



1-10-2021

## Introduction To Agriculture Issue

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### Recommended Citation

Ronald B. Robie & Louinda V. Lacey, *Introduction To Agriculture Issue*, 52 U. PAC. L. REV. 489 (2021).

Available at: <https://scholarlycommons.pacific.edu/uoplawreview/vol52/iss3/6>

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## Introduction To Agriculture Issue\*

Ronald B. Robie\*\* and Louinda V. Lacey\*\*\*

Agriculture is a broad term generally encompassing the science and art of cultivating soil, plants, animals, fungi, or bacteria for human benefit.<sup>1</sup> The benefits of agriculture do not come without costs. Unquestionably, agricultural practices often result in negative impacts to the environment. This issue on agriculture law and policy explores several important topics on such environmental impacts, with two articles specifically focused on California, a powerhouse in agricultural production.<sup>2</sup> California's San Joaquin Valley, for example, produces crops totaling over \$35 billion a year on five million acres of land.<sup>3</sup>

This issue includes four articles addressing the concept of sustainability, which has become a familiar term for the goal of accommodating present needs without compromising the ability of future generations to meet their own needs. Two of those articles address groundwater sustainability in California, the third addresses sustainability in the realm of soil conservation, and the fourth considers globalism as a carrot in the furtherance of sustainable vineyard practices.

The fifth article rounding out the issue explores how a recent United States Supreme Court decision may expand and clarify the reach of the Clean Water

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\* The *University of the Pacific Law Review* published an article authored by Justice Ronald B. Robie in its very first issue in 1970, which is when the journal was named the Pacific Law Journal. In fact, Justice Robie authored this law review's first article ever, having the distinguished citation: Ronald B. Robie, *Water Pollution: An Affirmative Response by the California Legislature*, 1 Pac. L.J. 2 (1970). Although this journal is on its fifty-second volume, the 2020–2021 year is our fiftieth anniversary. It seemed proper for Justice Robie to author this issue's introduction, especially considering his original article focused on the culmination of California's two-year overhaul of its water control laws that ended in 1970. As you will read in this introduction, water law and agriculture law are deeply intertwined; therefore, it is fitting that Justice Robie returned to our journal fifty years later to introduce our agriculture law issue. The *University of the Pacific Law Review* is honored to have Justice Robie author our introduction. On behalf of our staff of writers and editors, thank you Justice Robie for your dedication to advancing such a critical area in the law.

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1. See *Agriculture*, THE WOLTERS KLUWER BOUVIER LAW DICTIONARY DESK EDITION (2012) ("The cultivation of plants and animals for human benefit. Agriculture is farming. It is a broad category of activity, including the growth or production of plants, animals, fungi, or bacteria for commercial or private use of the products or byproducts of those things grown or produced."); *Agriculture*, BALLENTINE'S LAW DICTIONARY (3d ed. 2010) ("The science or art of cultivating the soil and its fruits, especially in large areas or fields, and the rearing, feeding, and management of livestock thereon, including every process and step necessary and incident to the completion of products therefrom for consumption or market and the incidental turning of them to account.").

2. California supplies national and international markets with more than 400 different farm products; in 2018, California represented 13 percent of the nation's total agricultural production value; and, in 2017, California was the nation's largest agricultural exporter. HEATHER COOLEY, PACIFIC INSTITUTE, URBAN AND AGRICULTURAL WATER USE IN CALIFORNIA, 1960–2015, at 6 (2020), [https://pacinst.org/wp-content/uploads/2020/06/PI\\_Water\\_Use\\_Trends\\_June\\_2020.pdf](https://pacinst.org/wp-content/uploads/2020/06/PI_Water_Use_Trends_June_2020.pdf).

3. Michelle Horton, *Rebalancing Agricultural and Natural Land*, STANFORD: WATER IN THE WEST, (Aug. 31, 2020), <https://waterinthewest.stanford.edu/news-events/news-insights/rebalancing-agricultural-and-natural-land>.

Act's coverage as applied to agricultural operations.

Before introducing the articles, it is worth noting that, although this issue is about agriculture, water is a central theme explored and discussed in several articles. That theme makes sense because agriculture is inextricably intertwined with water; when one talks about agriculture, water must be part of the conversation—both in terms of quantity and quality. In California, for example, agriculture is by far the largest water user.

Between 2006 and 2015, the most recent 10-year period for which statewide data are available, total water use in California averaged 43.0 million acre-feet annually. Of that amount, agriculture accounted for 80 percent, or 34.6 million acre-feet per year, while homes and businesses in urbanized areas accounted for the remaining 20 percent, or 8.51 million acre-feet per year.<sup>4</sup>

Agricultural activities are also frequently identified as a leading source of water quality impairment.<sup>5</sup>

Groundwater is critical to agriculture.<sup>6</sup> In California, groundwater has been minimally regulated and the state does not have an enforceable set of statewide groundwater management standards. Two articles discuss California's Sustainable Groundwater Management Act of 2014 (the Groundwater Act). The Groundwater Act focuses on local control with an eye toward attaining groundwater sustainability. The Groundwater Act is a system of regulation pertaining to designated groundwater basins implemented in varying stages over a decade.<sup>7</sup> It

allows local agencies to voluntarily form groundwater sustainability agencies . . . over a number of years. [Citations.] They manage and

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4. Cooley, *supra* note 2, at 5 (footnote omitted).

5. Linda A. Malone, *What do Snowmobiles, Mercury Emissions, Greenhouse Gases and Runoff Have in Common?: The Controversy over 'Junk Science,'* 9 CHAP. L. REV. 365, 389 (Spring 2006) (2000 National Water Quality Inventory identified agriculture as "the leading contributor to water quality impairments, degrading forty-eight percent of the impaired river miles and forty-one percent of the impaired lake acreage surveyed by states, territories, and tribes"); U.S. ENVTL. PROT. AGENCY, EPA 841-R-16-011, NATIONAL WATER QUALITY INVENTORY: REPORT TO CONGRESS 3 (2017), [https://www.epa.gov/sites/production/files/2017-12/documents/305brtc\\_finalowow\\_08302017.pdf](https://www.epa.gov/sites/production/files/2017-12/documents/305brtc_finalowow_08302017.pdf).

6. "Approximately 70% of groundwater withdrawals worldwide are used to support agricultural production systems, and within the United States, about 71% of groundwater withdrawals are used for irrigating croplands. This percentage of groundwater used to support agriculture is even higher in arid and semi-arid areas, where the only consistent source of irrigation water is groundwater. In these regions, however, the use of groundwater typically far exceeds the rate at which it is naturally replenished, indicating that these critical groundwater resources are being slowly depleted." COUNCIL FOR AGRIC. SCI. AND TECH., ISSUE PAPER NO. 63, AQUIFER DEPLETION AND POTENTIAL IMPACTS ON LONG-TERM IRRIGATED AGRICULTURAL PRODUCTIVITY 1 (2021), <https://www.cast-science.org/publication/aquifer-depletion-and-potential-impacts-on-long-term-irrigated-agricultural-productivity/>.

In California, groundwater provides close to 40 percent of the state's water supply in wet years and up to 60 percent in dry years. CAL. DEP'T OF WATER RES., CALIFORNIA'S GROUNDWATER FACTSHEET (2020), <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/California-GW-FactSheet.pdf>.

7. *Envtl. Law Found. v. State Water Res. Control Bd.*, 26 Cal. App. 5th 844, 854 (2018).

regulate groundwater basins through adoption and implementation of groundwater sustainability plans . . . . [Citations.] The [groundwater sustainability agencies] are charged with procedural and substantive obligations designed to balance the needs of the various stakeholders in groundwater in an effort to preserve, and replenish to the extent possible, this diminishing and critical resource. . . . [A] cornerstone of [the Groundwater Act] is a transfer of responsibility for groundwater management from the state to local jurisdictions when possible. The Legislature intended to “manage groundwater basins through the actions of local governmental agencies to the greatest extent feasible, while minimizing state intervention to only when necessary to ensure that local agencies manage groundwater in a sustainable manner.”<sup>8</sup>

Professor Burke W. Griggs, Washburn University School of Law, believes a collision between California’s water management policy expressed in the Groundwater Act and property owners’ correlative groundwater rights is inevitable, especially in the southern San Joaquin Valley, where irrigated agriculture has produced some of California’s most significant groundwater problems.<sup>9</sup> That is, Professor Griggs explains, because the Groundwater Act will inevitably force an articulation of the specific attributes of the groundwater rights owned by irrigators. Professor Griggs describes the envisioned collision, discusses three pressing challenges to the articulation conundrum, and summarizes recent hydrogeological analyses that may assist in articulating the dynamics and effects of individual irrigators’ groundwater usage. The article further contrasts the approaches taken by Kansas, Nebraska, and Texas in dealing with the conflict between regional groundwater management and individual property rights.

Rebecca R.A. Smith, a partner at Downey Brand LLP, evaluates the current compliance status under the Groundwater Act and discusses key questions remaining regarding implementation of the next phase.<sup>10</sup> In doing so, Smith details historic groundwater management efforts, summarizes the intent behind and provisions of the Groundwater Act, and analyzes the early efforts in defining sustainability. Smith believes “some of the greatest challenges and innovations brought about by [the Groundwater Act] will play out in California’s agriculture-rich Central Valley, where by some estimates agricultural water use exceeds available groundwater supply by 2 million acre-feet annually, or 11 percent of total water use for the region.”<sup>11</sup>

Continuing with the focus on the intersection between agriculture and water,

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8. *Id.* at 863.

9. Burke W. Griggs, *Policy, Property, and California’s Sustainable Groundwater Management Act*, 52 U. PAC. L. REV. 495 (2021).

10. Rebecca R.A. Smith, *SGMA in the Field: Early Efforts at Defining Sustainability in California’s Critically Overdrafted Basins*, 52 U. PAC. L. REV. 549 (2021).

11. *Id.* at 565.

Professor Anthony B. Schutz, University of Nebraska College of Law, explores the reach of the United States Supreme Court's *County of Maui* decision<sup>12</sup> pertaining to the Clean Water Act.<sup>13</sup> "The Clean Water Act forbids the 'addition' of any pollutant from a 'point source' to 'navigable waters' without the appropriate permit from the Environmental Protection Agency . . . ."<sup>14</sup> In *County of Maui*, the United States Supreme Court concluded the Clean Water Act requires "a permit if the addition of the pollutants through groundwater is the functional equivalent of a direct discharge from the point source into navigable waters."<sup>15</sup> As Professor Schutz explains, the agriculture industry has a history of resisting regulation under the Clean Water Act; a fight he notes is understandable given that water quality is difficult to regulate. Professor Schutz introduces the Clean Water Act and its agricultural provisions, and then considers how the United States Supreme Court's resolution of the indirect-discharge issue and application of the functional equivalence test may apply to concentrated animal feeding operations and agricultural discharges generally.

Returning to the subject of sustainability, Professor Neil D. Hamilton, Drake University Law School, addresses soil sustainability and agricultural impacts on soil degradation and erosion.<sup>16</sup> The article provides a summary of Professor Hamilton's own history in the field of soil conservation and an overview of the history of soil conservation policy in the United States. Professor Hamilton further explores current soil practices and views toward and myths surrounding soil conservation. Professor Hamilton explains that the interest in promoting soil health as a means to address climate change has opened the door to reexamine agricultural soil policies. In that regard, the article identifies and discusses ten steps to re-energize soil conservation efforts in the United States. Such steps, Professor Hamilton proposes, may minimize the long-term effects of soil loss, such as the degradation to water quality and the loss of soil fertility, soil health, and crop productivity.

Professor Michael Vitiello, University of the Pacific, McGeorge School of Law, addresses the development and implementation of sustainable vineyard practices.<sup>17</sup> Professor Vitiello aptly notes the development and implementation of sustainable agricultural practices in the United States face regulatory and political obstacles. Globalism, he posits, may indirectly present a new tide of environmental protection. The article first explores the existing legal climate and efforts to develop sustainable vineyard practices in the United States. The article next considers and discusses how efforts to expand export markets in the wine

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12. *County of Maui v. Haw. Wildlife Fund*, 140 S. Ct. 1462 (2020).

13. Anthony B. Schutz, *Agricultural Discharges under the CWA: Old Questions and New Insights*, 52 U. PAC. L. REV. 567 (2021).

14. *Haw. Wildlife Fund*, 140 S. Ct. at 1468.

15. *Id.*

16. Neil D. Hamilton, *Needed: A New Commitment to Soil Conservation – Can Addressing Soil Health and Climate Change Re-energize this Work?*, 52 U. PAC. L. REV. 599 (2021).

17. Michael Vitiello, *Globalism and Sustainable Vineyard Practices*, 52 U. PAC. L. REV. 623 (2021).

industry may benefit the environment in the United States by, for example, improving water quality due to reduced pesticide and herbicide use in meeting the European Union's more demanding standards for chemical residues. Professor Vitiello explains that economies of scale provide the motivation to apply the higher environmental standards to most, if not all, of a vineyard's production. International integration may thus indeed provide a dangling carrot in the quest to further implementation of sustainable vineyard practices.

In closing this brief introduction, we wish to congratulate the University of the Pacific, McGeorge School of Law, on this insightful issue on agriculture. The law school has been at the forefront of environmental law since 1970, when it recognized the importance of adding and including environmental law in its curriculum. We applaud the law school's continued dedication to this important field of study.

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