulted in fire-prone conditions: forests with smaller and smaller trees, increasingly dense stands of trees, and reduced overall health and lack of biodiversity. These conditions have now converged to create disastrous conflagration. Rather than CalFire securing the foundation to govern logging to attain healthy forests, California is now forced to fix damaged forests at significant public cost. The failure to fulfill the promise of California's Forest Practice Act, coupled with insufficient agency resources, defeats California's commitment to ensure healthy forests for this and future generations.[9]

It is time to remove governance of California's core sustainable forest management mandate from CalFire to allow it to focus on its overwhelming fire agency obligations. In the absence of adequate and dedicated funding and resource personnel, CalFire is not satisfying California's forest resource management goals and objectives. After decades of decline, California must renew its fundamental commitment to sustainable forest management. The governance of forest resource management requirements, as set forth in the Z'Berg Nejedly Forest Practice Act of 1973,[10] should be transferred to another agency, the focus of which is resource and land conservation. California needs one dedicated and adequately funded agency with professionally trained staff who understand the complexity and interrelationships within the entire forest system, its productivity, and all of its resources. This different agency would be required and accountable to secure California's commitment in governing forest resource management. An agency like this would be able to ensure that our forests are restored, enhanced, and maintained to protect the environmental, economic, and social resources that healthy forests provide. An independent agency dedicated to governing forest resource management and land conservation is more critical than ever as California faces and attempts to respond to the irrefutable climate crisis. Our forests must be increasingly available to provide enhanced carbon sequestration for the survival of this and future generations. Such a separation enables healthy forests and leaves CalFire to do its excellent firefighting work.

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[9] Pub. Res. Code § 4512 (c).

[10] Pub. Res. Code § 4511.

II. Why Forests Matter Under California's Forest Practice Act

Forests act as the lungs of our planet, providing many functions of life in a highly complex natural system. "A forest is not merely a collection of trees . . . [it is] an ecosystem – the interlocking conditions that at any one time sustain a specific set of biological diversity."[11] As an ecosystem, forests provide critical air, wildlife, climate, and recreational benefits, in addition to sourcing the watersheds that serve California's water needs.[12] Healthy forests store carbon, a function which is increasingly critical in our efforts to reduce the catastrophic effects of climate change and greenhouse gases ("GHG").[13] A productive forest is one which maintains and protects all of these values.

Our current Forest Practice Act, the "Z'Berg Nejedly Forest Practice Act of 1973" ("Forest Practice Act"),[14] was created in the context of conditions at the time. There existed an

> increasingly rapid depletion of raw timber volumes on the 8 million or so acres of commercial timberland in the State of California . . . [and] the most serious facts and figures regarding the rapid depletion of our forests in California, [and] the effects this will have on employment, the economy, and the environment . . .The conclusion is obvious that severe economic and employment dislocation are just around the corner for communities dependent upon the lumber industry . . .[15]

To remedy this rapid depletion of our forests, the Forest Practice Act was created to ensure that our forests would be "restored, enhanced and maintained."[16]

California created the Forest Practice Act in 1973, promising to provide healthy forests "for this and future generations."[17] It governs the forest resource management of nearly 13 million private forestland acres.[18] CalFire is responsible for implementing the Forest Practice Act and providing the required governance.[19] Since 1973, California has ex-

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[11] Richard R. Terzian et al., Little Hoover Commission, Timber Harvest Plans: A Flawed Effort to Balance Economic & Environmental Needs 126, at 13 (1994).

[12] Taylor, *supra* note 3, at 1.

[13] Forest Climate Action Team, California Forest Carbon Plan: Managing Our Forest Landscapes in a Changing Climate 112 (2018).

[14] Statutes 1973, c. 880, p. 1614, § 4; Pub. Res. Code § 4511.

[15] Assemblyman Edwin L. Z'Berg, Press Conference Release, Feb. 1, 1973.

[16] Pub. Res. Code § 4513(a).

[17] Pub. Res. Code § 4512(c).

[18] Taylor, *supra* note 3, at 5.

[19] Pub. Res. Code § 4581.

pressly required CalFire to govern sustainable forest practices — to achieve "maximum sustained production of high quality wood products," while protecting a suite of environmental and societal resources, such as water supply and quality, fisheries, wildlife, range and forage, aesthetics, and recreation. Since 1973, California has also identified sequestration of carbon dioxide, regional economic vitality, and employment as resources commanding protection.[20]

Growing mature, healthy trees depends on many variables, including natural conditions, productivity of the forest soils, and stressors like elevation, geology, soil types, climate, and weather.[21] Recognizing this, the Forest Practice Act's requirement to provide "high quality wood products" underscores the imperative to have wood from mature healthy trees. Mature trees are measured by their highest average volume growth rate: when they have reached their "culmination of mean annual increment" ("CMAI"). Mean annual increment ("MAI") "measures the average productivity of a stand over its lifetime; [t]he age at which MAI is max is called the Culmination of MAI ("CMAI") [or] optimal biological rotation age."[22] CMAI for redwoods, for example, does not occur until after age 100.[23] For wood quality, this means mature trees which produce tight grain lumber, with a much higher density in growth rings per radial inch. This can be seen by looking at the cut end of any 2 x 4, to count the rings per radial inch. Less dense wood from immature trees, with fewer than 7 rings per radial inch, is not as capable to withstand stresses, not just from construction but certainly from events like earthquakes, tornadoes and hurricanes.[24] Thus, a main point of the Forest Practice Act is to require the growing of larger and older trees on key parts of the forest, to secure the maximum sustained resource production California has promised.

This consistent supply of high quality wood products also depends on a balanced distribution of trees of different age classes, so that there are always young trees growing to maturity and mature trees are available for harvest.[25] In developing the Forest Practice Act, the legislature recognized that "encouraging development of a more normal distribution

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[20] Pub. Res. Code § 4513(b); 58 Ops. Cal. Atty Gen. 250 (1975).

[21] Richard Wilson et al., *Putting Forest Health into Context*, WHYFORESTSMATTER.ORG (May 1, 2019), www.whyforestsmatter.org/thought-leadership/2019/5/1/putting-forest-health-into-context.

[22] *Growth and Yield*, WASHINGTON.EDU, https://faculty.washington.edu/toths/ESRM461/Lectures/Week5_Lecture1.pdf (Apr. 27, 2017).

[23] Russell M. Burns, Silvicultural Systems for the Major Forest Types of the United States 39 (1983).

[24] Wilson, R., Letter to Dr. J. Keith Gilless, Nov. 6, 2015 (on file with author).

[25] Inst. of Ecology Univ. Cal. Davis, Public Policy for California Forest Lands 80 (Apr. 1972) (prepared for the Assembly Committee on Natural Resources and Conservation).

of timber age classes" was key.[26] Without this distribution of a trees with different ages classes, "it is practically and theoretically impossible to manage [forests] currently for perpetual sustained yield. . ."[27]

Jackson Demonstration State Forest ("Jackson"), a publicly owned 50,000-acre forest located in Mendocino County, is one model of a healthy California forest. California has created eight demonstration forests, including Jackson, to restore badly cutover timberland and provide fully productive working forests.[28] Cutover timberland exists when logging has removed, most if not all, of the trees, with consequential adverse effects on the overall forest landscape and its resources. Demonstration forests provide working forests which "[r]etain the existing land base of state forests in timber production for research and demonstration purposes."[29]

California purchased Jackson after it had been logged intensively and was badly cutover. After its creation in 1949, California effectively left the forestland alone for decades with minimal management to encourage the regrowth of the forest. It then began limited logging using management techniques to continue to restore the land to a healthy productive forest, capable of providing high quality wood product and protecting the forest's natural resources. This forest has proven that it can recover to a highly productive state. Over time, Jackson has produced a sustainable harvest of high-quality mature trees and significant revenue for the State.[30] Jackson provides a working landscape for jobs and sustainability over time by restoring and maintaining all forest resources and community life. Jackson protects the State's interest by providing a healthy forest ecosystem, which sustainably provides high quality wood product. As a healthy forest, Jackson also supports healthy populations of animal and plant species and can be essential to prevent extinction of endangered and threated species, such as our salmonid fish.

Moreover, this healthy forest has an increased ability to sequester carbon and remove carbon dioxide from the atmosphere. The Forest Practice Act requires that not only must the public's need for carbon sequestration be protected in any given logging plan,[31] but also, because "[t]here is increasing evidence that climate change has and will continue

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[26] *Id*. at 81.

[27] *Id*. at 84.

[28] Pub. Res. Code § 4631.

[29] Pub. Res. Code § 4631.5(a).

[30] For example, in 2019, California noticed a timber sale for 737 acres in Jackson, with an estimated timber value of *$1,632,000*; *Chamberlain Confluence 2019 Timber Sale*.

[31] Pub. Res. Code § 4512 (c).

to stress forest ecosystems," California forests must be proactively managed to sequester carbon and adapt to the stressors of the climate crisis.[32]

While Jackson stands out as what good management can achieve, it does not represent what exists on private timberlands. Today, CalFire's governance of private forest land has failed to protect these same values as provided by Jackson. Now, primarily because of intense fire prone conditions requiring most of CalFire's budget, CalFire is increasingly unable to do its job.

III. The Status of Calfire's Governance of California's Private Forests Today

Since 1973, California's core promise to attain healthy forests has not been fulfilled. Instead, we have seen a decline in overall forest management, culminating today in a situation much like in 1973 — depletion of forests with high quality wood product, logging of trees with smaller and smaller diameters, reduction in our water supply and fisheries, and the loss of community-based forestry. Repeated and intensive harvesting of private forestlands in California, with shorter and shorter rotations, cutting trees that do not reach CMAI, has reduced their overall productivity. Practices that reduce the rotation time and increase the cutting of trees that have not reached CMAI eliminates California's ability to protect not only the ongoing supply of high quality wood products, but equally all of the resource values dictated under the Forest Practice Act.[33] Much private industrial forest land is now reduced to unhealthy monocultures, which create dense vegetative masses highly vulnerable to fire and less capable of holding water than a multi-stage forest, sequester less carbon, provide little habitat for diverse species, produce inferior wood, and undermine local economies.[34] It is widely recognized that our forests are in poor condition, resulting in devastating fire-prone conditions demanding millions of dollars each year in fire suppression as well as expensive forest health initiatives to restore poorly-managed forests.[35] As a result, the core governing mandate for sustainable forest management — the governance which exists to provide healthy forests through

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[32] Pub. Res. Code § 4512.5.

[33] Pub. Res. Code §§ 4512, 4512.5, 4513.

[34] Richard Wilson et al., *Program Overview*, WHYFORESTSMATTER.ORG, www.whyforestsmatter.org/our-programs-1.

[35] Taylor, *supra* note 3, at 1; Loretta Moreno et al., Monitoring and Assessment of California's Timberland Ecosystems Under Assembly Bill 1492 and the Timber Regulation and Forest Restoration Program 5, Cal. Natural Res. Agency (Apr. 2019), https://resources.ca.gov/CNRALegacyFiles/wp-content/uploads/2019/04/AB-1492-Ecological-Performance-Measures-Methodology-White-Paper-April-2019-Final.pdf.

sound forest practice management — is diluted to a fraction of CalFire's agency focus and funding.

CalFire's lack of governance of private land logging has facilitated poor forest conditions throughout our state, with increasingly smaller trees instead of larger and older trees in a distribution of age classes, which protect soil and water resources. The mandate for sustainable production of high-quality wood products with protection of the environment and local economies has become almost an afterthought. Small timberland owners[36] and their communities are directly impacted. They hold at least one half of the privately owned forestland in California.[37] Increasingly, they are not able to compete, particularly because local mills have closed, and the transportation and regulatory costs of logging have dramatically increased. Even if they are able to manage for larger and older trees, they are not able to be readily milled for lumber. Most industry sawmills are no longer equipped to handle larger, higher quality logs. Modernized mills generally handle logs from *6 to 16 inches in diameter*, well below the average 40-80" log from more mature trees.[38] The smaller logs which sawmills are processing are not from older and mature trees capable of providing high quality wood product.

The above conditions have necessarily required California to dedicate immense resources to fight fires, at an enormous risk to communities and costs to the taxpayers. Instead of focusing on fire prevention through effective governance of forest management actions, California is left to spend significantly more money and resources on fire suppression.[39] While this fire-fighting effort is now imperative, the lack of adequate funding and commitment for proactive governance to ensure that healthy forests exist and are maintained deepens the continuation of unhealthy forests and increasing wildfire risks and occurrences.

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[36] While the Forest Practice Act and its regulations reference small land owners in various places, the term "small timberland owner" is given specific definition in only two places: (1) the "Small Timberland Owner Exemption," for ownerships of no more than 60 acres in the Coast District, or 100 acres inland, Pub. Res. Code § 4584 (j)(1)(H), (I); and (2) the "small nonindustrial timberland owner" for the "Program Timberland EIR for Carbon Sequestration and Fuel Reduction Program, for ownerships of 5000 acres or less,. Pub. Res. Code § 4598.3(d). Other categories of small timberland owners may include: (1) a non-industrial timberland owner with less than 2,500 acres, Pub. Res. Code § 4593.2; (2) a working forest timberland owner with less than 10,000 acres, Pub. Res. Code § 4597.1(i); or (3) a qualifying timberland owner under the California Forest Improvement Program with no more than 5,000 acres of forestland in California, www.fire.ca.gov/media/10265/2019-12-05-users-guide.pdf.

[37] Taylor, *supra* note 3, at 4-5.

[38] Wilson, *supra* note 21.

[39] Taylor, *supra* note 3, at 17.

IV. CALFIRE'S FUNDING STATUS IS FIRE FOCUSED

According to a 2009 Legislative Analyst Office report, it is without question that CalFire's "core mission" is fighting wildland fires, and with the passage of time, the "costs of expanding the mission of CalFire — a phenomenon often referred to as mission creep — are significant."[40] The cost of this "mission creep" is the deterioration of our private forest lands, due to a lack of governance to ensure compliance with the Forest Practice Act requirements for forest management.

According to the 2018 LAO Report, "fire response spending, which grew from $650 million in 1998-99 (adjusted for inflation) to more than $2.3 billion in 2017-18, makes up over 90 percent of the department's annual spending. In contrast, spending on proactive activities like resources management and fire prevention remain relatively flat over the period, averaging $77 million and 7 percent of the department's total expenditures through 2013-14."[41]

The proposed FY 2020-21 budget continues the funding disparity between CalFire's governance of resource management and its fire responsibilities, allocating over 86% ($2.224 billion) of the CalFire's budget to fire protection, with slightly more than 11% ($289,222 million) to resource management.[42] This means nearly a 9% reduction in funding for resource management, down from $306,381 million in 2019.[43] The proposed budget for fire-fighting adds 131 permanent new positions to an existing force of about 6,000 fire fighters, with authority to hire hundreds of temporary people for the season, and 13 more fire engines.[44] In addition, the budget proposes to hire 677 more firefighters over the next five years, and "sets aside $120 million more next year and $150 million per year moving forward to staff engines more robustly and improve readiness in other ways."[45]

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[40] Legislative Analyst's Office, *CalFire General Fund Reductions and Deferrals*, LAO.CA.GOV, https://lao.ca.gov/analysis_2009/resources/res_anl09003005.aspx.

[41] Taylor, *supra* note 3, at 16-17.

[42] California's 2020-21 Governor's Budget, *3540 Department of Forestry and Fire Protection*, EBUDGET.CA.GOV, http://www.ebudget.ca.gov/budget/2020-21/#/Department/3540 (Jan. 10, 2020).

[43] *Id*.

[44] Andrew Sheeler, *California Governor's Budget Calls for Hundreds More Firefighters. 'It's About Damn Time,'* Sacramento Bee, Jan. 10, 2020.

[45] *Id.*

V. Why California Needs a Separate State Agency to Govern Logging on Private Lands

There are several well-documented management reasons why California today has severely fire prone forests, rather than healthy forests resistant to fire as a result of proper resource governance. The key reasons are: (1) lack of agency resources (as described above), (2) failure to prioritize sustainable healthy forests as the outcome, (3) lack of adequate standards to understand and prevent cumulative impacts, and (4) a lack of training. Read properly, the Forest Practice Act requires an understanding of forests as whole ecosystems, with governance that protects all forest resources, rather than limiting trees as purely economic commodities. CalFire has not satisfied this requirement in its governance of logging plans for the above cited reasons. Documented by historical reports and professional opinion, failure to implement responsive legislation, and CalFire's current day regulatory approach, it clear that CalFire is not capable to provide the governance to ensure healthy forests which provide high quality wood products and protect the environment, particularly in the expanding climate crisis which threatens us all.

A. Historical Reports Document Calfire's Inadequate Governance

In 1994, the Little Hoover Commission identified problems plaguing the forest resource management process,[46] particularly in relation to the lack of resources,[47] undue focus on process rather than outcome,[48] and a piecemeal approach to the evaluation of environmental impacts.[49] The Commission concluded that the timber harvest plan process "has not proven effective in achieving a sound balance between economic and environmental concerns," and "[r]esources and priorities are devoted to issues of process rather than outcome."[50]

A core complaint at the time was the failure to understand the impact of logging in the larger ecosystem context.[51] Considering only the

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[46] Terzian et al., *supra* note 11.

[47] *Id*. at 23.

[48] *Id.* at 49 ("people are more interested in dotting i's and crossing t's than in how effective mitigation measures are.").

[49] *Id*. at 54.

[50] *Id*. at 50.

[51] *Id.* at 54 (A "major environmental complaint about the Timber Harvest Plan process is that the plans are small snapshots of forests at a certain point in time rather than panoramic perspectives that examine entire dynamic ecosystems over a long time span.").

individual logging plan and its area, without evaluating the potential for impacts in a larger area, is both inefficient and ineffective.[52] Thus,

> the environment is not being effectively protected because the flawed concept that the Timber Harvest Plan process is based on – namely that ecology can be addressed on a parcel-by-parcel basis. In addition, the State's focus is almost entirely on procedural steps rather than on the eventual outcome. As a result, what occurs in the real world may have very little relationship to what is prescribed in a harvest plan, and there is no mechanism for linking demonstrated effectiveness of mitigation measures to future policy directives.[53]

This failure has persisted. Seven years later, in 2001, the University of California Committee on Cumulative Watershed Effects issued a comprehensive report and recommendations, presenting a scientific basis to compel evaluation of cumulative watershed effects resulting from logging.[54] Echoing the need to analyze impacts beyond a parcel-by-parcel review, the Dunne Report agreed that Cumulative Watershed Effects ("CWE")[55] cannot be evaluated through the isolated lens of individual plans, even if well-intentioned.[56] Forest watersheds are subject to the water quality impacts of logging. Logging operations can cause combined effects on sediment, water temperature, in-channel volumes of organic debris, chemical contamination, the amount and physical nature of aquatic habitat, and increases in peak discharges during storm run-off.[57] Logging-generated sediment moves from the hillslopes to the intermittent draws to the small creeks, and on to the main stem of a river. To assess the potential water quality impact from a given logging plan, one must look at the entire watershed, both upstream and downstream, to understand what is being put into the stream system. And this spatial analysis requires a time dimension to understand legacy conditions of the

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[52] *Id*. at 63 (Logging plans "cannot be fully effective in minimizing damage to the environment unless they address cumulative impacts across a broad area. Assessing those impacts on a plan-by-plan basis is inefficient, costly and open to questions of credibility.").

[53] *Id.,* Transmittal Letter, Chairman Richard R. Terzian, June 8, 1994.

[54] Thomas Dunne et al., Univ. of Cal. Wildland Res. Ctr. Rep. No. 46, A Scientific Basis for the Prediction of Cumulative Watershed Effects 1 (Richard B. Standiford & Rubyann Arcilla eds., 2001).

[55] *Id*. at 4-5 ("Cumulative Watershed Effects ("CWEs") are significant, adverse influences on water quality and biological resources that arise from the way watersheds function, and particularly from the ways that disturbances within a watershed can be transmitted and magnified within channels and riparian habitats downstream of disturbed areas.").

[56] *Id*. at 3 (CWE "cannot be predicted through the existing parcel-by-parcel analysis for THP applications, even if it were based on the best current understanding.").

[57] *Id*. at 13.

stream system, what has been moving through the stream in the past, and what may be move through the system in the future.[58]

The Dunne Report concluded that there is "excessive reliance on rule-making rather than problem solving," with a lack of real methodology, little basis for enforcement, and "no procedures to show that CWEs are an issue."[59] It found that Registered Professional Foresters ("RPFs") do not have adequate training to analyze CWE,[60] and CalFire "does not have regulators trained in the interdisciplinary fashion required to review the analysis and prediction of CWEs."[61] The consequence is that "rarely, if ever" in Northern California has a finding been made to limit proposed logging based on CWEs.[62] Accordingly, the Dunne Report recommended that the responsibility for assessing and predicting CWEs be taken out of the Timber Harvest Plan (and Sustained Yield Plan) Applications and given to a new unit of a State agency."[63] Dunne recommended the State recruit and train CWE specialists, develop a specialized certificate training for registered professional foresters, and manage professionals to work with the State for CWE analyses.[64]

B. Failure to Implement Responsive Legislation and Take Effective Action Further Documents Calfire's Lack of Governance

These problems persist today without remedy, despite legislative efforts to require standards and other agency authority. In 2012, California adopted Assembly Bill 1492 ("AB 1492"), to "promote and encourage sustainable forest practices" consistent with the 1973 Forest Practice Act and other laws governing logging.[65] AB 1492 reiterated the public benefit of California's viable forest lands and their resources and the value of "a thriving in-state forest products sector" as key to maintaining our forest lands.[66] It authorized a sales tax on lumber products,[67] as a means to provide funding for effective resource management under the Forest Practice Act and for restoration of timberlands, promoting protection of

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[58] *See* Wilson, R., Director CDF, *CDF Comment*, "California Watersheds – Natural Resource and Community Integrators," Aug. 1993.

[59] *Id.* at 55.

[60] *Id.* at 21.

[61] *Id*. at 57.

[62] *Id*. at 27.

[63] *Id*. at 61.

[64] *Id*. at 62-63.

[65] Pub. Res. Code § 4629.2(a).

[66] Pub. Res. Code § 4629.

[67] Chapter 289, Pub. Res. Code § 4629.3 (2012).

fisheries, wildlife habitat and water quality improvement.[68] AB 1492 can be seen as a response, in part, to historical reports identifying the need for adequate funding, outcome rather than process, cumulative impacts standards, necessary training, and delegation of authority to an agency other than CalFire.[69]

AB 1492 required CalFire's parent agency, the California Natural Resources Agency, as well as the California Environmental Protection Agency to oversee and report on AB 1492 implementation and its Timber Regulation and Forest Restoration Program ("TRFRP").[70] These agencies have developed the "California Timber Regulation and Environment Evaluation System" ("CalTREES") program for submission and review of proposed timber harvesting plans for CalFire;[71] after a proposed logging plan is submitted, "staff from the [TRFRP] review it for compliance with state regulations designed to ensure sustainable harvesting practices and minimize environmental harms."[72]

AB 1492 required changes to regulatory programs to include and provide "incentives for best practices," and development of standards or strategies to protect natural resources and large-scale road management and riparian function plans.[73] AB 1492 "directs the TRFRP to develop statewide ecological performance measures ("EPM") approach as an accountability measure for the multiple State programs that regulate timber management on nonfederal forestlands."[74] Development of these measures is key to accomplishing the Legislature's intent to ensure sustainable forest practices,[75] as the development of the ecological performance measures are to "evaluate the cumulative impacts of management and

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[68] Pub. Res. Code §§ 4692(a)-(c), 4629.6.

[69] Terzian et al, *supra* note 11, at 23, 49, 50, 54, 63, Transmittal Letter; Dunne et al., *supra* note 54, at 3-5, 13; Wilson, *supra* note 58, at 21, 27, 55, 57, 61.

[70] California Natural Resources Agency, *Forest Stewardship: The Timber Regulation and Forest Restoration Program*, RESOURCES.CA.GOV, https://resources.ca.gov/Initiatives/Forest-Stewardship ("The major components of the ["TRFRP"] provide a funding stream via a one-percent assessment on lumber and engineered wood products sold at the retail level, seek transparency and efficiency improvements to the State's timber harvest regulation programs, provide for development of ecological performance measures, establish a forest restoration grant program, and require program reporting to the Legislature.").

[71] California Timber Regulation and Environmental Evaluation System ("CalTREES"), *Information Portal*, FIRE.CA.GOV, https://www.fire.ca.gov/programs/resource-management/forest-practice/caltrees/ ("CalTREES is the online timber harvest permitting system that will streamline the submission and review processes for timber harvesting documents.").

[72] Taylor, *supra* note 3, at 11; *see* Moreno, 2019, supra note 35, at 60 ("Currently there is only one dedicated staff person from the [TRFRP] . . . assigned to developing the EPM program.").

[73] Pub. Res. Code § 4629.2 (H).

[74] Cal. Natural Res. Agency, *AB 1492 Development of Ecological Performance Measures for California's Nonfederal Timberlands*, RESOURCES.CA.GOV, https://resources.ca.gov/Initiatives/Forest-Stewardship/epm.

[75] Pub. Res. Code § 4629.9.

harvesting activities on a larger scale and support more long-term goals for minimizing the environmental impacts of such activities."[76] In simple terms, AB 1492 reiterates the Forest Practice Act directive to govern our forests as ecosystems.

AB 1492 requires the Secretary of Natural Resources, as of January 10, 2013 and on each January 10 thereafter, to submit a written report to the Legislature which outlines activities by all of the agencies relating to forest and timberland regulation, and which includes, among other things, "a set of measures for, and a plan for collection of data . . . (F) Evaluating ecological performance."[77]

Since the 2012 enactment of AB 1492, these provisions have not been met — required ecological performance measures do not exist and annual reports have not been submitted as required. As of February 5, 2020, the most recent annual report was submitted three years ago, on March 23, 2017.[78] In that report, the agencies concede the impact of this delay, stating "[d]evelopment and implementation of ecological performance measures is critical to determining the adequacy of the current regulatory programs at protecting the environment; until these are developed, resources, and implemented, the ecological performance of timber review programs cannot be well understood."[79]

The 2017 annual report also disclosed that in FY 2015-2016, there were only 1,098 active THPs covering 593,993 acres, compared to 4,187 exemption operations operating on more than 5.5 million acres.[80] These millions of acres of exemption operations are not subject to the agency review and oversight, as required for regular logging plans under the Forest Practice Act, resulting in an expansion of a huge governance gap.[81]

In the absence of required annual reporting, in 2019 the Resources Agency issued a White Paper presenting its methodology to decide on ecological performance measures.[82] It accepted the scientific consensus that "extensive areas of California's forested ecosystems are under extreme pressure and stress given current and projected climate conditions, increased impacts associated with agents of forest mortality (pests, dis-

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[76] Taylor, *supra* note 3, at 11.

[77] Pub. Res. Code § 4629.9(a)(8)(F).

[78] Cal. Natural. Res. Agency, *Assembly Bill 1492 Timber Regulation and Forest Restoration Fund Program Report*, RESOURCES.CA.GOV, https://resources.ca.gov/CNRALegacyFiles/wp-content/uploads/2014/07/AB-1492-2017-Annual-Report-to-Legislature-Final-3-23-2017.pdf (Mar. 23, 2017).

[79] *Id.* at 41.

[80] *Id*. at 69, Table 27.

[81] *E.g.*, Cal. Code Regs., tit. 14, § 1038.

[82] Moreno 2019, *supra* note 35.

ease, fire), coupled with expanding human-caused disturbance and development within and around forested landscapes."[83] As in 2017, the agency conceded the need for a long-term forest ecosystem monitoring and assessment program, admitting that there is no approach providing a detailed evaluation of ecological performance of California's forest management regulatory system.[84] The agency also admitted that without scientific ecological performance measures, "[i]t is unclear how timber and ecosystem management regulations, combined with forest restoration projects, are impacting forest ecosystem function across California's landscapes, and whether existing regulation policies and programs are achieving their intended goals."[85] The agency promised presentation of "final EPMs" at an October 2019 workshop.[86] This did not happen — it does not appear the workshop was held or that any final EPMs have been presented.[87] The ongoing failure to implement AB 1492 underscores the failure to ensure healthy forests as required by the Forest Practice Act.

In addition, CalFire has not complied with recent 2018 legislation, Assembly Bill 2889, intended to provide a more transparent process of review for logging plans.[88] This legislation requires CalFire to provide clearly written guidance and assistance documents that explain the regulatory process, including (1) a list of all information required in a plan, (2) a checklist that, if properly followed, would show the plan is acceptable for filing, and (3) guidance to responsible agencies that rely on the timber harvesting plan for their analysis under the California Environmental Quality Act.[89] To date, CalFire has not met these statutory requirements.

C. The Failure to Comply With Current Day Regulation or Create Adequate Regulation Further Illustrates Calfire's Lack of Governance

Compounding a failure to provide critical standards for sustainable forest practices as directed by AB 1492, and guidance for the regulatory process, CalFire and its Board of Forestry and Fire Protection

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[83] *Id*. at 3.

[84] *Id*. at 5.

[85] *Id*. at 8.

[86] *Id*. at 61, Table 8.

[87] Cal. Natural Res. Agency, *AB 1492 Development of Ecological Performance Measures for California's Nonfederal Timberlands*, resources.ca.gov, https://resources.ca.gov/Initiatives/Forest-Stewardship/epm.

[88] Pub. Res. Code § 4592.5.

[89] Pub. Res. Code § 4592(a)(2)-(b).

("Board")[90] have not taken effective regulatory action to fulfill the Forest Practice Act's promise to restore, enhance and maintain healthy forests. This is illustrated by CalFire's failure to prioritize its duty to ensure sustainable forest practices and evaluation of cumulative impacts, both in terms of following existing Forest Practice Act regulation and in the ongoing failure by CalFire's Board to adopt necessary regulations.[91]

First, CalFire is not following its existing regulations. CalFire is required, in evaluating proposed logging plans, to apply the principle that "forest management on a specific ownership shall be the *production or maintenance of forests which are healthy and naturally diverse, with a mixture of trees and under-story plants*, in which *trees are grown primarily for the production of high quality timber products*.[92] A logging proposal must meet specific objectives, to provide a balance between growth and harvest over time, maintain functional wildlife habitat within the planning watershed, retain or recruit late and diverse seral state habitat components for wildlife concentrated in the watercourse and lake protection zones, and maintain growing stock, genetic diversity, and soil productivity.[93] In authorizing logging on private lands, CalFire must find that the proposed logging shall provide "[silvicultural] systems and alternatives which achieve maximum sustained production of high quality wood products."[94]

One is hard-pressed to find real and on-the-ground application of these criteria documented in CalFire's approval of logging plans, or their achievement in post-operations conditions of many industrial logging sites. The poor conditions of our forests, so many of which are dense groupings of trees without varied age classes, illustrate this lack of compliance to achieve healthy and naturally diverse forests, necessary to provide high quality wood products and protection of the environment.[95]

Second, CalFire is not adopting necessary regulation. In the face of the irrefutable need to act now to try and ameliorate catastrophic climate crisis consequences, CalFire, through its Board, has not developed regulatory standards to evaluate the significant and cumulative impacts from logging operations on wildfire threat and contribution of greenhouse gases. CalFire continues to lack standards to analyze the potential for logging to create wildfire conditions and contribute to further greenhouse

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[90] Pub. Res. Code § 730(a) (The Board of Forestry and Fire Protection is within CalFire).

[91] Pub. Res. Code § 4551 (The Board is required to adopt the regulations to implement the Forest Practice Act).

[92] Cal. Code Regs., tit. 14, § 897(b) (emphasis added).

[93] *Id*.

[94] Cal. Code Regs., tit. 14, § 913 ("the RPF shall select [silvicultural] systems and alternatives which achieve maximum sustained production of high quality timber products.").

[95] Taylor, *supra* note 3, at 18-20.

gases into an already toxic climate atmosphere. The Forest Practice Action regulations identify several factors to be considered in any individual proposed logging plan, such as the silvicultural method, harvest practice and erosion control, site preparation, water course and lake protection, hazard reduction, and wildlife protection.[96] Yet, the regulations do not have separate provision(s) requiring analysis of the potential for the individual logging plan's silvicultural method to create a fire prone landscape,[97] or to contribute greenhouse gases.

The Forest Practice Act regulations separately require consideration of "cumulative impacts,"[98] which "refer to two or more individual Effects which, when considered together, are considerable or which compound or increase other environmental Impacts."[99] These regulations do not mandate use of assessment criteria or compliance with standards; instead they provide guidance factors which "can" be used. The evaluation of cumulative impacts is "based upon the methodology" described in Board Technical Rule Addendum No. 2.[100] That methodology is a "framework for the assessment," presented in an Appendix as "*guidelines* for evaluating Cumulative Impacts," with "factors, and methods for analysis, that *can be* considered or used "to determine the presence of cumulative impacts.[101] This does not compel necessary rigorous analysis or provide critical standards and protection as called for by Dunne and others.

For the GHG impacts analysis, the guidelines identify "*options [which] can be used*" to assess "how forest management activities may affect GHG sequestration and emission rates of forests through changes to forest inventory, growth, yield, and mortality;" compliance with specific measures or standards is not required.[102] Similarly, for "wildfire risk and hazard," the guidelines identify elements which "*may be consid-*

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[96] Cal. Code Regs., tit. 14, ch. 4, subch. 4, 5 & 6, art. 3-7, 9.

[97] Cal. Code Regs., tit. 14, §§ 918, 938, 958 provide a few regulations for "fire protection," which concern what happens during a logging operation, such as the need for a burning permit, warming fires, and access during logging operations. They are not about whether a particularly logging operation can create fire-prone conditions into the future.

[98] Cal. Code Regs., tit. 14, § 898 ("Cumulative Impacts shall be assessed based upon the methodology described in the Board Technical Rule Addendum Number 2, Forest Practice Cumulative Impacts Assessment Process.").

[99] Cal. Code Regs., tit. 14, § 912.9, Technical Rule Addendum No. 2 Cumulative Impacts Assessment, "A. Introduction."

[100] Cal. Code Regs., tit. 14, § 898.

[101] Cal. Code Regs., tit. 14, § 912.9, Technical Rule Addendum No. 2, Cumulative Impacts Assessment, "A. Introduction"; Appendix Technical Rule Addendum No. 2 Cumulative Impacts Assessment Guidelines (emphasis added).

[102] Cal. Code Regs., tit. 14, § 912.9, Appendix Technical Rule Addendum No. 2 Cumulative Impacts Assessment Guidelines, "G. Greenhouse Gas ("GHG") Impacts." (emphasis added).

ered in the assessment of potential Cumulative Impacts."[103] Additionally, evaluation of wildfire risk and hazard is limited to the potential for "forest fuel loading in the vicinity of residential dwellings and communities."[104] It does not require analysis of the potential for development of a fire prone landscape as a consequence of the silviculture and harvesting methods, in a given logging plan or across a landscape.

The reasons listed above further illustrate that CalFire's governance of private land logging fails to consider the forest as an ecosystem, ignores the need to protect forest resources from the real impacts of climate change, contributes to the degradation of forest habitat and environmental resources, and increases fire conflagration.

VI. Governance of Forest Resource Management Operations by a Different Agency Will Restore and Advance California's Commitment to Achieve Healthy Forests

The need to have an agency, other than CalFire, dedicated to governance of private land logging under the Forest Practice Act is not a new idea. In 1994, the Little Hoover Commission underscored that CalFire's review and approval process for logging plans was not protecting the environment because it was limiting review to a parcel-by-parcel basis and focusing on process, rather than on effective outcome.[105] In 2001, the Dunne Report recommended removing CalFire from the role of evaluating cumulative watershed effects.[106] In 2012, the Legislature diminished CalFire's role, placing development of the ecological performance measures in California's Natural Resources and Environmental Protection Agencies.[107] In 2016, Kimberly Rodrigues, a departing member of the Board of Forestry and an RPF with extensive skill and expertise in natural resources, recommended that CalFire be relieved of its governance duties.

> "[T]he California Natural Resources Agency needs to assume the responsibility of verifying that the Forest Practice Rules are being implemented to protect the public trust resources from negative

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[103] Cal. Code Regs., tit. 14, § 912.9, Appendix Technical Rule Addendum No. 2 Cumulative Impacts Assessment Guidelines, "H. Wildfire Risk and Hazard." (emphasis added).

[104] *Id*.

[105] Terzian et al., *supra* note 11, at 54.

[106] Dunne et al., *supra* note 55, at 61.

[107] Pub. Res. Code § 4629.9; *see also* Forest Climate Action Team, *supra* note 13, at 45 (CalFire is only one of several agencies handling California's Forest Carbon Plan; it is not a lead, but only a member of the Forest Climate Action Team).

> cumulative impacts and that sustain resilient forests. This cannot be accomplished within Cal Fire alone. It is a public trust responsibility requiring interagency expertise and collaboration and the AB 1492 process provides an opportunity and a responsibility to ensure these public trusts are maintained and protected."[108]

And, in 2018, the Legislative Analyst Office stated that CalFire "is not the best entity to oversee proactive forest health efforts," based on two concerns: (1) leaving CalFire in charge interferes with the ability of other agencies which also have a role in regulation forest health, and (2) CalFire's focus on increasingly frequent and extreme fire throughout the state likely prevents it from providing effective resource management governance for logging and proactive forest health efforts.[109] Accordingly, the Legislative Analyst Office recommended that the California Resources Agency, rather than CalFire, be designated "as the lead agency to oversee proactive forest and watershed health."[110]

The LAO is correct: CalFire cannot be both a resource management agency and a fire agency. Its record of ineffective governance precedes it and CalFire does not have adequate funding for resource management. Governance for healthy forests under the Forest Practice Act must not be forced to compete with fire prevention and suppression. CalFire has made its choice, favoring economic interests over resource management. It chooses to be a well-funded fire department, at the expense of our forests and required governance, resulting in ecologically degraded forests with severe fire conditions.

VII. Options for Dedicating and/or Creating a Different Agency to Govern Forest Resource Management

There are multiple options available to remedy this lack of governance.

Certainly, the Legislature could create a new agency, guaranteeing adequate funding, sufficient staff, and foresters professionally trained in wholistic forestry to govern our forests for resource conservation as directed by California's Forest Practice Act. This would likely be a time-consuming and potentially expensive option.

As the LAO recommended in 2018, the California Resources Agency could assume direct governance of the Forest Practice Act.

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[108] Letter from Kimberly Rodrigues, RPF 2326, State Board of Forestry and Fire Protection ("BOF"), to John Laird, (May 20, 2016) (on file with the Board of Forestry).

[109] Taylor, *supra* note 3, at 28.

[110] *Id*. at 33-34.

However, the agency's failure to proceed in a timely manner with the implementation of AB 1492 calls into question its ability to oversee the Forest Practice Act in a reliable and thorough manner.

In the early years, California's forest resource management existed in the Department of Conservation, as the Division of Forestry. The mission of the Department of Conservation easily encompasses the promise and pursuit of the Forest Practice Act; it "balances today's needs with tomorrow's challenges and fosters intelligent, sustainable, and efficient use of California's energy, land, and mineral resources."[111] We believe this offers the most direct path forward, as it returns forest stewardship to an agency which embraces conservation. This would go a long way in restoring the Forest Practice Act mandate for healthy forests into the future.

Regardless of what path, replacing CalFire will provide a separate and independent agency with strengthened funding and personnel resources consistent with the 2018 LAO and other recommendations. This will also free CalFire to be an excellent fire agency, without potential for funding competition. Both services are of the utmost urgency.

VIII. Conclusion

There is a long record documenting CalFire's inability to adequately govern logging on private lands in California. We live now with the consequences of that inadequate governance as we see our forests depleted, increasingly fire prone, and unable to provide communities with the regional economies they once depended upon.

This is only exacerbated by the full force of climate change and crisis which is upon us. According to David Wallace-Wells, national fellow at the New America foundation and a columnist and deputy editor at *New York* magazine, writing about the climate crisis devastation we have brought upon ourselves and the responsibility to act now, "[i]t is worse, much worse, than you think. . . what happens, from here, will be entirely our own doing."[112] The forest and fire prone conditions we face today will only intensify if we do not attend now to the good governance required by the Forest Practice Act. We must not accept or consider the current fire prone conditions as a "new normal." They are not normal and are not what our Forest Practice Act promised: healthy forests, not degraded forests. The climate crisis is anything but normal — it is a

[111] California Department of Conservation, *Mission and Vision*, CONSERVATION.CA.GOV, https://www.conservation.ca.gov/index/Pages/About-Us/aboutUs_Vision_Mission.aspx.

[112] David Wallace-Wells, The Uninhabitable Earth: Life After Warming 1, 33 (2019).

catastrophe facilitated by us, in our time and our world: we must never accept it as normal.

In the face of the growing body of evidence and this existential crisis, CalFire has not implemented or paid heed to the repeated critiques and recommendations, even though these instruct what is needed to address current forestry challenges.[113] We do not even have the ecological performance measures required by the Legislature in 2012, which are imperative to provide forest resource protection. Instead, as former Board of Forestry member Kimberly Rodrigues reiterates, our forests are captive to the "tensions between forestry as an integrated ecological science and fire prevention and control."[114]

It is time to remove that tension by removing CalFire from its governing roles of the Forest Practice Act. It is time for this governance change, to restore the Forest Practice Act to its rightful and intended place — securing healthy forests for this and future generations. With ever increasing danger from the lack of good governance, we must restore the Forest Practice Act directives and cultivate a renewed sense of citizenship in the social and natural resources of our forestlands. Placing Forest Practice Act governance in an agency other than CalFire takes one huge step forward in accomplishing this restoration.

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[113] *E.g.*, Rodrigues, *supra* note 108, at 2.
[114] *Id.*

FEDERALISM AND WATER: THE CALIFORNIA EXPERIENCE

CLIFFORD T. LEE[1]

I. INTRODUCTION

The struggle between California's water plentiful north and the water deficient south has marked water conflict in the state for the last century.[2] This struggle has played out in repeated disputes over the operation of the federal Central Valley Project ("CVP") and the California State Water Project ("SWP"), the two inter-basin water conveyance facilities that deliver water through-out the state. Commencing in the 1920's and 30's with the enactment of California's area of origin statutes and extending in more recent times to federal and state environmental laws, a complex set of legal requirements constrain the CVP and the SWP's ability to deliver water to the projects' agricultural and municipal users.

Doubts about the efficacy of these requirements to achieve their goals have been long-standing. Former California state senator Peter Behr's remark that "[y]ou can't contain a thirsty beast in a paper cage" reflects the skepticism held by many that the rule of law cannot effectively constrain project operations in a water-short state such as California.[3]

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[1] Clifford T. Lee was a deputy attorney general from 1979 to 2019 with the California Department of Justice. As a deputy attorney general, the author represented the California State Water Resources Control Board, the California Department of Water Resources, the California Department of Fish and Wildlife, and other state agencies in natural resource litigation, including litigation involving federalism issues. The views expressed in this article are his own and do not necessarily reflect the views of the California Department of Justice or other agencies of the State of California. The author would like to acknowledge the research assistance of Jessica B. Jandura, Doctor of Jurisprudence candidate, May 2020, Golden Gate University Law School.

[2] Seventy-five percent of California's available water is in the northern third of the state (north of Sacramento), while eighty percent of the urban and agricultural water demands are in the southern two-thirds of the state. https://www.watereducation.org/photo-gallery/california-water-101 (last visited Apr. 24, 2020).

[3] Norris Hundley, Jr., The Great Thirst 326 (1st ed. 1992).

This article will address one sub-set of these legal requirements: the historic requirement that federal reclamation projects such as the CVP defer to state law relating to the control, appropriation, use, or distribution of water as set forth in section 8 of the federal Reclamation Act of 1902.[4] This article will discuss: (1) the origin of the federal reclamation law principle of deference to state water law and its inclusion in the Reclamation Act of 1902, (2) the application of the deference principle in California to the CVP, (3) the rise of federal and state endangered species laws as constraints on the CVP and SWP's use of water, and (4) the implications of the deference principle as to the question of whether California's endangered species law applies to the CVP.

II. The Origins of Federal Deference to State Water Law

A. The Equal Footing Doctrine

As improbable as it may seem, the story behind the principle that modern federal reclamation projects must defer to state water law begins with ancient English common law. In a dispute over ownership of the oyster beds of New Jersey's Raritan Bay, the U.S. Supreme Court observed in *Martin v. Lessee of Waddell* that the English monarchy's sovereign powers under English common law included "[t]he dominion and property in navigable waters, and in the lands under them, being held by the King as a public trust."[5] The *Martin* court begins its story by explaining that King Charles II granted the Duke of York royal charters for lands that encompassed Raritan Bay, which the duke then conveyed to twenty-four proprietors. The proprietors subsequently reconveyed certain powers back to the king, but retained title to the land for themselves.[6] According to the Court, the royal charters originally conveying this land conveyed the king's sovereign powers to the colonial proprietors, and the proprietors' subsequent reconveyance of the powers back to the king did not diminish those powers.[7] At the conclusion of the American Revolution, the thirteen colonies, freed from English rule, "took into their own hands the powers of sovereignty" and "the prerogatives and regalities which before belonged either to the Crown or the Parliament became immediately and rightfully vested in the state[s]."[8] Due to this transfer of sovereignty, the original states "hold the absolute right to all

[4] 43 U.S.C. § 383.
[5] *Martin v. Lessee of Waddell*, 41 U.S. 367, 411 (1842).
[6] *Id*. at 407.
[7] *Id.* at 413-416.
[8] *Id.* at 416.

their navigable waters and the soils under them for their own common use, subject only to the rights since surrendered by the Constitution to the general government," up to the ordinary high water mark.[9] Thus at the nation's birth, the individual states were "vested" with the general powers of sovereignty, including the power over navigable waters, limited only by the those powers delegated to the federal government under the constitution.

As the nation grew beyond the original thirteen states, Congress passed the Northwest Territories legislation and other enactments declaring that the new states were to be admitted into the Union "on an equal footing with the original States in all respects whatever."[10] In addressing a dispute over formerly submerged lands under Mobile Bay in Alabama, the U.S. Supreme Court in *Pollard's Lessee v. Hagan* held that "Alabama was admitted into the Union, on an equal footing with the original States" and "succeeded to all the rights of sovereignty, jurisdiction and eminent domain" of the original thirteen states.[11] Those rights are "absolute" and include "the navigable water[s], and soils under them, in controversy in this case, subject to the rights surrendered by the Constitution to the United States."[12]

This "equal footing" doctrine therefore granted the new states the broad sovereign powers heretofore held by the English monarchy and Parliament. In *Shively v. Bowlby*, the U.S. Supreme Court explained the state's sovereign interests in navigable waters in terms of their unsuitability for private possession and the public's shared interest in their use.

> Lands under tidewaters are incapable of cultivation or improvement in the manner of lands above high-water mark. They are of great value to the public for the purposes of commerce, navigation, and fishery. Their improvement by individuals, when permitted, is incidental or subordinate to the public use and right. Therefore, the title and the control of them are vested in the sovereign for the benefit of the whole people.[13]

The U.S. Supreme Court's reference to fishery purposes as a "public use and right" echoes the Court's earlier recognition in *Martin* of the English common law "principle" that "'the public common of piscary' belong[s] to the common people of England."[14]

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[9] *Id*. at 410; *Borax Consolidated, Ltd. v. Los Angeles*, 296 U.S. 10, 22-23 (1935).
[10] *Pollard's Lessee v. Hagan*, 44 U.S. 212, 222 (1845).
[11] *Id*. at 223.
[12] *Id.* at 229.
[13] *Shively v. Bowlby*, 152 U.S. 1, 57 (1894).
[14] *Martin*, 41 U.S. at 412.

In *Kansas v. Colorado*, a case involving the Arkansas river, the U.S. Supreme Court extended and explained the equal footing doctrine.[15] First, the Court expanded the sovereign powers held by the states under the doctrine beyond questions of state ownership of land underlying navigable waters to include questions relating to the allocation of water within the states' respective boundaries. The United States had argued that it held the power to reclaim arid lands in the western states and that this power authorized the United States to impose an appropriative water rights system in the allocation of water from the Arkansas river.[16] Relying upon *Martin* and other equal footing cases, the Court rejected this argument and held that each state "may determine for itself whether the common law rule in respect to riparian rights or that doctrine which obtains in the arid regions of the West of the appropriation of waters for the purposes of irrigation shall control. Congress cannot enforce either rule upon any state."[17]

Second, the *Kansas* court fleshed out the language in the Court's earlier equal footing decisions that the states' sovereign powers were "subject to the rights surrendered by the Constitution to the United States."[18] Citing to its 1899 decision in *United States v. Rio Grande Dam and Irrigation Co.*, the *Kansas* court explained that:

> Although this power of changing the common law rule as to streams within its dominion undoubtedly belongs to each state, yet two limitations must be recognized: first, that, in the absence of specific authority from Congress, a state cannot, by its legislation, destroy the right of the United States, as the owner of lands bordering on a stream, to the continued flow of its waters — so far at least, as may be necessary for the beneficial uses of the government property. Second, that it is limited by the superior power of the general government to secure the uninterrupted navigability of all navigable streams within the limits of the United States.[19]

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[15] *Kansas v. Colorado*, 206 U.S. 46 (1907).

[16] *Id*. at 86-87.

[17] *Id.* at 94. The riparian and appropriative water rights are the two generally recognized types of water rights under state law. The riparian doctrine confers upon the owner of land the right to divert the water flowing by his land for use upon his land, without regard to the extent of such use or priority in time. In times of shortage, the right is reduced proportionally to other land owners. *United States v. State Water Resources Control Board*, 182 Cal.App.3d 82, 101 (1986). The appropriation doctrine confers a right upon one who actually diverts and uses water for reasonable and beneficial use. The right is not linked to land ownership and in times of shortage the right is reduced on a first in time, first in right priority system. *Id.* at 101-102.

[18] *Shively*, 152 U.S. at 58; *Pollard's Lessee*, 44 U.S. at 229; *Martin*, 41 U.S at 410.

[19] *Kansas*, 206 U.S. at 86 citing *United States v. Rio Grande Dam and Irrigation Co.*, 174 U.S. 690, 703 (1899).

Seventy-nine years after the *Rio Grande* decision, the U.S. Supreme Court would affirm these federalism principles in *California v. United States* by declaring "that, except where the reserved rights or navigation servitude of the United States are invoked, the State has total authority over its internal waters."[20] But we are getting ahead of our story.

B. The Severance Doctrine

During the 19th century, the courts were not the only instruments of the federal government to recognize the principle of deference to state water law. In the Mining Act of 1866, Congress expressly acknowledged the western mining custom of prior appropriation as the method for allocating water. Section 9 of that act provided that "[w]henever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and the decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same."[21]

In 1870, Congress amended the Mining Act to ensure that federal land grantees took their lands subject to appropriative water rights by providing that ". . .all patents granted, or preemption or homesteads allowed, shall be subject to any vested and accrued water rights, or rights to ditches and reservoirs used in connection with such water rights, as may have been acquired under or recognized by the ninth section of the act of which this act is amendatory."[22] In *Rio Grande*, the U.S. Supreme Court affirmed the deference to state law principle by declining to read the Mining Act as creating independent federal water rights, but, instead, constituting "a voluntary *recognition of a preexisting right of possession,* constituting a valid claim to its continued use, [rather] than the establishment of a new one."[23]

Passage of the Desert Land Act of 1877 completed Congress'19th century embrace of the principle of deference to state water law. The act allowed for the entry and settlement of desert lands in the western states and, importantly, provided that ". . . all surplus water over and above such actual appropriation and use, together with the water of all lakes, rivers, and other sources of water supply upon the public lands and not navigable, shall remain and be held free for the appropriation and use of

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[20] *California v. United States*, 438 U.S. 645, 662 (1978).

[21] Act of July 26, 1866, § 9, 14 Stat. 253.

[22] Act of July 9, 1870, § 17, 16 Stat. 217, 218.

[23] *Rio Grande*, 174 U.S. at 705, citing *Broder v. Water Co.*, 101 U.S. 274, 276 (1879), emphasis added.

the public for irrigation, mining and manufacturing purposes subject to existing rights."[24]

In *California Oregon Power Co. v. Beaver Portland Cement Co.*, the U.S. Supreme Court addressed this section of the Desert Land Act in a dispute over the Rogue river between a riparian claimant holding a Homestead Act land patent and a cement company holding adjudicated state water rights.[25] The Court defined the issue before it as whether the "homestead patent in question carried with it as part of the granted estate the common law rights which attach to riparian proprietorship."[26] The Court then rejected the landholder's riparian claim by reading the Desert Land Act as effectuating a "severance" of all water from public domain land:

> If this language is to be given its natural meaning, and we see no reason why it should not, it effected a severance of all waters upon the public domain, not theretofore appropriated, from the land itself. From that premise, it follows that a patent issued thereafter for lands in a desert land state or territory, under any of the land laws of the United States, carried with it, of its own force, no common law right to the water flowing through or bordering upon the lands conveyed.[27]

The Court expressly declined to limit its "severance" holding to land patents issued for desert lands. Recognizing that lands would be held within watersheds under multiple types of land patents, the Court broadly applied its "severance" holding and concluded that "it is inconceivable that Congress intended to abrogate the common law right of the riparian patentee for the benefit of the desert landowner and keep it alive against the homestead or preemption claimant."[28]

As the nation entered the 20th century, the question raised in *Kansas* of whether the states controlled the river flow within their boundaries or whether such "flow is subject to the superior authority and supervisory control of the United States" appeared settled in favor of deference to state water law, a deference limited only by the property clause and navigational servitude powers surrendered to the national government under the constitution.[29] However, Congress' authorization of federally-funded

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[24] Desert Land Act of 1877, Act of March 3, 1877, § 1, 19 Stat. 377.

[25] *California Oregon Power Co. v. Beaver Portland Cement Co.*, 295 U.S. 142, 151 (1935).

[26] *Id.* at 154.

[27] *Id.* at 158.

[28] *Id.* at 162.

[29] *Kansas*, 206 U.S. at 85-86.

water projects under the Reclamation Act of 1902 would soon re-open the question of "national control" of the nation's waterways.[30]

C. Section 8 of the Reclamation Act of 1902

By the turn of the century, a bi-partisan movement was growing for direct federal involvement in constructing water storage projects to reclaim the arid lands of the western states and territories. This self-proclaimed "National Irrigation Movement" obtained favorable language in the 1900 national platforms of both the Republican and Democratic parties.[31] President Theodore Roosevelt's December 1902 message to Congress supported this movement, arguing that it is "as right for the National Government to make the streams and rivers of the arid region useful by engineering works for water storage as to make useful the rivers and harbors of the humid region by engineering works of another kind."[32] Importantly, Roosevelt's message embraced the deference to state water law principle by declaring that "[t]he distribution of the water, the division of the streams among irrigators, should be left to the settlers in conformity with State laws and without interference with those laws or with vested rights."[33]

On January 21, 1902, bills were introduced in both the House and Senate to implement President Roosevelt's reclamation vision.[34] On June 17, 1902, Congress responded by approving the Reclamation Act of 1902.[35] The act (1) created a reclamation fund from the receipts of public land sales in the sixteen western states, (2) authorized the Secretary of the Interior to investigate and construct water storage projects to be financed by the fund, (3) removed from private transfer public lands required for the projects, and (4) limited the right to use project water on land in private ownership to tracts of 160 acres or less and to landowners who resided on or within the neighborhood of the land.[36] Under the act's

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[30] *Id.* at 85.

[31] 35 Cong. Rec. 6773 (1902). The Republican platform stated, "In further pursuance of the constant policy of the Republican party to provide free homes on the public domain, we recommend adequate national legislation to reclaim the arid lands of the United States, reserving the control of the distribution of water for irrigation to the respective States and Territories." *Id*. The Democratic platform read, "We favor an intelligent system of improving the arid lands of the West, storing the waters for purposes of irrigation, and holding of such land for actual settlers." *Id.*

[32] 35 Cong. Rec. 6775 (1902).

[33] *Id.*

[34] H.R. 9676, 57th Cong., 1st Sess. (1902); S. 3057, 57th Cong., 1st Sess. (1902); Donald J. Pisani, To Reclaim a Divided West 313 (1st ed. 1992).

[35] Act of June 17, 1902, Pub. L. No. 161, 32 Stat. 388-390.

[36] *Id.* Congress removed the residency requirement, enlarged the acreage limitation, and made other changes to the Reclamation Act of 1902 in the Reclamation Reform Act of 1982. 43 U.S.C., §§ 373(a); 390aa-390zz-1; 422e; 425b; 485h; 502. *See generally Peterson v. United States*,

authority, the Secretary of the Interior created the Reclamation Service within the United States Geological Survey to administer the act. In 1907, the Reclamation Service was re-organized as a separate Bureau of Reclamation ("Bureau").[37]

In section 8 of the act, Congress expressly codified the deference to state water law principle by providing that:

> Nothing in this act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of waters used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provisions of this act, shall proceed in conformity with such laws.[38]

The legislative history of the act discloses two critical points regarding this section. First, the section was intended to impose state law not only as to the "appropriation" of water required for the projects, but also as to the water's "distribution" and "use."[39] Second, the section was deliberatively drafted to further the deference to state water law principle set forth in earlier laws such as the Mining Act of 1866 and the Desert Land Act of 1877.[40]

Thus, with the passage of the Reclamation Act of 1902, federal water policy moved forward fully aligned with the principle that federal reclamation efforts must defer to state water law. However, the 20th century implementation of the act in California would tell a different story.

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899 F.2d 799 (9th Cir. 1990). Reflecting the anti-Chinese xenophobia of the times, section 4 of the act also included a provision mandating that in the construction of reclamation projects "no Mongolian labor shall be employed thereon." § 4, 32 Stat. at 389. Congress did not remove this provision until 1956. Act of May 10, 1956, Pub. L. No. 517, 70 Stat. 151.

[37] https://www.usbr.gov/history/borhist.html (last visited Apr. 26, 2020). In 1926, Congress created the position of Commissioner of Reclamation to be appointed by the President and subject to Senate confirmation. 43 U.S.C. § 373a.

[38] 43 U.S.C., § 383.

[39] 35 Cong. Rec. 6678, 6679 (1902) (Mondell); *Id*. at 6770 (Sutherland); *Id*. at 6728 (Burkett).

[40] *Id.* at 6679 (Mondell) ("We began to legislate in regard to the use of water in irrigation in 1866. We have legislated continuously along one line [in support of state control].").

III. Implementation of the Reclamation Act of 1902 in California and the Rise and Fall of Federal Dominion

A. *Ivanhoe, City of Fresno*, and *Arizona* - The Dismantling of Section 8

During the decades following passage of the Reclamation Act of 1902, the State of California would decline to aggressively defend the water rights authority granted to it by section 8 of the Reclamation Act of 1902. Furthermore, in a trio of mid-20th century cases, the U.S. Supreme Court would effectively dismantle the section. In *Ivanhoe Irrigation Dist. v. McCracken*, the Court reversed the California Supreme Court's ruling that section 8 of the act prevented the United States from enforcing the acreage limitations contained in section 5 of the act against California landowners receiving reclamation water.[41] The California Supreme Court had concluded that state law imposed a fiduciary trust on water rights holders, including the United States, for the benefit of all Californians, including all landowners, and that the section 5 limit on the delivery of reclamation water to landowners holding 160 acres of land or less violated that fiduciary trust.[42] The State of California, through the California Attorney General, contested the California Supreme Court decision and fully supported the United States' reading of reclamation law.[43] The *Ivanhoe* court sided with the United States and concluded that "[w]e read nothing in [section] 8 that compels the United States to deliver water on conditions imposed by the State."[44]

In *City of Fresno v. California*, the U.S. Supreme Court rejected the city's argument that section 8 limited "the United States from exercising the power of eminent domain to acquire the water rights of others" due to California's area of origin law and statutory preference for municipal use, holding that state authority in such a case is limited "to defining the

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[41] *Ivanhoe Irrigation Dist. v. McCracken,* 357 U.S. 275, 289-290 (1958).

[42] *Id.* On remand, the California Supreme Court reversed and repudiated its earlier ruling that state water rights were subject to a state law fiduciary trust for the benefit of all landowners within the irrigation district. *Ivanhoe Irrigation Dist. v. All Parties*, 53 Cal.2d 692, 716 (1960) ("The trust theory was so interrelated to the erroneous interpretation of section 8 of the Reclamation Act, and so interwoven with that erroneous interpretation, that it must be held that it fell with that erroneous interpretation. . .Thus the trust theory is not the law of this case, is dicta, and for that reason should not be construed as a statement of the law of California.").

[43] *Id.* at 279 ("This litigation involves a dispute between landowners, on the one hand, and the combined State and Federal Governments, on the other. As the Attorney General of California points out, there is no clash here between the United States and the State of California.").

[44] *Id.* at 292.

property interest, if any, for which compensation must be made."[45] Finally, in *Arizona v. California*, the U.S. Supreme Court, relying upon *Ivanhoe*, held that "[s]ince [section] 8 of the Reclamation Act did not subject the Secretary [of the Interior] to state law in disposing of water in that case, we cannot, consistently with *Ivanhoe*, hold that the Secretary must be bound by state law in disposing of water under the [Boulder Canyon] Project Act."[46] When asked a question during the floor debates over the Reclamation Act of 1902 on "the subject of national or State control," Congressman Mondell, the bill's lead House proponent, responded, "as to State control over appropriation and distribution, I will say to the gentleman that there is no reasonable ground for disagreement on that point."[47] Sixty-one years later, the U.S. Supreme Court limited state "control" under section 8 "to defining the property interest, if any, for which compensation must be made" when the United States condemns property for reclamation purposes.[48] Federal dominion in the field of water was on the rise.

B. The Consequences of Federal Dominion to California's Management of its Natural Resources

The most striking consequence of California's acquiescence to federal dominion and the U.S. Supreme Court's diminution of section 8 was the fishery effects of the state's issuance of water right permits for Friant dam, a federal reclamation facility located on the San Joaquin river. Through passage of the Act of August 26, 1937[49], Congress authorized the construction and operation of the CVP as reclamation facilities. These facilities included Friant dam and the Madera and Friant-Kern distribution canals located in the southern Central Valley of California.[50] The Bureau commenced construction of Friant dam in 1939, the Madera Canal in 1940, and the Friant-Kern Canal in 1945. Water deliveries commenced in 1944.[51] However, the State Water Rights Board, now the State Water Resources Control Board ("State Water Board"), did not issue water right permits for the Friant project until June 2, 1959 in Decision 935.[52]

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[45] *City of Fresno v. California*, 372 U.S. 627, 630 (1963).
[46] *Arizona v. California*, 373 U.S. 546, 587 (1963).
[47] 35 Cong. Rec. 6679 (1902).
[48] *City of Fresno*, 372 U.S. at 630.
[49] Act of August 26, 1937, Pub. L. No. 392, 50 Stat. 844.
[50] *Id.* at § 2, 50 Stat. at 850.
[51] Decision 935, Cal. State Water Rights Board 14-15 (1959).
[52] *Id.* at 109.

The effect of allowing the construction and operation of Friant dam to precede the issuance of the project's state water rights coupled with the U.S. Supreme Court's decision in *Ivanhoe* limited the state law terms and conditions that California could impose on the project. During the State Water Rights Board hearings leading up to Decision 935, the California Department of Fish and Game, now the Department of Fish and Wildlife ("DFW"), argued that the operation of Friant dam had eliminated the San Joaquin River spring-run salmon fishery and that the dam's operations violated the state law requirement that water rights may only be issued in the public interest.[53] The State Water Rights Board rejected the Department of Fish and Game's arguments by noting that "the evidence is overwhelming that the salmon fishery on the San Joaquin River upstream from the junction with the Merced River is now virtually extinct."[54] The State Water Rights Board then concluded that "to require the United States to by-pass water down the channel of the San Joaquin River for the re-establishment and maintenance of the salmon fishery at this time is not in the public interest and accordingly, the protests of the Department of Fish and Game to the subject applications are dismissed."[55]

Prior to the construction of Friant dam, the San Joaquin river spring-run chinook salmon "was one of the largest Chinook runs anywhere on the Pacific Coast and has been estimated at several hundred thousand fish."[56] Construction and operation of Friant dam extinguished this salmon species and imperiled the separate San Joaquin river fall-run salmon species.[57] The adverse consequences of federal dominion in water to California's natural resources had become indisputably clear.

C. *California v. United States* and the Resurrection of Section 8

1. California v. United States

In 1978, the U.S. Supreme Court reversed field in *California v. United States* and for the first time gave effect to section 8 of the Reclamation Act of 1902 in accord with the intent of the act's authors.[58] At issue in *California* was whether section 8 required the Bureau, as the

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[53] *Id.* at 33-34; Cal. Water Code, §§ 1253, 1255, and 1257.

[54] Decision 935, *supra* note 51 at 40.

[55] *Id.* at 41.

[56] *Natural Resources Defense Council v. Patterson*, 333 F.Supp. 2d 906, 909 (E.D. Cal. 2004).

[57] *Id.* at 910.

[58] *California,* 438 U.S. at 674.

operator of the New Melones Project on the Stanislaus River, to comply with state law terms and conditions imposed by the State Water Board on the water right permits issued for the project.[59] The State Water Board considered the Bureau's water right applications for the project in Decision 1422. Testimony before the State Water Board disclosed that the completed project would inundate nine miles of the upstream portion of the river that were heavily used for whitewater rafting and other recreational purposes.[60] The testimony did not disclose that the Bureau had any "specific plan for applying project water to beneficial use for consumptive purposes at any particular location."[61] According to Decision 1422, "[b]y failing to present evidence of a specific plan to use the water conserved by the New Melones Project for consumptive purposes, the Bureau failed in spirit if not in substance to meet the statutory requirements for approval of a permit to appropriate water for such purposes."[62] Nonetheless, the State Water Board issued water right permits to the Bureau for the project, but limited the Bureau's ability to store water until such time as the Bureau could show that it had "firm commitments to deliver water" for consumptive purposes.[63]

The United States predictably brought an action challenging Decision 1422, relying upon *Ivanhoe* and its successors. However, this time, the U.S. Supreme Court rejected the United States' claims. Characterizing the preemptive language in *Ivanhoe* as "dictum," the *California* court rejected the United States' preemption claim, stating "we disavow the dictum to the extent that it would prevent petitioners from imposing conditions on the permit granted to the United States which are not inconsistent with congressional provisions authorizing the project in question."[64] Absent an "inconsistent" congressional provision, "[t]he legislative history of the Reclamation Act of 1902 makes it abundantly clear that Congress intended to defer to the substance, as well as the form, of state water law."[65] According to the Court, the "substance" of state law includes both laws regarding the "appropriation" and the subsequent "distribution" of project water.[66] In rejecting the United States' argument

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[59] *California*, 438 U.S. at 647.

[60] Decision 1422, Cal. State Water Resources Control Board 17 (1973). According to the State Water Board, "streams available for whitewater boating are extremely scarce" and "the Stanislaus may be the second most heavily used river in the nation for that purpose in actual numbers of visitors per year." *Id*. at 23.

[61] *Id*. at 14.

[62] *Id*. at 15.

[63] *Id*. at 30.

[64] *California*, 438 U.S. at 674.

[65] *Id*. at 675.

[66] *Id*. at 674 ("[T]he Act clearly provided that state water law would control in the appropriation and later distribution of the water.").

that more recent legislative enactments altered the federalism balance regarding reclamation projects, the Court held that "[w]hile later Congresses have indeed issued new directives to the Secretary, they have consistently reaffirmed that the Secretary should follow state law in all respects not directly inconsistent with these directives."[67] On remand, the Ninth Circuit recognized that "an inconsistent congressional directive" referred to a conflicting federal statute and then affirmed all of the conditions contained in Decision 1422 from federal preemption based upon the U.S. Supreme Court's decision.[68]

2. Judicial Decisions Protecting California's Natural Resources Through Application of the Deference Principle

At least three appellate decisions decided subsequent to *California* have applied the deference to state water law principle to federal reclamation projects in California to protect California's natural resources. First, in *United States v. State Water Resources Control Board*, the California Court of Appeal for the First Appellate District adopted the State Water Board's reading of *California* and rejected the "Bureau's contention that the Board-imposed conditions for salinity control [in the Sacramento and San Joaquin river delta] are inconsistent with congressional directives."[69] After reviewing the federal statutes authorizing the CVP, the Court of Appeal held that "the Board was fully authorized to impose the challenged water quality standards or conditions, a regulatory exercise which we determine to be consistent with congressional directives."[70]

Second, in *Natural Resources Defense Council v. Houston*, the Ninth Circuit, relying upon *California*, held that the 1992 Central Valley Project Improvement Act ("CVPIA") did not facially preempt the appli-

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[67] *Id.* at 678. Outside of the context of federal reclamation projects, the U.S. Supreme Court's approach to state water law saving clauses has been mixed. In *California v. FERC*, 495 U.S. 490, 492-493 (1990), the Court declined to require federally-licensed hydro-electric power facilities to comply with state law mandated in-stream fishery flows notwithstanding a Federal Power Act savings clause that was similar, although not identical, to section 8. However, in *PUC No. 1 of Jefferson County v. Washington Department of Ecology*, 511 U.S. 700, 721-722 (1994), the Court affirmed the imposition of state in-stream flows upon federal power licensees under section 401 of the Clean Water Act. *See also S.D. Warren Co. v. Maine Board of Environmental Protection*, 547 U.S. 370, 386 (2006) [same].

[68] *United States v. State Water Resources Control Board*, 694 F.2d 1171, 1176 (9th Cir. 1982) (Section 8 requires "that the United States follow state water law absent a preempting federal statute," citing *United States v. Tulare Lake Canal Co.*, 677 F.2d 713, 717 (9th Cir. 1982).)

[69] *United States*, 182 Cal.App.3d at 135.

[70] *Id.* at 136.

cation of section 5937 of the California Fish and Game Code to the Bureau's distribution and use of Friant dam waters.[71] Section 5937 requires owners of dams to "allow sufficient water to pass over, around or through the dam, to keep in good condition any fish that may be planted or exist below the dam."[72] Section 5937 is a legislative manifestation of California's common law public trust doctrine.[73] On remand, the district court affirmed the State Water Board's view that reclamation law as interpreted in *California* retained the principle of deference to state water law and, in applying that principle, required the Bureau to operate Friant dam consistent with section 5937.[74] Notably, neither the Ninth Circuit nor the district court questioned the inclusion of a provision of the California Fish and Game Code within the scope of section 8, which includes all "laws of any State or Territory relating to the control, appropriation, use, or distribution of waters."[75] This suggests that section 8 extends beyond traditional state water right statutes to include other state natural resource laws. The litigation resulted in a settlement leading to federal legislation creating a joint federal-state program to restore the San Joaquin river as habitat for a self-sustaining chinook salmon population.[76]

Third, in *San Luis & Delta Mendota Water Auth. v. Haugrud*, the Ninth Circuit applied the deference principle to support the Bureau's 2013 decision to release supplemental flows from Lewiston dam on the Trinity river to protect returning salmon from mortality due to low flow conditions in the lower Klamath river.[77] CVP water contractors had argued that the Bureau's decision violated California law because the state water right permits held by the Bureau did not designate the lower Klamath river as an authorized place of use for water stored at the dam, thus requiring the Bureau to obtain a permit change before using the water for the supplemental flows.[78] The DFW appeared as an amicus and argued that section 5937 of the Fish and Game Code supported the Bureau's decision.[79] The Ninth Circuit rejected the contractors' argument and held that section 5937 "creates an exception to the permit change re-

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[71] *Natural Resources Defense Council v. Houston*, 146 F.3d 1118, 1132 (9th Cir. 1998).

[72] Cal. Fish & Game Code, § 5937.

[73] *California Trout, Inc. v. State Water Resources Control Board*, 207 Cal.App.3d 585, 626 (1989). *See generally National Audubon Society v. Superior Court*, 33 Cal.3d 419, 445-448 (1983).

[74] *Patterson*, 333 F.Supp. 2d at 919-921.

[75] 43 U.S.C. § 383.

[76] San Joaquin River Restoration Settlement Act, Pub. L. No. 111-11, §§ 10001-10011, 123 Stat. 1349-1364 (2009). The litigation also set in motion steps to reverse the salmon extinction outcome resulting from the State Water Rights Board's Decision 935.

[77] *San Luis & Delta Mendota Water Auth. v. Haugrud*, 848 F.3d 1216, 1234-1235 (9th Cir. 2017).

[78] *Id.* at 1234.

[79] *Id.*

quirement" and that the section "requires BOR to allow sufficient water to pass the Lewiston Dam to maintain the fish below the Dam."[80] *Haugrud* therefore affirms the Ninth Circuit holding in *Houston* that the deference principle under section 8 of the Reclamation Act of 1902 extends beyond traditional water right law and may include provisions of the California Fish and Game Code intended to protect fishery resources.

3. Recent Central Valley Project Legislation Affirming the Deference Principle

Congressional legislation adopted subsequent to *California* regarding the CVP has included savings clause language that further affirms the section 8 deference principle. In 1992, Congress adopted the CVPIA. Section 3406(b) of the CVPIA provides that:

> [t]he Secretary, immediately upon the enactment of this title, shall operate the Central Valley Project to meet all obligations under *State* and Federal *law, including but not limited* to the Federal Endangered Species Act, 16 U.S.C. 1531, et seq., and *all decisions of the California State Water Resources Control Board establishing conditions on applicable licenses and permits for the project*.[81]

In 2016, Congress passed the Water Infrastructure Improvements for the Nation Act ("WIIN Act"), a statute that requires certain operational changes to the CVP.[82] Section 4012 of the WIIN Act affirmed the deference to state law principle by providing that:

> This subtitle shall not be interpreted or implemented in a manner that—preempts or modifies any obligation of the United States to act in conformance with *applicable state law*, including applicable State water law . . .[83]

The savings clauses in both the CVPIA and the WIIN Act thus uphold the deference principle. Tellingly, the clauses do not limit the deference principle to California Water Code provisions related to water rights. The CVPIA requires Bureau compliance with "state law. . .including but not limited to" State Water Board water right decisions.[84] The WIIN Act

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[80] *Id.*

[81] Central Valley Project Improvement Act, Pub. L. 102-575, § 3406(b), 106 Stat. 4706, 4714 (1992), emphasis added.

[82] Water Infrastructure Improvements for the Nation Act, Pub. L. 114, §§ 4001-4014, 130 Stat. 1851-1884 (2016).

[83] *Id.* at § 4012(a), 130 Stat. at 1882, emphasis added.

[84] § 3406(b), 106 Stat. at 4714.

speaks of "applicable state law," including state water law.[85] These acts thus suggest, consistent with the Ninth Circuit decisions in *Houston* and *Haugrud*, that the deference principle extends beyond state statutes directly related to water rights and may include other state natural resources laws.

The resurrection of section 8 of the Reclamation Act of 1902 under *California* and its judicial and legislative progeny is an important part of the deference principle's historical narrative. However, section 8's revival does not end our story. As water resource management in California unfolded in the 21st century, the deference principle faced a new challenge: the management of California's water projects under federal and state endangered species laws.

IV. The Rise of Endangered Species Law as a Limitation on the Central Valley Project and the State Water Project

The rise of federal and state endangered species laws as limitations on the CVP and the SWP has become the defining characteristic of California water project management in the 21st century. An appreciation of this development requires a more detailed understanding of these projects.

A. The Central Valley Project and the State Water Project

The CVP and the SWP are two major inter-basin water storage and delivery systems that divert and re-divert water from the southern portion of the Sacramento-San Joaquin River Delta ("Delta"). The CVP is operated by the Bureau and consists of twenty dams and reservoirs that together can store nearly twelve million acre-feet of water. The Bureau holds over 270 contracts and agreements for water supplies that depend upon CVP operations. Through operation of the CVP, the Bureau delivers water in twenty-nine of California's fifty-eight counties in the following approximate annual amounts: 5,000,000 acre-feet water for farms, 600,000 acre-feet of water for municipal and industrial uses, and 355,000 acre-feet of water for wildlife refuges.[86] The CVP's major storage facilities are the Shasta, Trinity, Folsom, and New Melones reservoirs up-

[85] § 4012(a)(1), 130 Stat. at 1882.

[86] U.S. Bureau of Reclamation, Reinitiation of Consultation on the Coordinated Long-Term Operation of the Central Valley Project and State Water Project Final Environmental Impact Statement at1-1 (2019) (hereinafter "Bureau Reinitiation EIS").

stream of the Delta.[87] These upstream reservoirs release water that enters the Delta and then can be exported at Jones pumping plant near Tracy for storage in the joint federal/state San Luis reservoir or delivered down the Delta Mendota Canal.[88]

The SWP is operated by the California Department of Water Resources ("DWR") and includes water, power, and conveyance systems, conveying an annual average of 2.9 million acre-feet of water. The principal facilities of the SWP are the Oroville reservoir and related facilities, the San Luis dam and related facilities, facilities in the Delta, the Suisun Marsh Salinity Control Gates, the California Aqueduct including its terminal reservoirs, and the North Bay Aqueduct and South Bay Aqueduct. DWR holds contracts with twenty-nine public agencies in Northern, Central, and Southern California for water supplies from the SWP. Water stored in the Oroville facilities and water available in the Delta are captured in the Delta and conveyed through several facilities to SWP contractors. The SWP is operated to provide flood control and water for agricultural, municipal, industrial, recreational, and environmental purposes.[89] Both the CVP and the SWP operate under a coordinated operations agreement between the United States and California which, as amended in 2018, coordinates the CVP and SWP's diversions and storage from common watersheds and apportions regulatory obligations between the two projects.[90]

CVP and SWP operations adversely affect fish species listed as threatened or endangered under the federal Endangered Species Act ("ESA") and the California Endangered Species Act ("CESA"). These adverse effects include impediments to fish migration, such as dams or other barriers, alteration of water temperature, changes in water quality such as turbidity and salinity conditions, modifications to water flow conditions, and the redirection or "entrainment" of fish into poor quality habitat such as the southern Delta or directly into the projects' pumping facilities.[91] These effects trigger the application of ESA and CESA to the projects.

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[87] *Id.*, app. C at C-1 to C-2, fig. C. 1-2, fig. C. 1-3 at C-5 to C-6.

[88] *Id.*, fig. C. 1-4 at C-7.

[89] California Department of Water Resources, Final Environmental Impact Report for Long-Term Operation of the California State Water Project, app. A at 2-1 (2020).

[90] Bureau Reinitiation EIS at 2-1, 3-2.

[91] National Marine Fisheries Service, Biological Opinion on Long-term Operation of the Central Valley Project and the State Water Project 186-200 (2019) (hereinafter "NMFS Opinion"); U.S. Fish and Wildlife Service, Biological Opinion for the Reinitiation of Consultation on the Coordinated Operations of the Central Valley Project and the State Water Project, tbl. 5-8 at 184 (2019) (hereinafter "USFWS Opinion").

B. The Federal Endangered Species Act

The ESA prohibits the "take" of threatened or endangered species unless the person engaging in the take has obtained incidental take authority through an incidental take permit under section 10 of the ESA or through a "federal agency action" consultation under section 7 of the ESA with the U.S. Fish and Wildlife Service ("USFWS") or the National Marine Fisheries Service ("NMFS").[92] The ESA defines "take" to include killing, harming and harassing of ESA-listed species.[93] ESA regulations define "harm" and "harass" to include habitat modification that significantly impairs a species' essential behavior patterns, such as breeding, feeding, spawning, rearing, migrating and sheltering.[94] Violation of the take prohibition may result in civil and criminal prosecution.[95] Although infrequently granted, the ESA allows for an exemption to a federal action agency's duty to avoid jeopardy to an ESA-listed species or the destruction or adverse modification of a species' critical habitat through an exemption application submitted to an inter-agency federal committee known as the Endangered Species Committee.[96]

A section 7 consultation commences with the federal action agency, in this case the Bureau as operator of the CVP, requesting consultation with the federal wildlife agencies over the federal action's potential to adversely affect the listed species or its designated critical habitat. Where listed species are present in the area of the federal action, section 7 generally requires the federal action agency to prepare a biological assessment for submittal to the federal wildlife agency.[97] The outcome of

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[92] 16 U.S.C. §§ 1538(a)(1)(B), 1536(b), 1539(a). The ESA defines "person" to include individuals and all types of private entities, as well as officers, employees, agents, departments and instrumentalities of the federal government and local and state governments. 16 U.S.C. § 1532(13). Under section 10 of the ESA, a federal wildlife agency may issue a permit for the incidental take of an ESA-listed species where the permit applicant prepares a species conservation plan and the wildlife agency finds that the species take is incidental, that the take will be minimized and mitigated to the maximum extent feasible, that adequate funding for the plan is available, and that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. 16 U.S.C. § 1532(a)(2). Under section 7 of the ESA, a "federal agency action" may receive incidental take coverage where the federal action agency consults with a federal wildlife agency and obtains a biological opinion granting incidental take authority. See *infra* notes 97 to 101 and accompanying text.

[93] 16 U.S.C. § 1532(19).

[94] 50 C.F.R. §§ 17.3, 222.102. The United States Supreme Court has upheld these regulations. *Babbitt v. Sweet Home Chapter, Communities for a Great Oregon*, 515 U.S. 687, 708 (1995).

[95] 16 U.S.C. §§ 1540(a)-(b).

[96] 16 U.S.C. § 1536(g); Eric Yuknis, *Would a "God Squad" Exemption under the Endangered Species Act Solve the California Water Crisis?*, 38 B.C. Envtl. Aff. L. Rev. 567, 578 (2011).

[97] 16 U.S.C. § 1536(c)(1).

the section 7 consultation process is a formal biological opinion prepared by the relevant federal wildlife agency.[98]

These opinions can be either a "no-jeopardy" or a "jeopardy" opinion. The wildlife agency will issue a no-jeopardy opinion only if upon reviewing the description of the federal action the agency finds, based upon best available science, that the project will not jeopardize the continued existence of any endangered or threated species or result in the destruction or adverse modification of the species' designated critical habitat.[99] A jeopardy opinion will be issued if the wildlife agency cannot make such findings. If the wildlife agency determines that the federal action will result in species jeopardy or destruction or adverse modification of the species' critical habitat, then the biological opinion must include additional mitigation measures that are called "reasonable and prudent alternatives," which when implemented, prevent species jeopardy or destruction or adverse modification of critical habitat.[100]

All biological opinions must include an "incidental take statement," which may authorize some level of incidental take of the listed species that does not rise to the level of jeopardy, and that: (1) specifies the impacts of the incidental take of the species; (2) identifies reasonable and prudent measures that minimize such impacts; and (3) includes such terms and conditions as are necessary to ensure compliance with these measures.[101]

On October 21, 2019, the NMFS and the USFWS issued biological opinions addressing the coordinated operations of the CVP and the SWP. These opinions authorize the incidental take of the following ESA-listed fish species by the CVP and SWP: the Delta smelt, the Sacramento river winter-run chinook salmon, the Central Valley spring-run chinook salmon, the California Central Valley steelhead, the southern distinct population segment of North American green sturgeon, and the southern resident distinct population of killer whale.[102] The opinions are no-jeopardy opinions.[103] They replaced prior jeopardy opinions that NMFS and USFWS had issued for the CVP and SWP in 2009 and 2008.[104]

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[98] 16 U.S.C. § 1536(b)(3)(A).

[99] *Id.*

[100] *Id.*

[101] 16 U.S.C. § 1536(b)(4).

[102] USFWS Opinion at 15; NMFS Opinion at 1-2.

[103] USFWS Opinion at 393, 398; NMFS Opinion at 797-798, 813.

[104] USFWS Opinion at 15; NMFS Opinion at 10.

C. The California Endangered Species Act

Like the ESA, CESA also makes it unlawful for any "person" to "take" an endangered species unless such take is otherwise authorized by law.[105] Section 86 of the California Fish and Game Code defines "take" to mean to "hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill" a CESA-listed species.[106] DWR, as operator of the SWP, is a person within the meaning of CESA.[107] Also, CESA requires DWR, as a state agency, to comply with the statute's requirements.[108] CESA provides for at least two mechanisms for authorizing the incidental take of CESA-listed species resulting from SWP operations.[109]

First, DWR may receive authorization to take CESA-listed species under CESA's "consistency determination" process. Under this process, the DFW may determine that DWR has authorization to take federally-listed species that are also listed under CESA, under either an ESA incidental take permit under section 10 of the ESA or through the biological opinion consultation process under section 7 of the ESA, provided that DFW determines that the ESA take authorization is "consistent" with CESA.[110] Second, DWR may receive authorization to take CESA-listed species by obtaining a separate CESA incidental take permit from DFW.[111] On March 31, 2020, DFW issued a CESA incidental take permit to DWR for the long-term operations of the SWP covering the longfin smelt, the Delta smelt, the winter-run chinook salmon, and the spring-run chinook salmon.[112]

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[105] Cal. Fish & Game Code, §§ 2080, 2085.

[106] Cal. Fish & Game Code, § 86.

[107] *Watershed Enforcers v. Department of Water Resources*, 185 Cal.App. 4th 969, 988 (2010).

[108] Cal. Fish & Game Code, §§ 2052, 2055.

[109] CESA provides other means to obtain incidental take authorization. For example, DFW may authorize take through a safe harbor agreement issued pursuant to Fish & Game Code section 2089.2 *et seq*. The Natural Community Conservation Planning Act also provides a pathway for obtaining incidental take authorization for CESA-listed species. Cal. Fish & Game Code, §§ 2830, 2835.

[110] Cal. Fish & Game Code, § 2080.1.

[111] Cal. Fish & Game Code, § 2081.

[112] Incidental Take Permit for Long-Term Operation of the State Water Project in the Sacramento-San Joaquin Delta (2081-2019-066-00), Cal. Dep't. of Fish and Game 43-44 (2020) (hereinafter "DFW Permit").

V. The Deference Principle and the Application of the California Endangered Species Act to the Central Valley Project

A. The Divergence of ESA and CESA Fish Protections

Historically, the ESA and CESA fish protections required of the CVP and SWP have, for the most part, not diverged.[113] DWR obtained CESA take authorization for SWP operations affecting species dually-listed under both ESA and CESA through the consistency determination process in section 2080.1 of the California Fish and Game Code.[114] However, the USFWS' and the NMFS' October 21, 2019 issuance of new ESA biological opinions applicable to the CVP and the SWP, and DFW's March 31, 2020 issuance of a new CESA incidental take permit applicable to the SWP, imposed for the first time new and asymmetric fish protection requirements on the two projects. The following are some of the more prominent examples of this divergence:

- Old and Middle Rivers ("OMR") are tributaries to the Delta. Subject to tidal influences, the flows in these rivers under without-project conditions generally move south to north. CVP and SWP pumping operations in the southern Delta reverse the flow direction of these rivers, increasing the risk of fish entrainment in project pumping facilities and their redirection into poor habitat areas adjacent to the facilities.[115] The DFW Permit generally limits OMR negative flows to -5,000 cubic feet per second ("cfs") during certain periods of the year. However, during the winter and spring, the DFW Permit grants DFW the authority, based upon real-time species monitoring, to reduce SWP exports and thus reduce OMR negative flow to as low as -1,250 cfs to protect the long-fin smelt and the Delta smelt.[116] The USFWS Opinion does not contain any equivalent OMR limit for the protection of the Delta smelt.[117]
- Although the measures are not identical, both the DFW Permit and the NMFS Opinion require the projects to reduce exports so as to

[113] An exception to this historical practice has been DFW's treatment of the long-fin smelt. The long-fin smelt is a CESA-listed species, but not an ESA-listed species. DWR has historically obtained CESA take authorization for this species through an incidental take permit from DFW. Incidental Take Permit for the California State Water Project Delta Facilities and Operations (2081-2009-001-003), Cal. Dep't. of Fish and Game (2009).

[114] Cal. Fish & Game Code, § 2080.1; Consistency Determination (2080-2009-011-00), Cal. Dep't. of Fish and Game (2009); Consistency Determination (2080-2011-022-00), Cal. Dep't. of Fish and Game (2011).

[115] USFWS Opinion at 135-136, 139-140.

[116] DFW Permit at 71, 82, 85-86.

[117] USFWS Opinion at 40-48.

maintain OMR negative flows as low as -2,500 cfs when salvage of winter-run salmon at project pumping facilities exceeds certain annual thresholds.[118] However, the NMFS Opinion allows for the waiver of this OMR limit if "Reclamation and DWR determine that further Old and Middle River restrictions are not required based on risk assessment."[119] The DFW Permit leaves the final risk assessment decision with DFW where disagreement exists between the projects and DFW.[120]

- Both the DFW Permit and the NMFS and USFWS Opinions allow project pumping during storm events to result in negative OMR flows that exceed -5,000 cfs.[121] However, the DFW Permit limits such exceedance pumping to pumping that does not result in negative OMR flows exceeding -6,250 cfs.[122] The NMFS and USFWS opinions do not impose any numeric OMR limit on exceedance pumping during storm events.[123]
- The Low Salinity Zone ("LSZ") is a variable habitat region in the Delta where the Delta smelt commonly reside. The LSZ has historically been indexed using a salinity metric known as X2. X2 is the geographic location of 2 parts per thousand ("ppt") salinity near the bottom of the water column measured as a distance from the Golden Gate Bridge.[124] In order to protect the Delta smelt's habitat, both the DFW Permit and the USFWS Opinion require the projects to operate so as to allow sufficient freshwater outflow to maintain X2 during September and October at 80 kilometers from the Golden Gate Bridge in above-normal and wet years.[125] However, the USFWS Opinion allows the projects to waive the X2 requirement if the Bureau, DWR, and the USFWS determine that alternative habitat measures provide "similar or better protection."[126] Furthermore, the USFWS opinion appears to exempt the projects from the X2 requirement "[i]n the event that Reclamation determines the Delta outflow augmentation necessary to meet 2 ppt isohaline at 80 km from the Golden Gate . . . cannot be met through primarily export reductions and is expected to have a high storage cost."[127] The DFW Permit does not provide the SWP with any similar waivers or exemptions from its X2 requirement.[128]

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[118] DFW Permit at 87-88; NMFS Opinion at 535, 548.
[119] NMFS Opinion at 548.
[120] DFW Permit at 71, 88.
[121] DFW Permit at 92-94; NMFS Opinion at 479, 530; USFWS Opinion at 47-48.
[122] DFW Permit at 93.
[123] NMFS Opinion at 479, 530; USFWS Opinion at 47-48.
[124] USFWS Opinion at 75.
[125] DFW Permit at 114-115; USFWS Opinion at 51.
[126] USFWS Opinion at 52.
[127] USFWS Opinion at 53.
[128] DFW Permit at 114-119.

B. The Deference Principle and CESA

The deference to state water law principle outlined above offers a pathway out of the confusion created by the conflicting fishery requirements imposed by federal and state endangered species laws to the extent that the principle can be read to require the CVP to comply with CESA fishery protections.[129] During the floor debates over the Reclamation Act of 1902, Congressman Sutherland presciently observed that reclamation projects had to comply with state law because "if appropriation and use were not under the provisions of State law the utmost confusion would prevail."[130] Building on Congressman Sutherland's remark, the U.S. Supreme Court in *California* noted that practical necessity mandates the deference principle because otherwise "[d]ifferent water rights in the same state would be governed by different laws, and would frequently conflict," precisely the conundrum California currently faces in the implementation of ESA and CESA.[131] For the following reasons, the deference principle set forth in section 8 of the Reclamation Act of 1902 should be read to include the application of CESA to the CVP's "control, appropriation, use, or distribution" of California waters, thus requiring the Bureau to obtain incidental take authority for CESA-listed fish species from DFW.

First, inclusion of CESA within the language of section 8 of the Reclamation Act is consistent with the plain language of the statute. Section 8's deference principle applies to the "laws of any State or Territory relating to the *control, appropriation, use*, or *distribution* of waters."[132] At least two California appellate decisions confirm that CESA is a state law that relates to the italicized words in this section. In *Department of Fish & Game v. Anderson-Cottonwood Irrigation District*, the irrigation district argued that CESA's take prohibition was limited to hunting and fishing activity and did not apply to fish mortality resulting

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[129] The DFW Permit recognizes that "there may be instances when operational requirements stated in" the permit "are different from operational requirements of the applicable ESA authorizations, which govern the operations at the CVP as well as the SWP." *Id*. at 96. If DWR cannot force the Bureau to operate the CVP consistent with the DFW Permit requirements by conditioning the Bureau's use of SWP facilities on DFW Permit compliance, then the DFW Permit cuts back the SWP's obligation to reduce exports to between thirty-five and forty percent of the export reductions needed to meet the permit's OMR requirements, percentages agreed upon in the amended Coordinated Operations Agreement between the State of California and the United States. *Id*. at 96-97. This permit provision appears to mean that, absent Bureau compliance with the permit's OMR criteria, full satisfaction of the permit's OMR criteria may not occur where federal and state OMR fish protections diverge.

[130] 35 Cong. Rec. 6770 (1902).

[131] *California,* 438 U.S. at 667-668.

[132] 43 U.S.C. § 383, emphasis added.

from irrigation diversions from the Sacramento river.[133] The Court of Appeal for the Third Appellate District rejected the irrigation district's argument, noting that CESA's "intent is to protect fish, not punish fishermen," and concluded that CESA's take prohibition "applies to the destruction of fish incidental to lawful irrigation activity."[134]

In *Watershed Enforcers v. Department of Water Resources*, the Court of Appeal for the First Appellate District held that DWR was a "person" for purposes of CESA compliance and rejected arguments that CESA was not intended to apply to the SWP. The Court of Appeal reasoned that it would be "illogical" in the context of

> preservation of endangered and threatened species . . . to exempt government agencies from the CESA taking prohibition, when those agencies operate large enterprises (*dams, pumping stations, irrigation systems*, etc.) while covering individual hunters and fishermen and business associations, which would generally take species in fewer numbers.[135]

Thus, California courts have recognized that CESA applies to water diversion and storage activities, and thus to the "control, appropriation, use, or distribution" of water.

Second, DFW's administrative practice supports the inclusion of CESA within state laws "relating to the control, appropriation, use, or distribution" of water. As noted above, DFW has issued to DWR a CESA incidental take permit under section 2081 of the Fish and Game Code for the SWP's take of the long-fin smelt resulting from the SWP's diversions.[136] Similarly, DFW has granted to DWR consistency determinations under section 2080.1 of the Fish and Game Code to cover the SWP's take of CESA-listed species that are also ESA-listed species.[137] Finally, on March 31, 2020, DFW issued to DWR a new section 2081 incidental take permit for the long-term operation of the SWP in the Delta covering all applicable CESA-listed fish species.[138] DFW's longstanding interpretation of CESA as applying to water diversion and storage activities is entitled to "great weight."[139]

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[133] *Department of Fish & Game v. Anderson-Cottonwood Irrigation District*, 8 Cal.App. 4th 1554, 1562 (1992).

[134] *Id*. at 1563, 1568.

[135] *Watershed Enforcers*, 185 Cal.App. 4th at 982, emphasis added.

[136] *See supra* note 113.

[137] *See supra* note 114.

[138] *See supra* note 112.

[139] *Yamaha Corp. v. State Bd. of Equalization*, 19 Cal.4th 1, 19 (1998).

Third, an interpretation of section 8 of the Reclamation Act of 1902 that excludes CESA and limits the section to traditional state water right law renders the words "control," "use," and "distribution" in the section superfluous and denies them separate meaning. This result follows because, at the time of the act's passage, Congress understood the term "appropriation" to represent the preferred water right system of the western states.[140] As the U.S. Supreme Court observed in *California Oregon Power Co.*, "[t]he rule generally recognized throughout the states and territories of the arid region was that the acquisition of water by prior appropriation for a beneficial use was entitled to protection, and the rule applied whether the water was diverted for manufacturing, irrigation, or mining purposes."[141] In most of the west, this rule resulted in "the complete subordination of the common law doctrine of riparian rights to that of appropriation."[142]

Thus, if the drafters of section 8 intended the section's deference principle to require federal deference only to traditional state water right laws, then reference to the word "appropriation" in the section would have been sufficient and the remaining words would have been superfluous.[143] It is a settled rule of statutory construction that "[a] statute should be construed so that effect is given to all its provisions, so that no part will be inoperative or superfluous, void or insignificant."[144] A reading of section 8 that limits the deference principle to traditional state water right laws and excludes CESA would treat the words "control," "use," and "distribution" as superfluous, and therefore contrary to that rule. Furthermore, section 8 separates the words "control," "appropria-

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[140] During the Congressional debates over the Reclamation Act of 1902, Congressman Mondell recognized the value of appropriative water rights and spoke disparagingly of the English common law doctrine of riparian rights. According to Mondell, "[t]he Celt, the Briton, and the Saxon occupied a territory watered by the rain of heaven, and not only had no practice, but lacked even legend or tradition of irrigation. On the contrary, they laid down and established a rule of law relative to rights in water essentially fatal to the development of irrigation." 35 Cong. Rec. 6675 (1902). In contrast, Mondell observed that "[e]very Act [of Congress] since that of April 26, 1866 has recognized the local laws and customs appertaining to the appropriation and distribution of water use in irrigation." *Id.* at 6679.

[141] *California Oregon Power Co.*, 295 U.S. at 154.

[142] *Id*. at 158.

[143] California's recognition of riparian rights along with appropriative rights does not alter this conclusion. *Lux v. Haggin*, 69 Cal. 255, 338 (1886). California courts have held that the "seasonal storage of water" is not a proper riparian use, but instead may only be secured by way of appropriation. *Colorado Power Co. v. Pacific Gas & Electric Co*., 218 Cal. 559, 564-565 (1933); *Seneca Consolidated Gold Mines Co. v. Great Western Power Co*., 209 Cal. 206, 219 (1930). As water storage projects, California reclamation projects therefore can never invoke or benefit from riparian rights and can only hold appropriative rights.

[144] *Hibbs v. Winn*, 542 U.S. 88, 101 (2004); *Corley v. United States*, 556 U.S. 303, 314 (2009). This rule is a "cardinal principle of statutory construction." *Duncan v. Walker*, 533 U.S. 167, 174 (2001).

tion," "use," and "distribution" with the word "or."[145] It is also a settled rule of construction that the use of the word "or" is "almost always disjunctive, that is, the words it connects are to 'be given separate meanings.'"[146] This rule further argues that limiting the section 8 deference principle to traditional state water right laws would deny the words "control," "use," and "distribution" their separate meanings.

Fourth, more recent federal statutes relating to the CVP have adopted a broad reading of the deference principle. Section 3406(b) of the CVPIA uses open-ended language when it requires the CVP to comply with "*State* and Federal *law, including but not limited to* the Federal Endangered Species Act, 16 U.S.C. 1531, et seq., and *all decisions of the California State Water Resources Control Board establishing conditions on applicable licenses and permits for the project*."[147] After providing detailed direction to the Secretary of the Interior regarding the operation of the CVP, the WIIN Act includes a broad state law savings clause that provides that "[t]his subtitle shall not be interpreted or implemented in a manner that—-preempts or modifies any obligation of the United States to act in conformance with *applicable state law, including applicable State water law*."[148] Both the CVPIA and the WIIN Act could have been written to limit the deference principle to traditional state water right law. Congress, instead, chose to take a broader approach.

Fifth, the Ninth Circuit in *Houston* and *Haugrud* expanded the reach of section 8 outside of traditional state water right laws to include section 5937 of the California Fish and Game Code.[149] In applying the section 8 deference principle, the Ninth Circuit in *Haugrud* was asked to determine whether the Bureau, as an appropriative water right permittee, must first obtain a change in its water right permit under the California

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[145] 43 U.S.C. § 383.

[146] *United States v. Woods*, 571 U.S. 31, 43 (2013), citing *Reiter v. Sonotone Corp.*, 442 U.S. 330, 339 (1979).

[147] Central Valley Project Improvement Act, Pub. L. 102-575, § 3406(b), 106 Stat. 4706, 4714 (1992), emphasis added.

[148] Water Infrastructure Improvements for the Nation Act, Pub. L. 114, §§ 4001-4014, 130 Stat. 1851, 1882 (2016), emphasis added. Section 4005(b)(2) of the WIIN Act does contain a provision that "ma[kes] available" to SWP water contractors any additional CVP "yield" that the CVP may accrue if WIIN Act implementation "results" in DFW taking CESA actions directed at the SWP, but not the CVP, that reduce SWP water supplies when compared to the supplies that would have been available to the SWP under the ESA biological opinions for the CVP and the SWP. *Id.* at 1859. However, nothing in section 4005 requires DFW to apply CESA to the SWP and the CVP in an asymmetric fashion or alters the state law deference principle. To the contrary, section 4005(b)(4) states that "[n]othing in the applicable provisions of this subtitle shall have any effect on the application of the California Endangered Species Act." *Id.* at 1860. Section 4005(c)(2)(A) further provides that "[n]othing in the applicable provisions of this subtitle affects or modifies any obligations of the Secretary of the Interior under section 8 of the Act of June 17, 1902." *Id.*

[149] *Houston*, 146 F.3d at 1132; *Haugrud*, 848 F.3d at 1234-1235.

Water Code before releasing fish flows for the protection of fish in the lower Klamath river, or whether section 5937 allows the Bureau to make such releases without first complying with the water right permit change requirements.[150] The Ninth Circuit responded that not only did section 5937 *allow* the Bureau to release the fish flows, but the section *required* the Bureau to release those flows.[151] In applying the section 8 deference principle, the Ninth Circuit in *Haugrud* thus held that section 8 allowed a California Fish and Game Code fishery protection provision to displace a traditional California Water Code water right provision in determining a reclamation project's "control, appropriation, use, or distribution" of water. At least in the Ninth Circuit, the expansion of the section 8 deference principle beyond traditional state water right law appears settled.[152]

Sixth, a reading of section 8 that excludes CESA from state laws relating to the "control, appropriation, use, or distribution" of water would produce anomalous and inconsistent outcomes depending upon the particular state agency enforcing state law. As noted above, DFW has already issued a CESA incidental take permit applicable to the long-term operations of the SWP.[153] The DFW permit limits SWP exports from the southern Delta to increase Delta outflow for the protection of CESA-listed species through OMR, Fall X2, and other flow-related requirements.[154] These flow-related requirements are similar in kind to the flow-related requirements historically imposed upon the CVP under the State Water Board's water right decisions to protect fishery resources.[155] It would be anomalous and inconsistent for section 8 to be read to include flow-related requirements as conditions contained in a State Water Board water right permit, but to exclude the very same requirements as

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[150] *Haugrud*, 848 F.3d at 1234.

[151] *Id*. ("This code section not only allows, but requires BOR to allow sufficient water to pass the Lewiston Dam to maintain the fish below the Dam. . .Therefore, section 5937 permitted BOR to release water from the Lewiston Dam to 'keep in good condition' the fish in the lower Klamath River without changing its water rights permits.")

[152] That the drafters of the Reclamation Act of 1902 may not have "anticipated" that section 8 would include state fishery protection laws such as CESA or section 5937 of the Fish and Game Code does not prevent the inclusion of such laws within section 8. Statutory interpretation is driven by a statute's "meaning," not by the statute's anticipated "result." As the U.S. Supreme Court has recently observed in applying the Civil Rights Act of 1964 to workplace discrimination against gays, lesbians, and transgender people, "[t]hose who adopted the Civil Rights Act might not have anticipated their work would lead to this particular result . . . But the limits of the drafters' imagination supply no reason to ignore the law's demands." *Bostock v. Clayton County*, No. 17-1618, slip op. at 2, 24-26 (U.S. June 15, 2020).

[153] *See supra* note 112.

[154] DFW Permit at 71, 82, 85-88, 92-94, and 114-115.

[155] Revised Water Right Decision 1641, California State Water Resources Control Board 183-187 (2000).

conditions contained in a DFW incidental take permit.[156] Section 8 does not identify which state agencies must implement state laws relating to the "control, appropriation, use, or distribution" of water. It only requires that the Bureau comply with state laws that relate to the "control, appropriation, use, or distribution" of water.[157]

Finally, the requirement in *California* that state laws apply to reclamation projects unless such laws are "directly inconsistent" with congressional directives regarding the project provides no obstacle to DFW's assertion of CESA authority over the CVP.[158] The ESA cannot constitute a conflicting congressional directive because section 6(f) of the act provides that "[a]ny state law or regulation respecting the endangered or threatened species may be more restrictive than the exemptions or permits provided for in this chapter or in any regulation which implements this chapter."[159] The biological opinions also cannot constitute conflicting directives because they are not "a preempting federal statute."[160]

While it is not inconceivable that in implementing CESA, DFW might issue an incidental take permit or other requirement directed at the CVP that contained conditions that were "directly inconsistent" with a congressional directive regarding the CVP, no such preemption claim would be ripe until after the United States had submitted to DFW jurisdiction under CESA and DFW had taken final action. As the U.S. Supreme Court in *California* noted, any determination as to whether "conditions actually imposed are inconsistent with congressional directives" is a determination that "may well require additional factfinding."[161] In the absence of actual DFW conditions, no such a determination could be made.

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[156] This reading of section 8 is consistent with the Ninth Circuit decision in *Wild Fish Conservancy v. Jewell*, 730 F.3d 791 (9th Cir. 2013). In *Wild Fish*, the Ninth Circuit rejected the plaintiffs' claim that a Washington state law mandating the construction of a "durable and efficient fishway" across a Bureau fish hatchery was a state law concerning "the control, appropriation, use, or distribution" of water. *Id.* at 800. However, *Wild Fish* declined to address the question of whether a separate state law that required the Bureau to "supply existing fishways with adequate water" was properly a state law relating to the "control, appropriation, use, or distribution" of water because that claim was deemed not reviewable under the federal Administrative Procedure Act. *Id*. at 800-801. In addition, the Ninth Circuit noted that the State of Washington's failure to join with the plaintiffs in their reading of section 8 and state law reduced the "cooperative federalism and respect for separate sovereignty" concerns raised by the plaintiffs' section 8 claims. *Id*. at 798-799.

[157] 43 U.S.C. § 383.

[158] *California*, 438 U.S. at 678.

[159] 16 U.S.C. § 1535(f).

[160] *United States v. State Water Resources Control Board*, 694 F.2d at 1176.

[161] *California*, 438 U.S. at 679.

VI. Conclusion

178 years ago, the U.S. Supreme Court in *Martin v. Lessee of Waddell* held that the thirteen colonies, freed from English rule, "took into their own hands the powers of sovereignty" and "the prerogatives and regalities which before belonged either to the Crown or the Parliament became immediately and rightfully vested in the state[s]."[162] In a case involving the right to shellfish, the *Martin* court recognized that part of this sovereign power included the right of the "common people of England" to the "the public common of piscary" and that freedom from English rule transferred those rights to the states.[163] The deference to state water law principle in section 8 of the Reclamation Act of 1902 formally recognized that transfer of sovereign power to the states as to reclamation projects. As the above has shown, CESA is a state law relating to the "control, appropriation, use, or distribution" of water under section 8. The CVP's submission to DFW's fishery protection authority under CESA fully conforms with the deference principle's historical legacy and should be upheld.

[162] *Martin*, 41 U.S. at 416.
[163] *Id*. at 412.

THE ANIMAL WELFARE ACT IS LACKING: HOW TO UPDATE THE FEDERAL STATUTE TO IMPROVE ZOO ANIMAL WELFARE

REBECCA L. JODIDIO[1]

I. INTRODUCTION

Visiting the zoo is a beloved national pastime — American zoos attract 183 million people annually.[2] For many Americans, zoos provide the first, and sometimes only, opportunity for individuals to be in the presence of animals outside of domesticated cats and dogs. However, for the animals themselves, zoos can cause suffering.

Two philosophies support the protection of wild animals in captivity: an anthropocentric and ecocentric view. According to the former, anthropocentric view, wild animals hold an extrinsic value and when they cease to be valuable to humans, or conflict with our other values, their interests can be sacrificed.[3] The latter, ecocentric view, holds that wild animals have intrinsic value, can be morally harmed, and how we treat them should not be judged solely by the benefit to humans of a

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[2] *Visitor Demographics*, ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/partnerships-visitor-demographics (last visited May 10, 2020); Karin Brulliard, *Zoos are Too Important to Fail*, WASHINGTON POST, Jul. 7, 2016, https://www.washingtonpost.com/news/animalia/wp/2016/07/07/zoos-are-too-important-to-fail-but-they-can-be-much-better-than-they-are/?utm_term=.30496997b28f.

[3] ROBERT GARNER, ANIMALS, POLITICS AND MORALITY, 163 (Mikael S. Andersen et al. eds., 2nd ed. 2004).

particular course of action.[4] This article is written from the philosophy that animals have an intrinsic value. It examines how zoos operate under the Animal Welfare Act and how it must be improved to better zoo animal welfare under the ecocentric view.

Part II provides an overview of the Animal Welfare Act, under which all zoos must adhere and are licensed. Part III discusses issues with the Animal Welfare Act, focusing on the lack of enforcement, bare minimum care standards, the United States Department of Agriculture's ("USDA") failure to shut down non-compliant zoos, and the USDA's secrecy regarding Animal Welfare Act violator documentation. Part IV discusses two zoo accreditation organizations that provide additional animal welfare guidance to zoos and offer membership status. Part V examines the problems with zoos, including individual animal psychological suffering in captivity and breeding programs, animal susceptibility to human diseases, exploitation of zoo animals for human entertainment, and potential harm to humans. Part VI examines suggestions for improvement to the Animal Welfare Act and the viability of these recommendations, assessing their practicality and sufficiency. This article concludes that the Animal Welfare Act should be amended with species specific guidelines, a prohibition on public contact with animals, a stricter licensing procedure, and a provision for the creation of USDA facilities to treat and house confiscated animals from non-compliant zoos. Without meaningful changes to the Animal Welfare Act, the animals will continue to suffer in sub-par conditions.

II. The Animal Welfare Act

The Animal Welfare Act ("AWA"), passed in 1966,[5] is the only federal statute in America that protects the welfare of individual zoo animals[6] and ensures that animals used for exhibition purposes are provided humane care and treatment.[7] The AWA gives authority to the Secretary of Agriculture to "promulgate standards to govern the humane handling, care, treatment, and transportation of animals by dealers, research facilities and exhibitors."[8] Animal exhibitors are also required to be licensed

[4] *Id.*

[5] *Animal Welfare Act*, UNITED STATES DEPARTMENT OF AGRICULTURE – ANIMAL AND PLANT HEALTH INSPECTION SERVICE, https://www.aphis.usda.gov/aphis/ourfocus/animalwelfare/sa_awa/ct_awa_program_information, (updated: Sept. 13, 2019).

[6] Kali S. Grech, *Overview of the Laws Affecting Zoos*, ANIMAL LEGAL & HISTORICAL CENTER AT MICHIGAN STATE UNIVERSITY COLLEGE OF LAW, https://www.animallaw.info/article/overview-laws-affecting-zoos (last visited May 10, 2020).

[7] 7 U.S.C. § 2131 (2020).

[8] 7 U.S.C. § 2143(a)(1) (2020).

under the AWA.[9] However, the standards described only need to address minimum care and treatment requirements.[10] The AWA also lacks a citizen-suit provision, making it very difficult for private citizens to gain standing to challenge violations under the AWA.[11]

The AWA's scope is greatly limited by the statute's definitions.[12] The definition of "animal" under the AWA only includes "any live or dead dog, cat, monkey (nonhuman primate mammal), guinea pig, hamster, rabbit, or such other warm-blooded animal as the Secretary of Agriculture may determine is being used" for exhibition purposes; excluding birds, rats, horses not used for research purposes, and all cold-blooded animals (amphibians and reptiles).[13] Also notably absent is coverage for "farm animals used for food or fiber (fur, hide, etc.) . . . fish . . . [and] invertebrates (crustaceans, insects, etc.)"[14] An "exhibitor," defined by the AWA, "means any person (public or private) exhibiting any animals, which were purchased in commerce or the intended distribution of which affects commerce, or will affect commerce, to the public for compensation," including zoos, operating for profit or not.[15] For the purpose of this paper, "zoo" includes public and privately owned exhibitors, including roadside menageries, referred to as roadside zoos, often used to entice people to visit other facilities such as a shopping center or service station.[16]

III. Issues Arising Under the AWA

A. Lack of Enforcement of the AWA

The AWA gives power to the Secretary of Agriculture and the USDA, who further delegate power to the Animal Plant and Health Inspection Service ("APHIS") to administer and enforce the AWA's requirements.[17] There are only about 130[18] APHIS inspectors conducting

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[9] 7 U.S.C. § 2133 (2020).

[10] 7 U.S.C. §§ 2143(a)(2), 2133 (2020).

[11] Kali S. Grech, *Detailed Discussion of the Laws Affecting Zoos*, ANIMAL LEGAL & HISTORICAL CENTER AT MICHIGAN STATE UNIVERSITY COLLEGE OF LAW (2004), https://www.animallaw.info/article/detailed-discussion-laws-affecting-zoos#id-3 (last visited May 10, 2020).

[12] *Id.*

[13] 7 U.S.C. § 2132(g) (2020); *Animal Welfare Act*, *supra* note 5.

[14] *Animal Welfare Act*, *supra* note 5.

[15] 7 U.S.C. § 2132(h) (2020).

[16] *Roadside Zoos are not Zoos*, ANIMAL STUDIES REPOSITORY - THE HUMANE SOCIETY INSTITUTE FOR SCIENCE AND POLICY, 3 (1980), https://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1027&context=cu_reps.

[17] Grech, *Overview of the Laws Affecting Zoos, supra* note 6.

yearly inspections of the over 8,000[19] licensees and registrants under the AWA and investigating complaints.[20]

If inspectors find a problem, the zoo is issued a warning and given a time frame to comply.[21] If the problem is serious and not remedied, the zoo may be referred for investigation and potential administrative law proceedings where a judge could impose a fine or license suspension.[22] While USDA investigations often take years to go through the legal process, violators still have their licenses automatically renewed with the payment of a yearly renewal fee.[23] Licenses are renewed even if the facility is currently under investigation, has charges pending, or has recently paid significant fines.[24] From 2016 to 2018, new USDA investigations into captive-animal welfare and safety issues dropped by 92%, from 239 to just 19.[25] There was also a 65% drop in citations, from 4,944 in 2016, to 1,716 in 2018.[26]

In 2016, when People for the Ethical Treatment of Animals ("PETA") sued the USDA for "rubber-stamping" renewals of licenses rather than conducting thorough investigations, the court found in favor of the USDA based on Chevron deference to the USDA's interpretation of license renewal under the AWA.[27] In its last audit of controls over APHIS licensing of animal exhibitors, conducted in 2010, the USDA's Office of the Inspector General criticized APHIS for not aggressively

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[18] *Investigative and Enforcement Services*, UNITED STATES DEPARTMENT OF AGRICULTURE – ANIMAL AND PLANT HEALTH INSPECTION SERVICE, https://www.aphis.usda.gov/aphis/ourfocus/business-services/ies, (updated: March 30, 2020).

[19] *Listing of Certificate Holders*, UNITED STATES DEPARTMENT OF AGRICULTURE – ANIMAL AND PLANT HEALTH INSPECTION SERVICE, https://www.aphis.usda.gov/animal_welfare/downloads/List-of-Active-Licensees-and-Registrants.pdf, (updated: March 31, 2020).

[20] Grech*, Overview of the Laws Affecting Zoos, supra* note 6.

[21] Justin Jouvenal, *Mauling, escapes and abuse: 6 small zoos, 80 sick or dead animals,* THE WASHINGTON POST, (Sept. 18, 2015), https://www.washingtonpost.com/local/crime/mauling-escapes-and-abuse-6-small-zoos-80-sick-or-dead-animals/2015/09/18/dff46f10-2581-11e5-b77f-eb13a215f593_story.html?utm_term=.3913653b1a1f.

[22] *Id.*

[23] *Id.*

[24] *Id.*

[25] Sharon Guynup, *Captive tigers in the U.S. outnumber those in the wild. It's a problem*, NATIONAL GEOGRAPHIC, Nov. 14, 2019, https://www.nationalgeographic.com/animals/2019/11/tigers-in-the-united-states-outnumber-those-in-the-wild-feature.html.

[26] *Id.*

[27] *People for the Ethical Treatment of Animals v. United States Dep't of Agric*., 194 F.Supp.3d 404, 415 (E.D.N.C. 2016)(As the AWA is silent to whether the USDA could renew licenses of animal exhibitors with recent AWA violations, the court deferred to the agency's judgment and found the agency did not act arbitrarily or capriciously), *aff'd*, 861 F.3d 502 (4th Cir. 2017)(The AWA was ambiguous as to whether the term "issue," as used in 7 U.S.C.S. § 2133, encompassed license renewal, and the USDA's interpretation of the renewal process was reasonable).

pursuing violators in the eastern half of the United States.[28] For example, the report found that for six of the forty traveling exhibitors reviewed, APHIS inspectors could not perform timely re-inspections to ensure that serious non-compliant items that were identified had been resolved.[29] APHIS countered that it is in the interest of animals to work with violators, rather than punish them.[30]

B. The AWA Only Requires Bare Minimum Standards

The AWA sets standards for USDA-regulated zoos at a bare minimum. Lisa Wathne, captive wildlife specialist at The Humane Society of the United States ("Humane Society"), notes that the guidelines are too general and minimal, basically only requiring that animals have enough food and water to stay alive and enough space to stand up and lay down.[31] Guidelines are also frequently vague and leave room for subjective interpretation.[32] For example, the Secretary of Agriculture's current regulations[33] require *adequate* drinking water on premises[34] and *sufficient* shade for animals kept outdoors if sunlight would likely cause overheating.[35] Without specifics, zoos can interpret regulations to their convenience, potentially resulting in animal discomfort and suffering.

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[28] Jouvenal, *supra* note 21. "The audit found the number of suspected violators referred for enforcement in the region dropped from 209 in 2002 to 82 in 2004. More recent figures provided by APHIS show that the number dropped to 32 in 2012. The figure rebounded to 91 in 2013, fell to 53 in 2014 and climbed back to 111 through the first half of 2015." *Id.;* OIG, Audit Report 33601-10-Ch, Controls Over Animal Plant Health Inspection Service Licensing of Animal Exhibitors, (U.S.D.A. 2010), https://www.usda.gov/oig/webdocs/33601-10-CH.pdf.

[29] OIG, *supra* note 28. For example, one exhibitor continued to show its elephants on the road even though it had been cited for the animals being too thin for travelling exhibition. This occurred because APHIS did not require exhibitors to submit travel itineraries so inspectors were unable to locate them for re-inspections. As a result, there was no way for APHIS to determine if serious safety violations had been corrected. *Id.*

[30] Jouvenal, *supra* note 21.

[31] Christina M. Russo, *Don't Ever Visit Roadside Zoos. Here's Why,* The Dodo, (Jun. 29, 2015), https://www.thedodo.com/hey-america-this-is-your-local-zoo-1155061454.html; *See* 9 C.F.R. § 3.128 (2020). "Enclosures shall be constructed and maintained so as to provide sufficient space to allow each animal to make normal postural and social adjustments with adequate freedom of movement. Inadequate space may be indicated by evidence of malnutrition, poor condition, debility, stress, or abnormal behavior patterns." *Id.*

[32] Grech, *Detailed Discussion of the Laws Affecting Zoos, supra* note 11.

[33] *Id.* (The Secretary of Agriculture's regulations are found in Title 9 of the Code of Federal Regulations §§ 1.1-4.11.); 9 C.F.R. §§ 1.1-4.11 (The regulations are given authority by 7.U.S.C. § 2143, 7 C.F.R. § 371.7).

[34] 9 C.F.R. § 3.125(b) (2020).

[35] 9 C.F.R. § 3.127(a) (2020).

C. Non-Compliant Zoos are Rarely Shut Down

As long as zoos meet the minimum standard of care and do not have egregious issues, as subjectively determined by each inspector, any USDA violations issued are essentially meaningless.[36] The USDA inspector does not follow up with violators to confirm their compliance — they simply note the violation again during the next inspection if it continues, leaving captive animals to suffer year over year at facilities.[37] While not all roadside zoos are licensed (though they legally should be), those that are often contain exhibited animals in unnatural environments such as small, dirty cages.[38] For example, the Lupa Zoo in Ludlow, Massachusetts has been cited for at least 13 noncompliance violations since 2012, and in the 15 inspections it received from the USDA from 2005 to 2015, it received a minimum of one USDA citation on all but one inspection.[39] Despite the many citations over the years, Lupa Zoo continues to welcome visitors today.[40]

Even in the rare case where a roadside zoo is shut down, which can take years, the USDA rarely confiscates or supervises re-homing of the animals.[41] The captive animals are left to "languish as the owner's private pets or are given away to other roadside zoos," explains Wathne.[42] When a facility is closed down because a license is revoked by the USDA, the animals are still property of the owner; if a state does not allow particular animals as private pets, they may be sold or transferred to another location.[43] Because there is no established facility for captive animals to be sent to if a zoo is shut down by the USDA, the USDA rarely closes such facilities.[44] Even if euthanasia were the most humane action, it is never really an option due to public perception. There is simply no good ending for these animals.[45]

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[36] Russo, *supra* note 31.

[37] *Id.*

[38] *Id.*

[39] Russo, *supra* note 31. Some of the citations include not providing adequate veterinary care, letting animal food get caked in mud, metal spikes exposed in the animal enclosure, etc. *Id.*

[40] Lupa Zoo, http://www.lupazoo.org/ (last visited May 10, 2020); *See Inspection Reports Search*, united states department of agriculture – APHIS – animal care, https://acis.aphis.edc.usda.gov/ords/f?p=118:203, (last visited May 11, 2020); *See also Inspection Report – Lupa Game Farm Inc*, united states department of agriculture – animal and plant health inspection service, at 171, https://www.aphis.usda.gov/animal_welfare/downloads/awa/Inspection_Reports/E/AWA_IR_C-MA_secure.pdf, (updated: Apr. 3, 2017).

[41] Russo, *supra* note 31.

[42] *Id.*

[43] *Id.*

[44] *Id.*

[45] *Id.*

D. USDA Secrecy and Complications for Third Party Advocates

The USDA lacks incentive to increase enforcement of the AWA. Because the courts cannot provide relief for plaintiffs who lack standing without a citizen suit provision in the AWA, public pressure and media exposure helps with AWA enforcement.[46] Since the AWA has proved to be difficult to enforce and the lack of a citizen's suit provision means a concerned citizen cannot sue on behalf of the welfare of a zoo animal, reprieve for these animals is limited.[47]

To bring animal abuse to light, the USDA has two ways for the public to search USDA/APHIS documents: the Animal Care Information Search ("ACIS") and the Enforcement Actions database ("EA").[48] In early 2017, the USDA removed thousands of documents from its website, citing privacy concerns as justification.[49] Documents removed included those that detail animal welfare violations, some of which have been posted for decades.[50] Anyone wishing to find information had to submit an official request under the Freedom of Information Act ("FOIA").[51] However, these requests can take months to process.[52] The removed records publicly revealed many cases of abuse and mistreatment, exposing AWA violators to the public.[53]

The Animal Legal Defense Fund ("ALDF") and its coalition — Stop Animal Exploitation NOW!, Companion Animal Protection Society, and Animal Folks — brought suit against the USDA for an injunction to the government's removal of the USDA and APHIS documents in the two online databases, which were an online library; the Humane Society similarly filed for declaratory and injunctive relief in March 2018.[54]

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[46] Grech, *Overview of the Laws Affecting Zoos, supra* note 6.

[47] *Id.*

[48] *Animal Legal Def. Fund v. United States Dep't of Agric*., No. 17-CV-00949-WHO WL 2352009 (N.D. Cal., May 31, 2017) (order denying motion for preliminary injunction); *Animal Legal Def. Fund v. United States Dep't of Agric*., 17-CV-00949-WHO WL 3478848 (N.D. Cal., Aug. 14, 2017) (order granting motion to dismiss), *aff'd in part, rev'd in part*, 935 F.3d 858 (9th Cir. 2019) [hereinafter "*Animal Legal Defense Fund Case*"].

[49] Natasha Daly, *U.S. Animal Abuse Records Deleted – What We Stand to Lose*, National Geographic, Feb. 6, 2017, https://news.nationalgeographic.com/2017/02/wildlife-watch-usda-animal-welfare-trump-records/.

[50] *Id.*

[51] *Id.*

[52] *Id.*

[53] *Id.*

[54] *Animal Legal Def. Fund v. United States Dep't of Agric*., 17-CV-00949-WHO WL 3478848 (N.D. Cal., Aug. 14, 2017) (order granting motion to dismiss), *aff'd in part, rev'd in part*, 935 F.3d 858 (9th Cir. 2019); Complaint at 1-3, *Humane Society v. Animal and Plant Health Inspection Service et al*., No. 1:18-cv-00646-TNM (BNA)(D.D.C. Mar. 21, 2018); *Press Release: Federal*

In the ALDF case, the Ninth Circuit of Appeals reversed the United States District Court for the Northern District of California, which dismissed the lawsuit in August 2017, and remanded the case back to district court to determine the legality of the database removal.[55] In the interim, as of August 2017, APHIS reinstated its Public Search Tool; however, APHIS made changes to document availability and claims to be continuing its document review, so some information must still be requested through the lengthy FOIA process.[56] For example, in the past, warning letters, stipulations, pre-litigation agreements, and administrative complaints in which culpability is not assessed were posted unredacted, whereas now, APHIS will only post statistical summaries each calendar quarter.[57] Without access to detailed documents, people cannot easily conduct independent research, and reporters are not able to report animal abuses.[58] In the past, such reporting resulted in the closing of a roadside zoo, increased protections for farm animals being experimented on, exposed the death of thirty eight primates at a pharmaceutical research facility, and the list goes on.[59]

For example, using USDA and APHIS documents as crucial evidence, a 2011 *Mother Jones* investigation shed light on the dire plight of elephants who were living in cramped conditions and being whipped and

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Appeals Court Reinstates Lawsuit Challenging USDA Secrecy on Animal Welfare Act Records, ANIMAL LEGAL DEFENSE FUND, Aug. 29, 2019, https://aldf.org/article/federal-appeals-court-reinstates-lawsuit-challenging-usda-secrecy-on-animal-welfare-act-records/.

[55] *Id.*

[56] *Animal Care Information System Website Review Chart*, UNITED STATES DEPARTMENT OF AGRICULTURE – ANIMAL AND PLANT HEALTH INSPECTION SERVICE, https://www.aphis.usda.gov/aphis/ourfocus/animalwelfare/SA_AWA/acis-table (last visited May 11, 2020); *AWA Inspection and Annual Reports*, UNITED STATES DEPARTMENT OF AGRICULTURE – ANIMAL AND PLANT HEALTH INSPECTION SERVICE, https://www.aphis.usda.gov/aphis/ourfocus/animalwelfare/sa_awa/awa-inspection-and-annual-reports (last visited May 11, 2020); *See Animal Welfare Enforcement Actions*, UNITED STATES DEPARTMENT OF AGRICULTURE – ANIMAL AND PLANT HEALTH INSPECTION SERVICE, https://www.aphis.usda.gov/aphis/ourfocus/animalwelfare/enforcementactions (last visited May 11, 2020).

[57] *Id.*

[58] Daly, *supra note 49.*

[59] *Id.* With the use of USDA reports and documents, a *Mother Jones* reporter exposed two decades of poor sanitation conditions, tiny pens for movement, and premature deaths at DEW Haven, a roadside zoo in Maine. The *New York Times* relied heavily on USDA/APHIS welfare records to expose the suffering of farm animals at the U.S. meat Animal Research Center, a USDA facility designed to create meatier and more fertile livestock but resulted in newborns starving or freezing to death and other problematic practices. The report led to the USDA shutting down all experimental projects until welfare standards could be improved and approved. Because of this exposure, then Secretary of Agriculture, Tom Vilsack, appointed the first-ever animal welfare ombudsman to oversee the welfare of animals at USDA-run facilities. These are just a few of the examples of how access to USDA documents resulted in exposure of animal abuse, AWA violations, and improvement in animal welfare. *Id.*

chained by handlers.[60] The story led to "public outcry and petitions calling for the elephants' removal from the circus."[61] Ringling Brothers declared in 2016 that it would stop touring elephants.[62] Then in January 2017, it announced that after 146 years, the circus would shut down permanently.[63] James West, who reported on the egregious animal abuses at the roadside zoo in Maine, said he heavily relied on the USDA/APHIS database and pointed out how "cumbersome a task" it is for nonprofit watchdog organizations to discover animal suffering nationwide, expose perpetrators, and find holes in current legislation to improve.[64] These organizations are already overworked and struggling financially.[65] Although it is the government's responsibility to "be the reservoir of public information," with the government's inaction and lack of resources, the responsibility largely falls on third parties.[66] By reducing access to these documents, the lack of transparency makes it difficult for interested parties to keep tabs on violators and expose abuses.[67]

IV. Zoo Accrediting Organizations

As the AWA provides only minimal guidelines and the USDA does not take significant enforcement actions, zoo accreditation organizations provide further guidance and monitor member adherence.[68] Zoos must adhere to the set-out guidelines to be considered accredited member organizations.[69] This allows the public to make a more informed decision when choosing which animal exhibitor to visit relating to the conditions the animals are kept in and how they are treated overall. While these entities can strip non-conforming facilities of membership, they have no authority to prosecute member institutions for violations of the law, relying on law enforcement and the court system.[70] The Association of Zoos and Aquariums and the Zoological Association of America are two of the

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[60] Daly, *supra* note 49; Deborah Nelson, *The Cruelest Show on Earth*, MOTHER JONES, Nov./Dec. 2011, http://www.motherjones.com/environment/2011/10/ringling-bros-elephant-abuse/.

[61] Daly, *supra* note 49.

[62] *Id.*

[63] *Id.*

[64] *Id.*

[65] *Id.*

[66] *Id.*

[67] *Id.*

[68] *See* Rachel Garner, *How to Understand Zoo Accreditation*, WHY ANIMALS DO THE THING, July 4, 2016, https://www.whyanimalsdothething.com/how-to-understand-zoos-accrediation/.

[69] *Id.*; *About AZA Accreditation*, ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/what-is-accreditation (last visited May 11, 2020).

[70] *Accreditation FAQ*, ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/accred-faq (last visited May 11, 2020); *See* Grech, *Overview of the Laws Affecting Zoos, supra* note 6.

most well-known zoo accrediting organizations.[71] The USDA National Agricultural Library lists both organizations on its references tab for the Animal Welfare Information Center on the USDA website.[72]

The most meaningful of the zoo accreditation organizations is the Association of Zoos and Aquariums ("AZA").[73] It is supported by the Congressional Zoo and Aquarium Caucus, which is comprised of U.S. House of Representatives members, currently co-chaired by Democratic representative Daniel Lipinski and Republican representative Jeff Fortenberry, who are supportive of the animal welfare cause.[74] As of April 2020, the total number of AZA-accredited zoos and aquariums worldwide is 240, with 217 in the United States.[75] Of the approximately 2,800 animal exhibitors licensed by the USDA in America, less than 10% are AZA-accredited.[76] Member organizations renew accreditation every five years.[77]

The AZA requires a standard for animal welfare including nutrition, comfortable living, physical health, natural coping skills to mimic the wild, chronic stress avoidance, and quality space and social grouping, as appropriate.[78] The AZA also requires member zoos to make conservation a priority by: (1) contributing to long-term species survival in natural ecosystems and habitats, (2) using "green" practices and education programs that emphasize the institution's and community's role in stewardship of natural resources and ecosystem conservation, (3) committing to scientific advancement to better understand the individual needs of each species, and (4) providing and justifying financial statements.[79] Jack Hanna, Director Emeritus of the Columbus Zoo and the host of two wildlife shows, is a proponent of the AZA, pointing out that in 2013, the organization donated nearly $160 million to support about 2,450 conser-

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[71] Rachel Garner, *supra* note 68.

[72] *Organizations: Exhibit Animals*, UNITED STATES DEPARTMENT OF AGRICULTURE NATIONAL AGRICULTURAL LIBRARY, https://www.nal.usda.gov/awic/organizations-exhibit-animals (last visited May 11, 2020).

[73] Rachel Garner, *supra* note 68; *See About Us*, ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/about-us (last visited May 11, 2020).

[74] *Zoo and Aquarium Caucus*, ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/zoo-and-aquarium-caucus (last visited May 11, 2020).

[75] *Current Accreditation List*, ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/current-accreditation-list (last visited Jan. 24, 2019); *Zoo and Aquarium Statistics*, ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/zoo-and-aquarium-statistics (last visited May 11, 2020).

[76] *Accreditation FAQ*, *supra* note 70.

[77] *Accreditation Basics*, ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/becoming-accredited (last visited May 11, 2020).

[78] The *AZA Accreditation Standards & Related Policies: 2020 Edition*, ASSOCIATION OF ZOOS & AQUARIUMS (2020), at 9, https://www.aza.org/assets/2332/aza-accreditation-standards.pdf.

[79] *Id.* at 21-24, 28.

vation projects in more than 120 countries.[80] Hanna also credits AZA zoos' commitment to conservation for helping species such as the black-footed ferret and Mexican wolf overcome near-extinction.[81]

The other accreditation most often seen in the United States is from the Zoological Association of America ("ZAA").[82] The ZAA was established in 2005 by combining the International Society of Zooculturists, founded in 1987, and the United Zoological Association, founded in 2000.[83] The ZAA's mission, according to their website, is to promote responsible wildlife management, conservation, and education in publicly and privately-funded facilities."[84] The website also notes the ZAA's intent to provide resources to defend accredited facilities against false allegations and mischaracterizations.[85] Some of the facilities that failed to meet the AZA's accreditation sought, and met, ZAA's less strict standards.[86]

Wayne Pacelle, author of The Humane Economy and former President and Chief Executive Officer of the Humane Society, equates the hypocrisy of the ZAA working to block legislation to ban private ownership of dangerous wild animals as the equivalent of the Humane Society giving its blessing to factory farms or trophy hunting.[87] Pacelle also notes how the ZAA "accredits" roadside menageries that promote "trade in wildlife, allow dangerous public contact with juvenile carnivores, and provide deficient care of animals."[88] By re-sequencing the nomenclature of the AZA, the ZAA confuses the public into thinking the facilities are legitimate and received the more stringent AZA approval.[89] This results in giving the public the false assurance that this behavior, such as the public handling of wildlife for feedings or photos, is okay and puts money into the pockets of these unethical businesses.[90]

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[80] Jack Hanna, *Jack Hanna: What Zoo Critics Don't Understand*, TIME, May 15, 2015, http://time.com/3859186/zoo-defense/. Hanna hosts "Jack Hanna's Wild Countdown" and "Jack Hanna's Into the Wild." *Id.*

[81] *Id.*

[82] Rachel Garner, *supra* note 68.

[83] *History of ZAA*, ZOOLOGICAL ASSOCIATION OF AMERICA, http://www.zaa.org/about-zaa/history-of-zaa (last visited May 11, 2020).

[84] *Id.*

[85] *Mission Statement*, ZOOLOGICAL ASSOCIATION OF AMERICA, https://zaa.org/mission-statement (last visited May 11, 2020).

[86] Wayne Pacelle, *HSUS, Top Zoos Can Together Be a Force for Good*, A HUMANE NATION, Sept. 11, 2017, https://blog.humanesociety.org/wayne/2017/09/hsus-top-zoos-force-for-good.html.

[87] *Id.*

[88] *Id.*

[89] *Id.*

[90] *Id.; See* Kat Eschner, *The Big Unsexy Problem With Tiger Selfies*, SMITHSONIAN MAGAZINE, Aug. 15, 2017, https://www.smithsonianmag.com/science-nature/the-big-unsexy-problem-with-tiger-selfies-180964489/ (Organizations that market tiger photo ops often give sedatives to tigers to

Both the AZA and ZAA accredited facilities are held to AWA license requirements and subject to USDA inspections, though they have differing standards otherwise. For example, enforced as of September 2014, the AZA established a safety policy that prohibits keepers from sharing the same physical space with elephants except for certain, limited exceptions.[91] Conversely, the ZAA adopted Elephant Husbandry Resource Guide standards that are used by the Elephant Managers Association, believing that the decision regarding protected contact with elephants should be left to the governing body of each organization, effectively providing no oversight.[92] In another example, AZA zoos do not allow public contact with tigers and use only purebred tigers for conservation purposes.[93] By contrast, some ZAA accredited zoos allow cub petting.[94] While ZAA's accreditation standards and related policies are under revision according to their website and have not been updated since 2016, AZA's standards and policies are up to date as of 2020.[95]

V. The Problems with Zoos

Examples in this section will focus primarily on AZA accredited facilities. While the AZA is considered to have the most stringent requirements for its members, even those zoos subject to AZA and AWA standards, have room for improvement.

A. Zoochosis and Other Animal Suffering in Zoos

It is difficult to assess the "moral validity" of modern zoos and their non-entertainment functions, because each species has different needs, and the conditions in which animals are kept vary greatly between zoos,

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protect the public); *See also Schedule a Tour*, EXOTIC FELINE BREEDING COMPOUND'S FELINE CONSERVATION CENTER, http://www.cathouse-fcc.org/tours.html While the website provides little information, the Feline Conservation Center, accredited by the ZAA, offers "Assisted Tiger Feeding" starting at $300 per group. *Id.*

[91] Ed Stewart, *No Ethical Way to Keep Elephants in Captivity*, NATIONAL GEOGRAPHIC SOCIETY NEWSROOM, May 3, 2013, https://blog.nationalgeographic.org/2013/05/03/no-ethical-way-to-keep-elephants-in-captivity/; *The AZA Accreditation Standards & Related Policies: 2020 Edition*, *supra* note 78, at 68.

[92] *Animal Care & Enclosure Standards and Related Policies*, ZOOLOGICAL ASSOCIATION OF AMERICA (2016), 23, https://zaa.org/resources/Documents/membership%20and%20applications/ZAA%20Accreditation%20Standards%202016.pdf.

[93] Guynup, *supra* note 25.

[94] *Id.*

[95] *Animal Care & Enclosure Standards and Related Policies*, *supra* note 91; *ZAA Accreditation Standards*, ZOOLOGICAL ASSOCIATION OF AMERICA, https://zaa.org/standards; *The AZA Accreditation Standards & Related Policies: 2020 Edition*, *supra* note 78; *2020 Accreditation Standards and Related Policies*, ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/accred-materials.

especially when considering roadside zoos.[96] On top of varying standards between zoo accreditation agencies, it is difficult to measure the suffering of wild animals in captivity.[97] While physical pain and poor health are easier to detect, animal suffering may not be accompanied by visible signs.[98] Animals cannot verbally communicate their emotional discomfort to humans but occasionally express psychological pain through repetitive behaviors.[99] These repetitive behaviors that almost never occur in the wild are so common in captivity, that they were given a name, zoochosis, or "psychosis caused by confinement."[100]

Many species cannot thrive in captive settings, particularly the large animals that people come to see such as elephants, big cats, dolphins and whales.[101] Due to their large size, the complexity of their social lives, or their instinctive need to hunt over long distances, minor habitat adjustment will do little to improve their situation.[102] For example, polar bears, tigers, and foxes are known to travel hundreds of miles in the wild in search for food which cannot be replicated in captivity.[103] Instead, these zoo animals often live in cramped conditions, different from their natural environment, resulting not only in zoochosis, but also depression.[104] Zoos frequently drug them with antipsychotics, because it is much less expensive than redoing already expensive exhibits to stop these behaviors.[105]

For example, in the mid-1990s, a polar bear named Gus in the Central Park Zoo would compulsively swim figure eights in his pool, sometimes up to 12 hours a day.[106] The zoo nicknamed him the "bipolar bear," gave him a dose of Prozac, and spent $25,000 worth of behavioral therapy to calm his neuroses.[107] Laurel Braitman, who documented Gus and other mentally unstable animals, described how being forced to live in unnatural habitats, on display, in zoos, caused zoochosis that serves no

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[96] ROBERT GARNER, *supra* note 3 at 94.

[97] *Id.*

[98] *Id.*

[99] Laura Smith, *Zoos Drive Animals Crazy*, SLATE, June 20, 2014, http://www.slate.com/blogs/wild_things/2014/06/20/animal_madness_zoochosis_stereotypic_behavior_and_problems_with_zoos.html.

[100] Smith, *supra* note 98.

[101] Karin Brulliard, *Zoos are Built for People. Animals Need Sanctuaries Instead*, WASHINGTON POST, Jul. 8, 2016, https://www.washingtonpost.com/news/animalia/wp/2016/07/08/zoos-are-built-for-people-animals-need-sanctuaries-instead/?utm_term=.23074142c109.

[102] ROBERT GARNER, *supra* note 3 at 95.

[103] *Id.*

[104] *See* Smith, *supra* note 99.

[105] Smith, *supra* note 99.

[106] *Id.*

[107] *Id.*

obvious purpose such as bar biting, hair plucking, and regurgitation and reingestation of food and vomit.[108]

Braitman noted that the industry is secretive about the issue as they do not want the public to know the "gorillas, badgers, giraffes, belugas, or wallabies on the other side of the glass are taking Valium, Prozac, or antipsychotics to deal with their lives as display animals."[109] To combat zoochosis, enrichment activities, such as distracting toys, puzzles, or food that takes longer to eat, reduce stereotypic behavior 53% of the time.[110] While these programs are better than nothing, Braitman says they are only "a band aid" because when an animal is in an enclosure, regardless of how good it is, it's still an enclosure.[111] Like Gus, other zoo animals are given drugs to subdue them, however, few medications are approved for administration to zoo animals and if appropriate data is not available, drug administrators try to extrapolate the proper dosage by looking at known parameters in other species.[112] Hoping to avoid organ toxicity in a group of animals, a "guinea pig" is selected and if no adverse effects are seen, the rest of the group is given the medication.[113]

B. Breeding Programs May Cause Individual Animal Suffering

Zoos' breeding programs exchange animals to preserve genetic diversity of each species through Species Survival Plans.[114] These programs, overseen in AZA zoos by their Taxon Advisory Groups,[115] disrupt family or pack units, adding additional stress to animals, particularly to species that live in close-knit groups such as gorillas and elephants.[116] The Milwaukee County Zoo, for example, continuously shifts

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[108] Smith, *supra* note 99.

[109] *Id*. Many zookeepers are bound by non-disclosure agreements, preventing them from sharing concerns with anyone outside the zoo. *Id.*

[110] *Id.*; Ronald R. Swaisgood and David J. Shepherdson, *Scientific Approaches to Enrichment and Stereotypies in Zoo Animals: What's Been Done and Where Should We Go Next?*, 24 Zoo Biology 499, 513 (Nov./Dec. 2005).

[111] Smith, *supra* note 99.

[112] Michael R. Loomis, *Clinical are Programs for Zoo Animals – Drug Administration*, MERCK MANUAL: VETERINARY MANUAL, https://www.merckvetmanual.com/exotic-and-laboratory-animals/zoo-animals/clinical-care-programs-for-zoo-animals (last visited May 11, 2020).

[113] *Id.*

[114] *About Us – How New Animals Come to the Zoo*, ZOOLOGICAL SOCIETY OF MILWAUKEE, http://www.zoosociety.org/About/AcquiringAnimals.php (last visited May 11, 2020); *See Species Survival Plan Programs*, Association of Zoos & Aquariums, https://www.aza.org/species-survival-plan-programs (last visited May 12, 2020).

[115] *Taxon Advisory Groups*, Association of Zoos & Aquariums, https://www.aza.org/taxon-advisory-groups (last visited May 12, 2020).

[116] Smith, *supra* note 99.

its animal population to keep collections "fresh and exciting."[117] Proponents of breeding programs argue that animals must be moved in order to pair genetically suitable mates for species survival.[118]

However, this argument fails to account for the impact on the animals themselves when they are moved.[119] For example, Tom, a gorilla observed by Braitman, was moved hundreds of miles to a new zoo for his genetic match to another gorilla.[120] At his new zoo, he was abused by other members of his species until he lost a third of his body weight and was sent back to his original zoo to be nursed back to health.[121] He was then sent back out again to another location for breeding.[122]

From a conservation perspective, endangered zoo animals bred in captivity are frequently viewed as an "insurance policy" for the gene pool.[123] While in some cases zoos do great work in preserving animal species that are on the brink of extinction in the wild, it raises the ethical question, "bred for what?" — particularly for animals that still have some healthy populations in the wild.[124] In the majority of cases, the animals are being bred for another generation to live in a zoo, never to be introduced back into the wild.[125]

While zoos do participate in conservation, research, breeding, and reintroduction programs for animal benefit, their portrayal of themselves as the guardians of the future of biodiversity is not the whole picture.[126] What about the rest of the animal species that do not need these programs because they are not endangered?[127] Even in the most animal friendly accredited zoos, of the self-reported 6,000 species being kept by AZA member organizations, only 1,000 species, about 17%, are threatened or endangered.[128] With over 800,000 animals in the care of AZA-accredited zoo and aquarium professionals,[129] the release of non-threatened or endangered species has the potential to affect hundreds of thousands of animals.

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[117] *Id.; About Us – How New Animals Come to the Zoo*, *supra* note 114.

[118] Smith, *supra* note 99.

[119] *Id.*

[120] *Id.*

[121] *Id.*

[122] *Id.*

[123] Karin Brulliard, *What Harambe's Death Means for a Critically Endangered Species of Gorilla*, THE WASHINGTON POST, Jun. 2, 2016, https://www.washingtonpost.com/news/animalia/wp/2016/06/02/what-harambes-death-means-for-a-critically-endangered-species-of-gorilla/?utm_term=.028c7d4ceb45.

[124] *Id.*

[125] *Id.*

[126] Smith, *supra* note 99.

[127] *Id.*

[128] *Zoo and Aquarium Statistics, supra* note 75.

[129] ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/ (last visited May 11, 2020).

Critics of any wild animal captivity say that animals belong in the wild, but those areas are shrinking every day due to global warming or human commandeering.[130] Truly wild parts remain in Antarctica, parts of the Amazon, and some of Africa.[131] Left on its own in the wild, the white rhino has been driven to near extinction by poachers; the last male (in the wild or in captivity), Sudan, died in early 2018 and now only his daughter and granddaughter remain of the species.[132]

Aside from protection of vulnerable populations, some good zoos, do in fact, do good. An example of this good is the story of Przewalski's horses.[133] The last truly wild horses were declared extinct in the wild forty some years ago, wiped out from their native lands in China and Mongolia by habitat loss, over-hunting, and livestock encroachment."[134] At the time, fourteen Przewalski horses survived in zoos, and thanks to breeding and conservation efforts, there were enough offspring to begin reintroduction to the wild in the 1990s, resulting in the species being upgraded from extinct to endangered in 2008.[135] It is a difficult balance to strike between the inevitable restrictions placed on wild animals, the security they receive in captivity, and the continuation of their species.[136]

C. Certain Species are Susceptible to Human Diseases

While the research done on the spread of pathogens from humans to animals has been somewhat limited, reporting is increasing.[137] Certain animals, particularly penguins and chimpanzees, are highly susceptible to human diseases.[138] Based off a survey done of penguin diseases in captivity, as far back as 1947, there have been reports of Salmonella, E.

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[130] Hanna, *supra* note 80.

[131] *Id.*

[132] Hanna, *supra* note 80*;* Max Bearak, *Sudan, the world's last male northern white rhino, has died, putting his species on the brink of extinction*, THE WASHINGTON POST, March 20, 2018, https://www.washingtonpost.com/news/worldviews/wp/2018/03/20/sudan-the-worlds-last-male-northern-white-rhino-has-died-putting-his-species-on-the-brink-of-extinction/?utm_term=.4a8ffc867ab3.

[133] Hanna, *supra* note 80; Russell McLendon, *Once Extinct in the Wild, Rare Horse Species Welcomes New Filly*, MOTHER NATURE NETWORK, (Aug. 1 2013, 1:54PM), https://www.mnn.com/earth-matters/animals/blogs/once-extinct-horse-species-welcomes-new-filly.

[134] McLendon, *supra* note 133.

[135] *Id*.

[136] ROBERT GARNER, *supra* note 3 at 94.

[137] Ali M. Messenger, Amber N. Barnes & Gregory C. Gray, *Reverse Zoonotic Disease Transmission (Zooanthroponosis): A Systematic Review of Seldom-Documented Human Biological Threats to Animals*, PLOS ONE, 2014, *available at* http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0089055.

[138] Penny Sarchet, *Antarctic Tourism May Pose Disease Threat to Penguins*, NEWS SCIENTIST, Dec. 19, 2014, https://www.newscientist.com/article/dn26725-antarctic-tourism-may-pose-disease-threat-to-penguins/#.VJSDG8AA8; Messenger, *supra* note 137.

Coli, West Nile virus, and Avian Pox virus infections.[139] The study also found evidence of mass penguin mortality events in Antarctica since 1969; Avian Pox killed more than 400 Gentoo penguins in 2006 and caused 60% mortality rates in another breakout in 2008.[140] While it is possible that some diseases may have arrived via migrating birds, some pathogenic bacteria may have come from visiting humans.[141] Unfortunately, there is not enough evidence in this scenario to conclusively test the possibilities.[142]

Pathogen spread from humans to animals can come from a zoo visitor with an illness, a sick caretaker, contamination of shared enclosures or food, or from the spread of disease through animal relocation.[143] There have been reports of human metapneumovirus ("HPMV") outbreaks, a respiratory infection, in wild ape populations.[144] In Tanzania, a fatal outbreak of HPMV in wild chimpanzees was believed to be from researchers and tourists visiting a national park that was once the chimpanzees' territory.[145] In 2009, staff members at a Chicago great ape facility experienced coughing and nasal discharge, which coincided with peak HPMV season in the United States.[146] One week later, all seven previously HPMV-negative chimpanzees, who had periodic contact with caretakers during daily feeding, cage cleaning, and training sessions, showed symptoms of moderate-to-severe respiratory disease, and one chimpanzee died.[147]

D. Animal Exploitation for Human "Edutainment"[148]

Whistleblowers in zoos have shared with the Humane Society, "an abhorrence for the sorry approaches to animal care that persist in substandard roadside zoos and other settings,"[149] a symptom of the varying standards to zoo accreditation and lack of AWA enforcement by the USDA or law enforcement.[150]

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[139] Sarchet, *supra* note 138.

[140] *Id.*

[141] *Id.*

[142] *Id.*

[143] Messenger, *supra* note 137.

[144] Owen M. Slater et. al, *Human Metapneumovirus Infection in Chimpanzees, United States*, 20 Emerging Infectious Diseases 2115 (2014) *available at* https://wwwnc.cdc.gov/eid/article/20/12/pdfs/14-0408.pdf.

[145] Messenger, *supra* note 137.

[146] Slater, *supra* note 144.

[147] *Id.*

[148] *Edutainment*, merriam-webster, https://www.merriam-webster.com/dictionary/edutainment (last visited May 12, 2020).

[149] Pacelle, *supra* note 86.

[150] *See* Grech, *Detailed Discussion of the Laws Affecting Zoos, supra* note 11.

Zoos teach children that animals exist on an extrinsic level, caged for their benefit and entertainment. Even when well meaning, our human desire for amusement and to connect to other species does not justify life-long animal frustration.[151] Tom, the gorilla moved between zoos for the sake of breeding, ran to his zookeepers when they visited him at his new zoo; visibly sobbing and following the zookeepers around "until visitors complained that the zookeepers were 'hogging the gorilla.'"[152]

While zoos claim to offer humans the chance to connect with other species, the result is that the animals are ogled as they whither in a foreign habitat, sometimes drugged. The Smithsonian National Zoo displays for visitors a pair of owls in a small glass enclosure, next to a placard ironically stating that owls' natural habitat is actually open spaces.[153] Zoo visitors want to be able to not only see, but also form a connection with the animals, which is impossible within the structural limitations of a zoo.[154] Forced displays of wildlife can foster visitors to feel separation and even a sense of alienation from nature.[155]

At its worst, zoos are edutainment: claiming to offer visitors a connection to other species, while stripping animals from their natural surroundings for the benefit of "commerce, voyeurism and ultimately anthropocentrism — the ideology that construes human beings as the most important living creatures."[156] In reality, "ecology is a complex web of interconnection, not a hierarchy"[157] and zoos should be encouraging "kinship with nature" for a sustainable future.[158]

AZA sponsored studies claimed visitor attendance at accredited zoos would translate to visitor environmental conservationism and action.[159] However, a 2010 study by researchers from Emory University,

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[151] Karin Brulliard, *Zoos Will 'Look and Act Radically Different in 20 Years'*, WASHINGTON POST, Jul. 5, 2016, https://www.washingtonpost.com/news/animalia/wp/2016/07/05/zoos-will-look-and-act-radically-different-in-20-years/?tid=A_inl&utm_term=.6b07fcac8b3c.

[152] Smith, *supra* note 99.

[153] *Id.*

[154] MARGO DEMELLO, ANIMALS AND SOCIETY: AN INTRODUCTION TO HUMAN-ANIMAL STUDIES, 112 (Columbia Univ. Press, 2012); Smith, *supra* note 99.

[155] STEPHEN R. KELLERT, KINSHIP TO MASTERY: BIOPHILIA IN HUMAN EVOLUTION AND DEVELOPMENT, 100 (Island Press, 1997).

[156] Randy Malamud, *The Destructive Lie of American Zoos: How We've Blinded Ourselves to the Truths of the Natural World*, SALON (Aug. 15, 2015, 10:59PM), http://www.salon.com/2015/08/18/the_destructive_lie_of_american_zoos_how_weve_blinded_ourselves_to_the_truths_of_the_natural_world/. "Zoos and aquariums . . . provide [ ] the opportunity to ogle caged otherness, and to feel superior to all the exotic wild animals whose exoticism and wildness their captors have stripped away in the service of 'edutainment'. . ." *Id.*

[157] *Id.*

[158] Smith, *supra* note 99.

[159] John H. Falk, Eric M. Reinhard, Cynthia L. Vernon, Kerry Bronnenkant, & Joe E. Heimlich, *Why Zoos & Aquariums Matter: Assessing the Impact of a Visit to a Zoo or Aquarium*, RESEARCH GATE, Jan. 2007, *available at* https://www.researchgate.net/profile/Cynthia_Vernon/

Georgia State University, Morehouse College, and Arizona State University found that those results were "exaggerated, noting that 'there is no compelling or even particularly suggestive evidence for the claim that zoos and aquariums promote attitude change, education, and interest in conservation in their visitors.' "[160] Supporting this conclusion, additional research found the average visitor spends under two minutes at each enclosure and most do not read any of the exhibit labels.[161] For the small minority of visitors that do gain an appreciation and concern for wildlife, this occurs primarily at zoos that focus on natural zoo and habitat design, native wildlife, and a greater diversity of species.[162] To have more of a lasting impact, zoos need to find innovative ways to connect the natural world to visitors' lives, "emphasizing how natural diversity can enhance the possibilities for people to achieve a richer existence both emotionally and intellectually."[163]

Like humans, animals can get bored, resulting in stoic and quiet dispositions. Zoos however, need lively animals to keep visitors engaged and coming back. At the Denver Zoo, zookeepers spray a little perfume, cologne, or essential oils inside enclosures to encourage animals to replicate behaviors in the wild and explore more of their environment.[164] At the Bronx Zoo, staff motivate confined tigers to be curious by spraying Calvin Klein's 'Obsession for Men' on rocks, trees, and toys.[165]

Visitor carelessness and error at zoos can also lead to animal death. For example, in 2016, Harambe, a seventeen-year-old, 400 pound, Western lowland gorilla was killed when a child fell into his enclosure at the Cincinnati Zoo (an AZA zoo).[166] A special zoo response team was forced to shoot Harambe when he grabbed the four year old boy who fell

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publication/253004933_Why_Zoos_Aquariums_Matter_Assessing_the_Impact_of_a_Visit_to_a_Zoo_or_Aquarium/links/5705627a08ae44d70ee342a8/Why-Zoos-Aquariums-Matter-Assessing-the-Impact-of-a-Visit-to-a-Zoo-or-Aquarium.pdf; *Conservation Education*, ASSOCIATION OF ZOOS & AQUARIUMS, https://www.aza.org/conservation-education (last visited May 11, 2020); Smith, *supra* note 99.

[160] Smith, *supra* note 99; Lori Marino, Scott O. Lilienfeld, Randy Malamud, Nathan Nobis & Ron Broglio, *Do Zoos and Aquariums Promote Attitude Change in Visitors? Acritical Evaluation of the American Zoo and Aquarium Study*, ANIMAL STUDIES REPOSITORY, 2010, *available at* http://animalstudiesrepository.org/cgi/viewcontent.cgi?article=1007&context=acwp_zoae.

[161] Smith, *supra* note 99; DEMELLO, *supra* note 154.

[162] KELLERT, *supra* note 155 at 99.

[163] *Id.* at 100.

[164] Bobbi Sheldon, *How Denver Zoo uses perfumes, essential oils for animal enrichment*, 9NEWS, (May 9, 2017, 3:02PM), https://www.9news.com/article/life/how-denver-zoo-uses-perfumes-essentials-oils-for-animal-enrichment/438250743.

[165] Ellen Byron, *Big Cats Obsess Over Calvin Klein's 'Obsession for Men'*, THE WALL STREET JOURNAL, (June 8, 2010, 12:01AM), https://www.wsj.com/articles/SB10001424052748704513104575256452390636786.

[166] *Cincinnati Zoo Kills Gorilla After Child Falls Into Exhibit*, CBS NEWS, (Jun. 1, 2016, 4:22PM), https://www.cbsnews.com/news/cincinnati-zoo-kills-gorilla-after-child-falls-into-exhibit/.

into his exhibit.[167] This was particularly devastating, as the Western lowland gorilla is a critically endangered species with a high risk of extinction and a population decline of more than 60% in the past 25 years.[168] The species is hunted for meat and body parts and captured as babies to be pets.[169] With nearly one-third of the African population killed by Ebola, the rest of the population is losing its habitat to logging and mining.[170]

E. Zoos Can be Harmful to Visitors

Zoos can also harm people. Zoonotic diseases ("zoonoses") can be spread from animals to humans, such as Salmonella from reptiles and Avian Flu from birds, though unlikely if there is no direct contact with the animal.[171] Some zoos offer animal rides or petting zoos, which can transmit Salmonella, E. Coli and other diseases, that usually result in mild abdominal pain and discomfort for visitors, but can be more dangerous for those with weaker immune systems.[172] Human injuries and deaths from zoo animals have happened as well.

Born Free USA, an organization whose mission is to end the suffering of wild animals in captivity, rescue animals in need, protect wildlife in their natural habitats, and encourage conservation globally,[173] keeps a running list of animal escapes and attacks that have resulted in human injury and death.[174] Users can organize results by facility type, category (what occurred), species, and time frame.[175] Within the last ten years at AZA accredited zoos alone, 354 incidents were recorded.[176] For example, a female gorilla threw a block of wood, hitting a pregnant woman and sending her to the hospital, a three year old child fell into a jaguar

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[167] *Id*.

[168] Brulliard, *What Harambe's Death Means for a Critically Endangered Species of Gorilla*, *supra* note 123.

[169] *Id.*

[170] *Id.*

[171] *Zoonotic Diseases & Birds/Poultry*, OREGON VETERINARY MEDICAL ASSOCIATION, https://www.oregonvma.org/care-health/zoonotic-diseases/zoonotic-diseases-birds (last visited May 12, 2020).

[172] *Stay Healthy at Animal Exhibits*, CENTERS FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/healthypets/specific-groups/stay-healthy-animal-exhibits.html (last visited May 12, 2020); *Staying Safe at Petting Zoos and Fairs*, MINNESOTA DEPARTMENT OF HEALTH, https://www.health.state.mn.us/diseases/animal/animal.html (last visited May 12, 2020).

[173] *Keep Wildlife in the Wild*, BORN FREE USA, https://www.bornfreeusa.org/about-us/ (last visited May 11, 2020).

[174] *Exotic Animal Incidents*, BORN FREE USA, https://www.bornfreeusa.org/exotic-incidents-database/ (last visited May 11, 2020).

[175] *Id.*

[176] *Id.*

exhibit, sustaining a skull fracture and puncture wounds, and a first-grader, scaling a leopard enclosure to get a better view, sustained lacerations to his head and neck when the animal swiped at him.[177]

VI. Suggestions for Improvement to the AWA to Combat Problems in Zoos and Analysis of Their Viability

A. Add Species Specific Guidelines to the AWA

The AWA offers little in specifics to guide zoos, or inspectors that are searching for violations, on species specific needs in captivity; inspectors are bound to report violations solely within the AWA framework.[178] To illustrate the shortcomings of the AWA in this area, anthropologist and author Barbara J. King analyzed captive bears.[179] There are 2,800 bears held in captivity, including accredited and non-accredited zoos.[180] Bears tend to suffer the most in roadside zoos as they experience severe discomfort in heat, proactively seeking out cool baths or shade in the warmer months; discomfort is compounded if they are in concrete enclosures that can radiate heat or burn their paws.[181] The AWA offers no bear-specific guidance (with the exception of the Secretary of Agriculture's regulations for polar bears)[182] that takes into account their needs for space or thermoregulation.[183] When King asked Tanya Espinosa, public affairs specialist at the USDA-APHIS, why zoos are not required to offer bears water features in the summer to cool off, or non-concrete enclosures, Espinosa said that the AWA does not require it and the USDA's job is to enforce the AWA.[184]

After receiving a petition from PETA in 2013, APHIS opened up to public comment a proposed rule to "promulgate standards for bears under the Animal Welfare Act regulations."[185] Amongst the 8,700 com-

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[177] *Id.*

[178] *See* Barbara J. King, *Bears Can Face Summer Challenges in Roadside Zoos,* NPR, Aug. 17 2017, https://www.npr.org/sections/13.7/2017/08/17/543682389/bears-can-face-summer-challenges-in-roadside-zoos.

[179] *How Animals Grieve,* BARBARA J. KING, http://www.barbarajking.com/books/how-animals-grieve/ (last visited May 12, 2020); King, *supra* note 178.

[180] King, *supra* note 178.

[181] *Id.*

[182] *Id.*; 9 C.F.R. §§ 3.103, 3.104 (2020).

[183] King, *supra* note 178.

[184] *Id.*

[185] Petition to Promulgate Standards for Bears Under the Animal Welfare Act Regulations, 78 Fed. Reg. 70515, proposed Nov. 16, 2013, https://www.federalregister.gov/documents/2013/11/26/2013-28312/petition-to-promulgate-standards-for-bears-under-the-animal-welfare-act-regulations; *Petition for Rulemaking to Establish Bear-Specific Standards,* REGULATIONS.GOV, https://www.regulations.gov/docket?D=APHIS-2012-0106.

ments submitted (including those from an additional 30 day submission period allowed by APHIS), the New York City Bar, which represents more than 23,000 lawyers, law professors, and government officials, submitted a nine page proposal urging the USDA to address bear-specific needs in captivity.[186] The proposal recommended clear criteria to meet the "behavioral, social and psychological requirements" of captive bears to help eliminate USDA enforcement challenges from a lack of inspector guidance.[187]

The New York City Bar also urged APHIS to employ a full-time bear specialist "with knowledge, background, and experience in the proper husbandry and care of bears in order to oversee the proper implementation and enforcement of these regulations."[188] Employing a full-time bear specialist, and other species specialists, however, may not be a realistic option due to limited resources.

The USDA has roughly one inspector per 56 licensed facilities. Any funding would be better utilized by increasing the number of inspectors to monitor USDA licensed facilities, rather than employing species specific specialists. Instead, as there is no shortage of animal advocates and organizations, including those already mentioned in this article, the USDA could likely utilize species experts, including zookeepers from fully compliant AZA zoos, to amend AWA guidelines; some experts would likely be willing to volunteer their services pro bono to make a lasting impact on such an important federal statute.

Despite limited resources, one of the best ways to ensure animal welfare in zoos is for the AWA to have animal species specific guidelines. USDA inspectors are bound to the confines of the AWA, so to make progress in captive animal welfare, the AWA must be updated. This change would provide clarity for inspectors searching for violations and zoo operators trying to help wild animals thrive to avoid zoochosis. Species specific guidelines could also minimize individual animal suffering for those used in breeding programs, as zoos can make more informed decisions in animal housing and meeting social grouping needs. "Happy" animals, or those whose welfare needs are met, are likely a more interesting attraction to visitors as well, as they partake in their natural behaviors, rather than remaining stoic or showing symptoms of zoochosis.

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[186] Christine L. Mott & Lori A. Barrett, *RE: Petition To Promulgate Standards For Captive Bears Under The Animal Welfare Act Regulations, Docket ID: APHIS-2012-0106,* NEW YORK CITY BAR, 1, Jan. 22, 2014, https://www2.nycbar.org/pdf/report/uploads/20072647-CommentonAWAStandardsforCaptiveBears.pdf.

[187] *Id.* at 8.

[188] *Id.* at 9.

While AZA zoos have their shortcomings, the AZA has by far the most stringent standards of all the accrediting agencies, giving the USDA a blueprint for an AWA update. By adhering to stricter guidelines, as well as species specific guidelines, many roadside zoos would be eliminated, as they would lack the funding and space to be up to code. Robert Garner, author of Animals, Politics and Morality, noted that "the United States, in particular, has some very good zoos where large 'naturalistic' environments have been created. . . suggest[ing] that the public are increasingly turning their back on the old-style urban zoos with limited space and unimaginative displays."[189]

If zoos are forced to comply with stricter AWA standards, many will likely procure AZA member status, a symbol to the public of how that zoo approaches animal care and conservation, as well as a commitment to adhere to strict AZA standards. Considering that 54% of AZA member organizations are non-profit, 35% are public, and the AZA already has robust guidelines and programs in place, the AWA adopting their standards is a natural fit.[190] However, the less stringent ZAA could still license those zoos that do not conform to AZA standards. To combat public confusion between the AZA and the ZAA, and allow consumers to make an informed choice, the USDA should distance itself from the ZAA by, at the very least, removing the ZAA from its National Agricultural Library reference list.

The current AWA does not extend protection to horses not used for research purposes and cold-blooded animals such as reptiles and amphibians, many of whom like crocodiles, turtles, and chameleons are housed at zoos.[191] To truly be an animal welfare act, rather than the current focus on warm-blooded animals, the AWA should protect any and all animals that may be in a zoo.[192]

B. Prohibit Public Contact with Animals Under the AWA

Jennifer Jacquet, a New York University ("NYU") Associate Professor and Ph.D. in Natural Resource Management and Environmental Studies,[193] advocates for a complete ban on visitor-animal interaction.[194] In a report conducted by Jacquet and her colleagues at New York Uni-

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[189] ROBERT GARNER, *supra* note 3 at 95.

[190] *Zoo and Aquarium Statistics*, *supra* note 75.

[191] 7 U.S.C. § 2132(g).

[192] Carole Lynn Nowicki, *The Animal Welfare Act: All Bark and No Bite*, 23 SETON HALL LEGIS. J. 443, 491 (1999). The AWA needs to include cold-blooded animals, birds, rats, and horses. *Id.*

[193] *Jennifer Jacquet*, NYU ARTS & SCIENCE, http://as.nyu.edu/content/nyu-as/as/faculty/jennifer-jacquet.html (last visited May 12, 2020).

versity for the Humane Society, the group searched online and found 77 distinct facilities in the United States that allow human interaction with endangered wildlife such as tigers, lions, primates, and bears.[195] Important to note is that reptiles are currently exempt from protection under the AWA, so a visitor to a roadside zoo can pay to get a photograph with an alligator with its mouth taped shut, without triggering any concern under the AWA.[196] Roadside zoos bring in funds from ticket sales, photographs, and private encounters that allow humans to feed, pet, or play with animals; removing this opportunity would make these animals less valuable to exhibitors.[197] The USDA received over 21,000 comments from the public after the Humane Society, World Wildlife Fund, The Global Federation of Animal Sanctuaries, The International Fund for Animal Welfare, Born Free USA, The Fund for Animals, Big Cat Rescue, and Detroit Zoological Society submitted a petition to prohibit public contact with big cats, bears, and nonhuman primates.[198]

Prohibiting public contact with animals would protect both humans and animals and remove the attraction of many roadside zoos. This policy would protect susceptible species from contacting human diseases and humans from potential bites by an overwhelmed wild animal. Roadside zoos bring in income from visitor-animal interaction, and without this revenue, some roadside zoos may be forced to close. Not being able to interact with zoo animals, the way the public would with domesticated pets, would also dissuade society, particularly children, from viewing animals as edutainment.[199]

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[194] Jennifer Jacquet, *America, stop visiting roadside zoos – they make money from the inhumane treatment of animals,* THE GUARDIAN, Nov. 27, 2016, https://www.theguardian.com/sustainable-business/2016/nov/27/roadside-zoos-america-animal-cruelty-welfare.

[195] *Id*.

[196] *Id.*

[197] *Id.* Banning these dangerous interactions, therefore decreasing the animals' value to exhibitors, would also make them less likely to be "bred, mistreated and commoditized." *Id.*

[198] Petition to Amend Animal Welfare Act Regulations To Public Contact With Big Cats, Bears, and Nonhuman Primates, 81 Fed. Reg. 41257, proposed June 24, 2016, https://www.federalregister.gov/documents/2016/06/24/2016-14976/petition-to-amend-animal-welfare-act-regulations-to-prohibit-public-contact-with-big-cats-bears-and; *Animal Welfare; Petition to Develop Regulations to Prohibit Public Contact with Potentially Dangerous Animals,* REGULATIONS.GOV, June 24, 2016, https://www.regulations.gov/docket?D=APHIS-2012-0107; *Amended Petition for Rulemaking to Prohibit Public Contact with Big Cats, Bears, and Nonhuman Primates*, REGULATIONS.GOV, Jan. 7, 2013, https://www.regulations.gov/document?D=APHIS-2012-0107-0001.

[199] Malamud, *supra* note 156.

C. Amend Licensing Procedures Under the AWA and Add a Provision for the Creation of USDA Facilities to House Confiscated Animals from Non-Compliant Zoos

The USDA does not currently require AWA compliance as a prerequisite for license renewal.[200] As a result of the USDA renewing a license for the Cricket Hollow Zoo, now the Cricket Hollow Animal Park ("Cricket Hollow"), despite its over 100 violations over five years, the ALDF filed a suit against then Secretary Vilsack and the USDA.[201] The court found in the USDA's favor, "holding that the agency lawfully adopted and applied a license renewal scheme that does not condition renewal on an exhibitor's compliance with the AWA's animal welfare standards."[202] One year later, in ALDF's lawsuit concerning current Secretary Perdue's and the USDA's licensing of Cricket Hollow, the Court of Appeals remanded to the District Court to remand to the USDA with instructions that "the agency must, at a minimum, explain how its reliance on the self-certification scheme in this allegedly 'smoking gun' case did not constitute arbitrary and capricious action."[203] In December 2017, the USDA revoked Cricket Hollow's license and issued a $10,000

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[200] *ADFL v. Vilsack*, 169 F.Supp3d 6, 8 (D.D.C. 2016), *summ. aff. den.*, No.16-5073, 2016 U.S. App. LEXIS 20254 (D.C. Cir. 2016), *aff'd in part, vacated in part, ALDF v. Perdue,* 872 F.3d 602 (D.C. Cir. 2017); *ALDF v. Vilsack*, 237 F.Supp.3d 15 (D.D.C. 2017). The "USDA has bifurcated its approach to licensing: For initial license applications, an applicant must agree to comply with the agency's prescribed standards and regulations, pay an application fee, keep its facilities available for agency inspection, and pass an agency compliance inspection of its facilities before the license may be issued. 9 C.F.R. §§ 2.1-2.12. For license renewals, an applicant must submit an annual report, pay the appropriate application fee, certify compliance and agree to continue to comply with agency standards and regulations, id., and agree to keep its facilities available for inspection by the agency 'to ascertain the applicant's compliance with the standards and regulations.' " *ALDF v. Perdue*, 872 F.3d 602, 606 (D.C. Cir. 2017).

[201] *ALDF v. Vilsack*, 237 F.Supp. at 18-19.

[202] *ALDF v. Vilsack*, 237 F.Supp. at 19 (citing *ALDF v. Vilsack*, 169 F.Supp.3d 6, 8 (D.D.C. 2016)); In *ALDF v. Perdue*, the court found for the government on the issue of the agency's interpretation of license renewal under the AWA and concluded that Congress "implicitly delegated the authority to establish the procedure for demonstrating compliance to [the] USDA," and the agency's conclusion "that self-certification and availability for inspection are sufficient to demonstrate compliance in a license renewal" was not inconsistent with the Act. ALDF v. *Perdue*, 872 F.3d at 617-618. What an AWA licensee "applicant must demonstrate when seeking the issuance of an initial license is different from what an applicant must demonstrate in order to qualify for the issuance of a renewal." *Id.* at 618. However, on the claim that the agency's decision to issue a license renewal to Cricket Hollow Zoo was arbitrary and capricious (considering APHIS's documented 77 violations at the zoo over 14 inspections from December 16, 2013 to August 15, 2016, with one violation allegedly occurring the same day in 2015 that APHIS renewed the zoo's license), the Court of Appeals remanded to the District Court with instructions to remand to the agency. *Id.* at 620.

[203] *ALDF v. Perdue,* 872 F.3d at 620.

fine to the owners, on appeal as of July 2018.[204] Animal welfare agencies removed over 400 animals, taking them to be treated, rehabilitated, and prepared for adoption or sanctuary placement.[205] As of January 2020, 110 animals were still missing, prompting ALDF to file a contempt of court motion against the Cricket Hollow owners to secure the animals' return.[206]

The USDA currently has the authority to shut down non-compliant zoos like Cricket Hollow but frequently chooses not to despite many repeated violations, partially because there is no USDA facility to hold confiscated animals.[207] If the AWA added a provision for the creation of facilities to house animals, even temporarily prior to their transfer to compliant zoos, such a policy, if enforced, would go a long way in ending the prolonged suffering of animals in non-compliant zoos.[208] While current regulations allow for animals to be transferred to other organizations for care, these persons or facilities are not required to be licensed.[209] Unfortunately, as animals are still viewed as property in the United States, the USDA would likely find itself defending law suits.

Animal welfare advocates have long accused the USDA of "rubber-stamping" licenses for facilities with clear violations. The Cricket Hollow law suits lead the USDA to solicit public comments on potential revisions to the licensing requirements under the AWA to reduce regulatory burden and provide efficiency with licensee compliance.[210] Suggestions offered by commenters included: reductions in license fees, strengthening existing safeguards to prevent individuals with former revoked licenses from applying again under a different name, reducing the

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[204] *Challenging the USDA for Reissuing Roadside Zoo's License,* ANIMAL LEGAL DEFENSE FUND, Dec. 27, 2019, https://aldf.org/case/challenging-the-usda-for-reissuing-roadside-zoos-license/.

[205] Philip Joens, *Mountain lions, grizzly bears among 110 animals missing from Iowa roadside zoo, group says,* DES MOINES REGISTER, (Jan. 9, 2020, 2:49PM), https://www.desmoinesregister.com/story/news/2020/01/09/cricket-hollow-animal-park-animals-missing-iowa-roadside-zoo-animal-legal-defense-fund-claims/4420426002/. Confiscated animals include more than a dozen llamas, seven mini horses, three donkeys, and an assortment of sheep, skunks, pigs, birds, rats and other animals. *Id.*

[206] *Id.*

[207] Russo, *supra* note 31.

[208] 9 C.F.R. § 2.129 (2020). Current APHIS regulations allow confiscated animals to be (1) placed, by sale or donation, with other licensees or registrants, that comply with the standards and regulations and can provide proper care; or (2) placed with persons or facilities that can offer a level of care equal to or exceeding the standards and regulations, as determined by APHIS, even if the persons or facilities are not licensed or registered with APHIS; or (3) Euthanized. *Id.; See* Animal Welfare; Confiscation of Animals, 66 Fed. Reg. 236, Feb. 2, 2001, https://www.federalregister.gov/documents/2001/01/03/01-57/animal-welfare-confiscation-of-animals.

[209] *Id.*

[210] Animal Welfare; Procedures for Applying for Licenses and Renewals, 82 Fed. Reg. 40077, proposed Aug. 24, 2017, https://www.federalregister.gov/documents/2017/08/24/2017-17967/animal-welfare-procedures-for-applying-for-licenses-and-renewals.

number of opportunities for an applicant to correct deficiencies, a mandatory license expiration date, and streamlining procedures for denying a license application and terminating or suspending a license.[211]

Imposing stricter penalties on violators would also aid in deterring AWA non-compliance.[212] If penalties exceed potential profit, exhibitors "will be more motivated to consider the welfare of animals when making their business decisions."[213] Chronic AWA violators also cost taxpayers money, as an average inspection costs $1,363.[214] Proponents of AWA reform want to make it as difficult as possible for AWA violators to receive or renew licenses and are calling on the USDA to improve their policy and policing.

Stricter penalties on violators will not be a sufficient remedy on its own if alleged "rubber-stamping" of license renewals continues, as violations will not be found without thorough inspection. The AWA should be amended to give new licenses only after thorough background checks to make sure prior AWA or animal cruelty violating individuals and businesses are not seeking licenses under a new name. License renewals should not be given to facilities with outstanding violations until they are remedied. Mandatory license expiration dates would also encourage facilities to stay up to code with the AWA as inspectors would not issue a renewal without full compliance. The USDA must be vigilant in upholding the AWA to protect captive animals from needless suffering.

VII. Conclusion

The current AWA standards are not strict enough and the USDA is lacking in its enforcement of the act. By updating its guidelines to include species specific language, potentially using existing AZA policies as a blueprint, zoos will know what is required for individual species welfare and inspectors will know exactly what to look for, and what they can cite as a violation. The AWA also needs to expand its protection to include currently missing species, such as cold-blooded animals including turtles and alligators - animals already living in zoos without any federal statute to protect them.

The AWA needs to prohibit public contact with animals for both human and animal benefit. This would help stop the spread of disease

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[211] *Id.*

[212] Nowicki, *supra* note 192.

[213] *Id.*

[214] Delcianna J. Winders, *Animal Welfare Act could protect animals and taxpayers – if it's enforced,* USA TODAY, Dec. 26, 2017, https://www.usatoday.com/story/opinion/2017/12/26/enforce-animal-welfare-act-protect-animals-humans-taxpayers-delcianna-winders-column/953069001/.

and encourage respect for animals as existing outside of human entertainment. Such a policy would also effectively force many roadside zoos to shut down as private encounters with animals are how they receive a significant portion of their operational funds. Amending the AWA licensing procedure would ensure only compliant zoos receive licenses, and non-compliant zoos fix their violations prior to receiving a license or having their license renewed. Further, the USDA should change its policy to release all violation and investigation documents on its website for accountability and transparency, which would allow third party animal advocates to pursue AWA violation cases that the USDA does not.

Adding a provision to the AWA to require at least one USDA run facility to house confiscated animals from non-compliant zoos would allow for greater control over the well-being of these animals who have already suffered. Hopefully, it would also increase the shutdown of non-compliant zoos and lower rates of animal euthanasia if other organizations or facilities are not able to care for confiscated animals.

The United States is comparatively lacking to other countries in its pursuit of animal protection and has substantial room for improvement. The Animal Protection Index, run by the group World Animal Protection, ranks 50 countries around the world according to their animal welfare policy and legislation with the goal of promoting stronger animal protection laws.[215] Indicators include recognizing animal protection, governance structures and systems, animal welfare standards, and providing humane education.[216] The United States has a "D" score for protection of animals in captivity, surpassed by Sweden, Spain, and the United Kingdom's "B" scores.[217]

The AWA needs to be updated to effectively protect zoo animals. Zoo staff, veterinarians, and any animal loving concerned citizens should contact their congressional representatives to let them know that meaningful change to the AWA is needed to protect zoo animals. Celebrities, particularly those with animal knowledge, such as television hosts of animal topic shows, should use their influence to educate the public about zoo animal plight. Without our action, zoo animals will continue to languish under a substandard AWA.

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[215] *About the Animal Protection Index*, WORLD ANIMAL PROTECTION, https://api.worldanimalprotection.org/about (last visited May 11, 2020).

[216] *Indicators*, WORLD ANIMAL PROTECTION, https://api.worldanimalprotection.org/ (last visited May 11, 2020).

[217] *Comparing countries in the index*, WORLD ANIMAL PROTECTION, https://api.worldanimalprotection.org/compare (last visited May 11, 2020).

PROCEEDINGS OF THE 2019 CALIFORNIA WATER LAW SYMPOSIUM PANEL ORGANIZED BY GGU SCHOOL OF LAW: SGMA AND INTERCONNECTED GROUNDWATER-SURFACE WATER

Kevin O'Brien, Richard Frank, Andy Sawyer, Alletta Belin, Paul Kibel

I. Introduction[1]

California's Sustainable Groundwater Management Act ("SGMA") has been the topic of many discussions since its enactment in 2014.[2] The overarching goal of SGMA is to achieve sustainable groundwater basins through management plans "without causing undesirable results."[3] Considering the importance and magnitude of this task, it comes as no surprise that SGMA was the theme for the February 2019 California Water Law Symposium, held at the University of California ("UC"), Hastings College of Law in San Francisco. For the Symposium, Golden Gate University School of Law ("GGU") students gathered a panel of experts to explore the relationship between groundwater plans and surface water within the context of SGMA. The GGU panel focused on issues stemming from the hydrological connections — particularly the undesirable results — between surface water and groundwater, impacts on fisheries, and the public trust doctrine.

[1] Written by Jessica B. Jandura and L. Victoria Wang, May 2020 graduates of Golden Gate University School of Law.

[2] SMGA is a three-bill legislative package signed into law by Governor Brown on September 16, 2014. Assemb. B. 1739, 2014-2015, Reg. Sess. (Cal. 2014); SB 1168, 2014-2015, Reg. Sess. (Cal. 2014); SB 1319, 2014-2015, Reg. Sess. (Cal. 2014).

[3] Assemb. B. 1739, § 10721 (Cal. 2014).

The panel's moderator was Kevin O'Brien, a partner at Downey Brand LLP, where he litigates water cases in state and federal courts and handles major water-related administrative hearings. The panel was comprised of four distinguished attorneys with extensive experience in water law. Richard Frank is a Professor and Director of the California Environmental Law & Policy Center at UC Davis Law School. Andy Sawyer is Assistant Chief Counsel at the California State Water Resources Control Board ("State Water Board"), where he manages the activities of the Office of Chief Counsel involving the State Water Board's water rights and drinking water programs. Alletta Belin specializes in tribal water rights, water law, and other natural resource issues, and was most recently a Visiting Fellow at Stanford's Water in the West Program. Finally, Paul Kibel is a Professor at GGU's School of Law, the Director of the GGU Center on Urban Environmental Law, as well as the Water and Natural Resource Counsel at the Water and Power Law Group PC.

Kevin O'Brien first provided a technical overview of the hydrological connections between surface water and groundwater. Richard Frank then reviewed the appropriative and riparian water rights that make up SGMA's legal landscape, before Andy Sawyer explained SGMA's basic structure and how it addresses interconnected surface water and groundwater. Next, Alletta Belin introduced a methodology for avoiding "undesirable results" under SGMA. Paul Kibel followed and identified impacts on fisheries from changes in surface-water flow and temperatures correlative to the groundwater pumping plans.

Lastly, Richard Frank concluded by leading a discussion on the recent Environmental Law Foundation ("ELF") decision by the California Court of Appeal concerning groundwater pumping and the public trust doctrine.[4] Panelists commented on the California Appellate Court's ruling that SGMA does not displace the public trust doctrine and that this doctrine encompasses groundwater pumping adversely affecting navigable waters.

II. SGMA AND INTERCONNECTED GROUNDWATER-SURFACE WATER

Kevin O'Brien: Back in the dawn of the science of hydrogeology, in the late 1800s/early 1900s, there was this notion that groundwater and surface water essentially existed separately from the environment. If you look at the law of California — and others on the panel are going to talk about this — you'll see this demarcation between so-called percolating

[4] *Environmental Law Foundation v. State Water Resources Control Bd.,* 26 Cal.App.5th 844 (2018).

groundwater and surface water. We really do have two separate bodies of law addressing those two types of water.

But, as our understanding of hydrogeology has evolved, it's become more and more clear that surface water and groundwater are most often interconnected; the pumping of groundwater often affects flows of surface streams, and sometimes diversions from surface streams affect groundwater conditions, groundwater levels, and eventually groundwater quality.

California, I think it's been said, is one of the few states that hasn't really integrated the law of groundwater and surface water, and there's truth to that. But I think SGMA is an important step toward moving more in the direction of integration.

So, in thinking about some of the underlying science: we have streams and we have subterranean groundwater basins. We have different conditions that can occur depending on the physical situation. A common situation, particularly up in the Sacramento Valley where I do a lot of my work, is the gaining-stream phenomenon. That's when you have water from the aquifers and groundwater basins bordering a stream such as the Sacramento River, depending on groundwater conditions, and they can actually be feeding water into the stream system, and that can be an important source of supply for that stream.

Conversely, we can have situations of the so-called losing stream, where basically the flow in the surface watercourse, such as the Sacramento River, can actually be discharging water to the neighboring groundwater basins. And that can be a very important source of recharge for the groundwater basins.

You can also have a situation where there's disconnection between the surface stream and the groundwater basins, typically because of pumping that has occurred in groundwater basins. This is fairly common in the San Joaquin Valley, where, in some areas, the groundwater basins have been pumped fairly substantially. So, you don't have quite the same type of surface water-groundwater connection that you might have in places like the Sacramento Valley, the Salinas Valley, and some of the valleys that neighbor.

That's just a conceptual overview. I realize it's pretty basic, but it sets the stage for the discussion we're going to have now. I'm going to turn it over to Rick to give a brief overview of the California water rights.

Richard Frank: Thank you very much, Kevin. Let's start with surface water rights. We have a focus in this conference on groundwater, and that's because there are some important parallels between the law in California on surface water rights and groundwater rights. Two basic

types of surface water rights are recognized under California law: riparian water rights and appropriative water rights.

Riparian water rights are prevalent in the eastern United States, where precipitation is more abundant. Appropriative water right systems are utilized in virtually all of the more arid western states. California, to complicate matters, recognizes both systems. It has a hybrid system; it's one of only three states in the country that recognizes both appropriative and riparian water rights.

Now, to a little bit of history: in *Irwin v. Phillips*,[5] one of the first water rights cases in California, the California Supreme Court recognized appropriative water rights as essential to the then-dominant economy in California, mining. Thirty years later, in 1884, the California Supreme Court and the federal district court resolved the first environmental controversy in California state history when it enjoined hydraulic mining due to its adverse environmental effects.

Two years later in *Lux v. Haggin*,[6] despite the hopes and expectations of some appropriative water rights holders, the Supreme Court affirmed the continuing viability and legitimacy of riparian water rights.

In 1914, the California Water Commission — the predecessor to the modern State Water Board — set up a prospective-only permit system for appropriative water rights. In 1928, California voters exercised their initiative process to create what is now Article 10, section 2 of the California Constitution, providing a doctrine mandating reasonable use and the prohibition on waste of water, which applies to all water resources in the State of California, including both surface and groundwater.

Riparian rights are those based on landowners' continuity to the water resource. Riparian rights are to be exercised on riparian property adjoining a lake, river, or stream. Notably, riparian rights are correlative. That means only riparian rights holders to a water source have equal rights among themselves to the available water, and in times of shortage must share that shortage on an equitable basis. Another key point is that even today, and throughout California's history, no permit has been or is required from the State Water Board to exercise riparian water rights.

Turning to appropriative water rights, which in terms of volume and political authority, is a more prevalent and more dominant side of surface water rights in California. There are three key elements to securing an appropriative water right to surface water: (1) an intent to divert; (2) an actual diversion; and (3) a commitment of the water diverted from the lake, river, or stream to a beneficial use.

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[5] *Irwin v. Phillips,* 5 Cal. 140 (1855).
[6] *Lux v. Haggin*, 69 Cal. 255 (1886).

Unlike riparian water rights, appropriative rights are based on a priority system, which is based on temporal considerations: first in time, first in right. Those who secure and put to a beneficial use gain an appropriative water right first, which is then senior to those of subsequent appropriators. And there are a number of beneficial uses that I don't have time to go through, suffice it to say that courts have found there are a variety of beneficial uses to which appropriative water rights can be put.

To further the layers of complexity, there are two categories of appropriative water rights in California: so-called pre-1914 water rights, which are not subject to the water board permit system, and post-1914 appropriative water rights, from when the permit system first took effect, and which continue to this day.

Then we have Water Code section 102,[7] which codifies the key principles related to all water in the State of California — that the water is property of the public; it is incapable of private ownership, but nonetheless there are private property rights to water and water rights short of ownership.

Now let's turn to the matter at hand — groundwater law. The first unique point, and an underlying theme of this panel, is that in California we have separate systems of groundwater law and surface water law. California law follows the legal fiction that groundwater and surface water are separate, whereas in fact as Kevin indicated, those resources are often interconnected. In California groundwater law there are two categories: (1) water flowing in subterranean streams and (2) percolating groundwater. Subterranean streams are treated the same way as surface water, and any diversion of subterranean stream flows are subject to a permit from the Water Board.

Most groundwater in California, however, is classified as percolating groundwater and has never, at least until now, required a permit from the State of California. Both hydrologists and water-lovers, I would submit, know this fiction is not really true. In many cases, in many parts of the State of California groundwater and surface water are interconnected. Diverting or pumping one can affect the other. So, the question is: should those resources be treated in a consistent and consolidated way?

With respect to rights in groundwater, owners of land overlying a groundwater basin, a groundwater aquifer, have so-called overlying rights to pump water from the groundwater basin for use on the overlying

[7] Cal. Wat. Code § 102 (West 1943): "All water within the state is the property of the people of the state, but the right to the use of water may be acquired by appropriation in the manner provided by law."

lands. And, similar to the riparian water-rights system for surface-water flows, among overlying groundwater users, rights are correlative. That is, they are common, and they are subject to what the California Supreme Court over 100 years ago referred to as the "common supply or common source" doctrine[8] — those overlying users share the safe yield of the basin.

Safe yield is defined in the cases as the amount of groundwater that can be pumped annually without causing an undesirable effect. You see some historical antecedents to the statutory right to use groundwater on non-overlying parcels. If there is a surplus of groundwater beyond the needs of the overlying owner, the water can be pumped and diverted for use away from the basin, but that water is subject to appropriative water rights, analogous to surface appropriative groundwater rights.

And here's the key to how these groundwater rights work among themselves: among appropriators (that is people or companies moving the water off-stream) the "first in time, first in right" method of seniority applies. In disputes over groundwater between overlying pumpers, owners, and appropriators, overlying groundwater pumpers have priority. Until at least 2014, neither the State Water Board nor any other agency has historically been required at the state level to issue permits to authorize the pumping of percolating groundwater.

So, I leave you and my fellow panelists with two questions — first, how sensible is this system in the greater scheme of things? Second, one of the reasons we went through all this background and history is that, with respect to SGMA, the legislature carefully and repeatedly said that SGMA is not intended to affect or change California groundwater law. But the question is, given that legislative intent, is that in fact accurate — does SGMA change California groundwater law?

Andy Sawyer: I have two points in response to Rick's first question about how sensible the system is. The law is not quite as irrational as he indicated. In the interest of time, we had to escape a detailed discussion of *Hudson v. Daley*,[9] a 1909 case about the common source rule, saying that where groundwaters and surface waters interconnected, the water rights interconnect, so that a senior appropriator to surface water is senior to a junior appropriator to groundwater. I know of no case where that has actually been followed, but the law is not quite as irrational as you might think.

The other thing I'd like to point out is some of the problems we have in surface water are worse as applied to groundwater. The ratio of

[8] *Hudson v. Dailey,* 156 Cal. 617, 627 (1909).
[9] *Id.*

appropriative-to-riparian rights is very high with surface waters. The ratio of appropriative water rights to overlying rights is very low in groundwater, making it much harder to manage groundwater by appropriation. And you also have timing issues. With surface waters, you need flow at the right time; you need the flows, or traditionally, you needed the flows when you irrigated. In some rivers it's days between when a diversion or release occurs way up in the watershed and when the effect gets to the delta. For some groundwater diversions, it's years or decades between when the pumping starts and when it has an effect downstream. That can make these things very hard to deal with in groundwater.

Paul Kibel: I wanted to respond to Rick's question with a bit of a historical perspective. We might take the position that this demarcation between surface water law and groundwater law doesn't make sense today given what we know, but I think historically there are reasons why it made sense. In the year 1900, we didn't have the ability to know where deep aquifers were located or the means to pump these deeper aquifers. So back then groundwater accounted for a relatively small percentage of the overall portfolio of fresh water, and most of it was pumped under what I call in my water law classes "Little House on the Prairie"[10] scenarios: you dug a shallow well, and you took the water in the shallow well.

Back then we didn't have these larger groundwater basin disputes. So, the way I view it, initially, we really didn't pay a lot of attention to groundwater law because we didn't need to — we weren't using much of it and there weren't that many disputes. The problem we find is that those are not the conditions we face today. We've inherited a system of water law that is built on a historical basis that does not reflect current conditions.

Richard Frank: There's one point I'd like to add. I view this issue as largely an issue of politics. I practiced in Colorado for five years before coming back to California, and in Colorado in the '60s there was the recognition that groundwater pumping basically needs to interact with the stream, the river, or whatever it is, because they were having a lot of environmental impacts.

So, the State of Colorado in the '60s adopted basically new water laws and integrated groundwater with surface water. After that, you had to go to the State to obtain a permit to pump a well. During that period,

[10] *Little House on the Prairie* was a popular book series by author Laura Ingells Wilder (published 1932-1943) that served as the basis for a popular television series from 1974-1982. The book series and television series tell the stories of a settler family in rural Minnesota in the 1880s and 1890s. These settlers obtained their water supply from a shallow well with a bucket attached to a rope pully that was operated by hand.

there was a number of Colorado Supreme Court cases where that was challenged unsuccessfully, and that's the direction Colorado went. I think in California, with the underlying politics, it creates hesitation to take that issue on. SGMA is kind of a workaround, and we'll see how it works out.

Alletta Belin: I was just going to add that I think separating the two water rights systems — surface water and groundwater — is a terrible basic structure. But I view SGMA as potentially a major step forward in linking groundwater and surface water rights and management. I think there's a lot of potential for SGMA to help weave together a better overall structure for water management in California.

Andy Sawyer: Rick gave you a description of California water law, but in most of the state, we've been pumping groundwater as if there is no legal limit on pumping. This slide, *infra*, shows in blue the groundwater basins in California. Overlaid on that are the special districts and adjudicated basins where we're actually managing or making a serious attempt to manage groundwater. And where we have been managing groundwater, we have been managing it almost — with few exceptions — with a disregard for the effects on surface water.[11]

In response mostly to the problem of groundwater overdrafts and other related issues, the legislature, in 2014, enacted SGMA, the Sustainable Groundwater Management Act.[12] It provides authority to local agencies to form groundwater sustainability agencies to manage groundwater basins; to adopt groundwater sustainability plans; and to try and enforce those plans on those who manage groundwater for their basins.

And for high-priority basins, those shown in orange and yellow on the slide, *supra,* the Sustainable Groundwater Act *requires* sustainable groundwater management.

What is sustainable groundwater management? Well, basically managing the groundwater to avoid the six deadly sins, otherwise known as undesirable effects. We're going to talk, of course, about the last of these, undesirable effect number six: significant and unreasonable adverse effects on beneficial uses and interconnected surface waters as a result of groundwater pumping.

The section sets deadlines for local agencies to act in medium or high-priority basins. There was a 2017 deadline to form groundwater sustainability agencies for all these medium and high basins. With the exception of a few isolated areas where there's not a lot of pumping, that

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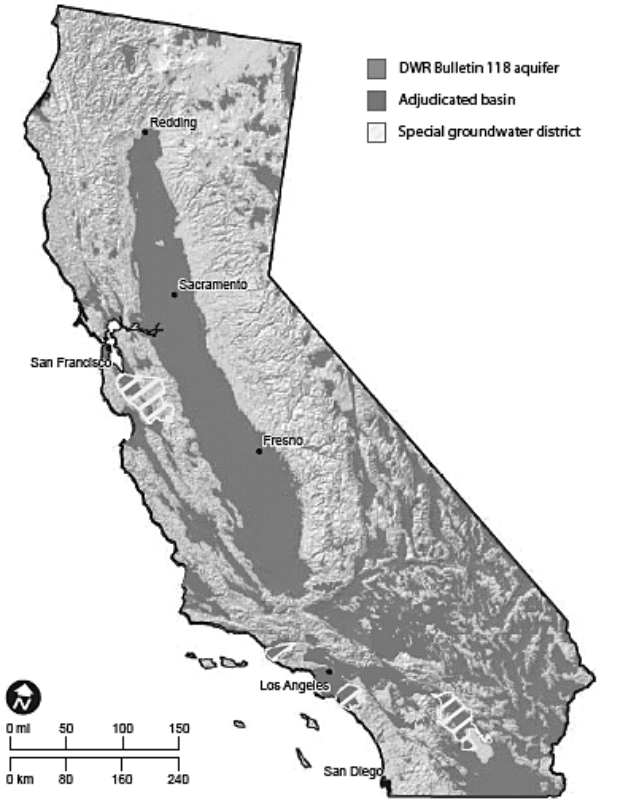
[11] *Source PPIC © 2011*.

[12] Assemb. B. 1739, 2014-2015, Reg. Sess. (Cal. 2014), SB 1168, 2014-2015, Reg. Sess. (Cal. 2014); SB 1319, 2014-2015, Reg. Sess. (Cal. 2014). SGMA is codified in Cal. Wat. Code § 10720 et seq. (West 2018).



SOURCE: California Department of Water Resources (DWR).

NOTES: The map shows all groundwater basins (blue), all 22 adjudicated groundwater basins (red), and four special groundwater management districts (Coachella Valley Water District, Fox Canyon Groundwater Management Agency, Orange County Water District, and Santa Clara Valley Water District), all of which exercise authority to levy pump charges. (For a list of adjudicated basins, see www.water.ca.gov/groundwater/gwmanagement/court_adjudications.cfm.) In the Scott Valley (far north on the map), the adjudication included both ground and surface water rights.

has been accomplished. There are, however in some cases, lots of agencies in the same basin that now have to work together.

The plans need to be adopted by 2020 for critically overdraft basins. As I'll explain later, that is not particularly relevant for our topic of interconnected surface waters. The high-priority basins have to adopt plans by 2022, and those plans have to implement sustainable groundwater management within 20 years of adoption. Now, how do we make sure the local agencies are going to meet these deadlines? Strictly speaking, these are all optional. They don't have to form plan agencies, they don't have to develop plans.

We've got something they fear much more, and that is if they don't do the job, we will. If they fail to adopt a plan; if the Department of Water Resources says the plan is inadequate; if the Department says it is not being adequately implemented — then the State Water Board can declare the basin probationary, giving the local agency a chance to adopt

its own plan to prevent long-term overdraft or to avoid unreasonable impacts on beneficial uses of interconnected surface waters.

After the statute was enacted, we heard local agencies basically say "no problem here, we're already managing our groundwater sustainably." Now, why would that be? They don't have a problem? In fact, they don't have an overdraft problem for the most part. Groundwater goes down, and the aquifer comes back the next winter. But that of course is depleting interconnected surface waters, and in fact the magnitude of the depletion is enormous.

For example, the Sacramento River has gone from a gaining reach where close to a million acre-feet was coming from the groundwater into the stream, where now it's a losing reach of approximately 400,000 acre-feet per year. Well over a million acre-feet have been lost in the flow of the Sacramento River due to the groundwater pumping in the Sacramento River watershed — that's on the scale of the overdraft occurring in the San Joaquin and Tulare Basins. And of course, overdraft is when you're going beyond taking all you can take from the surface water, and now you're taking down the groundwater.

So, the impact is enormous. But why would local agencies think they have no problems? Part of it, arguably, could be that State Water Board intervention is delayed. The State Water Board can come in much earlier on these critical overdraft, long-term overdraft issues. But the State Board can't come in until 2025 for issues of depletions of interconnected surface waters.

2025 is coming up soon enough. A bigger issue is that SGMA says for all these undesirable effects, the plan *may but need not* address impacts that were already occurring in 2015. So, that's why I said that it's probably not an issue for these critically overdrafted basins. Because when it's critically overdrafted, basically the groundwater is low enough that the way the water comes out of the stream isn't affected. Once the basin's disconnected, it stays disconnected all year, instead of coming back every year. Basically, the water is coming out as fast as it can flow from its source, and moving down to the groundwater.

But when you're dealing with interconnected water, the rate at which the water flows out is essentially a function of the slope. So, the farther you drive down the groundwater while it's still interconnected, the faster it comes in. It's the same if it's a gaining reach and the groundwater is higher. If it's much higher, it's flowing more rapidly into the river. So, local agencies may think: "no problem, the groundwater's recovering." But what is in fact happening is that if you pump more groundwater, you're taking more out of the stream. They could be over-

looking that simple fact or thinking they can avoid it. That's not entirely clear.

So, I wanted to point out that an important feature of the Sustainable Groundwater Management Act is that it preserves independent authority. While some basins are exempt from the Sustainable Groundwater Management Act, and plans don't have to deal with pre-2015 impacts, the independent authority the State applies but more broadly. For independent authority such as the prohibition of waste and unreasonable use, that independent authority is still there.

But I do want to emphasize, some of these agencies that think we don't have a problem within interconnected surface water may be whistling in the dark. They may be thinking there's no problem in the groundwater basin — we can pump a little more because it'll recover the next winter — but that, in fact, is a reduction in interconnected surface waters, which could end up requiring something be done to prevent those increased depletions.

The other point I wanted to emphasize is that sometimes there are delayed effects — and we have not even seen the full effect of the existing level of groundwater extraction. So, there may be a problem of depletion of interconnected surface waters even if the local agency limits pumping to existing levels. For that, I have two questions for my fellow panelists. One is, how important is SGMA here, if we exempt pre-2015 impacts on interconnected surface waters? And the other is, given the complexities — and it's much more complex than I've indicated — is SGMA even going to do the job as applied to post-2015 withdrawals?

Paul Kibel: I'll take a shot at the first question. I think your question relates to the provisions in SGMA that deal with pre-2015 impacts, and I'm going to, respectfully as always, disagree with what I think is Andy's take is on the scope of limits it imposes, and I'm going to give you three reasons why.

First, this provision of SGMA is sometimes referred to as the grandfather clause. The concept of grandfathering is from land-use and it deals with whether existing land uses are lawful even if contrary to changes in the zoning code. The concept of grandfathering has no application to the law in SGMA. SGMA is not dealing with land uses or even rights to water at all. So, I think the idea of transferring the concept of grandfathering, a land-use concept, to SGMA makes no sense.

My second point is that some people have referred to that SGMA provision as a baseline condition, which is a concept that comes from

environmental impact assessment laws like CEQA[13] and NEPA.[14] The concept of baseline conditions in environmental impact assessment laws means you're looking at a proposed project with new impacts and comparing the proposed project impact to baseline environmental conditions. That's not what SGMA does. SGMA is not looking at a new proposed project and comparing it to baseline conditions. In fact, SGMA is looking at baseline conditions and trying to determine whether there are undesirable results, the deadly sins, happening now as a result of those baseline conditions, and then adopting a plan to address the problems with baseline conditions. So, the idea of using the CEQA/NEPA concept of baseline condition in SGMA also doesn't make any sense to me, because SGMA is not an environmental impact assessment law.

The third point, which I think is actually the better one, is if you look at the actual provisions of SGMA, Groundwater Sustainability Agencies ("GSAs") are required to do water budgets and hydrologic models that describe the inflow and outflow into the basin and its connection with surface waters. To suggest that as long as those inflows or outflows are pre-2015[15] then you don't have to do them in the SGMA water budgets or hydrologic models that are part of Groundwater Sustainability Plans ("GSPs") makes no sense. That would simply result in water budgets and hydrologic models that are inaccurate and incomplete.

And since one of the undesirable results GSPs are trying to avoid in SGMA is the impacts of groundwater pumping on beneficial uses of surface waters, and that includes fisheries — I'll soon talk about that — GSPs must adopt SGMA thresholds to address groundwater pumping impacts on surface water flows and fisheries. If GSAs were to interpret that language about pre-2015 impacts as saying it gives GSPs a pass on doing what SGMA explicitly requires you to do, that GSPs need not develop quantitative thresholds and monitoring plans to prevent adverse impacts of groundwater pumping on fisheries so long those adverse impact on fisheries began before 2015, I don't think that is a coherent reading of SGMA. That reading would eliminate the obligation to include the very measures in GSPs needed to prevent the undesirable result of avoiding significant adverse impacts on interconnected surface flows.

Alletta Belin: I'll get into this more in my talk, but — if groundwater pumping is in violation of federal or state laws, SGMA doesn't

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[13] The California Environmental Quality Act, Cal. Pub. Resources Code § 21000 et seq. (1979).

[14] The National Environmental Policy Act, 42 U.S.C § 4321 et seq. (1970).

[15] *See* SGMA § 10720.2, subd. (b)(4)(b): "The [groundwater sustainability] plan may, but is not required to, address undesirable results that occurred before, and have not been corrected by, January 1, 2015."

immunize that; it doesn't make that go away. And as I said I'll get into that more, but certainly I agree about the delayed impacts issue. And I don't think Maurice Hall[16] is here, but he has said there was 400,000 acre-feet per year of delayed impacts from groundwater pumping on Sacramento River flows that haven't even kicked in yet,[17] which underscores how big the problem of delayed impacts on surface water flows from groundwater pumping is.

Kevin O'Brien: I wanted to underscore that last point, because Andy did allude to it. However, the point about how the baseline provision often gets interpreted by the courts: I think we have this physical situation where the impacts of pumping that occurred before 2015 may not show up in the surface stream until many years after 2015. And I personally think it would be very difficult to ignore those impacts. So, I think one way or another these issues are going to have to get dealt with in the SGMA process.

Alletta Belin: So, I will pick up where Andy left off: as has been said, sustainability under SGMA means avoiding the six undesirable results. Groundwater sustainability agencies have to adopt a groundwater sustainability plan that will, within a 20-year time period, avoid all of those six undesirable results, including the one about impacts to beneficial uses of surface water. When I looked at that, and particularly undesirable result number six, I thought what does that mean? How does a GSA or anyone else know what is a significant and unreasonable adverse impact on surface water use? That's a pretty important issue, and there's nothing in the Department of Water Resources' ("DWR") emergency regulations really addressing that; there's nothing in the best management practices pamphlets addressing that.

So, I decided to address that issue when I was at Stanford's Water in the West Program last year in the spring. My goal was to write a plain-English guide to help GSAs and others understand how to avoid undesirable result number six. I reached out to a lot of people in this audience, fellow panel members, people that knew a lot more about this than I did and got a lot of good input, and I incorporated that. The guide was issued last summer.[18]

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[16] Maurice Hall is the Environmental Defense Fund's ("EDF") Associate Vice President of Water for the Ecosystems Program.

[17] *See* Maurice Hall, *SUSTAINABLE GROUNDWATER MANAGEMENT: Can California successfully integrate groundwater and surface water under SGMA?,* MAVEN'S NOTEBOOK (May 6, 2018), https://mavensnotebook.com/2018/05/16/sustainable-groundwater-management-can-california-successfully-integrate-groundwater-and-surface-water-under-sgma/.

[18] Alletta Belin, *Guide to Compliance with California's Sustainable Groundwater Management Act: How to Avoid the "Undesirable Result" of "Significant and Unreasonable Adverse Im-*

It follows a very simple paradigm or format of red light/yellow light/green light. I tried to identify red light circumstances where there's a very high risk of having undesirable result number six. With yellow light, you may have problems there, so you probably need to do more analysis and look further into it. With green light, you're probably good to go, *for now*, but maybe not in the future.

In doing this, I was guided by two overarching principles that I think are most important for understanding and addressing this issue. The first one is existing legal frameworks — laws, regulations, court decisions — federal and state — which provide the clearest guidance on what constitutes undesirable result number six. The second overarching principle is that a groundwater use that causes or contributes to a violation of state or federal legal requirements, when looking into beneficial uses of surface water, almost certainly constitutes undesirable result number six. So, the guide just goes through the very circumstances I think are most likely to give rise to this problem. I'll cover just a few of them today.

So, I'll start with the Endangered Species Act — there is of course a federal act[19] and a state act.[20] But focusing for a minute on the federal one — the two most pertinent provisions are section nine, which prohibits persons from unlawful take of listed species; and section seven, which technically only applies to federal agencies. It requires that they avoid jeopardizing the continued existence of listed species and/or adversely modifying the habitat that has been found to be critical for the species. Even though that provision doesn't technically apply to GSAs because they aren't federal agencies, in my opinion, if you have those circumstances — if you see jeopardy, if you see modification of critical habitat due to groundwater pumping — the GSA has a serious problem. And if it's causing that modification for certain, that definitely is a red-light problem in my opinion.

Another category that I looked at regards the in-stream flow of water. The issue is where groundwater pumping interferes with achieving minimum flow requirements. That is also a serious problem that needs to be addressed. In some cases, the Department of Fish and Wildlife has proposed in-stream flow requirements, but they have not been formally adopted. I put that in the yellow light category; you better keep a close eye on that, because that's a problem in the making.

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pacts on Beneficial Uses of Surface Waters" Stanford Water in the West (2018) https://purl.stanford.edu/kx058kk6484.

[19] Endangered Species Act 16 U.S.C. § 1531 et seq. (1973).

[20] Cal. Fish & G Code § 2050 et seq. (1984).

Another category where impacts on surface water might be impermissible under SGMA is rivers that have been designated as protected under either federal law or under state law. If the evidence shows that groundwater pumping is impairing the flows of a river stretch that has been designated as "wild and scenic" it is likely to be a serious problem — but not necessarily. If it's only reducing water flows a little bit during high-flow times of the year or something, it may not be a problem. But the most important guidance would be the statutory language of the designation and any related plans, legislative history, or other documents that talk about the values of the river that designation is intended to protect. Also, the extent of the impairment caused by the groundwater pumping would be a relevant factor to be considered.

Another category of potential problems with undesirable result number six are violations where pumping causes or contributes to violations of other legally protected surface water rights or resources. And, of course, first among this is senior surface water rights. By now you've heard about the overall California water rights scheme. It's a relatively small group of surface water rights that would be considered senior to groundwater the pumping rights of overlying landowners.

In that category, the foremost one I'd flag is federal reserved water rights, that were mentioned earlier. They would apply to Indian reservations and federal reservations like the National Parks, and other special protected areas. Tribal treaties and fishing rights would also fall in that category, and potentially the adjudicated state-based pueblo water rights in the southern part of the state. So, there aren't a lot of senior surface water rights, but they're something that needs to be considered.

The next point here is about adverse effects on groundwater-dependent ecosystems protected by the public trust. But that is going to be covered by another panelist, so I'm not going to get into that.

So, I have just a few more observations in trying to help GSAs to fully understand how to carry out and comply with this aspect of SGMA. In many instances, for the first round of developing the initial groundwater management plan, the GSA just may not have enough data to understand what's going on. I think that is likely to happen in a lot of places, and so it will take time to acquire that data. The obligations of the GSAs are likely to evolve over time. They may evolve because more data is needed and will be acquired; or they may evolve because of delayed effects on surface water from groundwater pumping, or for other reasons.

The second issue is that, in many instances, even if groundwater pumping is a factor contributing to the problems with the surface water, there may well be other contributing factors as well. That really empha-

sizes the need for outreach among the various responsible parties — GSAs and others — to collaborate and coordinate and help to deal with that, because there's no easy answer to allocating responsibility. So, collaboration and coordination are definitely called for.

Regarding what Andy was talking about, as to maintaining groundwater levels at January 1, 2015, levels: in 2017, Maurice Hall and Christina Babbitt at the Environmental Defense Fund did a really nice paper on that general topic.[21] They recommended — as a first order of compliance for avoidance of undesirable result number six — to maintain groundwater levels at that level. GSAs should ensure that groundwater levels don't drop below it. I think following that rule is a great start, but it is not the end of the story for all the reasons that we've already been discussing — especially due to the likelihood of delayed impacts.

Paul Kibel: As many of the previous presentations today have indicated, I think some of the core considerations that led to SGMA's adoption were related to over-pumping and overdraft. And certainly, that's been the bulk of the focus, and I think that's understandable. But when we look at SGMA, there are also provisions that deal with other undesirable results — they've been called the six deadly sins and I like that phrase. One of those undesirable results, number six, deals with adverse impacts on interconnected surface streams.

To date, much of the concern about interconnected surface streams has centered on people who have surface water rights, whether appropriative or riparian, and how groundwater pumping might affect the availability of water for appropriative and riparian water rights users. But reduced flows in surface waters from groundwater pumping can also have in-stream impacts, and I'm going to focus specifically on those impacts related to fisheries, focusing primarily on salmon and steelhead trout.

The first thing I'll mention is that I serve as the director of the Center on Urban Environmental Law ("CUEL"), at Golden Gate University Law School. Last August we released a report called *Rivers that Depend on Aquifers*,[22] which focused on aspects of SGMA that relate to impacts on fisheries, which is obviously closely related to this topic. So,

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[21] Christina Babbitt & Maurice Hall et al., *Addressing Regional Surface Water Depletions in California: A Proposed Approach for Compliance with the Sustainable Groundwater Management Act,* The Environmental Defense Fund (2018), https://www.edf.org/sites/default/files/documents/edf_california_sgma_surface_water.pdf.

[22] Paul Stanton Kibel & Julie Gantenbein, Rivers that Depend on Aquifers: Drafting SGMA Groundwater Plans with Fisheries in Mind (2018) https://ggucuel.org/wp-content/uploads/CUEL-SGMA-FISHERIES-GUIDEBOOK.pdf.

much of what I'm covering here are highlights of material that was given a little more in-depth treatment in that guidebook.

Now, we've had a number of presentations today that have helped to explain the hydrologic connection between groundwater and surface water in general. So, first of all I wanted to focus on how some of those interactions specifically relate to fisheries, and really three aspects in particular that I would urge you to keep in mind. The primary thing to understand about these waters is that the fisheries are dependent on them.

We know that under SGMA undesirable use number six relates to beneficial uses of surface water. So, I just wanted to direct your attention to Department of Water Resources Bulletin No. 118, which actually provides a list of what is recognized as beneficial uses.[23] In particular, there are three beneficial uses on the list in Bulletin No. 118 that relate specifically to fisheries. The first is that beneficial uses include water that supports "cold water ecosystems, including but not limited to preservation or enhancement of fish."[24] Beneficial uses include "high-quality aquatic habitats suitable for the reproduction and early development of fish."[25] Early development can be understood as spawning and downstream migration, at least when we're talking about salmon and steelhead trout. And under Department of Water Resources Bulletin No. 118, beneficial uses also include "habitats necessary for migration or other temporary activities by aquatic organisms" such as anadromous fish.[26]

So, why this is relevant? Because when you read the provisions of SGMA dealing with avoidance of undesirable use number six, if you understand the definition of beneficial uses, you will see SGMA requires avoidance of adverse impacts on fisheries because fisheries are clearly recognized as beneficial uses.

Also, one of the things I wanted to talk about a little bit was this concept of gaining or losing streams, and to try to refine that slightly. We have this basic notion that it depends on the respective elevation of groundwater and surface water: when the groundwater is higher, the stream is said to be gaining because it's gaining water from the groundwater; when groundwater is lower and they are interconnected, it is said to be a losing stream — water from the surface water is discharging into the aquifer.

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[23] *See California's Groundwater,* State of California, The Resources Agency, Department of Water Resources, Bulletin 118, 101 (October 2003) https://water.ca.gov/LegacyFiles/groundwater/bulletin118/docs/Bulletin_118_Update_2003.pdf.

[24] *Id* at 239.

[25] *Id* at 240.

[26] *Id.* at 239.

What I want you to keep in mind is that this is not static, either geographically or temporally. Along a given stream or creek we may have certain portions of that stream or creek, certain reaches, that are gaining, and you may have certain portions that are losing. So, it is a complex interaction. It is not simply a matter of asking: "is this a gaining or is this a losing stream?" It may be both a gaining and a losing stream on different reaches of the water course.

Secondly, whether a stream is gaining or losing overall or in particular reaches can change temporally. It can change during times of the year, based on when it is dry or when it is raining or when there is pumping. And it can change during drought years. If there is less recharge and more pumping going on during a period of drought, a stream can flip from a gaining stream to a losing stream.

I mention this because it relates to the provisions of SGMA that deal with the development of hydrologic models and water budgets. We need to develop robust hydrologic models and water budgets that capture the reality that the concept of gaining streams and losing streams is not static geographically or temporally. Models and budgets need to be robust enough that they track how that works across the length, the different reaches of the water course. Why do we need to do that? Because if we don't do that, we do not have the basic information to avoid undesirable result number six. So, that's how the two pieces fit together.

Another thing to keep in mind is that in general when we are dealing with problems of overdraft or over-pumping, the particular lateral location of a groundwater well over an aquifer usually doesn't matter that much. If we are just dealing overall with extractions and recharge, where the particular well is located — that is not that critical a question when we are dealing with overdraft. But the particular location of wells can be a very critical question when we are dealing with interconnected surface waters because of what are called cones of depression. When you have a well that is in close proximity to where the surface waters are, you can actually draw down the elevation of the groundwater table in the very area where it is interacting with the surface water, and that will change it from a gaining stream to a losing stream.

I am also going to suggest that if we really want to deal with undesirable result number six, we need hydrologic models and we need water budgets that are robust enough that they capture these changes. Because part of what might go into a plan for trying to avoid adverse undesirable result number six needs to look at the relocation of wells, so that cones of depression don't have these impacts on surface streams.

Okay, so now I'm going get a bit more fish-specific. What are the particular impacts on surface waters that matter if you are a steelhead

trout or if you are a salmon? These are impacts that don't really matter very much to the question of overdraft.

The first is water temperature. At least for cold-water fisheries like trout and salmon, it is best for them if the water temperature remains below 56 degrees. Between 56 and 60 degrees, they start to suffer. And once the temperature starts to move above 60 degrees, they turn from struggling to dying. If you think about it, particularly during hot portions of the year, with climate change and with drought, groundwater tends to be cooler than surface waters. So, it is not just the volume of the water coming in that is tributary from groundwater, it is that it is cold water. So, as we are trying to model the impacts of groundwater pumping on fisheries as a beneficial use of surface flows, the issue of impacts on temperature is important. And that has implications in terms of the hydrologic models that we come up with, in terms of monitoring, and also in terms of thresholds.

Secondly, and this is somewhat related to agriculture, but when we think about fisheries impacts there are certain times of year when the needs of fish for aquatic conditions and flows are more acute. And this is going to be particularly true during periods and for locations where fish are spawning and where there is downstream migration. So, it is very important to keep in mind that we really need to focus on whether the depletions are happening at those times of year when the needs of the fish are more acute.

Next is connectivity. We want to make sure that we are not taking streams and creeks that are tributaries and depleting them so much by nearby groundwater pumping that they become isolated. What I'll run through very quickly — and this is dealt with in more detail in the CUEL report[27] — is that there are specific provisions in the SGMA regulations and in the guidance documents that have been put out by DWR that use terms like "shall" and "must"; they say that you shall and you must address issues of time, location, to avoid depletion of the surface water. So, it is not really something that GSAs have discretion to disregard — SGMA actually requires inclusion of this analysis in all GSPs.

A further point that I want to highlight is that we already have very robust models with software technology to model all this. The U.S. Geological Survey has come up with models to show the impacts of groundwater pumping on stream flow, and to respond to Alletta's point, they have really sophisticated regression models, so you can do this with incomplete data sets. So, if the position taken by the GSA is: "we would love to do address the interactions between groundwater pumping and

[27] *See supra* note 21.

fisheries, but we just don't have enough data" — the U.S. Geological Survey has been doing this for 10 years. And in California, we also have models to show how surface water depletion impacts salmon, and these have been used for decades. If you take those two pieces together, it really is feasible to do this. SGMA requires that it be done, and it is important that it be done.

I am out of time, but these are the different types of parameters that are very fisheries-specific, which need to be taken into account when developing SGMA groundwater plans.

Richard Frank: All right, I've been asked to spend a few minutes talking about a recent published California Court of Appeal opinion ("*Scott River* case") that I think is directly relevant and significant to this conference.[28] This is the most recent published case on groundwater law — on the public trust doctrine in California — and I dare say it is the first reported decisions on this Sustainable Groundwater Management Act. It is also one of the few modern decisions that expressly deals with the issue of this panel, that is interconnected groundwater resources.

In the interest of full disclosure, I should state at the outset I'm one of the counsel representing the petitioners in this case. I am joined by a lot of folks who have a stake in this space: Kevin's law firm represented a couple of parties in the case; the State Water Board is a party represented by Andy and others; and one of the jurists on the Court of Appeals panel that issued the opinion is in the audience and he'll be speaking on a different subject, a related subject, later in the symposium. So, it is an intimidating group.

First, I'll begin with a quick overview of the public trust doctrine in California. In its essence, it provides that certain natural resources are incapable of private ownership and are held in trust for the benefit of current and future generations. There is an affirmative obligation associated with the public trust doctrine in California. Government managers or trustees of public trust resources have an affirmative obligation to manage those resources with the goal of their long-term protection and preservation. So, I would argue that the public trust doctrine incorporates principles of sustainable development, which are core principles of SGMA as well, in addition to principles of intergenerational equity.

Traditionally, public trust uses were deemed to be the traditional trilogy of commerce, navigation, and fisheries. But relevant to this conference in particular, and over the last 50 years or so, public trust purposes and uses have expanded to include environmental preservation, ecological study, open space, and recreation. Natural resources subject

[28] *Environmental Law Foundation v. SWRCB*, 26 Cal.App.5th 844 (2018).

to the public trust, again, are traditionally tied to submerged land off our coastal areas, along the banks of navigable lakes and rivers, and California's fish and wildlife resources. Within the last 50 years or so, certainly in the last quarter century, those resources have expanded considerably.

Most relevant for our purposes, 36 years ago, the California Supreme Court in the iconic Mono Lake decision, *National Audubon Society v. Superior Court*,[29] expressly held that the public trust doctrine applies in California to water as a consumptive resource, and that the State Water Resource Control Board must consider the public trust doctrine as it allocates scarce water resources among competing users. It rejected the notion advanced by several parties in the litigation that the public trust doctrine was somehow subsumed into public water rights law administered by the Water Board.

The key factual claim in *National Audubon*, directly relevant to the *Scott River* case that we'll be talking about in a moment, is that the City of Los Angeles obtained permits from the Water Board to divert nonnavigable streams in the eastern Sierras that, if left undiverted, would have flowed into Mono Lake. The allegation was that those diversions were lowering the level of Mono Lake and causing all manner of degree of environmental harm to the Mono Lake ecosystem. That is the factual context in which the California Supreme Court reached its decision.

The *Scott River* case arises in Siskiyou County, in northernmost California right along the Oregon border. The Scott River is located in Siskiyou County. It is an important tributary, perhaps the most important tributary to the Klamath River. The Scott River, when healthy, has numerous attributes. It is an important recreational resource for rafting, canoeing, and the like. It is also, when healthy, an important source of salmon habitat. Migrating salmon move up the Klamath and up the Scott to propagate, then migrate back downstream into the ocean.

The problem is that as a result of increased groundwater pumping in the Scott River Valley adjacent to the river — groundwater pumping has increased considerably in the last 10 to 20 years — the Scott River and interconnected streams adjoining groundwater resources have been dewatered substantially with the predictably deleterious impacts on public recreational opportunities and devastating the salmon population of the Scott River. Exacerbating the problem, or some would say causing the problem, Siskiyou County took the position that issuing groundwater wells to any farmer or rancher that wanted one was a ministerial act of the County that required no discretion and no judgment on the part of Siskiyou County.

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[29] *National Audubon Society v. Superior Court,* 33 Cal.3d 419 (1983).

My clients, the Environmental Law Foundation and the [Pacific Coast] Federation of Fishermen Association, which is a fisheries organization and the fisheries thinktank, joined together to file suit in the Sacramento County Superior Court back in 2010. At the time, the respondents on the other side of the lawsuit were Siskiyou County and the State Water Resources Control Board.

The key factual claims made in the complaint were undisputed by the time the case got a judgment in the trial court and went up on appeal: (1) the Scott River is a navigable river in California; (2) there is an established hydrologic connection between the surface level of the Scott River and the groundwater resources of the Scott River Valley; and (3) the Scott River has experienced dramatically reduced flows as a result of expanded and unregulated groundwater pumping through the Scott Valley, resulting in the deleterious impacts that I've already summarized.

The key legal claims made by petitioners were: (a) that the State Water Board and the County both have the authority under the public trust doctrine to protect the trust resources of the Scott River region; (b) that both agencies had previously fought lawsuits filed administratively where they disclaimed the authority or obligation to do so regarding the groundwater resources; and (c) that the court should issue an order requiring that Scott River Valley groundwater be managed consistently with the public trust doctrine. And I should say that, very importantly, over the course of the litigation at the trial court the State Water Board realigned itself, and — from the standpoint of the fisheries — happily, we were all able to unite in one position, and only Siskiyou County was on the other side of the lawsuit.

Cutting to the proverbial chase, last August the California Court of Appeals in Sacramento issued its decision in this case after 10 years of litigation. It first dispensed with a threshold issue of justiciability that is only of interest to some of the academics and law students, I imagine. Getting to the merits of the matter, the court held that the public trust doctrine is in fact applicable to extraction of California groundwater that adversely affects the navigable waterways, such as the Scott River.

It then dealt with a defense that Siskiyou County had raised relatively late in the litigation: that with the legislature's passage of SGMA in 2014, that statute had effectively displaced and subsumed the public trust doctrine as it might arguably otherwise relate to groundwater — that SGMA had occupied the field and there was no place in California water law remaining for the public trust doctrine with respect to the state groundwater resources. The Court of Appeal had little trouble rejecting that claim in direct reliance on *National Audubon Society* from a quarter century earlier.

Last but certainly not least, the court said that both the Water Board and local governments, including Siskiyou County, have an affirmative duty and obligation to protect the public trust values in groundwaters, at least as they affect interrelated surface water flows. The County's petition for review at the California Supreme Court was denied in late November of last year, and their decision is final. So, that's the decision.

The question I would then pose to my fellow panelists is: now that we're in the post-*Scott River* litigation era, exactly how does the public trust doctrine interrelate with the requirements of SGMA as it relates to interconnected groundwater?

Andy Sawyer: I'll start with a slight disagreement. I don't think there was a realignment, I think there was a misunderstanding. Our position [at the State Water Board] was always that we had the authority, but we felt we didn't have to do anything because we had prosecutorial discretion.

In response to the questions, I think they interrelate in two ways, which I alluded to in my presentation. One is the baseline. SGMA says a groundwater sustainability plan *may but is not required* to deal with pre-2015 impacts. These of course are all pre-2015 impacts; the lawsuit was filed well before then. So, SGMA doesn't require the groundwater sustainability agency to deal with them. But if they have an independent obligation to deal with the impairment of interconnected surface waters, that language "may" allows them to use the SGMA plan to deal with the issue.

And that was the Water Board's primary claim all along. There was no doubt public trust uses were impaired; there was no doubt we had authority. The mechanics of how you apply it to these very large number of groundwater pumpers — some of whom are in an adjudicated basin and some not — are extraordinarily complicated.

If a local agency wants to solve a public trust doctrine problem or is under order to do so, they can use SGMA to do it. Also, their independent authority is not impaired. So, the Water Board's public trust authority — and I think this also relates to waste and unreasonable use; to pump groundwater so much that it's having these kind of impairments is waste or unreasonable use — the Water Board's independent authority applies.

I think largely these problems are going to be addressed independent of SGMA, in part because of that 2015 baseline.

Paul Kibel: I'll offer two thoughts related to Rick's question, which I think is a great question. The first is that I actually think the tale of what happened in the *National Audubon* case is a roadmap for how to integrate the public trust doctrine with SGMA. If you recall, in *National*

Audubon, the California Supreme Court said yes, the State Water Board administers an appropriate water rights permit system. But in undertaking its permitting activities, the Court clarified that the public trust overlays the State Water Board administrative permitting activities, and that is what Court sent the Water Board back to do.

I think similarly you could read the Court of Appeal's decision in the *Scott River* case to say, under SGMA, we're going to be developing groundwater sustainability plans. But in developing and implementing those SGMA plans, what GSAs do under SGMA is overlaid by the public trust. We can argue about what that overlay means, but I think that is a coherent reading.

In terms of what that overlay means, I would look to that language in *National Audubon* about fully protecting public trust resources and uses *whenever feasible*. So, if it is feasible to do a water budget and a hydrologic model in a GSP that captures the impacts of groundwater pumping on surface water flows and fisheries, the public trust requires GSAs to do it. And if it is feasible for GSPs to develop new threshold standards under SGMA that address those impacts of groundwater pumping on fisheries and put restrictions in place to avoid those impacts, I would argue that the public trust requires GSAs to do it. There certainly will be some discretion afforded GSAs as to the substance of such water budgets, hydrologic models and thresholds, but the public trust would prohibit GSAs and GSPs from simply disregarding these matters.

The second comment I have is that when you look at the language in SGMA that talks about not requiring analysis of the impacts created by pumping, I would really focus on the word "impact." SGMA doesn't exclude impacts from pumping practices that may have begun before pre-2015 pumping, and SGMA doesn't say pumping practices that began before 2015 can continue. I think a more coherent way to read that language is that SGMA does not require agencies to address impacts that are *wholly* in the past.

So, if all of the impacts occurred before 2015 and are no longer occurring, then yes, SGMA is not a statute that requires analysis of how to remedy these wholly past impacts. But if there are impacts that began before 2015 but are *ongoing* and are *continuing*, you can interpret that language to say there is nothing in SGMA that could somehow take away the obligation that's inherent in all the other SGMA provisions for water budgets, hydrologic models to address those ongoing and continuing impacts.

So, focusing on *past* versus *ongoing* impacts is a way to interpret that language in a way that is consistent with the underlying purposes and other provisions in SGMA.

III. Questions from the Audience

Kevin O'Brien: We're bumping up against our lunch break, but I've been told we have time for a couple questions. So, does anyone have any questions? Yes, sir?

Audience Member: I wanted to know to what degree, given what has been said, the public trust doctrine could apply and should be thought about by southern California water managers in areas of the state that long ago were depleted because of groundwater pumping — is there any power in the public trust doctrine to go back to those places and say, "we used to have fish habitat and that habitat needs to be restored?"

Andy Sawyer: I think that is why there is the 2015 baseline, but I may be too close to this because I actually drafted that language. Believe me, the alternative was much worse. The previous draft defined undesirable effects to exclude prior impacts, which means SGMA couldn't even be used even if we wanted to go for pre-2015 impacts.

But some impacts simply cannot be reversed. For example, with subsidence it is physically impossible. Reversal is physically possible, but it is not going to happen to have these basins that were disconnected 70 years ago stop pumping so the groundwater levels come up hundreds of feet to reestablish the connection. You can argue about whether or not that is feasible, but it is certain the economic impacts would be enormous, and there would be zero chance SGMA would have been enacted if there was a requirement to restore those conditions.

But, if you have an agency that wants to deal with pre-2014 conditions — for example, in Siskiyou County, you have a lawsuit that says you have to, so why not use SGMA to do it, instead of other much more cumbersome and less-effective ways of implementing public trust.

Audience Member: But the question I have is whether Rick outfoxed you by having the Scott River case succeed in court? And the public trust doctrine doesn't have a baseline, as was mentioned earlier.

Richard Frank: Public trust doctrine does not have a baseline, I agree with that.

Andy Sawyer: First of all, I put in the 2015 baseline because that is the best I could get. Outfoxed? As for the question of whether SGMA preempts: who do you think drafted that statute? No, there is specific language in there saying independent authority is reserved.

So no, the way I read the case, if the public trust applies, then we have the authority to deal with these impacts. What the Water Board was really nervous about was a mandatory duty where anybody could sue us anytime saying you haven't solved this problem yet, so I'm going to get

a court order for you to expend resources that you don't have to solve the problem I have. So, we were certainly not outfoxed. No. We're very happy with the result; it comes out to be very consistent with our beliefs.

Kevin O'Brien: I'm going to take a slightly contrary position on this, because I'm the only one up here that represents water users. In my opinion, the public trust doctrine has been one of the most toothless tigers of the last 25 years. And it will continue to be, because what the public trust doctrine requires in this context is balancing. If I'm representing a county or GSA or some other entity that has responsibility over these resources and is making very difficult decisions balancing consumptive uses versus public trust uses, I don't think it is that hard in most factual contexts — not all, but in most — to build an administrative record and make a determination that it is not feasible under this set of facts to protect public trust uses as *Audubon* requires because of the impacts on other uses.

That is essentially a policy call. If you make the right administrative record, you're going to be — you should be — sustained by the courts. Now, I will admit there are some types of contexts where that is not possible, but in a lot of the contexts we deal with, it's not a clear-cut situation. Ever since *Audubon* came out, I've been hearing about how important the public trust is in terms of actual changes on the ground, and I haven't seen it, and I don't think we're going to see it as a result of the *Scott River* case.

Richard Frank: Let me just offer a couple provocative thoughts: The Scott River case is by my own admission an incremental step. The next big question I think that the courts will have to face is: whether the public trust doctrine applies to groundwater in general, even where it is not interconnected. In the meantime, the non-provocative thought I offer: it is my opinion that in the wake of the Scott River case, groundwater sustainability agencies are trustee agencies as they go forward.

Kevin O'Brien: Unfortunately, now we're out of time. Please join me in thanking the panel.

VERTICAL CONSISTENCY IN THE CLIMATE CHANGE CONTEXT

SUSANN M. BRADFORD, ED. D.[1]

I. INTRODUCTION

Climate change is a critical issue for communities throughout California, our nation, and the world. While specific impacts vary regionally and locally, many cities and counties are beginning to feel the heat from one or more effects of global warming. From increasing urban heat and wildfire risk, to sea-level rise and extreme flooding, the growing evidence of climate change is galvanizing broad demand for political action and practical solutions. While action and initiative is needed at many levels, local governments have an important part to play by virtue of their central role in land-use planning, which is essential to effecting climate mitigation and adaptation at the local level.[2] For advocates seeking to advance local solutions, legal tools and strategies continue to evolve in response to new statewide mandates and legal precedents.

In a recent case in San Diego County Superior Court, petitioners made the novel argument that the county's climate action plan ("CAP") should be set aside because it was inconsistent with the county's general plan.[3] The Superior Court agreed, extending the principle of vertical consistency with general plans to encompass a local climate action plan for the first time.[4] While this case is now on appeal and it remains to be seen whether the appellate court will affirm the lower court's ruling, the

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[2] STATEWIDE ENERGY EFFICIENCY COLLABORATIVE ("SEEC"). STATE OF LOCAL CLIMATE ACTION: CALIFORNIA 2016, 4 (2016), https://californiaseec.org/wp-content/uploads/2016/10/State-of-Local-Climate-Action-California-2016_Print.pdf.

[3] Minute Order, *4. *Golden Door Properties LLC v. Cty. of San Diego*. Case No. 37-2018-00013324-CU-TT-CTL (Cal. Super. San Diego, December 24, 2018). This case was consolidated with *Sierra Club v. County of San Diego*, Case No. 37-2018-00014081 and prior case, *Sierra Club v. County of San Diego*, Case No. 2012-101054 [hereinafter Minute Order, *Golden Door II*].

[4] *Id*. at *12-13.

use of general plan consistency in the climate change context invites further consideration of how this might be applied in future climate litigation.

As communities respond to changing climate conditions and climate-related mandates, several factors suggest that general plans are likely to incorporate more climate-related policies and goals. If so, vertical consistency could be emerging as an increasingly important legal tool for advancing climate mitigation and adaptation. This is because city and county general plans provide a template for community growth and development, which may place enforceable restrictions on local land use, including the development of private property.[5] Such plans are by definition forward-looking documents that enable a community to anticipate and avert potential conflicts and unintended consequences by setting clear goals and priorities to guide future projects[6] — including development projects that could increase or decrease the community's carbon footprint or preparedness for coping with changing conditions.[7] Thus for communities undertaking to adapt to the reality of climate change, local general plans may provide a key instrument for defining achievable shared long-term goals for reducing greenhouse gas ("GHG") emissions and advancing climate smart development.

The enforceability of general plans is tied to the idea of *vertical consistency*, which describes a state of alignment between general plan provisions and other local land use measures,[8] such as zoning designations, special area plans, transportation plans, proposed development projects — and now climate action plans. In California, vertical consistency is mandated by state law to assure that local zoning and new development projects mirror the goals and objectives set forth by the community in properly approved general plans.[9] This allows the general plan to function as a "constitution" for local land use and development within its jurisdictional boundaries.[10] Thus, when a local general plan contains clear, mandatory goals for advancing climate mitigation or ad-

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[5] "[T]he propriety of virtually any local decision affecting land use and development depends upon consistency with the applicable general plan and its elements." *Citizens of Goleta Valley v. Bd. of Supervisors*, 52 Cal. 3d 553, 570-71 (1990) (citing *Resource Def. Fund v. Cty. of Santa Cruz*, 133 Cal. App. 3d 800, 806 (1982)).

[6] D. Dwight Worden, Cal. Env. Law § 62.02 (2010).

[7] *See* California Air Resources Board ("CARB"), California's 2017 Climate Change Scoping Plan ("2017 Scoping Plan"), at 99-100 (November 2017), https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

[8] Worden, *supra* note 6, § 62.06.

[9] *See* Cal. Gov't Code § 65359.

[10] *O'Loane v. O'Rourke*, 231 Cal. App. 2d 774, 782 (1965); 58 Ops. Cal. Atty. Gen 21 (1975).

aptation, this provides an enforceable standard for future development proposals.

Although vertical consistency has not been a prominent issue in climate advocacy to date, this could change as California's evolving response to climate change continues to place new requirements on local communities. Many local governments have voluntarily developed CAPs and other strategies to reduce GHG emissions to meet statewide goals, while others have adopted such measures as the result of litigation.[11] After the California Environmental Quality Act ("CEQA") was amended in 2010, general plan approval began to require analysis of community-wide GHG emissions to establish baselines, targets, and mitigation policies to meet statewide goals.[12] As a result of these factors, more local governments have added climate mitigation measures to their general plans to comply with CEQA and align with statewide GHG emission goals.[13]

This paper explores the role of general plan consistency in the context of climate change. As California's statewide response to global warming continues to evolve, new statutory and regulatory requirements are changing the scope of local land use planning, both directly and indirectly. The San Diego case provides one example of how this changing legal framework has led to new kinds of land use conflicts over competing strategies for climate mitigation. The growing imperative for local governments to rethink land uses in response to climate change could signal a larger role for general plan consistency as a lever for enforcing compliance.

II. A Tale of Two Plans

The dispute in San Diego involves inconsistencies between policies within the county's general plan and policies within its climate action plan.[14] Which policy prevails will have a direct bearing on how the county responds to new development proposals within the unincorporated sections of the county, including proposals for new housing subdivisions or new commercial centers outside of established residential areas and transportation corridors. Notably, neither of the county's poli-

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[11] SEEC, State of Local Climate Action: California 2016, *supra* note 2, at 7; *See also Sierra Club v. Cty. of Tehama*, No. C066996, 2012 WL 5987582, at *26-27 (Cal. Ct. App. Nov. 30, 2012) (unpublished).

[12] *Id*. *See also* SB 97, 2007 Cal. Stat. 185.

[13] Governor's Office of Planning and Research ("OPR"), California Jurisdictions Addressing Climate Change (June 17, 2014), https://www.ca-ilg.org/sites/main/files/file-attachments/california_jurisdictions_addressing_climate_change_pdf_0.pdf.

[14] Minute Order, *Golden Door II*, *supra* note 3, at *12-13.

cies existed until California enacted new statewide mandates requiring analysis of GHG emissions during environmental review of general plans and development projects.[15] Accordingly, some background on California's response to climate change is necessary to understand how this relates to general plans and climate action plans. As a preliminary matter, however, it will be helpful to first note some key distinctions between these two types of plans.

A. Local Land Use and Climate Action Plans

Cities and counties have a critical role in formulating and implementing local responses to climate change. Local land use planning affects everything from housing and transportation to commercial development, resource conservation, waste management, and recreation.[16] As California's communities respond to climate change, traditional land use planning has expanded to include targets and strategies for reducing GHG emissions and strategies for adapting to changing conditions.[17] The plans and decisions made by California's 482 cities and 58 counties in coming years will have a major impact on whether communities succeed in reducing GHG emissions and achieving climate resilience.[18]

Municipal responses to climate change began in the 1990s with pilot projects to develop and promote CAPs.[19] Even before California enacted the Global Warming Solutions Act of 2006, dozens of cities were already leading the way to inventory and reduce GHG emissions.[20] By 2014, over 200 of California's local governments had either adopted CAPs or were in the process of developing one, while 168 jurisdictions had either adopted or were developing GHG reduction policies or implementation measures within their general plans.[21] Many of these jurisdictions, including the County of San Diego, had adopted or were developing climate mitigation measures using both types of plans.[22]

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[15] Minute Order, at *6. *Sierra Club v. Cty. of San Diego*, Case No. 37-2012-00101054-CU-TT-CTL (Cal. Super. San Diego, April 19, 2013) [hereinafter "Minute Order, *Sierra Club (2013)"*].

[16] "Land use decisions affect GHG emissions associated with transportation, water use, wastewater treatment, waste generation and treatment, energy consumption, and conversion of natural and working lands." CARB, 2017 Scoping Plan, *supra* note 7, at 100.

[17] OPR, General Plan Guidelines: 2017 Update, 222 (2017), http://opr.ca.gov/planning/general-plan/guidelines.html.

[18] SEEC, State of Local Climate Action: California 2016, *supra* note 2, at 5.

[19] *Id*. at 15.

[20] *Id*. at 17.

[21] OPR, California Jurisdictions Addressing Climate Change, *supra* note 13, at 1-11.

[22] *Id*.

This raises a question as to why a city or county would choose one approach over the other or pursue both. In fact, the differences between CAPs and general plans are substantial. CAPs were invented in the 1990's for the specific purpose of reducing GHG emissions, while general plans emerged as the cornerstone of comprehensive land use planning in the 1970s. While both can be useful vehicles for advancing a community's climate mitigation goals, understanding the differences between them is necessary to appreciate the relative utility of each.

B. Local Land Use Planning

The authority of local governments to restrict land uses in order to advance public interests was established nearly a century ago in the seminal case, *Village of Euclid, Ohio v. Ambler Realty Company ("Euclid")*.[23] The Supreme Court affirmed that municipal zoning ordinances may limit private land uses where this is reasonable and substantially related to advancing "the public health, safety, morals or general welfare."[24] The *Euclid* court also noted that what constitutes reasonable regulation necessarily varies with changing societal needs and conditions, and must also consider the specific local needs and conditions.[25] This remains relevant today, as changing conditions underscore the clear public interest of reducing GHG emissions, but decisions about how to accomplish this require consideration of unique local needs and conditions.

While local planning laws and societal conditions have both changed considerably in the century since *Euclid* first envisioned its future as a residential suburb with separate zones for dwelling, shopping, and working, the basic principle that local governments are the proper locus for land use planning remains intact.[26] In response to growing populations and increasing conflicts over land use, reliance on simple zoning ordinances gradually gave way to more long-term planning and the general plan eventually emerged as the cornerstone of local land use planning.[27]

In California, each city and county is required to adopt "a comprehensive, long-term general plan" to guide the development of physical land uses within its jurisdiction.[28] Since 1974, state law has required

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[23] *Village of Euclid, Ohio v. Ambler Realty Co.*, 272 U.S. 365, 395 (1926).

[24] *Id*.

[25] *Id*. at 387-88.

[26] More recently, for example, in *Constr. Indus. Ass'n of Sonoma Cty. v. City of Petaluma*, 522 F.2d 897, 909-10 (9th Cir. 1975), the court found that a city plan restricting residential growth and promoting infill was a reasonable measure advancing a legitimate interest in the public welfare.

[27] Worden, *supra* note 6, § 62.02.

[28] Cal. Gov't Code § 65300.

local zoning ordinances and subdivision maps to be consistent with local general plans.[29] As stated in the Government Code, "any specific plan or other plan of the city or county that is applicable to the same areas or matters affected by a general plan amendment shall be reviewed and amended as necessary to make the specific or other plan consistent with the general plan."[30] This vertical consistency requirement was later extended to include other local plans and interpreted by California courts to encompass local public works projects.[31]

Under California law, general plans are also required to address several mandatory elements, including land use, circulation, housing, conservation, open space, noise, and safety.[32] Jurisdictions with disadvantaged communities will also be required to add an environmental justice element, pursuant to recent legislation.[33] Thus, in addition to setting goals for growth and development, a general plan must consider how land uses interact with one another and relate to broader public interests as well as the needs and interests of the local community. A general plan must also be *horizontally* consistent, or internally consistent, in the sense that housing objectives, for example, cannot be at odds with conservation objectives, and so on.[34] General plans should also be updated periodically to reassess community needs and goals in light of changing conditions,[35] and to maintain legal sufficiency for project approval.[36] Except for the housing element and some specific provisions within the public safety element, however, general plan updates are not strictly mandated.[37]

Adopting a general plan is a legislative act of the local government.[38] As such, approval of general plans also requires a public process with substantial opportunities for public involvement and public hearings.[39] This promotes a democratic process that protects the rights of

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[29] Cal. Gov't Code § 65860; Worden, Cal. Env. Law §§ 62.02, 62.06.

[30] Cal. Gov't Code § 65359.

[31] WORDEN, *supra* note 6, § 62.02, citing *Friends of B Street v. City of Hayward*, 106 Cal. App 3d 988. 997 (1980). *See also Orange Citizens for Parks & Recreation*, 2 Cal. 5th 141, 153 (2016), stating, "the requirement of consistency . . . infuse[s] the concept of planned growth with the force of law" (citing *deBottari v. City Council*, 171 Cal.App.3d 1204, 1211 (1985)).

[32] OPR, GENERAL PLAN GUIDELINES, *supra* note 17, at 39; *See also* Cal. Govt. Code § 65302.

[33] SB 1000, 2016 Cal. Stat. 587 (effective January 1, 2018). *See also* Gov't Code § 65302(h) requiring cities and counties with disadvantaged communities to adopt this element "upon the adoption or next revision of two or more elements concurrently on or after January 1, 2018."

[34] WORDEN, *supra* note 6, § 62.06.

[35] Cal. Gov't Code § 65040.5.

[36] Douglas P. Carstens, *General Plans: Are These Mandatory Laws and Interesting Guidelines Ready for Their Close-Up?*, 2011 CAL. ENVTL. REPORTER 572, 574-75 (2011).

[37] Cal. Gov't Code §§ 65302(g) and 65588(e).

[38] Cal. Gov't Code § 65301.5.

[39] WORDEN, *supra* note 6, § 62.09.

people to participate in planning decisions that may affect them for years to come. Proposed plans must be circulated to the general public as well as public agencies, tribes, and other stakeholders to assure adequate opportunities for public comment.[40] Public hearings are required both at the draft stage and again before final adoption by a city council or board of commissioners.[41]

While cities with independently enacted charters ("charter cities") are exempted from many of these state law requirements, they must still enact general plans addressing all of the mandatory elements.[42] Charter cities are also required to comply with most horizontal and vertical consistency requirements.[43] Other requirements, however, may vary from one charter city to the next, as based on local charters.

C. Comprehensive Approach to Low-Carbon Land Use

From a climate mitigation standpoint, several features of general plans make them an important focal point for comprehensive planning to reduce local GHG emissions. The mandatory elements framework, for example, could allow climate goals to be considered in relation to a full range of community needs and interests. In addition, the requirement for internal consistency provides an incentive for identifying potential conflicts between climate and other land use goals early in the process, when public input can be sought to inform priorities and generate additional options. Climate related goals and policies that are fully integrated into a general plan may also have the advantage of becoming enforceable through vertical consistency.

Opportunities for public involvement are also important in the climate change context. Because reducing GHG emissions and adapting to changing risks may require people to change behaviors and forego some land uses that were reasonable under past conditions, the opportunity to develop climate solutions in forums that promote broad public access and involvement is critical. Opportunities for public participation can also provide an important source of knowledge and resources for problem solving, and an open public process can promote collaboration and buy-

[40] Cal. Gov't Code § 65351.

[41] Cal. Gov't Code § 65355.

[42] Cal. Gov't Code § 65700(a).

[43] Cal. Gov't Code § 65700(b) provides that §§ 65300.5 (horizontal consistency), 65359 (vertical consistency of other local plans), 65454 (special plans), and 65455 (consistency within special plans) apply to charter cities. In addition, § 65860(d) provides that vertical consistency between zoning ordinances and general plans extends to charter cities.

in.[44] The local nature of general plans also makes them well suited for accommodating unique features of place, such as cultural values, geographic features, ecology, and local history.[45] Public involvement creates an opportunity to tailor community strategies for reducing GHG emissions in ways that preserve important local values.

While there is no direct mandate requiring communities to add a climate change element to general plans, amendments to CEQA require analysis of GHG emissions in conjunction with the environmental review and approval of general plan updates and amendments.[46] This has led some local governments, including San Diego County, to adopt GHG mitigation policies into their general plans in order to comply with CEQA. Under CEQA Guidelines § 15183.5, communities that incorporate a sufficient GHG analysis into general plans may thereby qualify for streamlined GHG analysis of subsequent projects.[47] This provides an additional incentive for communities to address GHG emissions more fully within their general plans.

D. Climate Action Plans

In contrast to comprehensive general plans, climate action plans are narrowly focused on the singular purpose of GHG reduction, but this also relates to a wide range of community land uses. A CAP is the community's roadmap for achieving GHG emissions reductions.[48]

The development of CAPs has enabled many local governments to make substantial reductions in GHG emissions.[49] While multiple models have been developed to aid cities in conducting GHG emissions inventories and identifying strategies for achieving reductions, the basic idea is fairly straightforward.[50] CAPs are typically generated by following a five-step planning framework that consists of (1) calculating baseline GHG emissions, (2) setting goals, (3) selecting strategies for reducing

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[44] Public access to land use planning decisions is generally held to be in the public interest. Case studies also illustrate practical benefits for problem solving. *See e.g.*, James E. Crowfoot & Julia M. Wondolleck, Environmental Disputes: Community Involvement in Conflict Resolution (Island Press) (1992).

[45] As the *Euclid* court noted, local land use should consider local needs and conditions. *Village of Euclid*, 272 U.S. at 387-88.

[46] SB 97 of 2007 mandated GHG emissions analysis as part of CEQA review. 2007 Cal. Stat 185.

[47] OPR, General Plan Guidelines, *supra* note 17, at 225.

[48] SEEC, State of Local Climate Action: California 2016, *supra* note 2, at 23; *see also* Institute for Local Government, "Climate Action" (2015), https://www.ca-ilg.org/climate-action-plans.

[49] SEEC, State of Local Climate Action: California 2016, *supra* note 2, at 17-18.

[50] OPR, General Plan Guidelines, *supra* note 17, at 223.

GHG emissions, (4) implementing strategies, and (5) monitoring and evaluating results.[51] Then a report can be generated and the cycle starts over again.

While simple enough in concept, calculating an accurate baseline of community-wide GHG-emissions is a formidable task requiring a comprehensive inventory and quantification of GHG emission sources throughout the community.[52] Fortunately, in the years since the first pilot studies began in the 1990s, several organizations have developed tools and resources to aid cities and counties in this process.[53] For example, the Statewide Energy Efficiency Collaborative ("SEEC") has partnered with state agencies to provide free access to the ClearPath California Tool, which utilizes widely accepted protocols for community scale GHG inventories.[54] Similarly, increasingly sophisticated tools and resources are available to aid local governments in estimating the probable reductions in GHG emissions to be achieved by implementing various strategies.[55] These resources make the difficulty of formulating a CAP surmountable.

Accordingly, CAPs provide a useful framework for communities looking to reduce their GHG emissions. While CAPs are not mandatory, several state agencies now encourage their use.[56] Like general plans, CAPs that comply with CEQA Guidelines § 15183.5 also may qualify for streamlined GHG analysis of subsequent projects that are consistent with the analysis and mitigation strategies set forth in the CAP.[57] This provides an additional incentive for adopting CAPs by reducing the burden of GHG emissions analysis required for project-level proposals. However, in order for a CAP to qualify for this benefit, a plan-level Environmental Impact Report ("EIR") is necessary.[58]

In light of these features, some potential advantages of utilizing CAPs to achieve climate mitigation goals at the local level include (1) a clear focus on GHG mitigation, (2) examples that demonstrate effectiveness, (3) availability of technical resources, and (4) the opportunity to qualify for CEQA streamlining. On the downside, the narrow focus on

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[51] SEEC, STATE OF LOCAL CLIMATE ACTION: CALIFORNIA 2016, *supra* note 2, at 16.

[52] *See Climate Action Resource Guide*, https://coolcalifornia.arb.ca.gov/local-government/toolkit.

[53] *See* ICLEI USA: Local Governments for Sustainability, https://icleiusa.org/ghg-protocols/.

[54] OPR, GENERAL PLAN GUIDELINES, *supra* note 17, at 223; *see also* SEEC, ClearPath California, https://californiaseec.org/seec-clearpath/.

[55] *See* CoolCalifornia.org, *Local Government*, https://coolcalifornia.arb.ca.gov/local-government.

[56] Agencies endorsing CAPs include CARB, OPR, and the Natural Resources Agency ("CNRA").

[57] *See* OPR, GENERAL PLAN GUIDELINES, *supra* note 17, at 226-32.

[58] *Id*.

GHG mitigation may require an extra effort to assure consistency between CAPs and other local plans, and CEQA equivalent environmental review is necessary for a plan to qualify for tiering and streamlining.[59]

A community may thus address climate mitigation goals within its general plan or by developing a CAP. Whether to use one or the other, or both, is likely to be informed by a variety of circumstances, including whether broader reasons exist to warrant a general plan update. Communities' reasons for reducing GHG emissions also vary. While some local governments led the way by piloting CAPs and reducing GHG emissions voluntarily, others have done so only as a result of state mandates.

III. California's Evolving Climate Change Response

In order to contextualize how land use planning fits into California's evolving legal framework for responding to climate change, a brief overview of some key statutes will be helpful. Some measures have a more direct influence on local land use planning than others, so those will be the principal focus for the present inquiry. Four, in particular, merit special consideration in this context; (1) Assembly Bill ("AB") 32 of 2006 initiated statewide planning for climate mitigation,[60] (2) Senate Bill ("SB") 97 of 2007 amended CEQA to require analysis of GHG emissions,[61] (3) SB 375 of 2008 created a regional planning framework,[62] and (4) Executive Order No. S-13-08 of 2008 initiated statewide planning for climate adaptation.[63] Some additional climate legislation affecting general plan elements will also be considered in this context.[64]

A. Climate Mitigation Stategy

In 2005, climate mitigation became "an official policy of the State of California," when Executive Order No. S-3-05 ("EO S-3-05") established a statewide goal to reduce GHG emissions to 80% below 1990 levels by 2050.[65] Soon after, the legislature enacted the landmark AB 32 of 2006, The California Global Warming Solutions Act, setting in motion

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[59] CEQA Guidelines § 15183.5(b)(1)(F).

[60] AB 32: The California Global Warming Solutions Act of 2006, 2006 Cal. Stat. 488.

[61] SB 97: An act to add Section 21083.05 to, and to add and repeal Section 21097 of, the Public Resources Code, relating to the California Environmental Quality Act. 2007, Cal. Stat. 185.

[62] SB 375, 2008 Cal. Stat. 728.

[63] Governor of the State of California, Executive Order S-13-08 (November 14, 2008), https://wayback.archive-it.org/5763/20090411141553/; http://gov.ca.gov/index.php?/executive-order/11036/.

[64] SB 379, 2015 Cal. Stat. 608, amended the general plan safety element.

[65] *Sierra Club v. Cty. of San Diego*, 231 Cal. App. 4th 1152, 1157 (2014) (quoting Attorney General).

a comprehensive statewide effort to meet this ambitious goal.[66] More legislation followed and today the state continues to update and refine its climate framework.

AB 32 directed the State Air Resources Board ("CARB") to launch a massive Scoping Plan to develop a statewide strategy for reducing GHG emissions to 1990 levels by 2020.[67] CARB's initial effort culminated in the *2008 Climate Change Scoping Plan* ("2008 Scoping Plan"), which provided a roadmap for additional statutes and regulations to address distinct types of GHG sources, development sectors, and industries.[68] This informed a wave of legislation creating targets and programs to advance renewable energy, low-carbon fuels, energy efficient vehicle standards, green building standards, and more.[69] The 2008 Scoping Plan also recognized the contribution of local CAPs and the importance of local land use and development decisions in achieving statewide goals, noting that "(m)any of the proposed measures to reduce greenhouse gas emissions rely on local government actions."[70] In particular, it noted, local land use decisions "will have large impacts on the greenhouse gas emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas sectors."[71] CARB encouraged local governments to track GHG emissions and set local GHG reduction goals in alignment with statewide goals. It also committed to developing additional tools and resources to assist local governments in these undertakings.[72]

AB 32 also authorized CARB to develop a phased "cap-and-trade" program to help qualified entities achieve compliance with GHG reduction targets through the purchase of offset credits from approved programs.[73] This program requires that any GHG reductions obtained by purchasing offsets must be "real, permanent, quantifiable, verifiable, and enforceable" by CARB, and "in addition to" any direct GHG reductions.[74] Notably, the scope of this provision is disputed in the San Diego

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[66] AB 32, 2006 Cal. Stat. 488.

[67] CARB, *Facts About California's Climate Plan* (September 25, 2010), https://ww3.arb.ca.gov/cc/cleanenergy/clean_fs2.htm.

[68] CARB, CLIMATE CHANGE SCOPING PLAN: A FRAMEWORK FOR CHANGE ("2008 SCOPING PLAN") (December 2008), https://ww3.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

[69] *See generally* CARB, 2017 SCOPING PLAN, *supra* note 7.

[70] CARB, 2008 SCOPING PLAN, *supra* note 68, at 26-27.

[71] *Id*.

[72] *Id*.

[73] CARB, PROCESS FOR THE REVIEW AND APPROVAL OF COMPLIANCE OFFSET PROTOCOLS IN SUPPORT OF THE CAP-AND-TRADE REGULATION (May 2013), https://ww3.arb.ca.gov/cc/capandtrade/compliance-offset-protocol-process.pdf.

[74] Cal. Health and Safety Code § 38562(d)(1) and (2).

case, where the County contends that these conditions do not apply to offsets used to mitigate GHG emissions under CEQA.[75]

The enactment of AB 32 also triggered litigation to enforce the state's new official policy. In April 2007, the Attorney General sued the County of San Bernardino alleging CEQA violations for "failing to analyze the impact of the county's general plan on climate change."[76] This action put cities and counties on notice that the state was serious about requiring local governments to reduce GHG emissions.[77] While the case eventually settled out of court, San Bernardino agreed to create a GHG emissions reduction plan, which became a model for other local governments to follow when updating general plans.[78]

B. CEQA Review of GHG Emissions

In 2007, the legislature passed another major climate statute, SB 97, amending the Public Resource Code to require all CEQA environmental review documents to analyze potential impacts on GHG emissions.[79] SB 97 directed the Governor's Office of Planning and Research ("OPR") and the Natural Resource Agency ("CNRA") to develop and promulgate new CEQA Guidelines to address GHG emissions analysis.[80] This caused another ripple in the force, as lead agencies and local governments across the state had to begin examining GHG emissions in every CEQA review document. This required significant new work to determine baseline emission levels and appropriate thresholds of significance, and to estimate the probable GHG emissions of proposed projects.[81]

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[75] County of San Diego's Opening Brief, *15-16, *Sierra Club v. Cty. of San Diego*, Case No. D075478, 2019 WL 3457739 (Cal. App. 4th, July 25, 2019) [hereinafter CSD, Opening Brief in 2019 Appeal].

[76] *Sierra Club v. Cty. of Tehama*, *26, Case No. C066996, 2012 WL 5987582 (Cal. Ct. App. Nov. 30, 2012). *See also* Petition for Writ of Mandate, at ¶ 31, *California v. San Bernardino Cty.*, No. 07-00329 (Cal. Super Ct. April 13, 2007), https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/SanBernardino_complaint.pdf.

[77] State of California Department of Justice, *Brown Announces Landmark Global Warming Settlement* (August 21, 2007), available at https://oag.ca.gov/news/press-releases/brown-announces-landmark-global-warming-settlement.

[78] *Id.*; *See also Cty. of Tehama*, *27, Case No. C066996, 2012 WL 5987582 (Cal. Ct. App. Nov. 30, 2012).

[79] SB 97 of 2007, Cal. Stat. 185.

[80] CNRA, "California Environmental Quality Act ("CEQA"): Supplemental Documents," https://resources.ca.gov/About-Us/Legal/CEQA-Supplemental-Documents.

[81] CNRA, Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (December 2009), https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Final_Statement_of_Reasons.pdf. *See also*, § 8:17 Determination regarding significance of project's environmental effect, Cal. Civ. Prac. Environmental Litigation § 8:17.

As might be expected, a wave of CEQA litigation followed, as some parties challenged the new regulations and others sought to use them to challenge project approvals or to advance stronger GHG mitigation measures.[82] This in turn has generated a growing body of common law decisions interpreting the statutory and regulatory requirements. Litigated issues include how to establish GHG emission baselines, how to determine thresholds of significance, and how to estimate GHG emissions from projects and plans, as well as many procedural aspects of CEQA.[83]

C. Regional Planning for Sustainable Development

California's next major climate statute was SB 375, the Sustainable Communities and Climate Protection Act of 2008.[84] This modified the state's regional transportation planning framework to integrate regional transportation plans with statewide climate mitigation targets and local housing needs.[85] SB 375 directed the state's eighteen Regional Transportation Agencies ("RTAs") and metropolitan planning organizations ("MPOs") to develop "sustainable community strategies" ("SCSs") aimed at achieving regional GHG emissions reductions targets.[86] SCS plans are required to align with Regional Housing Needs Assessments ("RHNA") in order to facilitate integrated housing and transportation planning that prioritizes housing developments that advance GHG reduction goals.[87] By encouraging urban infill and developments located near public transit systems, cities can address housing needs in a way that minimizes any increased driving, or vehicle miles travelled ("VMT"), a major source of GHG emissions.[88] SB 375 also mandated streamlined CEQA review for housing and transportation projects found to be consistent with an SCS.[89] Later statutes expanded CEQA streamlining for

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[82] For overview of precedential cases, *see Final Statement of Reasons for Regulatory Action Amendments to the State CEQA Guidelines*, at 17-21, OAL Notice File No. Z-2018-0116-12 (November 2018), https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf.

[83] *See e.g., Friends of Oroville v. City of Oroville*, 219 Cal. App. 4th 832, 841-42 (2013), examining whether statewide threshold of significance standards applied to specific projects; *see also*, *Ctr. for Biological Diversity v. Dep't of Fish & Wildlife*, 62 Cal. 4th 204, 227 (2015), clarifying methods for evaluating project-level GHG emissions reductions.

[84] SB 375, 2008 Cal. Stat. 728. The popular title, "Sustainable Communities and Climate Protection Act," was added by SB 575 of 2009 (Cal. Stats. 2009, Ch. 354).

[85] Cal. Gov't Code § 65080 (b)(2). *See also* Sarah Mawhorter, et al., California's SB 375 and the Pursuit of Sustainable and Affordable Development, 5, Terner Center, Univ. of Cal. (July 2018).

[86] Cal. Gov't Code § 65080 (b)(2). Regional targets must be approved by CARB.

[87] Mawhorter, et al., *supra* note 85, at 5, 7-9.

[88] CARB, 2008 Scoping Plan, *supra* note 63, at 47-51.

[89] SB 375, Sec. 14, 2008 Cal. Stat. 728. *See also* Mawhorter, et al., *supra* note 85, at 5.

qualified urban infill projects and mixed-use developments.[90] This includes SB 226 of 2011, which introduced the provision allowing general plans or CAPs to facilitate streamlined GHG emissions analysis for subsequent consistent projects.[91]

Notably, an SCS is not a land use plan and regional planning organizations have no direct authority to implement development projects that align with regional goals.[92] Local governments retain primary responsibility for land use planning and SB 375 states plainly that "nothing in a sustainable communities strategy shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region."[93] Similarly, local general plans are not required to be consistent with the regional SCS, although CEQA documents are required to discuss any inconsistencies between proposed projects and regional plans.[94]

The regional planning framework provides an additional layer of regional coordination and technical support to assist local governments in identifying and evaluating feasible options for sustainable, low-carbon growth and development.[95] However, local governments may fail to take advantage of these resources. Critics have pointed to the limited impact of the program on meeting housing needs, noting the slow pace of planning cycles, lack of accountability measures, and technical hurdles that outweigh modest incentives.[96] On the other hand, increasing regional collaboration and support is still likely to assist communities in achieving long-term goals, and additional refinements to these programs may improve housing outcomes.

D. Climate Adaptation Strategy

In 2008, Executive Order No. EO S-13-08 directed CNRA to produce a statewide climate adaptation strategy.[97] It also directed state agencies to identify and address impacts of sea-level rise.[98] This initiated another statewide planning effort to identify climate change related

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[90] SB 226, 2011 Cal. Stat. 469, adding Cal. Pub. Res. Code § 21094.5; SB 743, 2013 Cal. Stat. 386, added Cal. Pub. Res. Code § 21099.

[91] Cal. Pub. Res. Code § 21094.5.

[92] Cal. Gov't Code § 65080 (b)(2)(K).

[93] *Id*.

[94] *Id*. In addition, for CEQA requirements, *see* Cal. Code Regs. tit. 14, § 15125 (d).

[95] CARB, 2008 Scoping Plan, *supra* note 68, at 47-51; Mawhorter, et al., *supra* note 85, at 12-20.

[96] Mawhorter, et al., *supra* note 85, at 22-24.

[97] CNRA, Safeguarding California Plan: 2018 Update, at 16 (January 2018), https://resources.ca.gov/ CNRALegacyFiles/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf.

[98] *Id.*

threats to California's communities, infrastructure, and economy, and to develop strategies for addressing these.[99] CNRA's initial efforts produced the *2009 California Climate Adaptation Strategy*, outlining preliminary strategies for addressing threats to public health, biodiversity and habitat, oceans and coastal resources, water supply, agriculture, forestry, and transportation and energy.[100]

The 2009 strategy identified the integration of local land use planning and climate adaptation planning as a key strategy for achieving statewide goals, and called for the "long-term vision and development goals of general plans [to] address climate change as soon as possible."[101] In particular, it recommended integrating climate adaptation goals into regional sustainable community strategies to assure that long-term development plans would consider climate risks.[102] It also encouraged cities and counties to conduct vulnerability assessments to identify high risk areas and infrastructure, including public lands and water resources, in order to prioritize the most critical needs.[103] The plan suggested that general plan amendments could be an important tool for integrating climate adaptation needs into future land use decisions.[104]

CNRA updates in 2014 and 2018 have continued to develop and refine statewide climate adaptation goals.[105] The most recent edition, the *2018 Safeguarding California Plan*, addresses eleven policy areas, including "Land Use and Community Development," and continues to emphasize the important role of local land use planning in advancing climate adaptation goals.[106] This document also notes that amending the mandatory elements framework of general plans is one way to incorporate climate adaptation goals into land use planning.[107] For example, SB 1241 of 2012 requires communities in high risk wildfire zones and state response areas to add fire hazard information and fire response plans to the safety element upon the next update of the housing element.[108]

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[99] CNRA, 2009 California Climate Adaptation Strategy, at 11-12 (2009), https://resources.ca.gov/ CNRALegacyFiles/ docs/climate/Statewide_Adaptation_Strategy.pdf.

[100] *Id*. at 29.

[101] *Id*. at 24-25.

[102] *Id*. at 24.

[103] *Id*.

[104] *Id*. at 25.

[105] CNRA, Building Climate Resilience (2020), https://resources.ca.gov/Initiatives/Building-Climate-Resilience.

[106] CNRA, Safeguarding California Plan: 2018 Update, *supra* note 97, at 21-23.

[107] *Id*. at 82-83. See recommendation L-3: "Coordinate state laws, regulations, guidelines and policies to promote climate resilience and hazard avoidance and mitigation through local, regional and state planning."

[108] SB 1241, 2012 Cal. Stat. 311; see Cal. Gov't Code § 65302(g)(3).

More recently, SB 379 of 2015 amended the safety element to require general plans to include vulnerability assessments and identify climate risks associated with potential development sites, while SB 1000 of 2016 added a new environmental justice element.[109] CNRA's 2018 plan also proposes making additional changes to the housing element to integrate analysis of climate hazards and mitigation strategies into growth and development plans.[110] These recent and proposed amendments indicate that general plans are likely to incorporate more climate adaptation goals in coming years, which may increase the relevance of vertical consistency as an enforcement lever.

In sum, California's evolving response to climate change includes several elements that impact local land use decisions, and thus could make general plans more important in achieving climate mitigation and climate adaptation goals. Continuing pressure to comply with statewide GHG targets and adopt mitigation measures to achieve CEQA compliance, as well as local initiative, are leading more communities to incorporate climate mitigation policies into general plans. At the same time, new amendments to the mandatory elements of general plans requiring identification of climate related risks to local populations and infrastructure will likely lead more city and counties to incorporate strategies and policies for responding to climate adaptation into general plans. General plans are thus likely to become more instrumental in community responses to climate change, which in turn could make vertical consistency more important as a legal tool for enforcement and accountability.

On a side note, recent updates to statewide planning and guidance documents have made this framework somewhat easier to navigate. CARB's *2017 Climate Change Scoping Plan* updated the state's climate mitigation strategy, while CNRA's *2018 Safeguarding California Plan* updated the state's climate adaptation strategy.[111] CNRA also issued the *2018 CEQA Guidelines*, providing the first comprehensive update since the 1990s.[112] In addition, OPR released *General Plan Guidelines: 2017 Update*, integrating cumulative changes for the first time since 2003.[113]

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[109] SB 379, 2015 Cal. Stat. 608; SB 1000, 2016 Cal. Stat. 587. *See also* CNRA, SAFEGUARDING CALIFORNIA PLAN: 2018 UPDATE, *supra* note 97, at 82, Recommendation L-3.1.

[110] CNRA, SAFEGUARDING CALIFORNIA PLAN: 2018 UPDATE, *supra* note 97, at 83.

[111] The Climate Change Scoping Plan and The Safeguarding California Plan are both updated triennially. For more information see CARB, AB 32 SCOPING PLAN (January 8, 2018), https://ww3.arb.ca.gov/cc/scopingplan/ scopingplan.htm; CNRA, BUILDING CLIMATE RESILIENCE (2020), https://resources.ca.gov/Initiatives/Building-Climate-Resilience.

[112] CNRA, FINAL STATEMENT OF REASONS FOR REGULATORY ACTION: AMENDMENTS TO THE STATE CEQA GUIDELINES, 2, OAL Notice File No. Z-2018-0116-12 (November 2018), https://resources.ca.gov/About-Us/Legal/CEQA-Supplemental-Documents.

[113] OPR, GENERAL PLAN GUIDELINES, *supra* note 17.

IV. San Diego County's Conflicted Plans for Climate Mitigation

The recent case in San Diego County Superior Court illustrates how California's climate mandates have intersected with land use planning to make vertical consistency relevant to climate mitigation advocacy.[114] As mentioned earlier, the central dispute in this case involves inconsistencies between the climate mitigation policies adopted in San Diego County's general plan and those adopted later in the County's CAP.[115] While the general plan required the County to prepare a CAP to identify strategies for *local* reductions in GHG emissions to meet the statewide goals set forth in AB 32, the CAP actually produced by the county took a different direction. Neither an initial version released in 2012 nor a more recent version released in 2018 has provided the County with a roadmap for reducing its local GHG emissions to the extent required by its general plan.[116] Because the CAP is thus inconsistent with the general plan, the issue of vertical consistency may prove to be an effective argument for holding this local government accountable to its own climate mitigation goals.

To better assess the utility of this argument, a closer look at the case, including its core issues and how the conflict emerged, will be helpful. As noted previously, neither the general plan's climate policies nor the CAP existed prior to the statewide climate mandates outlined above.[117] As discussed below, the County's decision to adopt climate mitigation measures appears to have been strongly influenced by the state's evolving legal framework. Although local governments have substantial authority over local land use decisions, that does not prevent the state from restricting that authority. As the *Euclid* court observed, a local government's authority derives from police powers granted to it by the state.[118] What the state giveth, the state may limit. Environmental laws, for example, may limit local governmental authority by restricting some land uses or by imposing procedural requirements to minimize potential harm to the environment. In this case, the County of San Diego's general plan was limited by the legislature's climate mandates.

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[114] *Golden Door Properties LLC v. Cty. of San Diego* ("*Golden Door II*"), Case No. 37-2018-00013324-CU-TT-CTL (Cal. Super. San Diego, December 24, 2018).

[115] Minute Order, *Golden Door II*, *supra* note 3, at 4.

[116] *Id*.

[117] Minute Order, *Sierra Club (2013)*, *supra* note 15, at *6.

[118] *Village of Euclid*, 272 U.S. at 395.

A. A Brief History of the San Diego CAP Case

The story of the San Diego CAP dispute begins with the County's approval of a comprehensive update to its general plan in 2011.[119] This was the first comprehensive update since 1978, and thus also the first major update since AB 32 had mandated ambitious new climate mitigation goals.[120] By 2011, SB 97 had also gone into effect, which meant that the County's EIR for the general plan update was required to evaluate the plan's potential impacts on countywide GHG emissions.

The general plan EIR ("PEIR") found that the plan's adverse impacts on climate change were potentially significant and that its cumulative impacts were likely to be significant unless they could be mitigated.[121] After further analysis, the EIR identified a combination of ten policies and nineteen mitigation measures that would enable the County to bring the general plan's GHG emissions impact into compliance with AB 32.[122] Instead of finding that compliance would be infeasible, the County approved the EIR and the 2011 General Plan Update ("GPU"), incorporating all twenty-nine of the recommended policies and mitigation measures.[123]

Central among the GPU's adopted mitigation measures was a directive to prepare a CAP that would facilitate a better analysis of the County's baseline GHG emissions and develop strategies for achieving compliance with AB 32. More precisely, mitigation measure CC-1.2 required as follows:

> Prepare a County Climate Change Action Plan with an update[d] baseline inventory of greenhouse gas emissions from all sources, more detailed greenhouse gas emissions reduction targets and deadlines; and a comprehensive and enforceable GHG emissions reduction measures that will achieve a 17% reduction in emissions from County operations from 2006 by 2020 and a 9% reduction in community emissions between 2006 and 2020.[124]

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[119] *Sierra Club v. Cty. of San Diego*, 231 Cal. App. 4th 1152, 1156 (2014).

[120] County of San Diego, County of San Diego General Plan, 1-2, (August 2011; as amended through January 29, 2020), https://www.sandiegocounty.gov/content/sdc/pds/generalplan.html.

[121] County of San Diego, San Diego County General Plan Update: Final Environmental Impact Report, at 2.17-1 (August 2011), https://www.sandiegocounty.gov/content/sdc/pds/gpupdate/environmental.html. [hereinafter "General Plan PEIR"].

[122] *Id*. at 2.17-28 – 2.17-33.

[123] Minute Order, *Sierra Club (2013)*, *supra* note 15, at *6.

[124] *Id. See also* General Plan PEIR*, supra* note 121, at 2.17-30.

Notably, this language is clear and unambiguous in stating a precise GHG emissions reduction goal for "community emissions" and in requiring the plan to include "targets and deadlines" and "comprehensive and enforceable" measures to achieve these. In addition, mitigation measures CC-1.7 and CC-1.8 required the county to use the CAP to revise its Guidelines for Determining Significance and to formulate a threshold of significance for GHG emissions to facilitate CEQA review of future projects.[125] When the County approved and adopted the general plan and the PEIR, these mitigation measures became enforceable under CEQA as "necessary actions to mitigate environmental impacts" and also as part of the general plan.[126]

A year later, in 2012, the county approved its first Climate Change Action Plan ("2012 CAP").[127] While the 2012 CAP purported to meet the requirements of mitigation measure CC-1.2 and to facilitate streamlined CEQA review for future development projects, in fact it did neither.[128] Instead of developing comprehensive and enforceable strategies to reduce GHG emissions to the levels specified in the PEIR and consistent with AB 32, the CAP framed these GHG emissions reduction goals as *recommendations* and concluded that local GHG emissions might actually increase under the plan, and probably would after 2020.[129] The 2012 CAP also failed to identify targets and deadlines and was not accompanied by a plan-level EIR as required to facilitate tiering of future projects.[130] Legal challenges ensued.

B. Legal History

The current case is actually the third round of litigation in a series of lawsuits that began when the 2012 CAP was successfully challenged by the Sierra Club alleging multiple CEQA violations.[131] A second case commenced in 2016 after the County approved an updated Guidelines for Determining Significance document without having consulted a valid CAP or conducting adequate CEQA review.[132] The third case was filed in 2018 after the County issued an updated CAP that again failed to meet

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[125] General Plan PEIR, *supra* note 121, at 2.17-30 – 2.17-31.

[126] Cal. Pub. Res. Code § 21081.6 (b) provides that a "public agency shall provide that measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures."

[127] Minute Order, *Sierra Club (2013)*, *supra* note 15, at *6.

[128] *Sierra Club*, 231 Cal. App. 4th at 1160-61.

[129] *Id*.

[130] *Id.* at 1172.

[131] Minute Order, *Sierra Club (2013)*, *supra* note 15, at *1-2.

[132] *Golden Door Properties v. Cty. of San Diego ("Golden Door I")*, 27 Cal. App. 5th 892, 896 (2018).

the requirements set forth in the 2011 GPU PEIR and general plan.[133] Notably, this last case is unique in raising the issue of general plan consistency as a distinct claim independent of and in addition to several alleged CEQA violations.[134]

Although the 2012 case did not bring forward a specific legal claim based on vertical inconsistency between the CAP and the general plan, this was still a key factor in the case as an element of the alleged CEQA violations. Petitioner Sierra Club argued that the County violated CEQA because the CAP (1) failed to comply with the mitigation measures set forth in the general plan PEIR, (2) failed to satisfy the requirements for adopting thresholds of significance, and (3) required a supplemental EIR ("SEIR").[135] The court diffused this down to two central questions: "whether the CAP was properly approved, and whether it meets the requirements of Mitigation Measure CC-1.2."[136]

On the first issue, the Superior Court agreed with petitioners that the County should have completed an SEIR for the CAP. This reflected the courts findings that (1) the County had presented no substantial evidence that the CAP was within the scope of the general plan PEIR, (2) since the CAP did not even exist at the time of the previous PEIR it was not considered in that review, and (3) the CAP required a plan-level environmental review to assess whether it complied with AB 32 before it could be used to establish tiering or guidance for future projects.[137]

On the second issue, the court also agreed with petitioners, finding that the CAP failed to comply with mitigation measure CC-1.2.[138] The CAP not only failed to meet the general plan's GHG emission reduction targets, but described these as mere *recommendations* that would *not* ensure GHG reductions.[139] The 2012 CAP also failed to identify detailed deadlines or enforcement mechanisms as required by CC-1.2.[140] In other words, the court concluded that the CAP had violated CEQA because it was inconsistent with general plan mitigation measure CC-1.2.[141]

After the county lost at trial, the 2012 CAP was set aside, but the County appealed.[142] In 2014, California's Fourth District Court of Appeal affirmed the trial court's findings and conclusions. The CAP not

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[133] Minute Order, *Golden Door II*, *supra* note 3, at *3.
[134] *Id*. at *4.
[135] *Id*.
[136] *Id*. at *5-6.
[137] *Id*. at *7.
[138] *Id*.
[139] *Id*. at *7-8.
[140] *Id*.
[141] *Id*. at *8.
[142] *Sierra Club*, 231 Cal. App. 4th at 1157.

only failed to include detailed targets, deadlines, and enforceable GHG reduction measures as required by Mitigation Measure CC-1.2, it also failed to meet statewide GHG emissions targets as required by AB 32 and EO S-3-05.[143] In addition, the Court of Appeal found that the County had erred in assuming that the "CAP and Threshold project" was within the scope of the general plan PEIR,[144] and confirmed that a plan-level EIR would be necessary for the CAP and Threshold project to qualify as a basis for GHG impact analysis of future development projects.[145] The County's decision not to consider mitigation measures beyond 2030 and its rejection of feasible mitigation measures proposed by the Sierra Club also lacked basis in substantial evidence.[146]

After this appellate decision, the case was returned to the Superior Court, which issued a Supplemental Writ updating the conditions for the combined CAP and Threshold project.[147] The appellate decision was subsequently published and in March 2015, the California Supreme Court denied the County's petition for review.[148]

The second lawsuit in the series emerged the following year after the County issued a "2016 Climate Change Analysis Guidance" document that failed to follow the conditions set forth in the 2015 Writ.[149] As noted above, the Court of Appeals in 2014 had determined that the CAP and Threshold project required a plan-level EIR. In addition, Mitigation Measure CC-1.8 from the general plan PEIR had directed the County to "[r]evise County Guidelines for Determining Significance based on the Climate Change Action Plan."[150]

The 2016 Guidance document was accompanied by neither a plan-level EIR nor a new CAP.[151] While the County maintained that the new document was not a threshold of significance determination, it did contain a section entitled "Significance Determination" in which the narrative explained that "[t]he County Efficiency Metric is the recognized and recommended method by which a project may make impact significance determinations."[152] The document also identified a numeric value, 4.9 metric tons of carbon dioxide equivalents ("$MTCO_2e$") per service popu-

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[143] *Id*. at 1167-68, 1169-70.

[144] *Id*. at 1170-71.

[145] *Id*. at 1172-73, citing Pub. Resources Code, § 21081.6(b).

[146] *Id*. at 1175-76.

[147] *Golden Door I*, 27 Cal. App. 5th at 897.

[148] Docket, *Sierra Club v. County of San Diego*, Case Number D064243 (Cal. App. 4th).

[149] *Golden Door I*, 27 Cal. App. 5th at 897-98.

[150] GENERAL PLAN PEIR, *supra* note 121, at 2.17-31.

[151] *Golden Door I*, 27 Cal. App. 5th at 897.

[152] *Id*. at 894, 898.

lation per year, as the County Efficiency Metric for 2020.[153] Again, litigation ensued.

This time two petitioners challenged the County's approval of the guidance document in separate lawsuits. Sierra Club filed an amended petition alleging the approval had violated the 2015 Writ and CEQA,[154] and sought to enjoin the County from approving large new developments in rural areas of the county until it issued a lawful CAP.[155] The second petitioner, Golden Door Properties ("Golden Door"), filed for injunctive and declaratory relief, alleging the County had violated CEQA by attempting to establish a threshold of significance that circumvented proper environmental review.[156] Golden Door, a private destination resort in the northern part of the county, had also been opposing a large new residential development that threatened to impact the rural area near its property.[157]

The cases were heard together and the trial court agreed with petitioners that the guidance document did contain a threshold of significance as defined by CEQA, which violated Mitigation Measures CC-1.2 and CC-1.8, and was not based on substantial evidence.[158] The court also found that the document violated the terms of the 2015 Writ and constituted piecemeal environmental review.[159] The County was again unsuccessful on appeal and the 2016 Guidance document was set aside.[160] Here, the appellate court re-affirmed its previous determination that the CAP and threshold should be treated as a single project for the purpose of environmental review.[161] The Court of Appeal also noted that its finding did not prevent the County from processing development projects on unincorporated county lands or otherwise prevent developers from conducting environmental reviews of GHG emissions, but simply prohibited such activities from relying on an invalid threshold of significance determination.[162]

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[153] *Id*. at 898.

[154] Respondent's Brief (Sierra Club), *8, *Golden Door I*, 27 Cal. App. 5th 892.

[155] Id. at *15-16.

[156] *Golden Door I*, 27 Cal. App. 5th at 897.

[157] Christopher W. Garrett, Golden Door's Comments Regarding the Climate Action Plan Notice of Preparation (November 21, 2016), in COUNTY OF SAN DIEGO, DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT (August 2017), Appendix A: Notice of Preparation Comments and Summary Matrix, 74, https://www.sandiegocounty.gov/content/dam/sdc/pds/advance/cap/publicreviewdocuments/DraftSEIRdocuments/Apdx%20A%20NOP%20%26%20Comments.pdf.

[158] *Golden Door I*, 27 Cal. App. 5th at 897.

[159] *Id*.

[160] *Id.* at 894-95.

[161] *Id*. at 906.

[162] *Id*.

The third and current case in this prolonged dispute commenced in 2018 after the County issued and approved the long-awaited revised CAP and SEIR.[163] Both Sierra Club and Golden Door participated in the public review process and commented on the Draft EIR ("DEIR"), and both challenged the 2018 CAP in separate actions, which were then consolidated with the still lingering writ from Sierra Club's 2012 case.[164] Notably, this last case is unique in raising the issue of general plan consistency as a distinct claim independent of and in addition to multiple alleged CEQA violations.

C. THE 2018 CAP

Like its predecessor, the 2018 CAP concluded that the level of GHG emissions resulting from the 2011 GPU will exceed the reduction targets set forth in mitigation measure CC-1.2.[165] While the CAP purports to be on track to meet its stated 2020 target, it projects that the county will fail to meet its 2030 target by nearly 900,000 $MTCO_2e$.[166] That is, rather than meeting its stated target of reducing GHG emissions to 40% below 2014 levels by 2030, the County expects to reduce emissions by only 12% below 2014 levels in this time frame.[167] The CAP's outlook for emissions after 2030 is even worse, with GHG emissions expected to climb back to a level just 7% below 2014 levels by 2050.[168] Notably, the CAP also declined to examine GHG reduction strategies for the period beyond 2030 because this would be too speculative.[169]

In addition, the CAP acknowledged that new development projects adopted by general plan amendments ("GPAs") between 2011 and 2017 had already increased the overall GHG emissions likely to result from the general plan and anticipated that additional GPAs would have a similar effect, making it even more difficult to achieve future targets.[170] Moreover, the CAP adopted a target for 2020 that was only 2% below the 2014 baseline, a much smaller reduction than the goal of 9% below

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[163] Minute Order, *Golden Door II*, *supra* note 3, at *3.

[164] *Id*.

[165] County of San Diego, CLIMATE ACTION PLAN, 2-10 – 2-14 (February 2018), https://www.sandiegocounty.gov/content/dam/sdc/pds/advance/cap/publicreviewdocuments/PostBOSDocs/San%20Diego%20County%20Final%20CAP.pdf.

[166] *Id*. at 2-12. Figure 2.3 indicates the 2014 baseline at 3,211,595 $MTCO_2e$ with the 2030 target at 1,926,903 $MTCO_2e$, but projects actual emissions for 2030 will be 2,824,049 $MTCO_2e$.

[167] *Id*.

[168] *Id*.

[169] *Id*. at 2-10.

[170] *Id*. at 2-14.

2006 levels that was set forth in the 2011 GPU.[171] Even with these modified targets, however, the CAP forecasted substantial shortfalls, or "emissions gaps," in meeting its proposed 2030 and 2050 targets.[172]

The CAP's proposed solution for not meeting the County's GHG emission reduction targets was Mitigation Measure GHG-1 ("M-GHG-1"), a carbon offset purchase program.[173] According to the CAP,

> [w]ith the incorporation of Mitigation Measure GHG-1 . . . all future GPAs that propose increased density/intensity above what is allowed in the General Plan will comply with the CAP and; therefore, will not interfere with the County's 2020 and 2030 GHG reduction targets or 2050 goal. General Plan Amendments would, therefore, comply with the threshold of significance, which is consistency with the CAP.[174]

Like magic, GHG emissions would no longer be a problem. M-GHG-1 provided that "[o]ff-site mitigation, including purchase of carbon offset credits, would be allowed after all feasible on-site design features and mitigation measures have been incorporated," and placed no limits on the amount or percentage of a project's GHG emissions that could be "reduced" by offsets.[175] In contrast, CARB's statewide carbon offset program limits reliance on offsets to 8% of a project's total annual emissions.[176]

M-GHG-1 also identified "geographic priorities" to favor onsite GHG reductions over offsets and local offset projects over more distant ones — but if local offset credits are not feasible or available, it allowed offsets to be purchased for projects anywhere in the world.[177] An applicant need only satisfy the County's Director of the Planning and Development Service ("PDS") that all feasible design changes had been made and any offsets to be purchased would comply with M-GHG-1.[178] Thus, so long as a sufficient quantity of offsets is purchased and approved by the planning director, virtually any project could be deemed compliant

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[171] *Id*. at 2-10 – 2-11. Here the CAP maintains that the overall decrease in statewide emissions between 2005 and 2014 reduces the per capita contribution needed at the county level.

[172] *Id*. at 2-12, 2-14.

[173] *Id*. at 2-14.

[174] *Id*.

[175] County of San Diego, Final Supplemental Environmental Impact Report: Supplement to the 2011 General Plan Update Program Environmental Impact Report for the Climate Action Plan, General Plan Amendment, GHG Threshold, and Guidelines for Determining Significance for Climate Change, 2.7 at 38-40 (January 2018), (SCH # 2016101055) [hereinafter Climate Action Plan SEIR].

[176] CARB, Process for the Review and Approval of Compliance Offset Protocols, *supra* note 73, at 8.3, 10. This percentage will decrease in 2021.

[177] Climate Action Plan SEIR, *supra* note 175, 7-4 – 7-6.

[178] *Id*.

with the CAP, even if it actually produced a substantial increase in countywide GHG emissions.[179]

The 2018 CAP's approach of relying on offsets to achieve climate mitigation was thus substantially different than the one set forth in the 2011 GPU. Where the general plan mitigation measure CC-1.2 required "a 9% reduction in *community* emissions,"[180] the CAP allowed offset purchases to substitute for actual reductions.[181] While *local* offset credits might allow communitywide emissions reductions to stay on track to meet targets, and could benefit the community in other concrete ways, such as reducing pollution or expanding greenways and open space, the CAP's policy did not ensure local GHG reductions.

The chance of obtaining offset credits for projects within the county was very slim; as only one eligible project existed at the time, making few if any local offsets available.[182] Most offset purchases would thus provide little if any direct benefit to the residents of the county — other than the disputed benefit of facilitating approval of development projects that would otherwise fail to comply with AB 32 targets for reducing local GHG emissions. Under the CAP's approach, the County could approve development projects in the unincorporated county that would expand urban sprawl and perpetuate unsustainable transportation and land use patterns without regard for reducing countywide GHG emissions, so long as the applicants could purchase enough offset credits.

The general plan, however, included no allowance for using offsets to substitute for actual compliance. Mitigation measure CC-1.2 set a clear target for reducing *community* GHG emissions. By the time the CAP was issued, the general plan also contained updated goal and policy language, including Goal COS-20:

> Reduction of *community-wide* (i.e., unincorporated County) and County Operations greenhouse gas emissions contributing to climate change that meet or exceed requirements of the Global Warming Solutions Act of 2006, as amended by Senate Bill 32 (as amended, Pavley. California Global Warming Solutions Act of 2006: emissions limit).[183]

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[179] In fact, the County used M-GHG-1 to approve a development project that was expected to increase local GHG emissions by more than 43,000 MTCO2e/yr. for the next thirty years; *see* COUNTY OF SAN DIEGO, NEWLAND SIERRA PROJECT PLANNING COMMISSION STAFF REPORT, Attachment G: Findings Regarding Significant Effects Pursuant to State CEQA Guidelines Sections 15090, 15091 and 15093, 74-83 (June 28, 2018), https://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/NS/NSFEIR/NSapp/Full%20Version%20Staff%20Report%20(Optimized).pdf.

[180] GENERAL PLAN PEIR, *supra* note 121, at 2.17-30 (emphasis added).

[181] CLIMATE ACTION PLAN SEIR, *supra* note 175, at 7-4 – 7-6.

[182] Minute Order, *Golden Door II*, *supra* note 3, at *13.

[183] COUNTY OF SAN DIEGO GENERAL PLAN, *supra* note 120, at 5-38 (emphasis added).

and Policy COS-20.1:

> Climate Change Action Plan. Prepare, maintain, and implement a Climate Action Plan for the reduction of *community-wide* (i.e., unincorporated County) and County Operations greenhouse gas emissions consistent with the California Environmental Quality Act ("CEQA") Guidelines Section 15183.5.[184]

The general plan's emphasis on "community" and "community-wide" reduction of GHG emissions is thus quite clear. Nowhere does the general plan contemplate the idea of allowing carbon offsets to replace some portion of community-wide GHG reductions. By allowing out-of-county offsets to substitute for in-county GHG reductions, the 2018 CAP would allow in-county emissions to exceed the general plan's stated goals. This would effectively undermine the County's commitment to meet the statewide GHG reduction goals as set forth in general plan mitigation measure CC-1.2 and Goal COS-20.

The Supreme Court of California has made clear that "[t]he propriety of virtually any local decisions affecting land use and development depends upon consistency with the applicable general plan and its elements."[185] It is also well established that "[a]n action, program, or project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment."[186] Accordingly, insofar as M-GHG-1 would obstruct the attainment of the general plan's objectives and policies, the 2018 CAP would appear to be inconsistent with the general plan.

D. 2018 CAP Litigation

The issue of general plan consistency was finally raised directly in the third round of the case. Petitioners Sierra Club and Golden Door again brought independent claims alleging that the 2018 CAP was inconsistent with the County's general plan.[187] Both also alleged that the County had violated CEQA by failing to provide adequate review of mitigation measure M-GHG-1.[188]

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[184] *Id*. at 5-39 (emphasis added).

[185] *Orange Citizens for Parks & Recreation v. Superior Court*, 2 Cal. 5th 141, 153 (2016), citing *Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal.3d 553, 570 (1990); *see* Cal. Gov't. Code §§ 65359 (requiring specific plans to be consistent with the general plan), 65860 (same with respect to zoning ordinances), 65867.5(b) (same with respect to development agreements).

[186] *Id*., citing OPR, General Plan Guidelines (2003), p. 164; See also OPR, General Plan Guidelines, *supra* note 17, at 255, citing 58 Ops. Cal. Atty. Gen. 21, 25 (1975).

[187] Minute Order, *Golden Door II*, *supra* note 3, at *4.

[188] *Id*.

With respect to general plan consistency, the Superior Court explained that the burden is on petitioners "to show why, based on all of the evidence in the record," the local government's determination of consistency was unreasonable.[189] The court also noted that "[a] project fails for general plan inconsistency if it conflicts with a general plan policy that is fundamental, mandatory and clear."[190] Although a local government is entitled to considerable deference in making a consistency finding,[191] a court may disagree if it determines that a reasonable person would not reach the same conclusion based on the evidence.[192] Here, the County maintains that the terms "local" and "community-wide" GHG reductions, as used in the context of the general plan policies and mitigation measures, meant only that the emissions *sources* were within the county's jurisdictional control, but not that the emissions *reductions* in GHG had to take place within the county.[193] However, Petitioners/Respondents argue to the contrary that there is no substantial evidence in the record to support this claimed usage, even within the CAP itself,[194] and that the reasonable person standard applied in this context must look to the ordinary meaning of the general plan's terms.[195]

After considering the arguments, the Superior Court found that the County had "incorporated a fundamental, mandatory, and clear policy into both the 2011 and 2018 iterations of the general plan: that GHG emission reductions be local."[196] Although the 2011 version of policy COS-20 used the terms "local GHG emissions" and the 2018 version used the terms "community-wide (i.e. unincorporated County) and County operations greenhouse gas emissions," both formulations expressly required the GHG reductions to be "in-County."[197] The CAP, on the other hand, which "expressly incorporated" M-GHG-1, "would freely allow the use of offsets purchased anywhere on the planet, with no limit on geographic scope or duration" and "[n]o standards or criteria . . . for achieving the 'satisfaction' of the planning director."[198]

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[189] *Id*. at *8, citing *San Diego Citizenry Group v. Cty. of San Diego*, 219 Cal. App. 4th 1, 26 (2013).

[190] *Id*. at *12, citing *Spring Valley Lake Ass'n v. City of Victorville*, 248 Cal. App. 4th 91, 100 (2016).

[191] CSD, Opening Brief in 2019 Appeal, *supra* note 75, *24-25.

[192] OPR, GENERAL PLAN GUIDELINES, *supra* note 17, at 255.

[193] CSD, Opening Brief in 2019 Appeal, *supra* note 75, at *31-32, citing *No Oil, Inc. v. City of Los Angeles*, 196 Cal. App. 3d 223 (1987).

[194] Respondent's Brief (Golden Door), *38, *Sierra Club v. Cty. of San Diego*, Case No. D075478, 2019 WL 4795704 (Cal. App. 4th, September 23, 2019) [hereinafter Respondent's Brief (Golden Door) in 2019 Appeal].

[195] *Id*. at 31, citing *People v. Robinson*, 47 Cal.4th 1104, 1138 (2010).

[196] Minute Order, *Golden Door II*, *supra* note 3, at *12.

[197] *Id*.

[198] *Id*. at *12-13.

The court concluded that the CAP's policy of allowing out-of-county offsets for in-County projects was inconsistent with an express policy of the General Plan.[199] The County had not only "violated its General Plan and the Planning and Zoning Law," but had also violated the public participation mandate of CEQA by granting an unelected local official "unfettered discretion" to waive compliance with a duly approved general plan policy.[200] The CAP's geographic priorities were neither binding nor enforceable, and there was no substantial evidence on record to indicate that the general plan's commitment to in-county GHG reductions meant anything other than what it plainly stated.[201] The Superior Court of San Diego thus agreed with petitioners' argument that the County's 2018 CAP should be set aside because it was inconsistent with the 2011 general plan.[202]

With respect to the several CEQA claims raised, the trial court again ruled in favor of petitioners. This included eight distinct violations; (1) the County failed to show that the offsets would be "enforceable, verifiable, and of sufficient duration" as required by AB 32, (2) the SEIR failed to adequately analyze the impact of the 2018 CAP on the Regional SCS, (3) the SEIR failed to adequately analyze M-GHG-1 impacts, (4) the SEIR failed to analyze cumulative GHG impacts, (5) the County improperly delegated and deferred feasibility findings to the Planning Director, (6) the SEIR failed to address impacts to energy and environmental justice, (7) the SEIR failed to evaluate smart growth mitigation or alternatives to GPAs, and (8) the County failed to adequately respond to comments.[203] Based on these findings together with general plan inconsistency, the court ordered the 2018 CAP set aside and issued a permanent injunction prohibiting the County's use of M-GHG-1 to mitigate GHG emissions impacts.[204] In the interest of due process, the court explained, the injunction did not prohibit the County from continuing to approve development projects or even from applying other mitigation measures that might have similar features to M-GHG-1.[205]

The CAP case is now under appeal with a hearing scheduled for May 2020. The County is challenging the Superior Court ruling on all points, including the court's determination that the CAP violated the general plan.[206] According to the County, the court failed to grant proper

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[199] *Id*. at *13.
[200] *Id*.
[201] *Id*.
[202] *Id*. at *12.
[203] *Id*. at *13-15.
[204] *Id*. at *16-17.
[205] *Id*. at *17.
[206] CSD, Opening Brief in 2019 Appeal, *supra* note 75, at *12.

deference to the County's consistency finding and M-GHG-1 is an "eminently reasonable" interpretation of the general plan's "broad policy statements."[207] The County further argues that because CARB's statewide cap-and-trade program allows the purchase of out-of-state and out-of-county offsets, then mitigation measure M-GHG-1 should be allowed to as well.[208] Petitioners/Respondents, meanwhile, point to the general plan's specific policy language addressing in-County GHG reductions and itemize the many substantial differences between CARB's statewide offset program and the County's formulation under M-GHG-1."[209]

While it remains to be seen which party will prevail on appeal, the issue of general plan consistency has for the time being emerged as an important consideration for climate-related land use planning.

V. Broader Implications of the San Diego Litigation

The San Diego County CAP case illustrates an application of vertical consistency in the climate change context as well as the importance of local land use decisions in achieving climate mitigation goals. Even as petitioners undertook to stay or enjoin the County from utilizing measure M-GHG-1 during the legal proceedings, the County quickly used the measure to approve a major new subdivision in a rural area of the county. In this instance, offset credits were allowed to substitute for 82% of the project's expected GHG impact, effectively increasing the county's local GHG emissions by more than 43,000 $MTCO_2e$/yr. for the next thirty years.[210] While this project was subsequently challenged and ultimately rejected by voter referendum in March 2020, this further underscores the importance of this litigation.[211] Land use choices made now will impact GHG emissions for decades to come and greatly influence the ability of communities to achieve climate mitigation and adaptation.

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[207] *Id*., at *12, *30, *34-35.

[208] *Id*., at *32-34.

[209] Respondent's Brief (Golden Door) in 2019 Appeal, *supra* note 194, at *35, *58-59; Respondents' Opposition Brief (Sierra Club), *30-31, *47-50, *County of San Diego v. Sierra Club, et al.,* Case No. D075478, 2019 WL 4795705 (Cal. App. 4 Dist., September 24, 2019).

[210] County of San Diego, Newland Sierra Project Planning Commission Staff Report, Attachment G: Findings Regarding Significant Effects Pursuant to State CEQA Guidelines Sections 15090, 15091 and 15093, 74-83 (June 28, 2018). This project, expected to generate 52,986 MTCO2e/yr. for thirty years, was approved by County Commissioners but then blocked by petition and rejected by voter referendum in March 2020.

[211] J. Harry Jones, "*In the Aftermath of Measures A & B, What's Next?*" San Diego Union-Tribune (March 29, 2020, 5 am), https://www.sandiegouniontribune.com/business/growth-development/story/2020-03-29/in-the-aftermath-of-measures-a-b-what-next.

The broader implications of this case will of course depend to a great extent on the specific content of the appellate court's forthcoming ruling. However, the dispute to date already provides an example of how general plans and vertical consistency can be important to legal advocacy in the climate change context. This section explores several aspects of the San Diego case in relation to California's evolving response to climate change in order to consider how this might inform the relevance of vertical consistency as a legal strategy for advancing climate mitigation and climate adaptation at the local level.

A. Extending General Plan Consistency to CAPS

As noted in Part II, climate provisions in general plans have the potential advantage of enforceability.[212] While the issue of vertical consistency between CAPs and general plans has not been previously established, the extension of this principle would seem to fit well with the existing legal structure and principle of general plans as constitution for future development.

Provisions of the Government Code already require zoning designations, maps, projects, and special plans to be consistent with general plans.[213] Section 65359, in particular, broadly provides that "[a]ny specific plan *or other plan* of the city or county that is applicable to the same areas or matters affected by a general plan amendment shall be reviewed and amended as necessary to make the specific or other plan consistent with the general plan."[214] While CAPs are not land use plans per se, they do appear to fit well within the broad category of *other plans applicable to the same areas or matters affected by a general plan*. Insofar as a CAP provides strategies to guide local development priorities, it clearly impacts areas and matters addressed by a general plan. Caselaw also agrees that "virtually all local decisions affecting land use and development must be consistent with the general plan."[215] Accordingly, it is no great leap for a court to clarify that vertical consistency similarly applies to CAPs. If the appellate court affirms the superior court's extension, however, this could establish a useful precedent.

One foreseeable implication of a published ruling on this issue would be to make general plan consistency more prominent as a poten-

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[212] *See supra* note 31.

[213] *See* Cal. Gov't. Code §§ 65454 (addressing special plans), 65860 (addressing zoning designations), 65867.5(b) (addressing development agreements).

[214] Cal. Gov't Code § 65359 (emphasis added).

[215] *Fed'n of Hillside & Canyon Ass'ns v. City of Los Angeles*, 83 Cal. App. 4th 1252, 1260 (2000), citing *Citizens of Goleta Valley*, 52 Cal. 3d at 571.

tially availing legal strategy in the climate context. In disputes similar to that in the San Diego case, where a CAP would undercut strong climate mitigation policies set forth in a general plan, a clear precedent could support efforts to hold local officials accountable to the duly enacted general plan. On the other hand, in situations where a CAP set forth stronger GHG reduction strategies than a general plan, this could cut the other way. An appellate finding that CAPs must be consistent with general plans could invite closer analysis of this issue on all sides of future conflicts involving CAPs and general plans.

The enforceability of general plan consistency also has some important limitations. As noted by the Superior Court in its 2018 ruling, courts have placed the burden on petitioners to show why a city's or county's consistency determination is unreasonable.[216] The County's argument that it is entitled to great deference in such determinations is not without merit.[217] Courts review general plan consistency under the arbitrary and capricious standard, and "defer to an agency's factual finding of consistency unless no reasonable person could have reached the same conclusion on the evidence before it."[218] This deference reflects the separation of powers between the judicial and legislative branches of government, which counsels judicial restraint in interpreting the legislative enactments of municipal and county governments.[219] Therefore, so long as a local government provides a reasonable basis for a consistency finding, and the finding does not contradict the evidence on record, it is likely to be upheld.

Another key factor in the enforceability of general plan provisions is the specificity and clarity of the language with which these are articulated. As the trial court observed, "[a] project fails for general plan inconsistency if it conflicts with a general plan policy that is *fundamental, mandatory and clear*."[220] Similarly, a 2011 review of court decisions addressing claims of general plan inconsistency found that courts were more likely to enforce the implementation of general plan policies where these are "fundamental, specific, and mandatory."[221] Conversely,

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[216] Minute Order, *Golden Door II*, *supra* note 3, at *8.

[217] *Id*.

[218] *Endangered Habitats League, Inc. v. Cty. of Orange*, 131 Cal. App. 4th 777, 782 (2005); *see also*, *San Francisco Tomorrow v. City & Cty. of San Francisco*, 229 Cal. App. 4th 498, 514, (2014).

[219] Carstens, *supra* note 36, at 576. *See also*, *San Francisco Tomorrow*, 229 Cal. App. 4th at 515.

[220] Minute Order, *Golden Door II*, *supra* note 3, at *12 (emphasis added).

[221] Carstens, *supra* note 36, at 575.

"[w]here policies are vague or permissive, courts have tended to defer to the adopting agency's interpretation of the plan.[222]

The present case appears to correlate well with this distinction, affirming that the clear and mandatory language of the GPU's mitigation measures allowed the court to make a determinative finding that GHG emissions reductions were required to be local. However, general plan policies are often held to be broad general principles rather than mandatory requirements.[223] Had the policy language been expressed in a more hortatory voice, like the 2012 CAP's treatment of GHG reduction strategies as mere recommendations and guidelines, the outcome of the case could have been quite different.[224] Here, the fact that CEQA required the 2011 GPU PEIR mitigation measures to be enforceable also may have influenced the clarity of the policy language as well as the court's determination that the policies were mandatory.[225]

These considerations underscore the value of advocating for clear and mandatory climate policies to be incorporated directly into general plans. Including policies in general plans rather than relying on CAPs opens the door to enforcement through vertical consistency, because it is the general plan policies that other local plans must conform to. However, whether these policies originate as mitigation measures under CEQA or voluntary measures advanced by local leaders, clear mandatory language and policy headings are likely to aid enforceability.

B. Statewide Climate Mandates and Local General Plans

Significantly, the San Diego conflict arose after the general plan adopted mitigation measures to comply with statewide climate mandates, AB 32 and SB 97. It is unclear whether the county would have adopted mitigation measure CC-1.2 had it not been for the statutory mandates adding climate change analysis to CEQA review.[226] This illustrates the influence of statewide climate initiatives on local land use planning and the tension between these two levels of decision-making. In this case, the statewide mandates effectively forced the County to modify its general plan by adopting CC-1.2.[227] This not only caused climate mitigation goals to be incorporated into the general plan, but required those goals to conform with AB 32, and set the CAP project into motion.[228] The influ-

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[222] *Id*.
[223] *San Francisco Tomorrow*, 229 Cal. App. 4th at 517.
[224] Minute Order, *Sierra Club (2013)*, *supra* note 15, at *7.
[225] Cal. Pub. Res. Code § 21081.6 (b).
[226] *Id*.
[227] *Sierra Club v. Cty. of San Diego*, 231 Cal. App. 4th at 1158-59.
[228] *Id*.

ence of state government on local land use planning was substantial in this instance and narrowed the scope of the county's discretion to chart its own plan for growth and development.

While the state policies succeeded in getting the county to adopt climate mitigation measures, however, a costly multi-year dispute ensued. Whether such tradeoffs are acceptable or avoidable raises difficult questions. Given the urgency of climate mitigation, forcing local agencies to take action may be necessary in some situations. Local land use plans can influence GHG emissions for decades to come by locking in housing and transportation patterns and infrastructure needs that set the stage for a high-emissions future or a low-emissions future. Where local governments lack the political will to act voluntarily, litigation offers an important lever to advance the broader public interest in reducing GHG emissions.

On the other hand, taking an adversarial approach can foreclose opportunities for collaboration and exacerbate already poor buy-in. Where local inaction reflects a lack of technical staff and financial resources, the more collaborative approach facilitated by SB 375 may be more productive.[229] Regional planning organizations can help local governments overcome hurdles to developing and funding feasible strategies for reducing GHG emissions.[230] This illustrates another way that the statewide mandates can influence local land use decisions.

Importantly, local governments can also be a driver of state policy. For example, the state's ambitious goals for comprehensive planning to address climate mitigation might not have been feasible had it not been for the development of CAP's by pioneering cities and organizations.[231] Without this framework and preliminary work to develop methods for calculating GHG emissions, requiring this through CEQA review would have placed an oppressive and possibly unrealistic burden on local governments.[232] Thus, while state forcing is one side of the coin, local advocacy and leadership can also influence state policy and actions. Promoting a dynamic exchange of ideas between these levels of government is probably the best approach to advancing statewide policy that integrates state and local interests.

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[229] MAWHORTER, ET AL., *supra* note 85, at 7-9.
[230] *Id*.
[231] SEEC, STATE OF LOCAL CLIMATE ACTION: CALIFORNIA 2016*, supra* note 2, at 15-17.
[232] CARB, 2008 SCOPING PLAN, *supra* note 68, at 26-27.

C. Local Land Use Plans and Regional Sustainable Community Strategies

The San Diego County CAP case also invites some observations about the relationship between local land use planning and the state's regional planning framework. As noted in Part III, SB 375 seeks to integrate housing and transportation planning at the regional level to encourage housing developments that align with regional GHG reduction goals.[233] This requires MPOs to develop regional partnerships with local governments and other stakeholders to develop SCSs that identify priority areas for future development of housing and regional transportation systems.[234] The outcome of the appeal in this case could have significant impacts on the regional SCS by determining which of the County's policies will guide future development decisions in a large part of the region. That is, while the general plan's policies and mitigation measure CC-1.2 would require the county to reduce in-County GHG emissions to an extent similar to the SCS goals,[235] the CAP's mitigation measure M-GHG-1 would potentially allow unlimited approvals of subdivisions that drive up in-County emissions and conflict with efforts to meet regional GHG reduction goals.

This points to a difficulty faced by many communities in California, which is how to address housing needs and GHG reductions at the same time. While SB 375 attempts to link these objectives by providing guidance and incentives for advancing housing developments that minimize transportation-related GHG emissions,[236] the County in this case does not appear to have taken advantage of these programs or even consulted the SCS. Notably, the Superior Court found that the County, in its SEIR for the 2018 CAP, failed to examine inconsistencies between M-GHG-1 and the regional SCS as required by CEQA,[237] and also failed to consider "smart-growth" alternatives to M-GHG-1 as requested by petitioners and supported by caselaw.[238]

While the County notes the "need to balance climate action with the major housing crisis in San Diego,"[239] it appears to frame this as an either-or proposition requiring offsets. In its Opening Brief on Appeal,

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[233] Cal Gov't Code § 65080.

[234] *Id*.; *See also* CARB, 2008 Scoping Plan, *supra* note 68, at 48-49.

[235] Both CC-1.2 and the SCS are aligned to statewide targets.

[236] CARB, 2008 Scoping Plan, *supra* note 68, at 48-51.

[237] Minute Order, *Golden Door II*, *supra* note 3, at *13-14, citing CEQA Guidelines § 15125(d).

[238] *Id*. at *15, citing *Cleveland Nat'l Forest Found. v. SANDAG*, 17 Cal. App. 5th 413, 433-34 (2017).

[239] CSD, Opening Brief in 2019 Appeal, *supra* note 75, at *33 (internal quotation omitted).

the County argues that the general plan's policies are intended to be broad and flexible to allow such balancing, and concludes that "[t]he County thus had discretion to weigh the GHG emission reduction measures included in the CAP and as SEIR mitigation measures against its goals to construct sufficient housing to meet the needs of all of its residents, which is what it did."[240] While the Court of Appeals will soon weigh in on whether the general plan policies are in fact broad and flexible or fundamental, mandatory, and clear, the County's framing of this issue suggests that it perceives reducing GHG emissions and approving housing developments as conflicting duties. Rather than collaborating with regional partners to explore smart growth alternatives, the County adopted M-GHG-1 as a means to approve housing developments notwithstanding potentially significant local GHG-emissions.

While there is no requirement that general plans be consistent with an SCS, public comments on the 2018 CAP's DEIR raised concerns that M-GHG-1 would impair efforts to achieve the sustainable development goals of the regional SCS.[241] Here, the County took the position that the regional plan should be adjusted to align with the general plan, while Petitioners argued that the County's EIR failed to identify inconsistencies between the CAP and the SCS.[242] Although it's true that the regional MPO is supposed to *consider* general plans when it formulates the SCS, there is no requirement that the SCS must strictly conform to general plans or be modified if they do not.[243]

As a practical matter, it seems unreasonable to require an MPO to limit an SCS to only identifying options that are consistent with every local general plan in the region. Too strict a policy could prevent the identification of regional development opportunities that local governments may not have considered or perceived as within their scope of authority when a general plan was formulated. At the same time, it is not unthinkable that provisions in a regional SCS could lead a community to reconsider its options and even amend its general plan to take advantage of emerging opportunities for regional collaboration. For smaller communities or low-income communities, in particular, regional agencies may offer important technical support and other resources for developing local climate mitigation and adaptation strategies that might otherwise be out of reach and leave communities at risk.[244]

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[240] *Id*. at *35.

[241] Minute Order, *Golden Door II*, *supra* note 3, at *11, *13-14.

[242] Respondents' Opposition Brief (*Sierra Club*) in 2019 appeal, *supra* note 209, at *62-70.

[243] CEQA Guidelines § 15125(d).

[244] MAWHORTER, ET AL., *supra* note 85, at 22-24.

Moreover, while SB 375 makes clear that nothing in an SCS compels a local government to follow it, this doesn't diminish the value of the SCS as an informational and strategic document.[245] State law requiring general plan EIRs to examine and discuss inconsistencies with an SCS ensures that local governments will at least *consider* the SCS and identify reasons for not aligning to the regional strategy for reducing GHG emissions. This advances information sharing, which may help regional agencies identify obstacles and modify plans to better address local needs and emerging issues. It may also encourage local authorities to review their reasons for diverging from the regional guidance and to reconsider whether lower GHG alternatives were adequately evaluated. In general, promoting regional coordination and collaboration can open the way to new opportunities for joint problem solving to advance local and regional goals. This is likely to be a valuable asset as climate change continues to pose new challenges and threats for decades to come.

D. Application to Climate Adaptation Policies

While the San Diego case is primarily concerned with climate mitigation policies, the use of vertical consistency to enforce general plan provisions may extend to climate adaptation as well. As noted in Part III, legislation amending the mandatory elements framework of general plans added the requirement that local governments begin addressing climate-related risks and vulnerabilities within the safety element. In particular, all general plans must be amended "to address climate adaptation and resiliency strategies applicable to the city or county" within the safety element by 2022.[246] Communities located in state-designated "fire hazard security zones" must also add fire hazard information and fire response plans to their safety elements upon the next update of the housing element.[247] In addition, CNRA's 2018 update to the *Safeguarding California Plan* contemplates a future amendment to the housing element that would integrate analysis of climate hazards and mitigation strategies into community growth and development plans.[248] Based on these new and proposed requirements, it appears that general plans are likely to incorporate more climate adaptation and resilience policies in years to come, which stands to further increase the relevance of vertical consistency as a legal tool for advancing climate resilience.

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[245] Cal. Gov't Code § 65080(b)(2)(K).

[246] SB 379, 2015 Cal. Stat. 608, amending Cal. Gov't Code § 65302(g)(4).

[247] SB 1241, 2012 Cal. Stat. 587; amending Cal. Gov't Code § 65302(g)(3).

[248] CNRA, Safeguarding California Plan: 2018 Update, *supra* note 97, at 83.

Like the GHG emissions policies in the San Diego case, the enforceability of general plan policies advancing climate adaptation goals may similarly depend on whether the policies are formulated to be "fundamental, mandatory and clear."[249] The regional and even statewide nature of risks like sea level rise, wildfire risk, and drought also points to the importance of increased coordination across local, state, and regional levels of government. As more effects of climate change are felt, information and resource sharing will be increasingly helpful for developing strategies to protect vulnerable communities. At the same time, local land use choices will continue to play a pivotal role as communities choose how and where to grow and develop in the face of new threats and changing conditions.

VI. CONCLUSION

This paper has explored the use of vertical consistency as a legal advocacy tool in the climate change context. Although vertical consistency has not been a prominent issue in climate advocacy in the past, the San Diego County Cap case illustrates how this principle can be used to hold local officials accountable to the climate policies enacted in their general plans. It also speaks to the importance of local land use planning and the role of general plans in achieving GHG emissions reductions. While the impact of any one development project, or even one community, may seem negligible when compared to the magnitude of the climate, there is no doubt that the incremental GHG emissions resulting from local land use decisions will contribute measurably to the overall levels of GHG in the atmosphere.[250] Land use choices made now will impact GHG emissions for decades to come and greatly influence the ability of communities, regions, and states to achieve climate mitigation and adaptation goals in the future.

As California's response to climate change continues to evolve, several factors suggest that local land use planning, and general plans in particular, will become more prominent in the effort to achieve climate mitigation and climate adaptation goals. First, statewide mandates initiated under AB 32 and SB 97 have required many communities to adopt climate mitigation policies into their general plans in order to comply with CEQA. Second, regional planning and CEQA streamlining enacted by SB 375 and other statutes have led many communities to adopt plan-level policies for meeting GHG reduction targets. Third, additional leg-

[249] Minute Order, *Golden Door II*, *supra* note 3, at *12.

[250] *See*, *e.g.*, the Court's discussion of causation in *Massachusetts v. E.P.A.*, 549 U.S. 497, 523-24 (2007).

islation amending the mandatory elements of general plans now requires communities to add climate adaptation and resilience strategies to their general plans as well. Given the increasing urgency of responding to climate change and the growing recognition that local land use planning has a pivotal role in envisioning and implementing climate solutions at the local level, this trend is likely to continue. General plans are thus likely to become more instrumental in community responses to climate change, which in turn could make vertical consistency more relevant as a lever for enforcement and accountability.

The San Diego case also illustrates that communities are often divided over how to achieve climate mitigation and adaptation. Importantly, litigation is just one tool and collaborative strategies that can help community members negotiate their differences are also essential to achieving the state's bold vision of climate change solutions. However, as the trial court observed in 2012, this case is taking place "in a setting in which hundreds of thousands of people in [the County] live in low-lying areas near the coast, and are thus susceptible to rising sea levels associated with global climate change," which means "enforceable mitigation measures are necessary now."[251] This points to a need for general plans to adopt fundamental, clear and mandatory policies to guide local growth and development towards a low-carbon and climate-resilient future.

As this paper goes to publication, the Court of Appeals is yet to issue its decision on the County's appeal. If the County prevails, this could lead to higher local GHG emissions and encourage other cities and counties to adopt measures like M-GHG-1. Alternatively, if the Court of Appeals affirms that the 2011 general plan's commitment to reducing GHG emissions is enforceable, this could encourage the County to finally begin implementing projects that are vertically consistent with its general plan. Hopefully, the appellate decision will be one that strengthens the larger collective effort to reduce GHG emissions and adapt to changing conditions in order to provide for the well-being of communities and our common future.

[251] Minute Order, *Sierra Club (2013)*, *supra* note 15, at 7.

HOSTILE ENVIRONMENTS: PUBLIC HEALTH AND ENVIRONMENTAL IMPACTS OF THE TRUMP ADMINISTRATION'S ATTEMPTED REVERSAL OF SEX STEREOTYPING AS SEX BASED DISCRIMINATION

JUDE DIEBOLD[1]

I. INTRODUCTION: LIFE AS A TRANSGENDER PERSON IN THE UNITED STATES

Imagine coming into your place of employment, where your employer has, unknowingly for many years, referred to you as the wrong gender. Imagine further, this treatment is the overall cultural norm in your place of employment, and society at large. From day to day, you drift through a world where you are not seen — a world that ascribes to you an identity that greatly differs from the person you know yourself to be. Now, imagine after years of putting up with this treatment, you come into the place of your work, correct your employer and tell them, I am actually a woman. In the midst of your great act of bravery, self-love, and human vulnerability, your employer reacts by firing you. Further, your employer admittedly fires you because they 'disagree' with the person you are, and simply believe you should not exist. In 2013, this is what happened to Aimee Stephens, the plaintiff in the recent supreme

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court case, *R.G. & G.R. Harris Funeral Homes v. Equal Employment Opportunity Commission*.[2]

An event like this can have tragic consequences for the individual involved. However, what is often overlooked is the community impact that discriminatory conduct precipitates, including negative public health outcomes and environmental issues. This paper will explore the resounding effects of not only what happens to transgender people who are denied workplace discrimination protections, but the residual public health and environmental impacts in communities where transgender workplace discrimination occurs.

In 2013, Aimee Stephens, an employee of six years at R.G & G.R. Harris Funeral Homes, informed her employer she is transgender, and would begin living as a woman full time.[3] The employer disbelieved Stephens' gender identity; they viewed Stephens as male, and in violation of their sex specific dress code for men, which requires men to wear button downs and ties, and women to wear skirts and heels.[4] Two weeks after informing her employer of her true gender identity, Harris Funeral Homes fired Stephens, stating that her refusal to abide by the sex specific dress code as a "biological male" was the reason for termination.[5] The employer has not denied that Ms. Stephens was fired due to her transgender identity, but rather, contends that her gender identity is not a protected by the Civil Rights Act of 1964, which prohibits discrimination on the basis of sex, among other forms.[6]

A. Making the Threshold Distinction Between Sex and Gender

Ms. Stephens' employer discriminated against her, at least in part, due to a deep misunderstanding about sex and gender. The AMA Journal of Ethics defines sex and gender as follows: "Sex refers to the biological differences between males and females. Gender refers to the continuum of complex psychosocial self-perceptions, attitudes, and expectations people have about members of both sexes."[7] However, simply defining sex as biological and gender as expression or self-perception

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[2] *Equal Employment Opportunity Comm'n v. R.G. &. G.R. Harris Funeral Homes, Inc*., 884 F.3d 560 (6th Cir. 2018).

[3] Brief in Opposition for Respondent at 22-23, R.G. & G.R. Harris Funeral Homes Inc. v. Equal Employment Opportunity Commission, 884 F.3d 560 (6th Cir. 2018).(No. 16-2424).

[4] *Id*. at 23-24.

[5] *Id*.

[6] *Id*. at 24-25.

[7] Tseng, Jennifer, *Sex, Gender, and Why the Difference Matters,* AMA Journal of Ethics Illuminating the Art of Medicine, paragraph 1, July 2008.

is not fully encompassing of the broad range of bodies and identities that exist.

While most people are born with either XX or XY chromosomes, determining their sex as either male or female, many people are intersex, with a variation of both male and female anatomy, internally or externally.[8] It is hard to know how many people are intersex, but it is estimated that 1-2 out of every 100 people born in the United States are some variation of intersex.[9] Notably, this is not the same as being transgender. Transgender is an umbrella term for a spectrum of people whose sex assigned at birth does not correspond with their identity.[10] For example, a transgender person may be assigned male at birth, and have male genitalia, but identify as a woman and express their gender more fluidly.[11] As of 2016, approximately 1.4 million transgender people live in the United States.[12]

B. Impacts of USSC Rulings Against Stephens/EEOC

Aimee Stephens lost her job for not conforming to her employer's vision of how a person of a particular sex should dress or behave. The effect of a Supreme Court ruling upholding R.G. & G.R. Harris Funeral Homes' decision to fire Aimee Stephens on the transgender community would clearly be detrimental. The plaintiff in the aforementioned case decided to move forward with her claim against her former employer because she likely knew the extensive impact that discrimination, and in particular, workplace discrimination, has on the transgender community.[13]

The sex stereotyping that caused Ms. Stephens to lose her job is unlawful discrimination and the failure to recognize transgender persons as a protected class affected by sex stereotyping has discrete environmental impacts and broad social impacts. These include transgender persons experiencing an increased likelihood of homelessness, drug use and

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[8] Neerguard, Lauren, *Science Says Sex and Gender Aren't the Same*, The Associated Press, paragraph 11, (Oct. 23, 2018).

[9] https://www.plannedparenthood.org/learn/gender-identity/sex-gender-identity/whats-intersex (last visited May. 6, 2020).

[10] Bradford, Alina, *What Does Transgender Mean,* Live Science (Jun. 17, 2018), https://www.livescience.com/54949-transgender-definition.html.

[11] *Id*.

[12] Chappel, Bill, *1.4 Million Adults Identify As Transgender In America, Study Says,* National Public Radio (Jun. 30, 2016), https://www.npr.org/sections/thetwo-way/2016/06/30/484253324/1-4-million-adults-identify-as-transgender-in-america-study-says.

[13] Moreau, Julie, *Laughed out of Interviews, Trans Workers Discuss Job Discrimination*, NBC News (Oct. 6, 2019), https://www.nbcnews.com/feature/nbc-out/laughed-out-interviews-trans-workers-discuss-job-discrimination-n1063041.

mental health issues, as well as susceptibility to violent crimes. The transgender community will be impacted by a loss and continued denial of workplace protections. At the crux of these risks is housing, as one's inability to maintain shelter due to job instability significantly impacts all other aspects of an individual's health, as well as their surrounding environments.

The impacts of the Supreme Court failing to interpret transgender identity as a protected class could be detrimental to not just the transgender and LGBT community, but any community and local environment where transgender people live. Negative impacts that affect this vulnerable population will spill over into their local geographic and personal networks. Some of these potential impacts include contamination of local water sources, increased litter, spread of infectious disease, and an increase in dangerous drug related waste. Taking into consideration the large number of transgender people in the United States, local communities with increasingly higher rates of homelessness will experience additional public health risks and negative environmental impacts. Further, in the wake of the COVID-19 outbreak, this deadly novel virus is nearly impossible to contain where the homeless are unable to follow guidelines to minimize its spread.

Moreover, the decision of this case might not only affect transgender people. It may lead to the legalization of discrimination against cisgender individuals who do not conform to their employer's perception of sex appropriate behavior, or interpretation of appropriate gender presentation, even if based on sex stereotypes. Thus, the public health and environmental effects that precipitate from this decision will be even more far spread; the larger the population that is vulnerable to discrimination, the larger the impact will become.

In order to prevent the exacerbation of already existing public health and environmental concerns, Congress must intervene to include gender identity among the protected categories from workplace discrimination if the Supreme Court sides against the rights of more than one million transgender individuals. Further, environmental groups should also partner with state legislators to ensure the passage of state and local laws protecting the rights of transgender individuals to be free from discrimination in the workplace in their local communities.

C. The DOJ Disagrees with the EEOC's Position that Transgender Discrimination is a Form of Sex Based Discrimination

The Trump Administration's Department of Justice's ("DOJ") Writ of Certiorari in opposition to the petitioner, the Equal Employment Opportunity Commission ("EEOC") on behalf of Aimee Stephens, claims that the foundation for sex stereotyping as a form of sex-based discrimination, as established in *Price Waterhouse v. Hopkins*, is an incorrect and confusing interpretation of sex based discrimination. The DOJ attempts to narrow the definition of sex-based stereotyping claiming; "the plurality [in *Price Waterhouse v. Hopkins* condemned not all sex stereotypes in the workplace, but only the disparate treatment of men and women resulting from sex stereotypes."[14]

Further, the DOJ refers to the EEOC argument that sex-based discrimination is prohibited by the Civil Rights Act of 1964 ("Title VII"), as opposed to disparate treatment [based on a strictly male or female sex] as "bewildering."[15] The DOJ argues that Title VII does not require employers to acknowledge an employee's decision to transition from one sex to another, comparing transgender individuals to some myth of a "white employee who identifies as African American."[16] Essentially, the DOJ argues: (1) sex stereotyping is not sex discrimination if both sexes are burdened by the same rules to appropriately conform to their biological sex, (2) while treating a male or female employee disparately based on their sex is sex discrimination, treating a transgender person disparately due to their transgender identity is not sex discrimination, because the DOJ only recognizes gender as male or female, effectively erasing and failing to acknowledge transgender identities as 'valid,' and (3) the disparate treatment of a transgender woman is not discrimination if a transgender man would be treated in the same manner.

The DOJ argument itself requires mental gymnastics to process. These arguments seem to conflict with common sense, and illustrate the DOJ bending over backwards in order to formulate a 'logical' reason to deny workplace protections to transgender people. The true purpose of these arguments is to legalize discrimination, and mask that discriminatory legislation under thinly veiled legal jargon. However, the DOJ's

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[14] *Price Waterhouse v. Hopkins*, 490 U.S. 228, 251 (1989) (quoting Manhart, 435 U.S. at 707 n.13) *City of Los Angeles, Dep't of Water & Power v. Manhart*, 435 U.S. 702, 711, 98 S. Ct. 1370, 1377, 55 L. Ed. 2d 657 (1978); Brief for Federal Respondent in Opposition at 21, *R.G. & G.R. Harris Funeral Homes Inc. v. Equal Employment Opportunity Commission* (18-107).

[15] *Id*. at 23.

[16] *Id*. at 24.

attempts to legalize discrimination against transgender people contradicts the legal precedent which acknowledges sex stereotyping in both the employment setting and through criminal law.

II. Examining the Precedent

A. The Evolution of Protected Class Status, Discrimination, and Hate Crime Laws

In 1964, Congress passed the Civil Rights Act, prohibiting workplace discrimination on the basis of race, color, religion, sex or national origin.[17] In 1968, Congress passed the first federal hate crimes statute in response to the increase in violence against people due to their race, color, religion, sex, or national origin.[18] In particular, these laws protect against the interference with persons taking part in federally protected activity, which is described as "public education, employment, jury service, travel, or the enjoyment of public accommodations, or helping another person to do so."[19] These federal hate crime laws were further expanded in 2009 in response to the murder of Mathew Shepard,[20] to include crimes because of gender, disability, gender identity, and sexual orientation.[21]

Further, since 1989, the Supreme Court has held that sex stereotyping, i.e. enforcing a certain dress code or code of conduct based on stereotypical beliefs about one's sex, is a form of sex-based discrimination.[22] This illuminates the need for transgender persons to be included in employment law discrimination protections; the federal government has already formally acknowledged that transgender people experience violence in accessing employment by codifying gender identity in the federal hate crime statute.

The Supreme Court siding with the employer who fired Aimee Stephens would also be a stark reversal from the prior direction federal law was moving under the Obama Administration. Despite this fact, the Trump Administration's 2018 Department of Justice intervened in *R.G. & G.R. Harris Funeral Homes*, urging the Supreme Court to not consider

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[17] Title VII of the Civil Rights Act of 1964, 42 U.S.C. §§ 2000e et seq. (2020).

[18] *Hate Crime Laws,* U.S. Dep't of Justice, https://www.justice.gov/crt/hate-crime-laws (last visited May 6, 2020).

[19] *Id*.

[20] The U.S. government responded to this murder as it was particularly cruel in nature. Shepard was tied to a fence, tortured, beaten and left for dead due to his sexuality. Sheerin, Jude, *Matthew Shepard: The Murder that Changed America*, BBC News (Oct. 26, 2018).

[21] *Hate Crime Laws*, at 1.

[22] *See* (Holding) *Price Waterhouse v. Hopkins*, 490 U.S. 228 (1989) at 1667.

sex stereotyping as a form of sex-based discrimination.[23] This is in direct conflict with the Obama Administration's 2016 "Dear Colleague" letter, which instructed schools to allow transgender individuals to use the restroom in accordance with their gender identity.[24] Further, it conflicts with the EEOC's prior interpretation of the Civil Rights Act of 1964 that discriminating against someone for their transgender identity is discrimination based on sex.[25]

B. *Price Waterhouse v. Hopkins* Established Sex-Based Discrimination Precedent

While there is much to be said about the DOJ's interpretation of Title VII and its blatant erasure of transgender people, what is perhaps most startling is its departure from precedent set by *Price Waterhouse v. Hopkins*. In this case, a female attorney sued her firm for denying her promotion due to her sex, despite bringing millions in revenue to the firm. To support her allegations, the plaintiff cited partner reviews of her work, which were considered during the firm's evaluation for making her partner.[26] The reviews in question referred to the plaintiff as "abrasive," "in need of charm school," and "overcompensating for being a woman."[27] Ultimately, the court decided there were mixed motivations, leading to multiple reasons why the plaintiff was not promoted, some of which were not discriminatory.

However, the Court also rightfully established that sex-based discrimination includes stereotyping based on sex.[28] For example, the Court reasoned the plaintiff's peers viewed her negatively for being more "abrasive," when similarly situated male employees were often rewarded for such behavior, or viewed as more competent for it, not in spite of it.[29] Thus, the plaintiff was treated disparately due to her sex because she did not conform to the sex-based stereotype, which asserts that women should be docile as opposed to abrasive.[30]

This precedent is important because it sets the stage for transgender people to be included as a protected category under the Civil Rights Act

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[23] *Dear Colleague Letter on Transgender Students*, U.S. Dep't of Educ., Office for Civil Rights, and U.S. Dep't of Justice, Civil Rights Division (May 13, 2016).

[24] *Id.*

[25] *Macy v. Dep't of Justice*, EEOC Appeal No. 0120120821, 2012 WL 1435995 (E.E.O.C.) (April 20, 2012) https://www.hivlawandpolicy.org/resources/macy-v-holder-appeal-no-0120120821-us-equal-employment-opportunity-commission-apr-20-2012.

[26] *Hopkins*, 490 U.S. at 239.

[27] *Id*. at 237.

[28] *Id*.

[29] *Id*.

[30] *Id*. at 239.

of 1964. By establishing that sex-based stereotypes are a form of discrimination, the Court also establishes that not conforming to one's sex assigned at birth, and being treated disparately because of it, is also a form of discrimination. For example, a person transitioning from female to male who is subjected to disciplinary action for wearing men's clothes, while cisgender men are encouraged to wear men's clothes, would have a viable claim against their employer for sex-based discrimination.

C. The DOJ Threatens to Overturn the Important Precedent Set by *Price Waterhouse v. Hopkins*

In order to deny transgender people workplace protections, the DOJ ignores the reality of thousands of transgender Americans by misconstruing transgender people as male or female, regardless of their identity, presentation, medical diagnosis, or medical/surgical treatment or therapies. Further, it ignores Ms. Stephen's agreement that she would abide by her workplaces' women's' dress code, and simply ignores her transgender status, thrusting upon her male, rather than female, workplace dress code requirements. Thus, the DOJ ignores the reality that the dress code requirements, being a product of sex-based stereotypes of women being feminine and men being masculine, may themselves, standing alone, be a violation of Title VII.

III. Current Impacts on the Transgender Community are Likely to be Exacerbated if Scotus Rules in Agreement with the DOJ

The ways in which systemic discrimination impacts marginalized individuals are numerous, many of which are deeply personal and unique to the impacted individual. However, some of those impacts can be concretely observed and analyzed, and none of those impacts exist in a vacuum, but rather, coincide and intersect with one another. Below, this article examines some of the most horrific consequences of systemic discrimination against the transgender community, including homelessness, drug abuse, mental illness and suicidality, and vulnerability to violent crime. Specifically, each of these experiences can be tied back to one's tenuous or unprotected status in the workplace. However, it must be noted that the impacts discussed below are not comprehensive, and do not necessarily account for the myriad of ways in which transgender individuals experience or live their lives, nor do they highlight intersecting forms of discrimination, such as on the basis of race or national origin.

A. Homelessness in the Transgender Community and Its Relation to Job Loss

Laws protecting transgender people in the workplace will help to bolster equal treatment for transgender individuals under the eyes of the law. Currently, only 23 states have legal workplace protections for transgender people, 22 states explicitly ban transgender discrimination, and two states interpret sex-based discrimination protections as applicable to transgender individuals.[31] However, civil rights protections only go so far in protecting vulnerable communities from abuses, legal or otherwise.

Transgender individuals face adversity even in states where they have legal protections. This is likely due to both societal discrimination in everyday life and fear of retaliation for seeking enforcement of the laws that provide protection. Despite its workplace protection laws under the Fair Employment and Housing Act, California has the highest number of homeless individuals nationally, accounting for 50% of the transgender population experiencing homelessness.[32] There are other factors that may contribute to this statistic, such as California being a highly populous state with notably high housing costs. Additionally, California has a nationwide reputation for being a politically left leaning safe harbor, thus attracting gender minorities, such as transgender people. However, the high number of homeless transgender individuals in California still illustrates a general trend of materially adverse impacts on a minority community, even in a state with transgender workplace protections.

That being said, the detrimental consequences on transgender individuals is magnified in states where no workplace protections exist because individuals have no legal recourse. For example, Mississippi, which offers no workplace discrimination protections for transgender individuals, has the highest percentage of transgender people among their statewide homeless population, despite having a low number of transgender people in their overall population.[33] Specifically, transgender individuals make up only .61% of Mississippi's statewide population, but account for 1.5% of their homeless population.[34]

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[31] *Equality Maps/Non Discrimination Laws Employment Protections*, Movement Advancement Project (last updated Oct. 25, 2019) https://www.lgbtmap.org/equality-maps/non_discrimination_laws.

[32] Analysis of the Point in Time Data provided by U.S. Department of Housing and Urban Development. *Demographic Data Project: Gender Minorities*, National Alliance to End Homelessness, https://endhomelessness.org/demographic-data-project-gender-minorities/ (last visited May 6, 2020).

[33] *Id*.

[34] *Id*.

The epidemic of homelessness and housing instability in the transgender community is often the pinnacle from which much of this communities' suffering flows; having only tenuous rights to maintain and secure employment makes this unstable foundation even more rocky. Without housing, one often cannot secure proper medical care, food, safety, or any other resources necessary to a healthy and productive life. By potentially codifying legal transgender discrimination in the workplace, this already vulnerable community will only suffer more, as the domino effect of losing one's job can so easily result in also losing one's housing.

In 1980s transgender activist, Lou Sullivan's, recently published diaries, he chronicles the economic hardships of transitioning from female to male at work in the 1980s, including the need to save enough money to be able to afford housing while living under the assumption he would have to quit his job during his transition period.[35] Sullivan, who had the support of his family in his transition, described his experience as such: "I wonder how I could do all this . . . I am ready to leave my job and could take a clerical job as a young man. I could leave my apartment and rent as a young man. *It would all be worth the trouble*."[36] Sullivan also describes trying to time his transition in order to keep his job as long as possible while undergoing hormone therapy, stating, "Tomorrow I call [Dr.] Fuller . . . and make THE appointment. Looks like my job is safe too, til at least the end of the year."[37]

Sullivan's observations of his economic situation are pertinent because they illustrate several huge issues facing the transgender community that are linked to homelessness. Transgender people must financially plan for potential job termination; without a financial safety net, transgender people may be unable to transition. Notably, Sullivan had the emotional and financial support of his family, which was in part what made his transition possible.[38] However, for many transgender people this is not the case, making homelessness a looming possibility, among other adversities. For example, one study noted:

> [T]ransgender and gender non-conforming people face injustice at every turn: in childhood homes, in school systems that promise to shelter and educate, in harsh and exclusionary workplaces, at the grocery store, the hotel front desk, in doctors' offices and emergency

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[35] Martin, Ellis and Ozma Zach, WE BOTH LAUGHED IN PLEASURE, THE SELECTED DIARIES OF LOU SULLIVAN 1961-1991 210 (Nightboat, 2019).

[36] *Id*. Emphasis added.

[37] *Id*. at 223.

[38] *Id*. at 210.

> rooms, before judges and at the hands of landlords, police officers, health care workers and other service providers.[39]

Discrimination is not just the act of preventing individuals from accessing the same services, but also includes acts that force individuals out of those same services — i.e. having an open door doesn't mean everyone is treated equally once inside the room. Facing an atmosphere where one has no workplace protections puts one on a trajectory towards homelessness, especially if their job loss is the result of a larger pattern of discrimination felt throughout the individual's life. Aveda Adara, a 41-year-old transgender woman, told reporters in a recent interview with NBC News that harassment because of her gender identity led her to quitting her job at a company in Texas.[40] Adara stated; "I was constantly misgendered by managers, supervisors and employees." Eventually, she was able to secure part-time work to sustain herself after being "laughed out of interviews for so many years."[41]

Further, as of May 8, 2020, Ms. Stephens, the plaintiff in *R.G. & G.R. Harris Funeral Homes v. Equal Employment Opportunity Commission*, became critically ill and was moved into hospice care.[42] In order to pay for her end of life expenses, her partner started a Crowdfunding Page which states: "Being fired from her employer caused an immediate financial strain . . . Friends and family have stepped in when they can, but years of lost income have taken a toll on their finances. Because of this, we are asking for assistance with Aimee's future funeral costs and end-of-life care."[43] On May 12, 2020, Stephens passed away.[44] Stephens' struggle to pay her end of life costs due to being fired from her job even further illustrates the heart breaking detrimental public health toll caused by workplace discrimination, which without the safety net of friends and family, could very easily have led to her own homelessness during her end of life.

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[39] J. Grant, Ph.D., J. L. Mottet, & J. Tanis, (2011). INJUSTICE AT EVERY TURN: A REPORT OF THE NATIONAL TRANSGENDER DISCRIMINATION SURVEY p 2. (Washington: National Center for Transgender Equality 2011).

[40] Moreau, Julie, *Laughed out of Interviews, Trans Workers Discuss Job Discrimination*, NBC NEWS (Oct. 6, 2019) https://www.nbcnews.com/feature/nbc-out/laughed-out-interviews-trans-workers-discuss-job-discrimination-n1063041.

[41] *Id.*

[42] Katelyn Burns, *Aimee Stephens brought the first major trans rights case to the Supreme Court. She may not live to see the Decision* (May 8, 2020) https://www.vox.com/identities/2020/5/8/21251746/aimee-stephens-trans-supreme-court-health.

[43] *Id.*

[44] Jason A. Michael, *Obituary: Aimee Stephens,* Michigan News, May 18, 2020 (Last Visited: May 19, 2020).

As the law stands today, legal protections are just the first step in protecting transgender people from discrimination. However, it is an essential step that cannot be ignored. Specifically, in one study interviewing homeless individuals, the number one cause of their homelessness was a recent job loss, accounting for 31% of interviewees.[45] In comparison, the next highest ranked reason for homeless, drug and alcohol use, came in at only 20%.[46]

An inability to pay one's rent or mortgage due to a lack of income, is also the most materially obvious link in one's inability to stay housed. Keep in mind, a lack of workplace protections means not only that an employer may fire an employee for merely being transgender, but they may also deny the individual a position or promotion for which they are qualified based solely on their transgender identity. This traps a jobless transgender person in a potential cycle of poverty that is likely to culminate in a substantial material loss throughout their entire life, such as a loss of one's housing.

In addition to the severe adversities in housing that the transgender community is currently facing, the Trump Administration has even gone so far as to also intervene in anti-discrimination protections for transgender people seeking temporary reprieve from homelessness on the streets by turning his attention to shelters. In May 2019, the Trump Administration announced plans to walk back the Department of Housing and Urban Development 2012 "Equal Access Rule," which ensures that shelters do not discriminate on the basis of sexual orientation or gender identity.[47] This action, hand in hand, with the Trump Administration's intervention in transgender workplace anti-discrimination protections, will only exasperate and increase street-based homelessness, further endangering the lives of transgender people, and reinforcing the detrimental effects of street-based homelessness on the communities that are impacted by it.

B. Drug Use in the Transgender Community

Another impact of workplace discrimination, directly related to public health, is the likely increase in the prevalence of drug use among queer and transgender communities. Drug use also has the effect of fur-

[45] Downtown Streets Team, The Truth about Homelessness: What Causes Homelessness? (2015).

[46] *Id*.

[47] Heng-Lehtinen, Rodrigo, Trump Administration Announces Plan to Gut Protections for Trans People in Shelters, THE NATIONAL CENTER FOR TRANSGENDER EQUALITY (May 22, 2019) https://transequality.org/press/releases/trump-administration-announces-plan-to-gut-protections-for-trans-people-in-shelters.

ther increasing homeless. According to one study on the lives of LGBT people, 30% of the LGBT population abuses substances, in comparison with the general population, of which only 12% abuses substances.[48] There is also a direct correlation between drug use and homelessness, as it is often the second most commonly cited reason for one's current bout of homelessness, second only to job loss.[49] Further, according to a 2015 National Survey on Drug Use and Health, adults defined as a "sexual minority" (in this survey, meaning lesbian, gay, or bisexual) were more than twice as likely as heterosexual adults (at a rate of 39.1% versus 17.1%) to have used any illicit drug in the past year.[50]

The reasons for this correlation may be numerous, and often personal, but the overall pattern speaks directly to the experiences in which transgender and "sexual minorities" live. Often the lives of transgender individuals are wrought with discrimination, public condemnation, and ostracization from their communities.[51] In turn, drug use becomes an easy escape from a world where one is made to feel, over and over, that they do not belong.[52] However, drug and substance abuse, and the potential for addiction, intersects with the other hardships often faced by transgender individuals. The relationship between homelessness and addiction is often undeniable, and while addiction can often be the cause of homelessness, the inverse is also true. According to the Addiction Center,

> Oftentimes, addiction is a result of homelessness. The difficult conditions of living on the street, having to find food, struggling with ill-health, and constantly being away from loved ones creates a highly stressful state of being. Individuals suffering from homelessness may additionally develop psychiatric conditions in response to the harsh lifestyle of feeling threatened by violence, starvation, and lack of shelter and love.[53]

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[48] Stacey Boon, *Substance Use in Queer and Trans Communities*, "LGBT" Issue of Visions Journal (2009) at 12-13.

[49] Downtown Streets Team, The Truth about Homelessness: What Causes Homelessness? (2015).

[50] Grace Medley, Rachel N. Lipari, and Jonaki Bose, *Sexual Orientation and Estimates of Adult Substance Use and Mental Health: Results from the 2015 National Survey on Drug Use and Health*, NSDUH Data Review (Oct. 2016), https://www.samhsa.gov/data/sites/default/files/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015.htm.

[51] J. Grant, Ph.D., J. L. Mottet, & J. Tanis, (2011). Injustice at Every Turn: A Report of the National Transgender Discrimination Survey PAGE (Washington: National Center for Transgender Equality 2011).

[52] Medley, *supra*, note 50.

[53] Krystina Murray, *The Connection Between Homelessness and* Addiction, The Addiction Center (Jul. 10, 2019) https://www.addictioncenter.com/addiction/homelessness/.

Transgender individuals face a higher risk of homelessness by being legally vulnerable to workplace discrimination, up to and including, termination from their job because of their gender identity. Job loss is also the most commonly cited reason for why one became homeless, so as we expose the transgender community to a higher likelihood of homelessness, we also expose them to a higher likelihood of drug addiction. As we will discuss, higher rates of drug addiction also have an impact on the local/geographical communities in which this occurs.

C. Mental Health Struggles and Suicide in the Transgender Community

In addition to struggling with high rates of homelessness and drug use, transgender individuals are also particularly vulnerable to mental health struggles and suicide. As the lives of transgender people are made more difficult by denying workplace discrimination protections, the high rates of mental illness and suicide among transgender people will also increase. Essentially, suicidal ideation, homelessness, and drug use create a vicious cycle that is difficult to escape from.

Living in a world where one is repeatedly struggling to overcome both societal and institutional barriers in order to access basic needs can drive one into this cycle. A transgender individual may become depressed due to the pain of marginalization, which may lead to drug addiction, poor performance at work, and job loss. This may precipitate an increase in depression or lead to suicidal ideation. Or, the cycle may begin with suicidal ideation and lead to drug use. This cycle can play out in a variety of ways, and each time it can lead to a domino effect of losses as the transgender individual's self-worth is chipped away with every turn.

Further, when forced to decide between losing one's job and expressing one's true gender identity, many transgender people may find themselves at a dangerous crossroads where they feel they must stay closeted in order to maintain employment and survive. When transgender people and sexual minorities attempt to suppress, rather than live out their identities, their likelihood of suicide attempts actually increases.[54]

According to the Suicide Prevention Resource Center, transgender people are more at risk of suicide than heterosexual people and lesbian,

[54] Lara Rodriguez and Donald Gatlin, *Seeking Help from Religious Counselors Associated with Increased Suicide Risk Among LGB People*, The Williams Institute, UCLA School of Law (Jun. 25, 2014).

gay, and bisexual people.[55] Additionally, transgender people also experience mental illness at significantly higher rates than the general population.[56] This heightened risk is primarily due to the fact that transgender people face unique stressors, including stress from being part of a minority group, as well as stress related to not identifying with one's biological sex.[57] For example, a 2015 U.S. Transgender Survey found that transgender people experienced a 40% lifetime prevalence of suicide attempts, compared with 4.6% in the general population.[58] Additionally, the issue of transgender suicidality is an international issue, with the rate of suicide attempts among transgender individuals fluctuating between 32% to 50% of the overall transgender population worldwide.[59] It is also worth noting that substance use, which, as discussed above, is prevalent in the transgender community, is also considered a significant risk factor for suicidality.[60]

Furthermore, transgender individuals who are not working are more likely to suffer from mental health issues and psychiatric disorders.[61] This is consistent with recent data, which found that 80% of people receiving public mental health services were also unemployed.[62] Researchers speculated that based on this data, one of the ways to mitigate suicidality and mental illness among transgender individuals is through employment, because it provides "increased financial security, purpose and community."[63] Additionally, according to one study, transgender people who have experienced discrimination have an even higher likelihood of attempting suicide.[64] By placing additional hurdles between the transgender population and employment, lawmakers will increase the al-

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[55] *Suicide risk and prevention in gay, lesbian, bisexual and transgender youth,* SUICIDE PREVENTION RESOURCE CENTER, (last visited May 7, 2020).

[56] Alpert Reyes, Emily, *Transgender Study Looks at Exceptionally High Suicide-Attempt Rate,* Los Angeles Times (Jan 28, 2014) https://www.latimes.com/local/lanow/la-xpm-2014-jan-28-la-me-ln-suicide-attempts-alarming-transgender-20140127-story.html.

[57] *Id*.

[58] *Id.*

[59] H. G. Virupaksha et al, *Suicide and Suicidal Behavior among Transgender Persons*, 38(6) Indian J. Psychol. Med. 505, 505-09 (2016).

[60] *Substance Abuse and Suicide Prevention: Evidence and Implications*, SUBSTANCE ABUSE AND MENTAL HEALTH SERVICES ADMINISTRATION, https://radarcart.boisestate.edu/library/files/2017/07/SubstanceAbuseAndSuicide Prevention.pdf (last visited May 7, 2020).

[61] Sita Diehl et al, *Road to Recovery: Employment and Mental Illness*, NATIONAL ALLIANCE ON MENTAL ILLNESS https://www.nami.org/Support-Education/Publications-Reports/Public-Policy-Reports/RoadtoRecovery (last visited May 7, 2020).

[62] *Id* at 5.

[63] K. CLEMENTS-NOLLE ET AL, ATTEMPTED SUICIDE AMONG TRANSGENDER PERSONS: THE INFLUENCE OF GENDER-BASED DISCRIMINATION AND VICTIMIZATION p 1 (Department of Health Ecology, University of Nevada, Reno, NV, 2006).

[64] *Id.* at p.1.

ready startling high rates of suicide and attempted suicide among the transgender population.

D. Vulnerability to Violent Crime as a Member of the Transgender Community

Due to the societal and institutional marginalization of transgender people, they are also exposed to some of the highest rates of violent hate crime, including assaults, sexual assaults, and murders. Homeless individuals already experience high susceptibility to violent crime, and transgender individuals will face even higher rates of susceptibility as they become part of the homeless population as well. Thus, a denial of workplace protection will also increase the likelihood of violent crime experienced by the transgender community.

For example, from October 2017 to September 30, 2018, there were 369 recorded murders of transgender people internationally.[65] Many of the murders were particularly cruel and horrific, including five deaths by beheadings and nine deaths by stoning.[66] Twenty-eight of those murders occurred in the United States in 2018.[67]

It is also worth noting that of the murders of transgender people in 2019, nearly all of them were black transgender women.[68] Discrimination does not exist in a vacuum, and while transgender people experience discrimination at a high rate, the likelihood of discrimination may also increase as one person's multiple marginalized identities intersect, alongside the likelihood of facing deadlier violence.

Those in the transgender community able to avoid deadly violence face other incredibly widespread forms of abuse. According to a national report, 53% of transgender individuals reported experiencing harassment in a place of public accommodation, such as a restaurant or public restroom.[69] Notably, many attacks and murders go unreported, so the true numbers may be even higher.

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[65] Joe Morgan, *Beheaded, gunned down and stoned to death: 369 trans people killed this year*, Gay Star News (Nov. 19, 2018) https://www.gaystarnews.com/article/beheaded-gunned-down-and-stoned-to-death-368-trans-people-killed-this-year/.

[66] *Id*.

[67] *Id*.

[68] Trudy Ring, *These are the transgender people killed in 2019*, The Advocate (last updated Dec. 19 2019) https://www.advocate.com/transgender/2019/5/22/these-are-trans-people-killed-2019#media-gallery-media-21.

[69] *Statistics about Transgender Discrimination*, The Gay and Lesbian Alliance Against Discrimination ("GLAAD") citing J. Grant, Ph.D., J. L. Mottet, & J. Tanis, (2011). Injustice at Every Turn: A Report of the National Transgender Discrimination Survey PAGE (Washington: National Center for Transgender Equality 2011).

The murder and harassment of transgender people occurs due to discrimination, fear, and hate. Facing continued discrimination often puts transgender people in particularly vulnerable positions. Out of the 369 transgender people murdered in 2018, 62% were also sex workers.[70] While some people may choose freely to engage in sex work, often times, many do not. As one's options for survival are decimated, sex work becomes one of the few remaining avenues society's most vulnerable may travel in order to stay alive. However, sex work, especially as a transgender person, can be particularly dangerous to one's safety and health. According to one study, "globally, transgender women have an HIV prevalence ranging from 17.7% to 21.6%,"[71] Further, "transgender female sex workers [are] more at-risk with an estimated HIV prevalence of 27.3 percent."[72]

The likelihood of experiencing violent crime also increases when one is experiencing homelessness, which as previously discussed, occurs at a high rate in the transgender community. According to one study, over the past 18 years, there have been 1,769 incidents of crimes committed against homeless individuals.[73] In one particularly gruesome incident in September 2017, a man drove over a group of homeless people sleeping on the street, killing one of them.[74]

However, the picture is even bleaker when transgender status is factored in. According to one survey of transgender individuals, 72% of respondents had taken part in sex work, 65% of respondents had experienced homelessness, and 61% of respondents with disabilities reported being sexually assaulted in their lifetime.[75] As demonstrated by these statistics, there is a correlation between transgender identity, homelessness, sex work, and violent crime vulnerability. All of these horrific statistics can be drawn back to a transgender person's roadblocks in securing and maintaining employment, and thus housing.

Transgender individuals face a unique set of challenges that overlap across many different issues, all of which ultimately relate to widespread

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[70] Joe Morgan, *Beheaded, gunned down and stoned to death: 369 trans people killed this year*, GAY STAR NEWS (Nov. 19, 2018) https://www.gaystarnews.com/article/beheaded-gunned-down-and-stoned-to-death-368-trans-people-killed-this-year/.

[71] S.D. Baral et al., *Worldwide burden of HIV in transgender women: a systematic review and meta-analysis*, 13(3) Lancet Infect Dis. 214, 214–22 (2013).

[72] D. Operario et al., *Sex work and HIV status among transgender women: systematic review and meta-analysis*, 48(1) J. Acquir. Immune Defic. Syndr.97, 97-103 (2008).

[73] *Vulnerable to Hate; A Survey of Bias Motivated Violence Against People Experiencing Homelessness in 2016-2017*, NATIONAL COALITION FOR THE HOMELESS (DEC. 2018) https://nationalhomeless.org/wp-content/uploads/2018/12/hate-crimes-2016-17-final_for-web.pdf.

[74] *Id*. at 12.

[75] NATIONAL CENTER FOR TRANSGENDER EQUALITY, 2015 U.S. TRANSGENDER SURVEY REPORT (2016).

societal discrimination. Job insecurity because of one's transgender status can also precipitate any and all of the above material consequences of discrimination including homelessness, drug abuse, mental illness and suicidal ideation, and vulnerability to violent crime and disease. Often times, the consequences of discrimination overlap and occur in conjunction to one another, because the effects of discrimination are not isolated to one part of an individual's life but instead extends into all aspects.

IV. Detrimental, Community-Wide Public Health and Environmental Impacts from Increased Marginalization of the Transgender Community

The experiences discussed here — homelessness, drug addiction and abuse, mental health issues, suicide, and vulnerability to violent crime — do not affect only the transgender community, even though they may often bear the brunt of these burdens. Rather, the detrimental impacts of workplace discrimination, compounded with societal discrimination, create an environment where local communities also suffer as a result of the burdens heaped upon the transgender community, by experiencing increased homelessness, illness, poverty, pollution and crime.

This is not to place blame on transgender people for the societal impacts that trickle down from their suffering, but rather, to highlight the need for positive systemic change, and specifically, workplace discrimination protections for transgender individuals. If there is anywhere to place blame for the larger societal implications of transgender discrimination, it is on the companies, politicians, courts, and individuals who perpetuate systemic suffering in these communities. The negative consequences of legalizing discrimination of transgender people in the workplace are not limited to the transgender population, who is directly burdened, but will also create a ripple effect that will burden and hurt all communities. My hope in writing this is, that if understanding the plight of transgender individuals is not enough to push society toward positive change, then understanding how the plight of vulnerable communities can come back to hurt one's own community, will be enough.

Essentially, all of the most obvious and material detriments affecting the transgender community can be traced back, in part, to discrimination, and more importantly, workplace discrimination. To summarize, as discussed earlier, a loss of one's job or income source has been cited by homeless populations as the most common cause of one's homelessness.[76] As transgender individuals face barriers to continued employ-

[76] Downtown Streets Team Bay Area, The Truth about Homelessness: What Causes Homelessness? (2015).

ment, based solely on their gender expression and identity, they are faced with an impossible choice: conform to their employer's interpretation of what their 'proper' gender expression should be, or face unemployment, and with it, potentially, homelessness.

Further, losing one's home puts one at a higher risk of drug abuse and mental illness, as drug abuse is the second most cited reason for a bout of homelessness, and vice versa.[77] While there is an overlap between the homeless community and the transgender community, both of these communities individually suffer from high rates of mental illness and suicide, with job loss being a frequent factor in their likelihood of suicidality.[78] Finally, homelessness, especially in the transgender community, puts individuals at a higher risk of violent crime, and often forces transgender individuals into street-based sex work for survival.[79] So, when all of these factors are put together, how does it affect surrounding communities and environments?

A. Homeless Encampments: Prevalence of Garbage, Drug, and Paraphernalia Waste

The purpose in examining the detrimental impacts of workplace discrimination is not to demonize the homeless population's attempts at survival, but rather to address the underlying systemic issues that lead to negative impacts when homelessness is increased and rampant in local communities. One study central to Contra Costa County in California succinctly highlights the prominent environmental impacts generated from homeless encampments. The purpose of this study was to address specifically the general spread of pollutants in flooding areas where homeless encampments exist, citing some of the most obvious environmental impacts such as: excessive and improperly disposed of garbage, human waste and its potential for contaminating water supplies, and the spread of disease by improperly discarded drug paraphernalia.[80]

Additionally, in 2014, the Santa Clara Water District in California released a report showing that it, with the City of San Jose, spent

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[77] Grace Medley, Rachel N. Lipari, and Jonaki Bose, *Sexual Orientation and Estimates of Adult Substance Use and Mental Health: Results from the 2015 National Survey on Drug Use and Health*, NSDUH Data Review (Oct. 2016), https://www.samhsa.gov/data/sites/default/files/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015.htm.

[78] National Alliance on Mental Illness, Road to Recovery: Employment and Mental Illness (2014).

[79] D. Operario et al., *Sex work and HIV status among transgender women: systematic review and meta-analysis*, 48(1) J. Acquir. Immune Defic. Syndr.97, 97-103 (2008).

[80] Contra Costa County Flood Control & Water Conservation District, Homelessness and Water Pollution, Thinking Outside the Channel (2013).

$275,542 to remove 2,011 cubic yards of debris from homeless encampments along creeks and rivers in Santa Clara County.[81] When the encampment known as the 'Story Road Encampment' in San Jose closed on December 4, 2014, city officials removed 600 tons of trash and over 1,500 pounds of human waste.[82]

The ways in which these environmental impacts tie together all relate directly to inadequate living conditions due to homelessness. Without proper access to waste disposal or restrooms, those living in homeless encampments have no viable means to dispose of garbage or relieve themselves. Further, this waste disposal may, and often does, include used needles, as drug abuse becomes common and persistent in such poor living conditions.

It is also worth noting, in a terrific twist of irony, in September 2019, the Trump Administration's Environmental Protections Agency sent a letter to California's Governor Gavin Newsome blaming water quality issues on the homeless populations.[83] The letter made the claim that homeless encampment needles are washing into the ocean. San Francisco Mayor London Breed responded to this claim, noting that the allegation is false, and rather the Trump Administration was simply attacking San Francisco, "for no reason other than politics."[84] Mayor Breed's comments ring true, considering that it is also the Trump Administration that is attempting to block workplace protections that potentially increase rates of homelessness.[85]

This also serves as a stark reminder that the homeless are not to be blamed for detrimental environmental impacts, but rather, blame must be shifted to the power holders that allow homelessness to grow rampantly. Rather, it is actually local communities, and specifically, the homeless, that feel the highest detrimental impacts of rampant homelessness. As was correctly noted by David Lewis of the Save the Bees foundation, "the way to reduce the impacts of homeless encampments is to reduce homelessness."[86] Various steps must be taken in order to combat homelessness, but a baseline protection is ensuring communities vulnerable to

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[81] GARY PITZER, CAN PROVIDING BATHROOMS TO HOMELESS PROTECT CALIFORNIA'S WATER QUALITY? WATER EDUC. FOUND. (2019).

[82] DOWNTOWN STREETS TEAM BAY AREA, THE TRUTH ABOUT HOMELESSNESS: WHAT CAUSES HOMELESSNESS? (2015).

[83] Pam Fessler, *Trump Administration Blames Homeless for California's Water Pollution*, NATIONAL PUBLIC RADIO (Sep. 26, 2019, 4:44 PM), https://www.npr.org/2019/09/26/764759005/trump-administration-blames-homeless-for-californias-water-pollution.

[84] *Id*.

[85] Brief for Federal Respondent in Opposition at 23, *Equal Employment Opportunity Comm'n v. R.G. &. G.R. Harris Funeral Homes, Inc.,* 884 F.3d 560 (6th Cir. 2018).

[86] Fessler, *supra*, note 78.

homelessness have basic workplace protections, allowing those communities more stability in their ability to stay housed.

Additionally, while drug paraphernalia is cause for concern, according to a 2015 Center for Disease Control ("CDC") report, there have been only 58 confirmed industrial healthcare worker transmissions of HIV due to accidental needle contact, and 0 known HIV transmissions from contact with exposed needles on the street, though transmission of HIV in this way is possible.[87] What is often much more likely is bacterial infection due to used needle exposure, which is treatable, but a cause for concern in local communities, especially in public parks where children may be present or play.[88] While there are legitimate public health and safety concerns regarding needle exposure, the Trump administration merely plays toward fears of the homeless population, not addressing the systemic causes of and legitimate public health concerns that come along with rampant homelessness. As expressed by Victoria Vantol in response to Donald Trump's letter to the California Governor, "All people create waste, the only difference is having the resources for proper disposal."[89]

B. Homeless Encampments: Spread of Infectious Disease Related to Environmental Issues

A lack of access to restrooms can have very real and serious consequences to local public health and the environment. Namely, it can account for the spread of disease and public water contamination. While there are many examples of this becoming a cause for concern in local communities, this issue is especially pertinent in 2020 in light of the novel and fatal coronavirus, COVID-19.

In March 2020, with the global spread of COVID-19, the homeless are both uniquely vulnerable to this deadly virus and are often unable to follow the CDC guidelines on how to limit community spread of the virus. As of May 8, 2020, COVID-19 has infected nearly four million people globally and caused more than 250,000 deaths, with an expecta-

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[87] M. Patricia Joyce, MD et al., *Notes from the Field: Occupationally Acquired HIV Infection Among Health Care Workers — United States, 1985–2013*, Center for Disease Control (Jan. 9, 2015), https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6353a4.htm.

[88] Rebekah Webb, *Needlestick Injuries, Discarded Needles and the Risk of HIV Transmission*, Aidsmap (Jun. 19 2019), https://www.aidsmap.com/about-hiv/needlestick-injuries-discarded-needles-and-risk-hiv-transmission.

[89] Victoria Vantol, *Does Homelessness Put the Public's Health at Risk?*, Invisible People (Oct. 2019).

tion that these numbers will continue to rise.[90] The CDC's main recommendations for stopping the spread of COVID-19 include frequently washing one's hands, avoiding close contact with others, and staying home if you are sick.[91] However, these recommendations are nearly impossible for the homeless to follow, as the homeless often lack access to clean running water, if they are living in an encampment they are unable to avoid close contact with others, and have no home to 'stay in' if they become sick. Thus, the homeless are forced into the public without being able to adhere to the CDC guidelines, making them more vulnerable to contracting the virus, and less able to prevent its spread in the community.

However, COVID-19 is not the only instance where rampant homelessness leads to public health concerns. In 2017, in San Diego, California, there was an outbreak of Hepatitis A, largely among homeless populations, which was believed to be due to a lack of restrooms and proper sanitation.[92] Over the ten months of this outbreak, 584 people became ill, almost 400 were hospitalized, and 20 people died.[93]

Additionally, in early 2019, Los Angeles experienced a severe outbreak of Typhus in its downtown area and the City Hall had to be temporarily closed as a result.[94] While the disease was primarily affecting the local homeless population, public health officials described the outbreak as a public health crisis, warning that the outbreak could easily spread beyond the homeless population, as at least one City Hall employee was also infected.[95] The causes of the spread of the disease are believed to be poor hygiene and feces in and around homeless encampments, where its inhabitants do not have proper access to restroom facilities or clean water.[96]

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[90] WORLDOMETER, COVID-19 CORONAVIRUS PANDEMIC, (last updated May 08, 2020, 06:20 GMT).

[91] *Coronavirus Disease 2019 (Covid-19)*, CENTER FOR DISEASE CONTROL AND PREVENTION , https://www.cdc.gov/coronavirus/2019-ncov/index.html (last visited May 8, 2020).

[92] GARY PITZER, CAN PROVIDING BATHROOMS TO HOMELESS PROTECT CALIFORNIA'S WATER QUALITY? WATER EDUC. FOUND. (2019).

[93] *Id*.

[94] Anna Gorman and Kaiser Health News, *Medieval Diseases are Infecting California's Homeless*, THE ATLANTIC, (Mar. 8, 2019) https://www.theatlantic.com/health/archive/2019/03/typhus-tuberculosis-medieval-diseases-spreading-homeless/584380/.

[95] *Id*.

[96] *Id*.

C. Climate Change Will Exacerbate the Suffering of Those Experiencing Discrimination

Extreme heat is the current leading cause of weather related deaths.[97] The homeless are especially susceptible to this type of death on dangerously hot days due to lacking access to cooling spaces.[98] As homelessness increases due to a lack of workplace protections, this means that more and more people will become vulnerable to illness and death brought about due to climate change. Unfortunately, according to a recent Housing and Urban Development report, if temperatures increase as projected, by 2050, there will be a 300% increase in heat related deaths.[99]

These projections are not speculative, as one can already see how the rate of homelessness equates to a higher rate of heat related deaths. In 2015 and 2016, Arizona's Maricopa County performed a study of heat related deaths.[100] While researchers projected 80 heat related deaths during that time period, in reality, there were 150.[101] Researchers also discovered that during that period of time, there was a 25% increase in homelessness, which they hypothesized may account for the spike in heat related deaths as well.[102]

Further, urban environments tend to experience a "heat island effect," where cities experience higher temperatures than surrounding rural areas.[103] According to the EPA, "the annual mean air temperature of a city with 1 million people or more can be 1.8–5.4°F higher than surrounding rural areas."[104] As nearly 80% of the LGBT population lives in non-rural settings,[105] this means that transgender individuals will be especially susceptible to some of the more intense negative effects of climate change. Essentially, by taking legislative actions that will increase a vulnerable population's likelihood of homelessness, we will also be increasing their likelihood of climate change related mortality.

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[97] Paul Chakalian, *Homeless are Dying at an Alarming Rate Because of Climate Change*, Mother Jones (Jun. 25, 2018) https://www.motherjones.com/environment/2018/06/homeless-people-are-dying-at-an-alarming-rate-because-of-climate-change/.

[98] *Id*.

[99] *Id*.

[100] *Id*.

[101] *Id*.

[102] Chakalian, *supra*, note 92.

[103] U.S. EPA, Heat Island Effect (2019).

[104] *Id*.

[105] Movement Advancement Project, Where We Call Home: LGBT People in Rural America 7 (2019).

D. Allowing Workplace Discrimination Encourages Acts that Exacerbate Climate Change

There is a long standing, and often noticeable trend in LGBT people migrating to large cities. There are many conceivable reasons for this trend, from searching for a larger LGBT community, moving to areas where dating scenes are vaster, and most importantly, moving to areas where LGBT have more civil rights in both public accommodations and in workplaces. In a recent Gallup study, San Francisco was found to have the highest concentration of people who identify as LGBT, likely due to the history of LGBT movements and civil rights in the area.[106] While on its face this may not seem alarming, it is concerning that such high numbers of LGBT feel the need to move from where they grew up, away from family, often in order to find both societal and legal acceptance.

However, what is even more alarming is the impact this may have on global climate change. While clearly not all LGBT people migrate from one community to another, and LGBT people only account for a small number of total people migrating to new areas, migration itself is a factor in global climate change.[107] In fact, increasing urbanization can detrimentally affect biodiversity, wildlife habitats, and carbon emissions as cities grow larger, destroying local habitats, increasing fossil fuel use, and pollution becoming more highly concentrated.[108] While the LGBT community is clearly not to blame for climate change, it is concerning there is an additional man- made contributor to this, which is a lack of legal protections. It is possible the high rates of LGBT migration to large cities would decline should LGBT individuals enjoy the same legal protections in every state, especially in terms of employment.

Should the Supreme Court legalize discrimination against transgender people, they will be further increasing the likelihood of the transgender population experiencing an early death due to climate change and create circumstances that bolster the effects of climate change. Thus, the Supreme Court will also be exposing local communities to the residual trauma, pollution, and public health impacts of preventable death and environmental destruction. Regardless of how the Supreme Court feels

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[106] Frank Newport and Gary Gates, *San Francisco Metro Area Ranks Highest in LGBT Percentage*, Gallup (Mar. 20, 2015), https://news.gallup.com/poll/182051/san-francisco-metro-area-ranks-highest-lgbt-percentage.aspx.

[107] *Environmental Impact of Immigration*, Migration Watch UK (Dec. 27, 2010) https://www.migrationwatchuk.org/briefing-paper/215/environmental-impact-of-immigration.

[108] *Id*.

about transgender people and their rights under the law, the public policy implications of this decision are far too dire to ignore.

V. Detrimental Effects on Cisgender People Should Sex Stereotyping No Longer Be Considered Prohibited Sex Based Discrimination

Based on the logic set forward by the DOJ, which narrowly construes sex discrimination, if an employer fired a cisgender woman for not being stereotypically feminine, this may not be discrimination on the basis of sex, if the same employer would also fire a cisgender man for not being stereotypically masculine.[109] This is significant because not only would a ruling in favor of the DOJ's interpretation impact the transgender community by legalizing discrimination against this community, but also it would have the potential to impact anyone who falls outside of their employer's perceived appropriate sex presentation. Thus, it would set back the clock on rights previously won in order to protect both women and men from sex stereotyping as a form of sex discrimination.[110]

Indeed, Justice Ruth Bader Ginsberg recognized the detrimental impacts of sex stereotyping as a form of sex-based discrimination, long before transgender identities became a part of modern political vernacular. In her brief to the court on behalf of plaintiff Sally Reed, a woman who lost partial control of her son's estate to her ex-husband despite being the sole caretaker, Ginsberg wrote: "Whatever differences may exist between the sexes, legislative judgments have frequently been based on inaccurate stereotypes of the capacities and sensibilities of women." Further, Ginsberg argued for a higher level of scrutiny than rational basis review for sex-based laws, stating;

> [T]he traditional division within the home-father decides, mother nurtures-is reinforced by diverse provisions of state law. Yet, however much some men may wish to preserve Victorian notions about woman's relation to man, and the 'proper' role of women in society, the law cannot provide support for obsolete male prejudices or translate them into statutes that enforce sex-based discrimination.[111]

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[109] Melissa Gira Grant, *A Critical Threat to Sex Discrimination Protections*, The New Republic (Sep. 19, 2019), https://newrepublic.com/article/155127/supreme-court-roll-back-sex-discrimination-protections.

[110] *Id*.

[111] Bornstein, Stephanie, *The Law of Gender Stereotyping and the Work-Family Conflicts of Men*, Hastings Law Journal Volume 63, 2012, quoting Reed v. Reed, 404 U.S. 71, 72 (1971), Brief for Appellant at 5-7, note 34, at 17.

By focusing on the detrimental impacts of sex stereotyping on both men and women, Ginsberg set the stage for the EEOC interpretation of the Title VII prohibition on sex stereotyping. The very basis of her arguments have also been the foundation of the EEOC arguments for protection of transgender individuals in the workplace.[112] Ginsberg succinctly pointed out that enforcing stereotypical assumptions about one's sex often leads to the legal codifying of prejudice.[113] This is not to say that men and women now live free from prejudice in the workplace, but they currently have legal recourse for their grievances. However, depending on the state the individual lives in, the same may not be said regarding transgender individuals in the workplace.

The impacts of discrimination, and more specifically workplace discrimination, have vast and devastating impacts on the lives of transgender individuals, which precipitates into broader detrimental impacts on their local environment and communities. Thus, a ruling against the rights of transgender individuals could mean the legal codifying of many previously recognized forms of sex-based discrimination against anyone an employer chooses to target. The environmental shadow cast by the mistreatment of transgender individuals, thus would be amplified by widening the scope with which discrimination would be legalized.

VI. Necessary Interventions at the Court, Congressional, and Local/Grassroots Levels

A. SCOTUS Should Uphold the EEOC Interpretation of Title VII

At ground zero of this fight is the case — *R.G. & G.R. Harris Funeral Homes v. Equal Employment Opportunity Commission*. In order to preserve the current scope of Title VII rights as enforced by the EEOC, the Supreme Court must reject the intervening arguments posed by the Trump Administration's DOJ. It is essential that the Supreme Court affirm the EEOC's common sense interpretation of the harassment/discrimination based on sex prohibition to impliedly include harassment/discrimination due to not conforming to the stereotypes based on one's biological sex.

In October 2019, the Supreme Court heard oral arguments for Aimee Stephens case, and prior to the outbreak of COVID-19, a decision

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[112] Gira Grant, *supra*, note 104.

[113] *Id*.

was expected by about June 2020.[114] However, even with this possible affirmation by the Supreme Court, Congress should also take action to explicitly prohibit workplace discrimination on the basis of gender identity and gender expression to prevent a potential future court from overturning these protections. This is especially true concerning the recent makeup of the court, which includes two Trump administration appointees who have not expressed how they will rule on the recognition of transgender rights.

B. Congress Should Explicitly Protect Workers on the Basis of Gender Identity, Sexual Orientation, and Gender Presentation

In order to preserve and ensure continued protection of transgender people in the workplace, Congress must also adopt explicit protections against this form of discrimination by recognizing gender identity and expression as protected categories under Title VII. Congress could easily model its updates to Title VII off of the 22 state laws that already recognize gender identity and expression as protected categories.[115]

One example is California's Fair Employment and Housing Act ("FEHA").[116] Since 2011, under FEHA, California includes a broader collection of protected categories, including gender identity, gender expression, and sexual orientation. Further, effective January 1, 2018, all California employers with more than 50 employees are required to post a "Transgender Rights in the Workplace" poster, and include gender identity in their workplace harassment trainings, in order to ensure employees are aware of their protections under FEHA.[117]

However, it is possible that conservative organizations will fight back against Congress affirming workplace protections for transgender individuals. Thus, individuals as well as local organizations should also prepare to fight for these protections. For example, Out for Sustainability is an organization specifically dedicated to mobilizing LGBT people for environmentally sustainable policies.[118] Organizations such as this should be at the forefront of fighting for transgender workplace protections, in recognition of their rippling effect on the environment.

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[114] Katelyn Burns, *The Supreme Court is Finally Taking on Trans Rights*, VOX (Oct. 7, 2019), https://www.vox.com/latest-news/2019/10/7/20903503/trans-supreme-court-decision-employment-discrimination-aimee-stephens.

[115] *Non-Discrimination Laws, Employment*, Movement Advancement Project (2020).

[116] Christopher B. Nolan, *Protections Against Gender Identity*, SF Weekly (Sep. 19, 2018, 10:52 AM), https://www.sfweekly.com/sponsored/protections-against-gender-identity-harassment/.

[117] *Id*.

[118] *Purpose*, Out for Sustainability, https://out4s.org/purpose/ (last visited May 8, 2020).

C. Local Governments, Environmental Groups, and Public Health Interest Groups Should Support and Advocate for These Changes

As highlighted throughout this article, local environments and public health suffer as a consequence of poor workplace protections for vulnerable populations. It is for this reason that local environmental groups and public health groups should also support Congressional legislation that affirms workplace protections locally and nationally. The overall impact due to increases in homelessness, such as spread of disease and litter, are minute in comparison to the effects of global climate change created by corporate pollution and fossil fuel emissions. But by taking action now to prevent the furthering of local pollution and declining public health, positive impacts will be felt drastically in local communities, and will help to minimize the suffering caused by global climate change of vulnerable populations. Moreover, by attacking the epidemic of homelessness, both a source and a sufferer of global climate change, communities will not only be preventing exacerbation of global climate change impacts but will also be minimizing the suffering caused by it. This means cleaner and safer streets and less communicable disease in our communities, as well as generally less suffering caused by the discriminatory laws that create and enforce these issues.

It is imperative, regardless of what decision the Supreme Court makes on Aimee Stephen's case, that everyday people hold lawmakers accountable for their decisions. Lawmakers who choose to wreak havoc on the lives of transgender people, and the communities in which they reside, must be voted out, impeached, and removed from office. This will look different for each community member, depending on their state and who their representatives are, but every person must call their representatives, voice their opinions in the voting booth and in the street, and continue the fight for workplace equality for all people. The future quite literally depends on it.

VII. Conclusion

Essentially, one's likelihood of becoming homeless increases during a job loss, and an increase in homelessness will not only detrimentally affect the individual person made homeless, but also their surrounding community. This becomes especially poignant for transgender people, and those who may be affected by the Supreme Court of the United States reversing prior precedent by excluding transgender people from anti-discrimination workplace protections. Transgender people who are

currently employed would potentially feel the effects of legalized discrimination in their workplace, by making them more vulnerable to discriminatory harassment and even termination.

Furthermore, the reversal of anti-discrimination protections would also place a hurdle between a newly unemployed person and the securing of a new job, by legalizing discrimination in the hiring process. This places transgender people at a crossroads wherein they must choose between living as their authentic selves or living on the street. As illustrated in the already incredibly high rates of suicide among this population, living as a transgender individual comes with many struggles, and increasing those struggles, as opposed to minimizing them, could result in not just increased homelessness, but increased suicide rates, and ultimately, deaths.

No one will benefit if the court rules against these workplace protections. Transgender people will suffer more, their families will suffer more, and their local communities will suffer more. The breadth of this suffering is almost immeasurable. Transgender people will be more susceptible to death, violence, and disease. Their family and friends will be forced to suffer through the loss of loved ones, and local communities will be further exposed to the trauma of death and disease brought about by their marginalization. Finally, local environments and communities will experience higher rates of both pollution and disease. The Supreme Court legalizing the workplace discrimination of transgender people leaves no winners, and only furthers human suffering and environmental degradation in its wake. It is a deplorable legacy that could affect many generations to come.

We must also bear in mind the true reach of overturning the *Price Waterhouse v. Hopkins* precedent. The wide breadth of this potential ruling becomes more detrimental for the public and environment, because while transgender people make up a minority of employees in the United States, the effect of this Supreme Court decision could arguably reach any employee, as any employee who does not conform to their employer's gender expectations could be at risk of losing their job. Depending on the circumstances, this could mean women who wear pants to work, men who take on the brunt of child rearing, and any other host of non-stereotypical gender presentations and experiences. Thus, the impacts of discrimination on the transgender community, and the correlated environmental impacts, are multiplied by the potential to negatively impact any and all workers. Ultimately, the increase in transgender discrimination that would result from a Supreme Court ruling adopting the DOJ's interpretation of sex discrimination will lead to more homeless-

ness, more local pollution, increases in the spread of communicable disease and infection, and generally more suffering for both the transgender community and the communities in which they reside.[119]

[119] This article was drafted for publication prior to the June 15, 2020 landmark Supreme Court decision that sexual orientation and gender identity are protected under Title VII. Thus, this article explores the detrimental environmental and public health impacts of workplace discrimination through the lens of the transgender experience.

GREEN GARBAGE: A STATE COMPARISON OF MARIJUANA PACKAGING AND WASTE MANAGEMENT

KEVIN DALIA[1]

I. INTRODUCTION

The United States is experiencing a green rush.[2] States have been legalizing cannabis[3] across the nation, and it has created a multi-billion-dollar industry.[4] Ten states have created a regulatory structure for commercial[5] sale and use of cannabis and thirty-four states have legalized medical marijuana.[6] A plant that was once exchanged through back-alley deals is now often sold through big name corporations. With the age of racially motivated laws aimed to criminalize "Mary Jane" coming to an end, corporate America is taking the reins of a new, regulated industry to turn marijuana from herbal green into financial "green."

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[1] J.D. Graduate, Golden Gate University, School of Law, 2020. The author became interested in cannabis law after learning about the medical benefits of cannabis through cancer patients as well as the prejudicial history behind cannabis prohibition. The author hopes that this article will help reform current cannabis regulations and inform future commercial states of best practices. The author would like to thank the amazing Golden Gate University School of Law Environmental Law Journal editors for their hard work and contributions. The author could not have finished without such diligent editors.

[2] A term of art used to represent the flood of lawful cannabis business development.

[3] Cannabis is a tall plant with a stiff upright stem, divided serrated leaves, and glandular hairs. It is used to produce hemp fiber and marijuana.

[4] The Associated Press, Gillian Flaccus, *Legal Marijuana Toasts Banner Year* (Dec. 27, 2018) https://apnews.com/0bd3cdbae26c4f99be359d6fe32f0d49.

[5] Some states also refer to it as "recreational" sale of marijuana, but "commercial" is a more appropriate term because the customers include recreational and/or medical users.

[6] Marijuana, whether smoked or consumed, is a psychoactive drug that comes from the cannabis plant. It should not be confused with hemp, a fibrous material that also comes from cannabis, as distinguished in the 2018 Farm Bill; Westlaw at Practical Law Practice Note Overview 7-523-7150.

Although many states may have legalized marijuana, the substance remains illegal on a federal level under the Controlled Substances Act.[7] Because of this, individual states have implemented strict regulations that follow federal guidelines and avoid federal enforcement. This tension between federal laws and individual state interests have resulted in excessive regulations that do more harm than good to the environment. While many laws in states where marijuana is legal are similar to each other, some have unique regulations. Individual states' divergent waste management regulations, packaging, and labeling requirements for commercial marijuana are particularly damaging.

This article provides a brief historiography of legislative prejudice against marijuana to provide greater context as to why marijuana laws are strict, excessive, and improperly motivated, leading to environmental concerns that could be mitigated. The article compares waste management, packaging, and labeling regulations in the ten states that have legalized commercial marijuana.[8] This comparison allows us to explore two sides of the same regulatory coin, showing examples of excessive and environmentally harmful regulations on one side, while highlighting regulations that should serve as exemplars for future legislation on the other. Also included are some of the industry practices and community feedback to shed light on the regulations in practice. Hopefully this article can contribute to moving the needle towards a more equitable and sustainable regulatory system of the marijuana industry.

II. Marijuana History in the United States

A. From the Beginning to Anslinger's Legacy

Government regulation of marijuana[9] stems back almost 100 years; today we can easily trace its roots through centuries of systemic racism. Starting in the early 1900s, law enforcement and politicians began to associate marijuana with Mexican people. The same stigma attached to black musicians notorious for using weed dominating the rising jazz and blues industry.[10] Fueled in part by these racist stereotypes, politicians started outlawing marijuana in every state.[11] Law enforcement argued that weed caused crime and violence without medical evidence.[12] They

[7] 21 U.S.C. §812(b)(1).

[8] This article has been limited to commercial states because they tend to have the most extensive regulations.

[9] Weed is a colloquial synonym for marijuana.

[10] Martin Booth, *Cannabis: A History* 138-141 (1st Ed. 2004).

[11] *Id.* at 132-133.

[12] *Id.*

did not criminalize the substance because scientific evidence called for it, they outlawed it due to preconceived notions of minorities.

Then in 1930, the Federal Bureau of Narcotics was founded to help combat the problems of opiate addiction.[13] Harry J. Anslinger was placed in charge of the department, and he justified its existence by further villainizing marijuana.[14] For twenty years in this role he continued to demonize communities of color,[15] created a false narrative around the effects of marijuana to influence legislation, and prevented research institutions from conducting studies related to marijuana.[16]

For example, Anslinger wrote and published "Marijuana: Assassin of Youth" in the American Journal a few weeks before the Marihuana[17] Tax Act[18] got approved.[19] The article focused on fictional stories of youth committing suicide or incoherent violence because they were under the influence of marijuana.[20] Anslinger even made a public statement that marijuana was "an addictive drug which produces in its users insanity, criminality, and death."[21]

During the 1950s, Anslinger established the stigma that marijuana is a gateway drug to heroin.[22] At the UN Commission on Narcotic Drugs in 1954, Anslinger secured approval of the Single Convention,[23] which bars member nations from legalizing marijuana, after threatening that the United States would veto any other decisions if the Single Convention wasn't approved.[24]

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[13] *Id.* at 146.

[14] *Id.* at 149.

[15] As stated by Harry Anslinger, "There are 100,000 total marijuana smokers in the US, and most are Negroes, Hispanics, Filipinos, and entertainers. Their Satanic music, jazz, and swing result from marijuana use. This marijuana causes white women to seek sexual relations with Negroes, entertainers, and any others." David McDonald, *The Racist Roots of Marijuana Prohibition*, (Tuesday, April 11, 2017), https://fee.org/articles/the-racist-roots-of-marijuana-prohibition/.

[16] Booth at 154-155.

[17] Marijuana, as pronounced in Spanish, was originally spelled "marihuana" in English and some states, such as Michigan, still use the antiquated spelling.

[18] Pub.L. 75-238, 50 Stat. 551 (1937).

[19] Booth at 157.

[20] *Id.*

[21] *Id.* at 158.

[22] *Id.* at 177.

[23] The Single Convention on Narcotic Drugs of 1961 is an international treaty to prohibit production and supply of specific drugs except under license for specific purposes. It served as the foundation for the Comprehensive Drug Abuse Prevention and Control Act of 1970 which places cannabis on Schedule I.

[24] *Id.* at 205.

B. From Nixon's War on Drugs to Reagan's Reinstatement of Mandatory Sentences

In 1970, the Comprehensive Drug Abuse Prevention and Control Act put drugs into five different schedules based on potential for abuse and medical applications.[25] It also removed mandatory minimum sentences and reduced marijuana possession down to a misdemeanor.[26] Established by President Richard Nixon, the Shafer Commissions made findings consistent with previous presidential commissions, that there were no "atrocities" of marijuana to uncover.[27]

Ignoring the Shafer Commission's recommendations, Nixon declared the War on Drugs.[28] Years later, Nixon's domestic policy chief, John Ehrlichman, brought forward the true reasoning behind the War on Drugs:

> We knew we couldn't make it illegal to be either against the war or black, but by getting the public to associate the hippies with marijuana and blacks with heroin. And then criminalizing both heavily, we could disrupt those communities. We could arrest their leaders, raid their homes, break up their meetings, and vilify them night after night on the evening news. Did we know we were lying about the drugs? Of course we did.[29]

During President Ronald Reagan's tenure, organizations such as Families in Action, the Parents' Resource Institute for Drug Education, and the National Federation of Parents for Drug-Free Youth managed to put a stop to any idea of legalization.[30] Following parental outcries taking this hard line against drug use, President Ronald Reagan reinstated mandatory minimum sentences, thus causing a dramatic increase in the prison population.[31]

It is against this background that the state and federal governments criminalized marijuana. At its worst, this background was racist; at the very least, these policies were uninformed. This began to change as more individuals, through word of mouth, recognized medicinal uses for marijuana involving epilepsy, cancer, chronic pain, AIDS, and many

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[25] *Id.* at 246.

[26] *Id.*

[27] *Id.*

[28] *Id.*

[29] Tom LoBianco, *Report: Nixon's War on Drugs Targeted Blacks, Hippies*, (Updated 3:14 PM ET, Thu March 24, 2016), http://www.cnn.com/2016/03/23/politics/john-ehrlichman-richard-nixon-drug-war-blacks-hippie/.

[30] Booth at 253.

[31] *Id.* at 254.

other conditions.[32] As marijuana stigmas began to be dispelled, individuals put forth voter initiatives to legalize marijuana in one way or another.

For example, a voter's initiative passed California's Proposition 64 in 2016.[33] In addition, Colorado's Amendment 64 passed in 2012,[34] despite the adamant disapproval of John Hickenlooper, Colorado's governor at the time.[35] The legislation below demonstrates the progress that has been made from Colorado's early commercial marijuana legalization and to more recently when California legalized commercial marijuana.

III. State Regulations

Over the span of nearly a century, the prejudicial and political treatment of marijuana has culminated into devastating stigmas which, in turn, has produced state regulations that are wasteful, unnecessary, and harmful to the environment. The prohibition on marijuana has sent the drug into the illicit market[36] where it was associated with street-corner dealers and sold alongside drugs that can be lethal, such as cocaine and heroin. Marijuana was used to fund crime but is now being taken out of the hands of drug lords and placed into a regulatory framework to benefit law abiding society.

Roughly a century of prohibition has left the marijuana industry coping with illicit market stigmas made worse by limited research.[37] Many people are afraid of detrimental, unforeseen consequences to public health.[38] Because the substance is still illegal on a federal level due to the Controlled Substances Act, states are afraid of federal enforcement.

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[32] National Institute on Drug Abuse, *Marijuana as Medicine*, (Revised July 2019), https://www.drugabuse.gov/publications/drugfacts/marijuana-medicine; Mary Barna Bridgeman, PharmD, BCPS, BCGP and Daniel T. Abazia, PharmD, BCPS, CPE, *Medical Cannabis: History, Pharmacology, And Implications for the Acute Care Setting*, (2017 Mar), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5312634/; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), *Medical Use of Cannabis and Cannabinoids*, (December 2018), http://www.emcdda.europa.eu/system/files/publications/10171/20185584_TD0618186ENN_PDF.pdf.

[33] Also called the Adult Use of Marijuana Act, it was a 2016 California voter initiative that legalized commercial marijuana.

[34] The voter initiative that successfully amended Colorado's State Constitution to allow for commercial marijuana.

[35] Hickenlooper, Governor John W. "Experimenting with Pot: The State of Colorado's Legalization of Marijuana."?, *Milbank Quarterly*, vol. 92, no. 2, 2014, p. 243-249. Web.

[36] Also referred to as "black market," "illicit market" is a more socially sensitive term.

[37] NCBI, *The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research*, (2017 Jan), ncbi.nlm.nih.gov/books/NBK425757/.

[38] The New York Times, Aaron E. Carroll, *It's Time for a New Discussion of Marijuana's Risks*, (May 7, 2018), https://www.nytimes.com/2018/05/07/upshot/its-time-for-a-new-discussion-of-marijuanas-risks.html.

With all of these influences combined — illicit market profit, unknown public health concerns, and federal scrutiny — state legislatures and regulatory agencies create and administer strict laws.[39]

All of the commercial states share some of the same or similar regulations, including requirements that marijuana be (1) tracked from seed-to-sale-to-garbage via a state-controlled track and trace system, (2) labeled with THC[40] level, product name, verbatim warnings, marijuana warning symbol, and an identifier for the retailer, and (3) packaged with tamper-evident, child-resistant, and opaque materials. Additionally, the waste[41] that marijuana produces, such as unusable trimmings, is also highly regulated and must be (1) tracked via the state's track and trace system, (2) kept in a secure waste receptacle, and (3) rendered unusable[42] by mixing it with another material in a 1:1 ratio.

Overall, the two greatest environmental issues facing state legislatures and regulatory agencies tasked with marijuana regulation are: (1) packaging and labeling requirements and (2) uncomposted plant waste. Packaging and labeling requirements are often excessive, creating huge amounts of unnecessary waste. Additionally, the inability of states to compost marijuana waste taxes our already overflowing landfills.

According to the U.S. Environmental Protection Agency, organic waste in landfills "release methane, a potent greenhouse gas," and since greenhouse gases cause global warming, this is an undesirable practice.[43] The bacteria that quickly decomposes organic material (aerobes) require oxygen to survive, so placing compostable material in landfills, which are sealed, will cause the materials to decompose much more slowly because the only bacteria decomposing the waste are anaerobes, which are much slower.[44] What follows is a summary of each state's laws in alphabetical order, followed by a chart displaying notable differences between the states.

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[39] See the discussion of state laws below.

[40] THC stands for "tetrahydrocannabinol." It is the psychoactive compound that gives an individual the "high" sensation.

[41] Cannabis waste can come from multiple activities. It could be the waste of production such as the plants being inadequate/failed testing or the leftovers after trimming. It could be left over biproduct after the manufacturer has turned the cannabis into a concentrate, or it could simply just be a retailer throwing out old product.

[42] Once cannabis waste is rendered unusable (mixed in a 1:1 ratio), it is treated like any other trash which is handled by the local waste disposal rules meaning that it depends on the locale. If the local waste disposal facility has a capacity for composting, then they can handle composting. If the local facility does not have a capacity to compost, then the cannabis waste does not get composted.

[43] U.S. Environmental Protection Agency (November 13, 2019), https://www.epa.gov/recycle/composting-home.

[44] Rachel Ross, *The Science Behind Composting*, Live Science (Sep. 12, 2018), https://www.livescience.com/63559-composting.html.

A. Summaries of State Laws and Regulations

1. Alaska

The Alcohol and Marijuana Control Office regulates commercial marijuana in Alaska.[45] The state laws pertaining to marijuana, AS 17.38 and 3 AAC 306, became effective February 24, 2015 and February 21, 2016, respectively.[46] Marijuana has to be tracked from seed-to-sale-to-garbage so as to prevent it from being diverted into the illicit market and to facilitate the collection of excise taxes; it is a common requirement in all of the commercial states.[47]

Marijuana products must be packaged in accordance with the typical requirements[48] mandated by the above-mentioned statutes. Products must also be placed in additional packaging upon leaving the retail store if they are not already opaque and child-resistant, to keep out of the sight and reach of children.[49] A small bag of marijuana must also be labeled with numerous warnings such as — "marijuana is intoxicating and may be addictive, do not operate machinery or a vehicle while under the influence, there are health risks, for use by individuals twenty-one years and older, should not be used by pregnant women."[50] These warnings in and of themselves may not be excessive, and even provide warnings similar to the ones on alcoholic beverages. However, in conjunction with other requirements, such as information on soil amendment, fertilizer, and crop production aids, it makes labeling excessive thereby requiring extra packaging on small products.

The packaging must also be labeled with the retail store and their license number to hold the retailer accountable for making lawful sales of products with good quality.[51] Further extending the liability chain, products must be labeled with the soil amendment, fertilizer, and crop production aids as well as the testing facility that tested it to ensure the marijuana is safe for use.[52] The packaging must also be labeled with the tracking number so that the state can use the track and trace system.[53] Most importantly, it must be labeled with the THC potency so that cus-

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[45] Alaska, Alcohol and Marijuana Control Office, https://www.commerce.alaska.gov/web/amco/marijuanaregulations.aspx.

[46] Alaska Stat. §17.38 et cet.; Alaska Admin. Code tit. 3, §306 et cet.

[47] Alaska Admin. Code tit. 3, §306.730.

[48] Typical requirements include the level of THC, product names, etc.

[49] Alaska Admin. Code tit. 3, §306.345.

[50] *Id.* at §306.475(a). (Paraphrased for Brevity).

[51] *Id.* at §306.345(b)(1).

[52] *Id.* at §306.475(b).

[53] *Id.* at §306.470(c).

tomers can objectively measure how much they use (similar to proof on alcohol).[54] All of these labeling requirement are common amongst the commercial states.

The waste must be made unusable to prevent scavengers from trying to use the substance and prevent diversion into the illicit market.[55] In order to be made unusable, it must be mixed with an equal amount of compostable or non-compostable materials.[56] Before making the waste unusable and disposing of it, marijuana businesses must give the regulatory board notice on prescribed form MJ-25: Marijuana Waste Disposal.[57]

2. California

Commercial marijuana is regulated by three different regulatory agencies in California: Bureau of Cannabis Control ("BCC"), California Department of Food and Agriculture ("CDFA"), and California Department of Public Health ("CDPH").[58] CDFA[59] handles cultivation,[60] CDPH handles manufacturing under their Manufactured Cannabis Safety Branch ("MCSB"),[61] and BCC handles all other license types, including retail licenses, distribution licenses,[62] event licenses, and testing licenses.[63] Each agency operates under their own individual regulations, but their regulations regarding waste management, packaging, and labeling are nearly the same so I will discuss them as California's regulations as a whole.

Warnings similar to Alaska's regulations are required on the labeling which are reasonable and common amongst the commercial states.[64] It is similar to how alcohol and tobacco puts warnings on their products regarding matters such as pregnant consumers and drivers. A universal symbol (pictured below) demonstrates that the product has marijuana and it must be on the packaging in the size of 0.5 by 0.5 inches.[65] Packaging

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[54] *Id.* at §306.345(b)(2).

[55] *Id.* at §306.740(b).

[56] *Id.* at §306.740(d).

[57] *Id.* at §306.740(c)(1).

[58] California Cannabis Portal, https://cannabis.ca.gov/laws-regulations/.

[59] Cal. Code Regs. Tit. 3, §8000 et cet.

[60] In any supply chain, there are the farmers/producers, distributors, and retailers. Cultivators are essentially the farmers of the cannabis industry.

[61] Cal. Code Regs. Tit. 17, §40100 et cet.

[62] Distributors handle transportation of product between licensees and may also handle product packaging depending on the state.

[63] Cal. Code Regs. Tit. 16, §5000 et cet.

[64] Cal. Code Regs. Tit. 17, §40408.

[65] *Id.* at §40412.

must be tamper-evident and child-resistant,[66] and all purchased marijuana goods must be placed in additional opaque exit packaging.[67]

[68]

In California, a marijuana business must keep marijuana waste in a secure waste receptacle.[69] They can compost it or send it to a landfill, but it must be rendered unusable and unrecognizable just like the other commercial states.[70] The marijuana business needs to contract with a waste management company to receive the marijuana waste which can be composted, incinerated, or placed in a landfill.[71] The marijuana business can self-haul or have the waste management pick up the marijuana waste.[72] The marijuana business must also track all marijuana waste and receive a certified weight ticket from the authorized waste management business.[73] Marijuana waste is not allowed to be sold.[74] Marijuana is considered to be organic waste, which means that it can be composted.[75] Marijuana can be composted on-site, picked up by an authorized waste management business, or self-hauled to an authorized waste management business.[76]

3. Colorado

In Colorado, commercial marijuana is regulated by the Marijuana Enforcement Division under 1 CCR 212-2 R 307, which became effective in January of 2014.[77] The packaging/labeling requirements are simi-

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[66] *Id.* at §40415.
[67] Cal. Code Regs. Tit. 16, §5413(c).
[68] Cal. Code Regs. Tit. 17, §40412(b).
[69] Cal. Code Regs. Tit. 16, §5055.
[70] *Id.*
[71] *Id.*
[72] *Id.*
[73] *Id.*
[74] *Id.*
[75] Cal. Code Regs. Tit. 3, §8108.
[76] *Id.* at §8108, 8308.
[77] Colorado Department of Revenue: Enforcement Division (2019), https://www.colorado.gov/pacific/enforcement/marijuanaenforcement; Colo. Code Regs. §212-2.307 R 307.

lar to Alaska's,[78] and the waste management regulations follow a similar scheme as other states, for example the waste must be (1) rendered unusable and unrecognizable by grinding a 50% ratio with other materials,[79] (2) kept in a secure waste receptacle to avoid scavengers, and[80] (3) disposed of by a waste disposal facility, compost facility, or on-site composing.[81] Of course, as with all commercial states, the business must track all of the marijuana waste as well.[82]

In 2019, Colorado passed the Marijuana Waste Recycling bill, which allows an individual to transfer fibrous waste to another person so that the other person can create industrial fiber products such as hempcrete (concrete made from hemp), plywood substitute, rope, insulation, and other construction materials.[83] Rather than paying a waste management company to dispose of useable byproducts, the marijuana businesses can sell their mass waste byproduct to be recycled into useable resources for a small profit, which means more taxes and less landfills.[84] Until marijuana prohibition began in the 20th century, marijuana used to be a very popular raw material; this bill has allowed the state to return to utilizing a very useful byproduct.[85] It is an approach to cannabis waste recycling that creates more revenue and should be adopted by more states.

4. Illinois

Starting in January of 2020, marijuana became legalized for commercial use in Illinois through the Cannabis Regulation and Tax Act.[86] With legalization came many of the same packaging, labeling, and waste requirements that other states have implemented. As the legalization is new, there is a limited amount of regulations at this time. Uniquely, in Illinois, it is prohibited to include the image of a marijuana leaf on packaging.[87]

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[78] *Id.* at §212-2.1002.5 R 1002.5.

[79] *Id.* at §212-2.307(D) R 307(A).

[80] *Id.* at §212-2.307(A) R 307(A).

[81] *Id.* at §212-2.307(F) R 307(F).

[82] *Id.* at §212-2.307(H) R 307(H).

[83] Colo. Rev. Stat. §44-212-202(5); Kenneth Morrow, *One Cultivator's Waste Is Another Business's Opportunity*, Cannabis Business Times (Sep. 20, 2019), https://www.cannabisbusinesstimes.com/article/cannabis-cultivator-grower-waste-business-opportunity/.

[84] Kenneth Morrow, *One Cultivator's Waste is Another Business's Opportunity*, Cannabis Business Times (Sep. 20, 2019), https://www.cannabisbusinesstimes.com/article/cannabis-cultivator-grower-waste-business-opportunity/.

[85] Allison McNearney, *The Complicated History of Cannabis in the US*, History (April 17, 2020), https://www.history.com/news/marijuana-criminalization-reefer-madness-history-flashback.

[86] 410 Ill. Comp. Stat. Ann. 705 (2019).

[87] 410 Ill. Comp. Stat. Ann. 705/55-21(f)(4) (2019).

In Illinois, marijuana waste is strictly regulated, mimicking the strict regulations in other commercial states. However, Illinois shares a unique waste disposal notification requirement with Alaska that is not found in other commercial states. Before destruction, the Illinois Department of Agriculture and the Department of State Police must be notified of the intended destruction.[88] Any and all marijuana byproduct, scrap, and harvested marijuana not intended for distribution must be destroyed, and the Department of Agriculture may require that an employee of the Department of Agriculture or the Department of Financial and Professional Regulation be present during the destruction.[89] As mentioned, this is a newly legalized state and regulations are still forthcoming.

5. Maine

In June 2019, Maine created a provisional regulatory structure for commercial marijuana, which is regulated by the state's Department of Administrative and Financial Services ("DAFS") Office of Marijuana Policy.[90]

Maine has several specific labeling requirements. First, labeling text must be on the outermost layer of the packaging with at least size 6 font or 1/12 inch.[91] Second, the label must have the identification number of the testing facility and testing results.[92] Third, the label must also have the cultivation date or manufactured date.[93] Most notably, the required information may be put on the packaging with a "peel-back accordion style, expandable, extendable, or layered label."[94] It is similar to the directions often found in prescription bags or over the counter medications. Maine has the same waste management rules introduced at the start of this section — track, render unusable, and secure it.

6. Massachusetts

The Cannabis Control Commission is the state agency that regulates commercial marijuana in Massachusetts since December of 2018.[95] Of the ten states, Massachusetts appears to have the most unfavorable label-

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[88] *Id.* at 705/55-15(b).

[89] *Id.* at 705/55-15(a); 410 ILCS 705/55-15(b).

[90] Maine Department of Administrative and Financial Services: Office of Marijuana Policy, https://www.maine.gov/dafs/omp/.

[91] 18-691 Me. Code R. §11.1.2(B).

[92] *Id.* at §11.1.2(F).

[93] *Id.* at §11.1.2(I).

[94] *Id.* at §11.1.2(J).

[95] Massachusetts Cannabis Control Commission, https://mass-cannabis-control.com/about-us-2/.

ing and packaging requirements, because under 935 CMR 500.105(5) a cultivator must place a label on each package with wording at least 1/16 inch stating:

1. The name and registration number of the cultivator as well as the retailer's business telephone number, email address, and website information;
2. Quantity of usable marijuana contained in the package;
3. Date the contents were packaged and a statement as to whether the retailer or cultivator did the packaging;
4. Batch number, serial number, and bar code;
5. Cannabinoid profile;
6. Statement and seal certifying that the product has passed testing and date of testing; and
7. The following symbols.[96]

[97]

Furthermore, a manufacturer must also adhere to a few other requirements if the substance needs to pass through a manufacturer to process the marijuana into edibles or concentrates.[98] Some of the additional requirements include: the business information of the manufacture just like the cultivator[99], net weight[100], and type of marijuana (including the processing technique or solvents).[101] In contrast, other commercial states only require one of the entities in the chain of distribution to be listed on the label such as the retailer, manufacturer, or cultivator and possibly the testing facility.[102] Compare this to alcohol such as Jack Daniel's or Bud Light; alcohol is not required to have a retailer listed on the container. Imagine a bottle of Jack Daniel's that says "Walmart" or "Costco" on it.

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[96] 935 Mass. Code Regs. §500.105(5).

[97] *Id.*

[98] *Id.* at §500.105(5)(b)-(d).

[99] *Id.* at §500.105(5)(b)(1).

[100] *Id.* at §500.105(5)(b)(4).

[101] *Id.* at §500.105(5)(b)(6).

[102] Alaska Admin. Code tit. 3, §306.345(b)(1); Alaska Admin. Code tit. 3, §306.475(b); Cal. Code Regs. Tit. 17, §40404(b)(2).

Finally, once marijuana reaches the retailer, they have their own packaging/labeling requirements.[103] Along with the required tamper or child-resistant packaging, packaging and labels have to be opaque or plain, resealable if there is more than one use for the product, and include this statement in 10 point font Times New Roman, Helvetica, Arial "KEEP OUT OF REACH OF CHILDREN."[104] Additionally, packaging must be certified by a third party packaging testing firm.[105] In the end, all of this packaging and labeling is cumulative, whereas most states only require one entity in the chain of distribution to handle packaging and labeling without the need for information of every entity involved because that information is already in the track and trace system.

The marijuana disposal must be witnessed by at least two people.[106] Aside from that, the waste management regulations are, in large part, the same as the other states. However, the regulatory agency gives preference to environmentally favorable waste disposal; if a business creates more than one ton of organic waste (i.e. plant or other organic based waste) every week, it must divert this material to a compost or anaerobic digestion operation rather than the trash.[107] Keep in mind, once cannabis is rendered unusable and transferred to the waste disposal facility, local county and/or city waste laws control.

7. MICHIGAN

Michigan legalized commercial marihuana[108] on December 6, 2018 with the Michigan Regulation and Taxation of Marihuana Act. Under the Department of Licensing and Regulatory Affairs, the Marijuana Regulatory Agency regulates marijuana.[109] The state has issued emergency regulations[110] because the legislation legalized commercial marijuana

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[103] 935 Mass. Code Regs. §500.105(6)(a).

[104] *Id.*

[105] *Id.*

[106] *Id.* at §500.105(12)(d).

[107] Mass. Cannabis Control Comm'n, Commonwealth of Mass., *Guidance on Cannabis Waste Management Requirements: Managing Solid Waste Materials*, 1. 2019.

[108] Michigan legislation uses the antiquated spelling that replaces the "j" with an "h." In contrast, the regulatory agency used the modern spelling which uses a "j." The state frequently uses both interchangeably.

[109] Mich. Comp. Laws Ann. § 333.27951 (West 2018).

[110] The emergency regulations will be in effect until July 3, 2020. When a regulatory agency creates new laws, there usually must be a process such as public hearings or a public comment period. When legislation gets passed that requires a brand-new agency to be running in a year, there is not enough time to go through the formal legislative proceedings. Therefore, the agency puts together temporary (emergency) rules until they can go through the formal administrative procedure for creating laws. This has commonly happened when states have legalized commercial cannabis.

with little time to create regulations through the typically long and arduous process.[111]

The packaging requires the producer, distributor, tester, and retailer to be on the package by name and number.[112] The packaging must also include an identification number for the package or harvest, date of harvest, name of strain, net weight, concentration of THC and CBD,[113] activation time[114] expressed in words or a pictogram, testing information, and a verbatim warning telling the customer to keep the product away from children and that driving while under the influence is illegal.[115] The phone number for the National Poison Control Center must also be included and, additionally, the universal marijuana warning symbol must be attached (see below).[116]

[117]

Again, the marijuana waste must be rendered unusable by mixing it in a 1:1 ratio with specified materials.[118] Such mixing materials may include paper, plastic, cardboard, food, grease or other compostable oil waste, fermented organic matter or other compost activators, or soil.[119] The waste must be disposed of in either a manned and permitted solid

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[111] Michigan Department of licensing and Regulatory Affairs: Marijuana Regulatory Agency, https://www.michigan.gov/lara/0,4601,7-154-89334_79571_82631—-,00.html.

[112] Mich. Marijuana Reg. Agency, Dep't of Licensing and Reg. Aff., Adult-Use Marihuana Establishments, Emergency Rule 49. (2019).

[113] While THC is the psychoactive chemical that creates a sense of euphoria, cannabidiol ("CBD") tends to provide a similar therapeutic effect without the feeling of being "high." The two chemicals affect different receptors on the brain and tend to be inversely related.

[114] The intoxicating effect of marijuana may activate at different times depending on the product. For example, smoking a joint will likely have an immediate effect, but eating an edible may take 45 minutes to two hours for the intoxication to take effect.

[115] Mich. Marijuana Reg. Agency, Dep't of Licensing and Reg. Aff., Adult-Use Marihuana Establishments, Emergency Rule 49. (2019).

[116] *Id.*

[117] Michigan Department of licensing and Regulatory Affairs: Marijuana Regulatory Agency: Updated Universal Symbol, https://www.michigan.gov/lara/0,4601,7-154-89334_79571_82631-485382—,00.html.

[118] Mich. Marijuana Reg. Agency, Dep't of Licensing and Reg. Aff., Adult-Use Marihuana Establishments, Emergency Rule 37(1). (2019).

[119] *Id.*

waste landfill or compostable materials operation, an in-vessel digester, or through incineration.[120]

8. NEVADA

The Department of Taxation is the state agency that regulates commercial marijuana in Nevada under the Regulation and Taxation of Marijuana Act since January of 2017.[121] The waste management regulations are similar to other states by grinding the marijuana with other materials to render the substance unusable and unrecognizable.[122]

The cultivation facility must label the packaging with the name of the marijuana establishment and its license number, the number of the medical marijuana establishment registration certificate if applicable, batch number, lot number, date of final harvest, date of final testing, date of packaging, cannabinoid profile, potency levels, terpenoid profile of the top three terpenes as determined by the marijuana testing facility, expiration date, quantity of marijuana, and must have the warning "THIS IS A MARIJUANA PRODUCT" in all capitalized letters (see example below).[123] Manufacturers and retailers also have their own requirements, but there aren't any material differences.[124] The packaging requirements are the same as other commercial states except that it has large labels that can be summarized with a QR code.[125]

[120] Mich. Marijuana Reg. Agency, Dep't of Licensing and Reg. Aff., Adult-Use Marihuana Establishments, Emergency Rule 37(5). (2019).

[121] Nevada Department of Taxation, https://tax.nv.gov/FAQs/Marijuana_Proposed_Temporary_Regulation_T002-17/.

[122] Nev. Admin. Code 453D.745.

[123] Nev. Admin. Code 453D.800 et cet.

[124] *Id.*

[125] 935 Mass. Code Regs. §500.105(5)(b)(6).

SG'S NURSERY
License Number: 123 456 789 001 0001
Registration Certificate Number: 543 210789 000 0100
(if applicable)

THIS IS A MARIJUANA PRODUCT

Batch Number:
1234
Lot Number:
1234

Final Harvest Date:
01/01/2017

Final Testing Date: 01/15/2017
Packaged on: 01/17/2017
Best if used by: 03/17/2017

16.7% THC 1.5% CBD 0.3% CBN
Myrcene 5.6 mg/g Limonene 5.1 mg/g Valencene 3.5 mg/g

Net Weight: 2 lbs.

[126]

9. OREGON

The Oregon Liquor Control Commission is the administrative body that regulates commercial marijuana after the passage of Measure 91 in 2014;[127] their regulations are under Chapter 845, Division 25.[128] Oregon's state regulations regarding waste management are similar in nature to the other commercial states (see image below).[129] However, one waste management regulation that is different from other states is that Oregon allows "a licensee to give or sell marijuana waste to a producer, processor[130], or wholesale licensee or research certificate holder."[131]

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[126] Nev. Admin. Code 453D.816(2).

[127] Oregon Secretary of State: Oregon Liquor Control Commission, Chapter 845, https://secure.sos.state.or.us/oard/displayChapterRules.action?selectedChapter=146.

[128] Or. Admin. R. 845-025.

[129] *Id.* at 845-025-7750; Or. Liquor Control Comm'n, *Marijuana Waste Management*. (2018).

[130] Synonymous with manufacturer, the processor often includes transforming cannabis into edibles, cannabis concentrates, and sometimes responsible for packaging the marijuana product.

[131] Or. Admin. R. 845-025-7750(2).

Marijuana Item	Methods to render items unusable prior to disposal	Disposal Method
Marijuana Plants and Usable Marijuana	Mix with yard debris, wood chips, sawdust, manure, etc.	Compost, landfill if composting not available or feasible
	Mix with soil, sand, other garbage	Landfill if composting not available or feasible
	Burning as permitted by law (see below)	Compost, landfill if composting not available or feasible
Liquid Concentrate or Extract		
Determine if the concentrate is hazardous waste	If not a hazardous waste, absorb in cat litter, sand or similar substance	Landfill
	If a hazardous waste contact DEQ for assistance with how to manage	Hazardous Waste disposal
Solid concentrate or extract		
Determine if the concentrate is hazardous waste	If not a hazardous waste, mix with soil, sand, garbage	Landfill
	If a hazardous waste contact DEQ for assistance to manage as hazardous waste	Hazardous Waste disposal

[132]

The labeling requirements are significantly similar to the other states' labeling requirements.[133] For example, the packaging or exit packaging must be child-resistant and authorized by a third party tester.[134] However, Oregon does also have a caveat that limits the requirements if the product is inherently too small to fit all of the usual labeling requirements.[135]

10. WASHINGTON

Commercial marijuana is legislated by Chapter 6.90 RCW ("Revised Code of Washington") beginning on December 6, 2012. The Liquor and Cannabis Board is the administrative body that regulates marijuana with 314-55 WAC ("Washington Administrative Code").[136] The waste management regulations are similar to the other commercial states — track, render unusable, and secure cannabis waste.[137]

The packaging and labeling requirements, however, are vastly different from other states.[138] In 2019, Washington significantly diminished its packaging and labeling requirements.[139] Now, flower[140] does

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[132] Or. Liquor Control Comm'n, *Marijuana Waste Management. (*2018).

[133] Or. Admin. R. 845-025-7030.

[134] Or. Admin. R. 845-025-7020.

[135] Or. Admin. R. 845-025-7030(11)(12).

[136] Washington State: Liquor and Cannabis Board, https://lcb.wa.gov/laws/current-laws-and-rules.

[137] Wash. Admin. Code §314-55-097.

[138] Wash. Admin. Code §314-55-105.

[139] Wash. Rev. Code §18-11-005.

not even need to be child-resistant.[141] The requirements for concentrates and infused products remain similar to other states, but the requirements for the grassy substance that is typically smoked is vastly simpler. The agency's reasoning was because the "the use of biodegradable packaging and reduction of the market's environmental impacts suggest that additional options to support industry sustainability and product safety are needed."[142]

Instead of placing the labeling requirements on the package itself, it merely needs an internet link or QR code and verbal disclosure upon request.[143] The digital link will inform the customer of all pesticides applied to the plant and the growing medium used during production or the marijuana used when creating a manufactured product (concentrate or infused product).[144] Further, upon the request of the consumer, the retail store must disclose the certified lab that conducted the test of the product in question as well as the results of the quality assurance test.[145]

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[140] The psychoactive part of a cannabis plant are the unfertilized flowers. "Flower" refers to the intoxicating grassy substance that can either be smoked or transformed into edibles or marijuana concentrates.

[141] Wash. Admin. Code §314-55-105(5).

[142] Proposed Rule WSR 19-22-030 from Wash. Liquor and Cannabis Bd. (proposed Oct. 30, 2019).

[143] Wash. Admin. Code §314-55-105(3)(4).

[144] Wash. Admin. Code §314-55-105(3).

[145] Wash. Admin. Code §314-55-105(4).

B. Differential Charts

Packaging and Labeling Comparison Chart	
Alaska	Additional exit packaging if it is not already opaque and child-resistant
California	Additional opaque exit packaging
Colorado	Exit packaging is not required if initial package is already child-resistant
Illinois	Regulations have not been passed yet
Maine	Allows for a "peel-back accordion style, expandable, extendable, or layered label"
Massachusetts	Cumulative labeling across the chain of distribution
Michigan	Nothing noteworthy
Nevada	Large labels
Oregon	Limits labeling requirements for items that are inherently small
Washington	Internet link or QR code as substitute. Less requirements on flower packaging.

Waste Management Comparison Chart	
Alaska	Notify agency three days before marijuana waste disposal via form
California	Nothing noteworthy
Colorado	Fibrous waste can be transferred to another person to create industrial fiber products
Illinois	Before destruction, Department of Agriculture and Department of State Police must be notified. Department of Agriculture may require that an employee of the Department of Agriculture or Department of Financial and Professional Regulation be present during destruction.
Maine	Nothing noteworthy
Massachusetts	Composting is prioritized unless it is not feasible. Businesses must compost if they produce more than one ton of organic waste a week
Michigan	Nothing noteworthy
Nevada	Nothing noteworthy
Oregon	May sell marijuana waste to other licensees or research certificate holder
Washington	Nothing noteworthy

IV. Comparative Analysis of State Laws and Regulations

A. Packaging and Labeling

1. Excessive Labeling

The biggest problem with packaging and labeling are the numerous regulations that result in extra packaging being used to fit everything on the product.[146] For example, a retailer may sell individual pre-rolled joints, a product that, without the required labeling, can easily fit in a person's pocket. However, in order to fit all of the warnings and identification numbers, packages end up being significantly larger than the actual product requires. Once the product is used, the packaging often goes straight to the garbage — specifically, a landfill.

States with cumulative labeling requirements across the chain of distribution for cultivators, processors, and retailers, such as Massachusetts, make this environmental impact particularly problematic. Most of the requirements are similar, but each link of the chain still has a few obligations separate from the other. The requirements are not so bad if they simply apply to a cultivator selling flower to a retailer, because that would only require one set of labeling requirements; however, the cultivator may sell the flower to the processor to turn the flower into dabs or an edible, which creates additional packaging requirements for each party involved in the chain of distribution. Once each product has been created, labeled, and packaged, the processor will turn it over to the retailer, who must add their own packaging requirements. Now, one small product must be packaged within a container which fits the labels of the cultivator, processor, and the distributor. This requirement is particularly problematic for an end product which is very small, because that product would need very little packaging if it were not for the extensive labeling requirements.

Some states have taken steps to address the excessive packaging required for small products. For example, Maine allows layered labels,[147] Oregon limits the requirements for items that are inherently too small to fit all of the usual labeling requirements,[148] and Washington allows for an internet link or QR code[149] as a substitute.[150] For example,

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[146] As summarized above.

[147] 18-691 Me. Code R. §11.1.2(J); It is also called an accordion style label.

[148] Or. Admin. R. 845-025-7030(11)(12).

[149] A QR Code works similar to a bar code being scanned at your local grocery store. However, a QR code allows the person to use their smartphone to scan the QR Code which links them to a webpage displaying the relevant information.

a retailer could sell pre-rolls[151] with limited labeling requirements, an accordion style label, internet link, or QR code, depending on the state. These regulatory options balance the need for warnings and accountability with unnecessary packaging and environmental harm.

Instead of having each license in the chain of distribution having their own packaging and labeling requirements, one license should handle the packaging and labeling. For example, California separates the marijuana chain into cultivators, manufacturers, distributors, testers, and retailers. For the most part, distributors are responsible for packaging and labeling requirements, leaving everything ready for sale once it reaches the retailer.

2. Exit Packaging

Often, the product will already be packaged neatly with all or most of the requirements but will still need to be placed in an exit package upon leaving the retail store. For example, if someone goes to the store to buy gummy edibles, which often come in a container the size of a circular pill holder in California, the store would have to put it in an opaque child-resistant package. According to Ynez Carrasco, the licensing and compliance employee for Apothecarium,[152] the customers will immediately take the product out of the exit package after leaving the store and then throw the exit package on the ground.[153] San Francisco has a "good neighbor policy" that requires dispensaries to "maintain the premise, adjacent sidewalks and/or ally in good condition at all times."[154] In order to abide by the city ordinance, the dispensary had to put a trash can outside of the store to combat the exit packaging littering. This increases costs for the business, which must now maintain the trash can being used by customers and the public at large. The ordinance completely defeats the purpose of having an exit package in the first place and encourages individuals to be less accountable for their own waste disposal.

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[150] Wash. Admin. Code §314-55-105(3)(4).

[151] A pre-roll is joint that has been rolled prior to sale so that the customer does not have to purchase marijuana and roll the marijuana into the paper themselves. It is analogous to how people may purchase tobacco and roll it themselves into a cigarette or simply just purchase cigarettes that have already been rolled prior to purchase. However, in the cannabis industry, it is much more common for people to purchase marijuana separately and prepare the amount they wish to use.

[152] A San Francisco cannabis dispensary.

[153] E-mail from Ynez Carrasco, Licensing and Compliance Employee, Apothecarium to Kevin Dalia, Author (Feb. 4, 2019, 10:22 PST) (on file with author).

[154] San Francisco Municipal Code Section 1609(b)(19)(B).

Even if the exit package makes it home with the customer, the customer may fiddle with the exit package for several long minutes and immediately throw it away afterwards. The purpose of child-resistant exit packaging is to keep the product away from children, but if the product itself is not in child-resistant packaging, the whole purpose of child-resistant exit packaging is defeated because it was immediately thrown away. For states such as Alaska and Colorado, this regulation creates a problem because child-resistant exit packaging will be used if the product package itself is not child-resistant.

Compare this to pharmaceuticals, when a person goes to Walgreens or CVS to pick up their prescription, the bottle itself is always child-resistant, but the little baggie the pharmacist puts the bottle in is not child-resistant. The average person may put the pill bottles on a table or medicine cabinet and throw away the little baggie. California used to require all exit packaging be opaque and child-resistant in addition to the product packaging also being child-resistant. However, they have addressed these redundant "nesting doll" requirements by eliminating the need for child-resistant exit packaging. Now, California requires only that the exit package be opaque.

Child-resistant and/or opaque packaging in and of itself is unusual when compared to alcohol, which has no such requirements. A person 21 years of age or older can buy a six-pack of canned Budlight and bring it home with no additional requirements to put the product in opaque or child-resistant packaging, despite that product being no more difficult for a child to open than a six pack of canned Pepsi. Yet, with marijuana products, states impose additional labeling and packing requirements, which result in waste and additional cost, with no concrete justifications showing marijuana to be more dangerous to alcohol.

Now, California only requires the exit packaging be opaque. Although this is an improvement, it is still a wasteful practice, and not one that is seen on other brain-altering substances, most notably alcoholic beverages. For example, a person 21 years of age or older can buy a case of beer from the grocery store, it does not need to be placed in a large opaque package unlike marijuana products that are required to do so.

3. Recyclable Packaging

In addition to labeling and packaging requirements being excessive and wasteful, they are also not environmentally friendly. Marijuana businesses often don't use recyclable material for packaging, and none of the ten legalized states require businesses to do so. If states are going to require excessive packaging, which results in extreme amounts of waste,

states should prioritize minimizing the harm those packaging and labeling requirements inflict by requiring more environmentally friendly materials. However, many environmentally friendly solutions are not conducive to meeting the packaging and labeling requirements because they increase the cost to the business. For example, mason jars (which are recyclable) could be utilized as containers for selling flower rather than just storage containers at the store, but it may not be financially sustainable at this time.

One of the biggest problems with using recyclable packaging for marijuana is cost.[155] Due to competition, extra costs exclusive to the industry, and lack of federal tax breaks, a marijuana business has low profit margins compared to other industries. Therefore, businesses are left to cut costs where they can — such as packaging. One solution to this would be to provide tax cuts for businesses that use recyclable materials in their packaging. However, federal taxes are a significant portion of the cost of doing business[156] and would likely not be willing to grant such a favorable tax cut to a business that is still illegal on a federal level.[157]

Even when individual businesses try to implement their own environmentally friendly practices, they often face unanticipated hurdles. For example, Doob Tubes[158] sold in Washington were so small that, even though they were packaged in recyclable materials, they fell through the grates of the recycling machine.[159] In Denver, a program implemented by CannaBotica created incentives for customers to bring back their packaging — for every ten containers a customer returned, they received one free pre-roll for being "green."[160] However, some states, including

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[155] Kristen Millares Young, *Garbage from Washington State's Booming Pot Industry Clogs Gutters, Sewers and Landfills*, The Washington Post (Aug 14, 2018), https://www.washingtonpost.com/national/garbage-from-booming-weed-industry-overruns-washington-gutters-sewers-and-landfills/2018/08/14/66f02384-9685-11e8-a679-b09212fb69c2_story.html?noredirect=on.

[156] Cannabis businesses have the same costs as any other business, but they have to pay more excise taxes like tobacco and alcohol. More importantly, they do not receive the tax deductions that every other business receives because it is federally illegal (IRC 280(e)). Plus, they do not even have access to mainstream banking.

[157] Steve Deangelo, *Op-Ed: How the U.S. Tax Code Keeps the Illegal Market for Marijuana Alive and Well*, L.A. Times (July 15, 2019), https://www.latimes.com/opinion/op-ed/la-oe-deangelo-marijuana-cannabis-tax-deductions-20190715-story.html.

[158] Doob Tubes are small containers for doobies. A doobie is a synonym for a joint.

[159] Kristen Millares Young, *Garbage from Washington State's Booming Pot Industry Clogs Gutters, Sewers and Landfills*, The Washington Post (Aug 14, 2018), https://www.washingtonpost.com/national/garbage-from-booming-weed-industry-overruns-washington-gutters-sewers-and-landfills/2018/08/14/66f02384-9685-11e8-a679-b09212fb69c2_story.html?noredirect=ON.

[160] *Id.*

California, prohibit marijuana businesses from giving out free marijuana, limiting the ways in which they can incentivize their customers.[161]

B. Waste Management

Marijuana creates a significant amount of plant waste. Between 2014[162] and 2017 in Washington alone, 1.7 million pounds of plant waste was created.[163] It is a common practice among national businesses, such as banks and security companies like ADT, to refrain from servicing marijuana businesses due to marijuana being illegal on a federal level.[164] Luckily, waste disposal is handled on a local level, so waste management facilities will accept plant waste. However, in the initial period of legalization, some waste management facilities would not accept marijuana because they were afraid of marijuana possession charges from the federal government.[165]

Marijuana is strictly tracked from seed-to-sale and even to waste. Although these regulations are trying to oversee important concerns such as keeping the product off the illicit market, keeping children safe, and collecting taxes, the regulations are not doing their part to maintain environmentally friendly practices that limit waste.[166] Instead, the regulations tend to just provide the options to the business without creating a priority or incentive for composting.

The commercial states have similar regulations for the most part, but many of them have one or two unique regulations. For example, Alaska requires a business to submit a form to the state Alcohol and Marijuana Control Office to dispose of marijuana waste. Illinois also requires the Department of Agriculture and Department of State Police to be notified to dispose marijuana waste. It seems to be an unnecessary hindrance to have to get permission to conduct a normal, everyday business activity, disposing of garbage, when the track and trace system al-

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[161] *Id.*

[162] Marijuana farms were first licensed for use in Washington in 2014.

[163] Lester Black, *Washington's Weed Industry Has a Million-Pound Waste Problem*, The Stranger (July 26, 2017), https://www.thestranger.com/weed/2017/07/26/25307388/washingtons-weed-industry-has-a-million-pound-waste-problem.

[164] Sophie Quinton and April Simpson, *Cannabis Banking Challenges in Legal States Go Far Beyond Pot*, Insurance Journal (October 16, 2019), https://www.insurancejournal.com/news/national/2019/10/16/545303.htm; ADT confirmed that it does not serve cannabis businesses due to federal prohibition via direct communication.

[165] Kristen Millares Young, *Garbage from Washington State's Booming Pot Industry Clogs Gutters, Sewers and Landfills*, The Washington Post (Aug 14, 2018), https://www.washingtonpost.com/national/garbage-from-booming-weed-industry-overruns-washington-gutters-sewers-and-landfills/2018/08/14/66f02384-9685-11e8-a679-b09212fb69c2_story.html?noredirect=ON.

[166] Susie Peterson, *Seed-to-Sale Tracking 101*, Daily Marijuana Observer (Sep. 27, 2018), https://mjobserver.com/business/seed-to-sale-tracking-101/#:~:text=.

ready documents these activities. Every state requires a tracking system so that the state can come in at any time to easily identify all marijuana and make sure that none has been diverted into the illicit market. However, getting approval every time a business wants to take out the garbage is tedious, costly, and time consuming. Instead, it would be easier on taxpayer dollars and the business itself to simply just have a random check by the state administrative agency a few times a year and keep an eye on the track and trace system to make sure there are no significant fluctuations in the businesses' quantity of waste disposal.

1. Composting

All of the commercial states require marijuana waste to be mixed with other materials in a 1:1 ratio. If the material mixed with the marijuana is compostable,[167] then the waste can be composted. The state either lists which compostable materials are allowed and specifies that businesses can request permission to use other materials, or the state just generically says "compostable materials."[168] For example, Colorado lists multiple materials that can be used.[169] If the material mixed with the marijuana is not compostable[170], then it goes to a landfill. However, marijuana businesses tend to choose the landfill method because it is cheaper, easier, and more financially feasible. Composting requires its own infrastructure of waste management facilities offering the service (if there is not already one) and separate trash bins, both of which require money. Additionally, the smell may be noxious, and people often resist changing the way they have been disposing of garbage for years.[171]

A popular composting method for cultivators is the Bokashi process.[172] After about two weeks of fermenting, the compostable items produce a liquid that can be used as a fertilizer and a solid portion that can be used as a soil amendment.[173] Therefore, the waste is being disposed of and becomes useful as well. In farms and rural areas, this can be one of the best ways of handling marijuana waste.[174]

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[167] Such as food or cardboard.

[168] Colo. Code Regs. §212-2.307(E)(1).

[169] *Id.*

[170] Such as plastic.

[171] Amelia Josephson, *The Economics of Composting*, Smart Asset (Aug 20, 2018), https://smartasset.com/mortgage/the-economics-of-composting.

[172] Peter Gorrie, *Recycling Cannabis Organics*, BioCycle (July 2018), https://www.biocycle.net/2018/07/06/recycling-cannabis-organics/.

[173] *Id.*

[174] *Id.*

However, the Bokashi method would likely not be very practical in cities due to the smell. Businesses located in urban environments would need to contract with a waste disposal facility to manage their waste and there may not be an infrastructure for composting. Plus, even if the waste management facility has the capacity to compost, the marijuana waste must be rendered "unusable" **on the marijuana business' premises** i.e. mixed together with another compostable material at a 1:1 ratio. For composting in a rural environment, this may not be problematic because there is likely plenty of compostable material lying around that can be mixed with the marijuana waste, but for licensees in urban environments, they likely would not have enough compostable materials to mix with the marijuana waste.[175] Therefore, the waste management facility may need to bring the mixing material and would create additional costs for the business because a waste management facility may charge by weight and the extra service.[176]

Marijuana businesses do not receive many of the tax deductions that other businesses get since marijuana is federally illegal.[177] High taxes emerge from federal, state, and local jurisdictions. Therefore, it is much harder to earn a profit, forcing businesses to cut costs in other areas such as easy, already established landfills, or put the additional cost of the products onto the customers.[178] Additionally, the increase in cost allows a thriving illicit market to continue to flourish, since the street-corner drug dealers do not pay taxes; basic economics demonstrate that customers tend to buy the cheaper product and thereby further lower the regulated marijuana business profit.[179] With a lack of profits compared to other businesses, a cannabis business does not have the flexibility to increase costs in waste disposal or more expensive eco-friendly packaging.

Massachusetts appears to have the best regulations around composting because it gives preference to composting methods by compelling businesses to use a compost method if it is feasible.[180] The landfill should only be used if composting is not practical.[181] Plus, a marijuana business is required to use composting if the business creates more than one ton of organic waste every week, it must divert this material to a

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[175] Bruce Kennedy, *The Cannabis Industry Generates Tons of Extra Waste. Here's Why*, Leafly (Nov. 4, 2019), https://www.leafly.com/news/industry/the-cannabis-industry-generates-tons-of-extra-waste-heres-why.

[176] *Id.*

[177] IRC 280(e).

[178] Steve Deangelo, *Op-Ed: How the U.S. Tax Code Keeps the Illegal Market for Marijuana Alive and Well*, L.A. Times (July 15, 2019), https://www.latimes.com/opinion/op-ed/la-oe-deangelo-marijuana-cannabis-tax-deductions-20190715-story.html.

[179] *Id.*

[180] 935 Mass. Code Regs. §500.105(12)(c).

[181] *Id.*

compost or anaerobic digestion operation rather than the trash.[182] In contrast, Alaska and Illinois have the worst waste management regulations because state agencies have to be notified every time marijuana waste is disposed thereby creating an unnecessary burden on the business. Instead, the state can achieve its goals by monitoring the track-and-trace system for abnormalities and conduct random checks.

2. Recycling and Resale

Most of the states do not allow for the sale of marijuana waste because, as stated by California's Bureau of Cannabis Control, it "creates opportunities for cannabis goods and cannabis waste to be improperly used or diverted into the illegal market."[183] However, a recently passed bill in Colorado creates an exception.[184] Colorado allows for fibrous waste to be sold or given to others to create industrial fiber products.[185] Essentially, it carves out a useful way for businesses to recycle waste that would normally go into a landfill and even receive some revenue for it. Similarly, Oregon also allows for the sale of cannabis waste to a processor, producer, wholesaler, or researcher.[186] The cannabis waste is typically used for research or put in an industrial press to create various oils. Unfortunately, most of the commercial states prohibit the sale of marijuana waste despite the fact that it could be tracked in the track and trace system for significant fluctuations in waste and regulators could conduct random compliance checks.

Overall, businesses should utilize composting methods and be able to sell useful cannabis waste. Legislatures could mandate the prioritization of composting, but that could also increase costs to the business, thereby creating a stronger possibility of bankruptcy. Instead, businesses that dispose of the marijuana through environmentally friendly means such as grinding with compost materials or the Bokashi process should receive tax deductions, so as to incentivize the business to participate in environmentally friendly practices.

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[182] Mass. Cannabis Control Comm'n, Commonwealth of Mass., *Guidance on Cannabis Waste Management Requirements: Managing Solid Waste Materials*, 1. 2019.

[183] Cal. Code Regs. tit. 16, § 5055 Bureau of Cannabis Control's addendum to the Final Statement of Reasons to the Medicinal and Adult-Use Regulation and Safety Act.

[184] Colo. Rev. Stat. §44-212-202(5).

[185] *Id.*

[186] Or. Admin. R. 845-025-7750(2).

V. Conclusion

Cannabis businesses do not have access to mainstream services, so they have to pay more for specialized services (ADT, etc.). They do not have access to banking and loans. Investors are hesitant to touch the industry. They pay more taxes then regular businesses like alcohol and tobacco, but do not receive the same deductions as alcohol and tobacco. Cannabis businesses have arduous and expensive regulations that they have to follow or risk losing their license. Because of their additional costs, they have to charge customers more, thereby allowing a thriving illicit market to exist and compete with the legal market. In fact, a number of marijuana businesses have gone into bankruptcy. Due to all of these additional costs, it is a struggle for cannabis businesses to engage in more environmentally friendly practices and survive against competitors.

More and more states have been legalizing cannabis. With this growing nascent industry, numerous products will be made and eventually make its way to a waste receptacle. Whether it be the packaging or the product itself, the only questions are "how much waste" and "how will it be disposed." The commercial states and future commercial states should provide tax cuts to businesses that enact environmentally friendly waste management procedures such as composting instead of landfills. States should also allow for the sale and give-away of cannabis waste if there is a practical and lawful use for it.

One licensee should handle packaging and labeling of marijuana products to prevent accumulated labeling. Plus, businesses should refrain from using exit packaging. Additionally, there should be limitations on the labeling for inherently small packages. Furthermore, the use of QR codes and information upon request are practical ways to give information. Finally, states should provide tax cuts to marijuana businesses that use recyclable materials for their packaging or composting methods for their waste.