The Reasonability of California Groundwater Policies in Light of the Drought

by LINDSEY PACE*

Introduction

Today, California is America's largest agricultural farming state.[1] Agriculture in the Central Valley is a multimillion dollar industry.[2] California is the fifth largest supplier of food in the world.[3] The productivity of the agricultural sector of the Central Valley is one reason why California could overtake Brazil this year as the world's seventh largest economy.[4] The agricultural sector produces over thirty billion-dollars' worth of America's supply of almonds, milk, cattle, grapes, strawberries, walnuts, lettuce, hay, tomatoes, and more.[5] Additionally the state produces over 400 commodities and nearly half of all US-grown fruits, vegetables, and nuts.[6] Despite all the benefits of a robust agricultural economy, California's agricultural industry is problematic in that it absorbs about 80% of the state's

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1. Jim Carlton, *California Farmers Face Another Year Without Federal Water*, WALL ST. J. (Feb. 27, 2015), http://www.wsj.com/articles/central-california-farmers-anticipate-no-federal-water-amid-drought-1425060533?cb=logged0.3233426990918815.

2. *See Farm Income and Wealth Statistics*, U.S. DEP'T OF AGRIC., ECON. RES. SERV., http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/annual-cash- receipts -by-commodity.aspx#.VSWdh0JP03g.

3. *Irrigation Management: Efficient Irrigation Management Practices Are Needed to Meet the Nation's Crop Demands*, U.C. DAVIS, http://sustainability.ucdavis.edu/local_resources/docs/ggcs3/39_pvanbethem.pdf.

4. *Brown's California Overtakes Brazil With Companies Leading the World*, BLOOMBERG NEWS. (Jan. 15, 2015), http://www.bloomberg.com/news/articles/2015-01-16/brown-s-california-overtakes-brazil-with-companies-leading-world.

5. *California Agricultural Production Statistics*, California Department of Food and Agriculture. http://www.cdfa.ca.gov/statistics/ (last visited Oct. 3, 2015).

6. *Id*.

dwindling water supply,[7] even in the past four years when the state has been plagued with heavy drought.[8] This practice is currently challenging the future of California's farming industry. In particular, California's farmers will need to curtail their use of the state's groundwater reserves, an important resource when surface water is scarce.

In response to the drought, California has tightened regulations on water use for farming and other industries to facilitate water conservation.[9] Historically, the California Legislature had categorically exempted the agricultural industry from certain water regulations, but the drought has changed that.[10]

Legislative constraints and environmental circumstances may have an impact on the types of farming and ultimately the types of food to which Americans will have access.[11] For example, in California, alfalfa is the thirstiest crop for agricultural purposes; alfalfa uses 1.7 trillion gallons of water annually.[12] Although it is not likely that you, as a consumer, would pick up alfalfa at the grocery store, it is sold to dairy and cattle farmers for feed, both domestically and internationally.[13] In particular, the dairy industry depends on alfalfa's dense nutrients to maintain the amount of milk that cows produce.[14] Similarly, human beings have their own hydrologically gluttonous "superfood": the almond. While the almond has many health benefits, it is the next most unreasonably thirsty crop produced in California.[15] Almonds, in addition to pistachios, absorb over 1.2 trillions of gallons of water annually.[16]

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7. *Agricultural Water Conservation and Efficiency Potential in California*, NAT. RES. DEF. COUNCIL (June 2014) [hereinafter *Agricultural Water Conservation*], http://www.nrdc.org/water/files/ca-water-supply-solutions-ag-efficiency-IB.pdf.

8. Carlton, *supra* note 1.

9. *Id.*

10. *Senior Water Rights Curtailed in Delta, San Joaquin & Sacramento Watersheds*, STATE WATER RES. CONTROL BOARD (June 12, 2015), http://www.swrcb.ca.gov/press_room/press_releases/2015/pr061215_sr_curtailmentsfnl.pdf.

11. Alan Bjerga, *California Drought Transforms Global Food Market*, BLOOMBERG BUSINESS (August 11, 2014), http://www.bloomberg.com/news/articles/2014-08-11/california-drought-transforms-global-food-market.

12. Tom Philpott & Julia Lurie, *Here's the Real Problem with Almonds*, MOTHER JONES (Apr. 15, 2015), http://www.motherjones.com/environment/2015/04/real-problem-almonds.

13. *Id.*

14. *Id.*

15. *Id.*

16. *Id.*

The climate-change-induced drought within the state has forced the legislative and executive branches to make decisions regarding the distribution of water.[17] Recently, the State passed legislation regulating complimentary water at restaurants and towel service at hotels.[18] Although this legislation categorically exempted them,[19] some farmers have left their fields uncultivated because they cannot afford the losses in crop production resulting from dry environmental conditions.[20] The drought is significant on a national level because it may make California a case study on the environmental and economic impact of climate change. Specifically, the effects on the agricultural sector likely will be felt not only within the state but also throughout the nation.[21] Last year, the farming industry in California lost over $2.2 billion and over 17,000 jobs to fallowed fields due to the water crisis.[22] Typically, when farmers experience a dry year, many turn to unregulated groundwater use.[23] However, due to the dire condition of the state's water supply, farmers should be mandated to modify their water consumption, given that sacrificing even a small percentage of their share of water would have an impact.

On April 1, 2015, in an effort to save water, prevent wasteful water use, and improve the State's response to the devastating drought, Governor Brown mandated unprecedented statewide water restrictions for everyone in California, except for certain farmers.[24] The restrictions include enacting the Sustainable Groundwater Management Act ("SGMA"), which, for the first time in history,

17. *See State Water Board Expands and Extends Emergency Water Conservation Regulation*, STATE WATER RES. CONTROL BOARD (Mar. 17, 2015), http://www. swrcb. ca.gov/press_room/press_releases/2015/pr031715_renewed_emergency_wtr_regs.pdf. *See also* Cal. Exec. Order No. B-29-15 (Apr. 1, 2015), https://www.gov.ca.gov/ docs/4.1.15_ Executive_Order.pdf.

18. STATE WATER RES. CONTROL BOARD, *supra* note 17.

19. When this article was written, farmers were exempt from the legislation. Since, Gov. Jerry Brown has ordered all junior and some senior appropriative water rights holders to curtail their usage. Riparian landowning farmers are still excluded. *See* STATE WATER RES. CONTROL BOARD, *supra* note 10.

20. Carlton, *supra* note 1.

21. *Id*.

22. Richard Howitt, et. al., *Economic Analysis of the 2014 Drought for California Agriculture*, U.C. DAVIS, CTR. FOR WATERSHED SCIENCES, (July 15, 2014), https://watershed.ucdavis.edu/files/biblio/Economic_Impact_of_the_2014_California_ Water _Drought_1pdf.

23. *The Water Rights Process*, CAL. ENVTL. PROT. AGENCY, http://www. water boards.ca.gov/waterrights/board_info/water_rights_process.shtml.

24. Cal. Exec. Ord. No. B-29-15 (Apr. 1, 2015), https://www.gov.ca.gov/docs/4.1.15_ Executive_Order.pdf.

regulates the use of California's groundwater reserves.[25] California's Central Valley farmers largely rely on groundwater reserves when surface water resources, such as reservoirs, rivers, and snowpack, are limited.[26] Article X of the California Constitution governs California's water and "limits" the uses of all water within the state to those that are reasonable and beneficial to the public's general welfare.[27] Because environmental circumstances may dictate how the reasonable use doctrine is applied and what is within the public's best interest, the California Legislature and State Water Resources Control Board should decide how farmers can best use their water for the benefit of all California during a drought.[28]

I. California Water Rights Systems

The California Constitution applies to all water, but there have traditionally been two systems of surface water rights recognized within the state: riparian rights and appropriative rights.[29] Riparian rights signify a right to water attached to one's own land, whereas appropriative water rights refer to a "first in time, first in right" system.[30] Riparian water rights laws were first adopted from the English common law system in 1850 when California became a state.[31] Appropriative water rights were simultaneously recognized because by 1850 gold miners were using their own system of "first in time, first in right."[32] At its inception, much of California was new territory, and did not have landowners; so the court adopted the appropriation system out of fairness for new settlers.[33] Today, many California farmers, especially in the Sacramento-San Joaquin River Delta, are

25. CAL. ENVTL. PROT. AGENCY, *supra* note 23.

26. Ellen Hanak et al., *Managing California's Water: From Conflict to Reconciliation*, PUBLIC POLICY INSTITUTE OF CALIFORNIA, 31 (2011), http://www.ppic.org/content/pubs/report/R_211EHR.pdf.

27. CAL CONST. art. X, § 2.

28. *See* Herminghaus v. S. Cal. Edison Co., 200 Cal. 81 (1926); *see also* Joslin v. Marin Mun. Water Dist., 67 Cal.2d 132 (1967); Nat'l Audubon Soc. v. Dep't of Water, 869 F.2d 1196 (9th Cir. 1988).

29. *See* Lux v. Haggin, 69 Cal. 255 (1886); *Herminghaus*, 200 Cal. At 81; Irwin v. Phillips, 5 Cal. 140 (1855).

30. *Id.*

31. CAL. ENVTL. PROT. AGENCY, *supra* note 23.

32. *Id.*

33. *See* COMM. ON RIPARIAN ZONE FUNCTIONING AND STRATEGIES FOR MGMT., NAT'L RESEARCH COUNCIL, *Riparian Areas: Functions and Strategies for Management*, 267 (2002).

riparian landowners, giving them a more senior right to use the water on their land.[34]

Riparian water rights[35] attach to the land located adjacent to a water source, not the specific landowner.[36] Riparian landowners can divert the natural flow of the water source adjacent to their property if it constitutes a beneficial and reasonable use of their land.[37] Riparian landowners can only divert the flow of water; they cannot store water for a later use.[38] In times of drought, riparian landowners are subject to an adjusted portion of the flow of the water depending on the water supply.[39] The riparian system is correlative: all riparian landowners are held accountable so as not to infringe upon one another's water use.[40] The system works best when water is abundant and needed for navigation, not agriculture or consumption[41] Historically, California farmers have utilized this tiered water rights system to their advantage and to the benefit of produce, dairy, meat, and nut consumers throughout the country. However, when water is scarce, the definition of the "beneficial and reasonable" use of water changes, obligating farmers to make cutbacks.

Appropriative water rights attach to the holder of the right as opposed to the land itself.[42] The holder of the right can store, divert, and use the water regardless of its location to the land and/or watershed.[43] Generally, this set of rights is restrictive in that it distinguishes senior appropriative water rights holders (those "first in time, first in right") and junior holders (those who came after). Senior holders cannot alter the use of the water to impair the rights of the junior appropriative rights holder. In California, the state divides appropriators by when their right was established. Appropriators who established their right before 1914 have a superior right to reasonably use their water without permits or governmental

34. *Id.* at 267–68.
35. *Lux*, 69 Cal. at 259.
36. CAL. ENVTL. PROT. AGENCY, *supra* note 23.
37. *Id.*
38. *Id.*
39. *Id.*
40. NAT'L RESEARCH COUNCIL, *supra* note 33.
41. *Id.*
42. *Irwin*, 5 Cal. at 145.
43. *Id.*

oversight.[44] Appropriators, who claimed their right after 1914 have a junior right because they must get a permit from the State Water Resources Control Board.[45] In contrast to the riparian system, rights to water can be bought and sold under the appropriative system.[46] Therefore, when the state mandates cutbacks on water usage, appropriative water rights holders are on the proverbial chopping block while riparian water users remain insulated.

Ultimately, the composition and application of a water right in California depends on who you ask and when you ask them. All water rights are usufructuary, a term coming from the Latin combination of *usus* (user) and *fructus* (proverbial fruit).[47] The user (usus) has a right to use, but not to damage nor destroy, the thing possessed (fructus).[48] Riparian rights are the best example of the usufructuary nature of a basic water right.[49] Riparian landowners are allowed the reasonable use of water to benefit their land.[50] Anything more than the reasonable use of the right could damage or destroy another's ability to use the water. California's water rights system has also historically recognized the riparian landowners' right to the use of groundwater.[51] Appropriative water rights, through the prior appropriation doctrine, highlight a two-tiered system within the already hierarchical overall water rights system based on the principle of first in time, first in right.[52] The system divides appropriative right holders into two camps: pre-1914 (senior appropriators) and post-1914 (junior appropriators). Therefore, the overall water rights hierarchy gives riparian landowners the most protections, followed by pre-1914 senior appropriators, and lastly post-1914 appropriators.

For farming, this means that riparian landowners can continue to use the water (surface and groundwater) that they historically have

44. HANSON BRIDGETT WATER LAW PRACTICE GROUP, *Court Finds SWRCB has Jurisdiction Over Pre-1914 Water Rights and Defines Forfeiture Standard* (Sept. 16, 2014), http://www.hansonbridgett.com/Publications/articles/2014-09-water-swrcb.aspx?pdf=1.

45. *Id.*

46. *Irwin,* 5 Cal. at 140.

47. Usurfruct: the legal right of using and enjoying the fruits or profits of something belonging to another. Online Merriam-Webster Dictionary Search Results: usufruct, MERRIAM-WEBSTER, http://www.merriam-webster.com/dictionary/usufruct.

48. Online Latin Dictionary and Search Results: usus, LATDICT, http://latin-dictionary.net/search/latin/usus; Online Latin Dictionary and Search Results: fructus, LATDICT, http://latin-dictionary.net/search/latin/fructus.

49. *Lux*, 69 Cal. at 259.

50. CAL. CONST. art. 10, § 2.

51. *Lux,* 69 Cal. at 259–60.

52. Irwin v. Phillips, 5 Cal. 140, 140 (1855).

used to irrigate their crops, or they relinquish their historically defined right to its use. Farmers who are pre-1914 appropriators are also entitled to their historical water right, to the extent water is available to appropriators at all. But junior level appropriators are often left with no water these days. With little water resources, farmers must rely heavily on groundwater to make up the difference between the water to which they are entitled and the surface water available to irrigate their crops. For the purpose of this paper, I will focus on the water rights of riparian landowning farmers in California and the controversy surrounding their water use, groundwater and otherwise.

II. How the SGMA Could Alter Water Rights

The effects of the drought calls for new regulations on otherwise established water use[53] due to the need to change the application of the reasonable use doctrine embedded in California's constitution.[54] In California, the reasonable and beneficial use doctrine defines the property right to water. Therefore, the State can tighten and alter the applicability of the doctrine, without altering anyone's water rights. The State Water Resources Control Board ("SWRCB") is given wide discretion to determine what "reasonable" means given certain circumstances. Currently, the SWRCB does not regulate groundwater pumping for individual landowners, including farmers. In an effort to preserve this valuable water resource, in September of 2014, Governor Brown signed into law three bills, which together comprise the SGMA.[55] These bills all state that local agencies will be best suited to decide how to sustain groundwater levels, but they give agencies nearly twenty years to enforce these policies.[56]

Although the Legislature explicitly stated that the SGMA would not alter existing water rights generally, if the Legislature hopes to accomplish the actual and sustainable conservation of water, it must at least alter the way landowners view their existing water rights.[57] For example, in SB 1168, §1(a)(1), the Legislature implies that it is aware for the necessity for this purview by stating: "[I]ntegrated

53. *See* A.B. 1739, 2014 Leg., Reg. Sess. (Cal. 2014); S.B. 1168, 2014 Leg., Reg. Sess. (Cal. 2014); S.B. 1319, 2014 Leg., Reg. Sess. (Cal. 2014).

54. CAL. CONST. art. 10, § 2.

55. *See* A.B. 1739, 2014 Leg., Reg. Sess. (Cal. 2014); S.B. 1168, 2014 Leg., Reg. Sess. (Cal. 2014); S.B. 1319, 2014 Leg., Reg. Sess. (Cal. 2014).

56. *Id.*

57. S.B. 1168 § 1(a)(1), 2014 Leg., Reg. Sess. (Cal. 2014).

management of the state's water resources is essential to meeting its water management goals."[58] This legislation is the first step in the direction of real integrated water rights management for both ground and surface water sources. Given the current state of California's water crisis, this integrated management over both surface and groundwater is necessary because any and all water is important to California's economy.[59] However, riparian rights, some pre-1914 surface water rights,[60] and nearly all groundwater rights are able to circumvent these important restrictions on water use.[61] It follows that any and all legislation that attempts to integrate an otherwise disintegrated system will lead to some alteration of existing water rights if it wants to accomplish its goals.

This note seeks to identify the changing application of the reasonable use doctrine within the California Constitution as it applies to the SGMA and California's agricultural industry as a whole. First, I will discuss the history of California's water rights systems. Second, I will discuss the importance and applicability of the SGMA enacted to manage groundwater levels as the drought worsens. Third, I will discuss how the reasonable use doctrine should apply to agricultural landowners within the Central Valley in accordance with the SGMA. This note will ask two questions: (1) Is farming in the Sacramento-San Joaquin and San Fernando Valleys reasonable in light of California's extended drought? (2) If so, then how could the state best regulate farmers' use of water in the Central Valley to the benefit of all?

III. Article X, Section 2, and the Reasonable Use and Public Trust Doctrines

Article X, section 2 and the reasonable use doctrine work best when used in tandem. They are close to one another in the California Constitution and in practice.[62] The two doctrines complement each other and when used together create the foundation for all water use within the state.[63] Article X, section 2 of the California Constitution states that all water use shall be "exercised with a view to the

58. *Id.*

59. *Id.*

60. *See e.g.,* OFFICE OF EDMUND G. BROWN, JR., https://www.gov.ca.gov/news.php?id=18913 (last visited Sep. 8, 2015).

61. Ellen Hanak, et al., *supra* note 26.

62. CAL. CONST. art. 10, § 2.

63. Joslin v. Marin Municipal Water Dist, 67 Cal. 2d 132 (1967); National Audubon Soc. v. Department of Water, 869 F.2d 1196 (9th Cir. 1988).

reasonable and beneficial use thereof in the interest of the people and for the public welfare."[64] The State Constitution, although explicitly self-executing, carves out the potential for the Legislature to create laws in an effort to advance the reasonable use of water.[65] All water use within the State of California is subject to the reasonable use doctrine. Furthermore, water rights are not subject to waste, unreasonable use, or unreasonable methods of use. Finally, unreasonable methods of diversion of water are not constitutionally protected.[66]

In *Joslin v. Marin Municipal Water District*, a riparian landowner brought a claim for damages based on his assertion that the municipal water district's dam had deprived the landowner of the right to use water to replenish gravel.[67] The court opined that though an inquiry into the reasonableness of the use of water depends on the circumstances of each particular case, it must be taken into the context of statewide considerations of the ever-increasing need for the conservation of water.[68] The scarcity of water within the district was a significant consideration in this instance.[69] Though the landowner clearly showed that the use of water was beneficial for the purpose of his land, the California Constitution does not parallel beneficial use with reasonable use.[70] Riparian landowners are not entitled to the unfettered flow of a water source located on their property.[71] The court concluded that the fact that a use may be beneficial to a riparian's land production is not sufficient if the use is not also a reasonable one.[72]

Before *National Audubon Soc. v. Department of Water* (commonly known as, "Mono Lake"), the issue was undecided of whether *Joslin* was "little more than a statement that egregiously wasteful uses of water violate Article X, Section 2."[73] Until the Mono Lake case, it was believed throughout the state that water rights were

64. CAL. CONST. art. 10, § 2.

65. *Id.*

66. *Id.*

67. *Joslin*, 67 Cal. 2d at 379.

68. *Id.*

69. *Id.*

70. *Id.*

71. *Id.*

72. *Id.*

73. Brian E. Gray, *"In Search of Bigfoot": The Common Law Origins of Article X, Section 2 of the California Constitution*, 17 HASTINGS CONST. L.Q. 225, 230 (1989).

a vested type of right.[74] However, the court in *Audubon* distinguished water rights from other vested property rights and held that these rights may be altered through the application of the public trust doctrine.[75] Furthermore, depending on the circumstances, the times may change and resources held in trust may have to give way to consumptive uses.[76] As the court noted in *Audubon*, "[a]s a matter of practical necessity the State may have to approve appropriations despite foreseeable harm to public trust uses.[77] The State must bear in mind its duty as trustee to consider the effect the public trust, and to preserve, so far as consistent with the public interest, the uses protected by the trust."[78]

The application of the reasonable use and public trust doctrines by the California Supreme Court is a recognition that water rights must be utilized in light of what is in the best interest of the entire state, and, depending on the circumstances, not just in terms of one type of water right holder or another.[79] The state has an affirmative duty to take the public trust into account in the planning and allocation of water resources and to protect public trust uses whenever feasible.[80]

IV. Article X, Section 2 and Wasteful Uses of Water

In 1926, *Herminghaus v. Southern California Edison Company* established that wasteful use by riparian landowners for irrigation purposes was permissible.[81] In *Herminghaus*, a Fresno County widow sued a power company for impairing her access to water and thus infringing on her property right.[82] The power company had an appropriative water right and the court held that Ms. Herminghaus was entitled to her riparian water rights first.[83] The court also allowed for the wasteful way in which she chose to irrigate due to her superior water right.[84] Before the California Constitutional was amended to include article X, section 2, riparian landowners were entitled to the

74. *Id.*
75. National Audubon Soc. v. Department of Water, 869 F.2d 1196 (9th Cir. 1988).
76. *Id.*
77. *Id.*
78. *Id.*
79. *Id.*
80. *Id.* at 1202.
81. Herminghaus v. Southern Cal. Edison Co., 200 Cal. 81 (1926).
82. *Id.* at 86.
83. *Id.*
84. *Id.*

primary use of water over appropriative use.[85] In 1928, the addition of the article X, section 2 memorialized that the right to reasonable use "shall not extend to the waste or unreasonable use or unreasonable method of diversion of water."[86]

After the addition of article X, section 2, the Supreme Court of California decided the case of *Peabody v. City of Vallejo*.[87] In *Peabody*, the California Supreme Court decided that they should look to all factors surrounding the circumstances of the use in determining what is "reasonable" under the article X, section 2.[88] *Peabody* also established that "When the supply is limited public interest requires that there be the greatest number of beneficial uses which the supply can yield."[89] The court honored article X, section 2 by limiting the riparian right to only beneficial uses.[90] The passage of article X, section 2 confirmed that waste was no longer included in the long-standing riparian bundle of rights.[91] The Court held that waste was determined on a case-by-case basis in light of the circumstances.[92]

In 1935, the court decided the case of *Tulare Irrigation District v. Lindsay-Strathmore Irrigation District* and rejected the use of water to drown gophers as a reasonable use of water serving to benefit the public trust.[93] This action was a quiet title against defendants on their use of surface and ground waters in the Kaweah watershed.[94] While some use for irrigation purposes is encompassed under the reasonable use doctrine, the "use of an appreciable quantity of water for the purpose of exterminating pests such as gophers and squirrels cannot be held to be a reasonable beneficial use."[95]

One issue was whether appropriative water right holders were entitled to the use of the underground reservoirs below their land so long as it did not interfere with defendant's riparian purposes.[96] The trial court held that riparian landowners who use their land for

85. *Id.*

86. CAL. CONST. art. X, § 2.

87. Peabody v. City of Vallejo, 2 Cal. 2d 351 (1935).

88. *Id.* at 383.

89. *Id.*

90. *Id.*

91. *Id.*

92. *Id.*

93. Tulare Irrigation Dist. v. Lindsay-Strathmore Irrigation Dist., 3 Cal. 2d 489, 567 (1935).

94. *Id.*

95. *Id.*

96. *Id.*

agricultural purposes are entitled to "a reasonable quantity of the waters of the stream to which they are riparian for irrigation purposes and the whole of the underground flow to moisten their lands from beneath."[97] Riparian defendants were entitled to pump water from the ground to use in irrigation.[98] At trial, a judgment was entered to enjoin the defendants from pumping underground water and transferring it onto the surface.[99] The court looked to the environmental circumstances to determine that while riparians were entitled to pump groundwater for the beneficial use of their land, they were not entitled to waste it.[100]

In 1967, the California Supreme Court decided the case of *Joslin,* which further clarified the well-established principles of water law.[101] After *Joslin*, courts could redistribute water uses based on reasonability and social needs.[102] The riparian plaintiffs in *Joslin* focused on their right to the reasonable use of water for the benefit of their own land as stated in the constitution.[103] The court, however, focused on defining the unreasonable use for purposes of limiting water use and whether an unreasonable use should be compensated.[104] The *Joslin* court underscored that beneficial use turns to a wasteful use when it interferes with the interests of the public.[105]

In the *City of Lodi v. East Bay Mun. Util. Dist.*, the court ruled on how the methods of continuing beneficial use can result in an unreasonable use or waste.[106] During the case, the district offered alternative methods to supply the city with water from a pipeline.[107] The city rejected all of the alternatives offered by the district at trial.[108] The appellate court found that it was within its discretion "to enforce such solution regardless of whether the parties agree."[109]

97. *Id.*

98. *Id.*

99. *Id. at* 502–03.

100. *Id.*

101. City of Los Angeles v. Aitken*,* 10 Cal. App. 2d 460, 475 (1935) ("Their use of the lake in its natural condition is reasonably beneficial to their land, sand the littoral rights thereof may therefore not to be appropriated, even for a higher or more beneficial use for public welfare, without just compensation therefor.").

102. *See* Joslin v. Marin Municipal Water Dist, 67 Cal. 2d 132 (1967).

103. *Id.*; *see also* CAL CONST. art. X, §2.

104. *Joslin,* 67 Cal. 2d at 139–41.

105. *Id.*

106. City of Lodi v. East Bay Mun. Util. Dist., 7 Cal. 2d 316, 340 (1936).

107. *Id.*

108. *Id.* at 341.

109. *Id.*

Here, the solution was the way in which water could be transported. This demonstrates that waste applies to water use in all circumstances, even the transportation of water. If the court (and now the SWRCB) could decide the boundaries of "waste" in light of the circumstances then, it should be able to follow that logic now. Since this is still good law, *Joslin* and *Lodi* should help define wasteful use in current times. Since we are in a statewide, four-year-long drought, a narrower application of wasteful use should apply to riparian landowners in agriculture who grow crops that use an unreasonable amount of water.

Today, the Department of Water Resources and the State Water Board are empowered by Water Code section 275 to "take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste or unreasonable use of water."[110] In 2014, the California Supreme Court denied certiorari to review *Light v. State Water Resources Control Board.*[111] In *Light,* the court granted wide discretionary power to the State Water Resources Control Board (the "Board") to define the use of water for purposes of frost protection in the Russian River Valley.[112] In 2011, the Board codified in the California Code of Regulation, title 23, section 862 ("section 862") the right to make binding, final decisions determining the scope of riparian, overlying, and pre-1914 groundwater rights.[113] As such, the Board can find that certain uses are "unreasonable" per se.[114] The *Light* court held that a diversion of water to prevent frost on grapes in the Russian River valley was a justified unreasonable use as determined by the Board.[115] This recent decision should guide the State Water Board to limit the ways agriculture can use water across the state.

V. Article X and The Sustainable Groundwater Management Act

The SGMA is an amalgamation of three separate California Senate and Assembly bills that address the problem of unregulated groundwater use in light of the drought.[116] Groundwater served as the

110. CAL. WATER CODE § 275 (West 2015).

111. Light v. State Water Res. Control Bd., 226 Cal. App. 4th 1463, 1498 (2014).

112. *Id.* at 1481.

113. *Id.* at 1475.

114. *Id.*

115. *Id.*

116. *Id.*

original drought buffer but is now being overused by unregulated riparian and appropriative landowners, namely, farmers. The main criticism of the SGMA is that the Act calls for plans to be in place twenty years from now. However, in 1903, the court decided *Katz v. Walkinshaw* establishing that article X's reasonable use provisions apply to all water rights, including groundwater.[117] This case demonstrates that even without the SGMA, groundwater percolations and diversions are subject to the limitations imposed by the constitution, including the reasonable and beneficial use doctrine. Nevertheless, this piece of legislation is positioned to help regulate the over-pumping of groundwater prevalent in conditions of extreme drought.

The three bills comprising the SGMA are AB 1739, SB 1319, and SB 1168. Governor Brown promoted these bills to recognize that the best way to promote integrative groundwater management is through local agencies.[118] Although the reasonable and beneficial use doctrine should not be affected, the laws have given local agencies the ability to assess their groundwater levels which can ultimately change the definition of how much is "reasonable" to pump from the ground.

VI. Climate Change and the SGMA

> Sustainable groundwater management in California depends upon creating more opportunities for robust conjunctive management of surface water and groundwater resources. Climate change will intensify the need to recalibrate and reconcile surface water and groundwater management strategies.[119]

Typically, when water is at its normal levels, seasonal rains contribute to alluvial groundwater basins, or small bodies of water situated just above ground.[120] During those times, when water is plentiful, these basins contribute thirty-eight percent of the total water for the state.[121] When surface water supplies dwindle, industries like agriculture draw on groundwater resources to make up the difference.[122] This has led to an increase in groundwater use of up to a

117. Katz v. Walkinshaw, 141 Cal. 116, 137–38 (Cal. 1903).

118. *See* CALIFORNIA GROUNDWATER LEGISLATION, http://groundwater.ca.gov/legislation.cfm (last visited June 29, 2015).

119. S.B. 1168 § 1(a)(11), 2014 Leg., Reg. Sess. (Cal. 2014).

120. GROUNDWATER, CALIFORNIA DEPARTMENT OF WATER RESOURCES, (Jan. 15, 2015), http://www.water.ca.gov/groundwater/.

121. *Id.*

122. *Id.*

twelve percent increase in the past and up to a seventy-five percent increase in recent years in groundwater use.[123] Over pumping groundwater leads to depletion in the capacity of underlying aquifers to store water.[124]

As climate change increases the intensity and duration of droughts, SB 1168 section 1(a)(11) will be important to the changing application of the reasonable use doctrine. Section 1(a)(11) addresses the uncertainty inherent in climate change and clarifies that the difficulty of groundwater depletion will later (if not now) require new developments in the scope of water rights.[125] Like our economy, political opinions, and views on the world, our environment is constantly in flux. With that state of flux comes an undulating need to alter the ways we treat it. Similarly, the application of the reasonable use doctrine within the California Constitution will likely alter with the changing environmental landscape.[126] Climate change is all but explicitly evident in California by the drastically reduced snowpack, its quick depletion and subsequent flooding, and also cracked and dried reservoirs and riverbeds.[127] As these water resources rapidly deplete, California farmers (and anyone needing water) turn to groundwater reserves. When groundwater basins are depleted and not replenished, their ability to store water over time (storage capacity) grows weak.[128] The storage capacity in groundwater basins is critically important in times of extended drought, yet it is often overlooked.[129] As previously stated, farming is the largest user of water overall and thus will become largely dependent on groundwater reserves. The agricultural industry depends on groundwater to keep crops alive in times of drought. This section of the legislation serves as a warning to California's farmers, foreshadowing the need to adapt the definition of what qualifies as "reasonable use" in light of California's extended drought and other climate change issues in the future.

123. *Id.*; *see also* John Roach, As Californians Pump Groundwater, Land Sinks and Aquifers Shrink, (July 15, 2014), http://www.nbcnews.com/storyline/california-drought/californians-pump-groundwater-land-sinks-aquifers-shrink-n145466.

124. *Id.*

125. S.B. 1168 § 1(a)(11), 2014 Leg., Reg. Sess. (Cal. 2014).

126. Tulare Irrigation Dist. v. Lindsay-Strathmore Irrigation Dist., 3 Cal. 2d 489, 567–68 (1935).

127. Ellen Hanak et al., *supra* note 26.

128. *Id*.

129. *Id.*

VII. Inclusion of Agricultural Users

> The groundwater sustainability agency shall consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans. These interests include, but are not limited to . . . [h]olders of overlying groundwater rights, including [a]gricultural users.[130]

Section 10723.2 of the California Water Code outlines the populations who will be "considered" when managing the use of groundwater now and in the future. The local groundwater sustainability agency is given wide discretion to make decisions based on the interest of niche groups, including the agricultural industry. While it is important that the state and local agencies take into account the interests of their constituents, this section of the SGMA gives local agencies too much discretion in deciding the future of California's groundwater supply. Theoretically, this discretion grants assurances to water rights holders that they and their beneficial uses will be considered in creating a sustainability plan. In actuality, California's water crisis is too extreme to give local agencies the potential to self-regulate when they are given so much discretion.

VIII. Priority and Probationary Groundwater Basins

Section 10720.7 of the California Water Code, prior to the SGMA, encouraged all designated departments to adhere to the groundwater sustainability plans by managing them, but did not provide any enforcement mechanism or concrete guidance.[131] In 2014, SB 1168 was introduced to remedy that problem. SB 1168 maintains that agencies must conduct an analysis of groundwater levels beginning in 2012 and thereafter in years ending in 5 or 0.[132] Additionally, the bill outlines that, based on the analysis, basins are to be designated as high, medium, low, or very-low priority basins by January 2020.[133] Once the basin has been ranked, the local agencies of high and medium priority basins have until 2022 to implement a plan for sustainability.[134] The sustainability plan must establish a goal and

130. CAL. WATER CODE § 10723.2(a)(1) (West 2015).
131. CAL. WATER CODE § 10720.7 (2)(b) (West 2015).
132. S.B. 1168, 2014 Leg., Reg. Sess. (Cal. 2014).
133. CAL. WATER CODE § 10720.7(1).
134. CAL. WATER CODE § 10720.7(2) (West 2015).

explicitly outline how the agency will achieve it.[135] Additionally, all groundwater management plans are to be implemented in furtherance of the reasonable and beneficial use doctrine within article X.[136]

Separately, under section 10735.2, the State Board has wide discretion to determine whether a basin is probationary. A basin is "probationary" if, by January 31, 2025, the Department determines that (i) the "groundwater sustainability plan is inadequate or . . . not being implemented in a manner that will likely achieve the sustainability goal," and (ii) "[t]he Board determines that the basin is in a condition where groundwater extractions result in significant depletions of interconnected surface waters."[137] If a basin is labeled as "probationary," then the Board can adopt a provisional plan, including restrictions on groundwater extraction, barriers to the water source, and/or guidelines for the administration of rights to surface waters that are connected to the basin.[138]

IX. Water Rights and Article X, Section 2

Under section 10735.8(c)1, the interim plan for probationary basins explicitly reserves the Board's right to include restrictions on groundwater pumping.[139] This should limit the riparian and/or appropriative right holders' ability to use or consume water in the future, especially since the new provisions must be consistent with the reasonable and beneficial use doctrine within article X, section 2.[140] The purpose of the reasonable use doctrine is to evaluate the reasonability of a particular type of water usage and the efficiency of the use as it pertains to the public interest.[141] In *Joslin*, the California Supreme Court began to establish reasonable use as the prevailing principle for all water rights, requiring that all water use be "limited . . . as shall be reasonably required for the beneficial use to be served."[142] Traditionally, a benefit may be found quite easily, and courts will often defer to the subjective belief of the user as to

135. S.B. 1168(3), 2014 Leg., Reg. Sess. (Cal. 2014).
136. CAL. WATER CODE § 10720.5(a).
137. CAL. WATER CODE § 10735.2.
138. CAL. WATER CODE § 10735.8(c).
139. CAL. WATER CODE § 10735.8(c)(1).
140. CAL. WATER CODE § 10720.1(b).
141. CAL. CONST. art. 10, § 2.
142. Joslin v. Marin Municipal Water Dist, 67 Cal. 2d 138 (1967).

whether or not a use is beneficial.[143] However, heightened scrutiny falls under the reasonableness analysis and difficult circumstances may change the court's opinion.[144]

To the extent that a groundwater basin has reached stages of "significant depletions of interconnected surface waters," the reduction of water is causing compaction while permanently reducing the aquifer's storage capacity.[145] The unsustainable management of a groundwater basin that leads to reduced aquifer storage for future use is not a reasonable one within the greater public interest under article X. The unregulated, over pumping of groundwater will inevitably lead to a complete depletion of the state's water reserves. Unfortunately, individuals are unlikely to litigate a claim for the right to groundwater unless the resource is depleted or entirely gone. The confines of article X, section 2 are best illustrated by the California Supreme Court's holding in *IID v. SWRCB*, stating that a user has only "vested rights to the 'reasonable' use of water."[146] The user "has no right to waste or misuse water."[147] The court goes on to recognize a redefinition of rights: "It is time to recognize that this law is in flux and that its evolution has passed beyond traditional concepts of vested and immutable rights . . . we but recognize this evolutionary process, and urge reception and recognition of same upon those whose work in the practical administration of water distribution makes such change understandably difficult to accept."[148] This statement indicates a shift in water rights jurisprudence, which now favors a more balanced approach to the weighing of utilitarian and conservationist interests.

X. Imposing Fees for Overuse

A groundwater sustainability plan . . . may impose fees[149]

As the law currently reads, the sustainability agencies *may* impose fees, but they are not required to do so. A mandated fee-based system would likely alter the ways that agricultural landowners

143. *Id*. at 895 (Noting that our constitution allows beneficial use to be "to the fullest extent of which they are capable").

144. *Id.*

145. CAL. WATER CODE § 10735(d).

146. Imperial Irrigation Dist. v. State Wat. Res. Control Bd., 225 Cal. App. 3d 548, 563 (1990).

147. *Id.* at 563–64.

148. *Id.* at 573.

149. CAL. WATER CODE § 10730.2.

use their water rights. The pre-SGMA groundwater rights system has been free from direct SWRCB or other agency oversight, which allows overlying users the ability to pay the pumping costs and then extract based on their overlying rights or priority of appropriation.[150] The new legislation exempts already adjudicated basins,[151] but the rest of California's groundwater basins will largely be subject to the same over pumping associated with the rights of the most senior rights holders being met.[152]

Moreover, the sustainability management agency is not limited by the statute to only charge fees for reimbursement to the agency for its administration, acquisition, water quality, and other regulatory expenses, as outlined in section 10730.2(a). Section 10730.2(d) allows for the fees imposed to also include, "fixed fees and fees charged on a volumetric basis, including, but not limited to, fees that increase based on the quantity of groundwater produced annually."[153] Volumetric fees, depending on the level at which they are set, may have a substantial impact on how much water a user can afford to withdraw from the system. For farming, this could mean that the cost of production (at least for small business farming) is too high, driving them out of business while simultaneously bolstering big industry agriculture.

A blanket fee-based system benefits appropriative users because it does not augment the hierarchal system of water rights solely on total annual base production. Overlying users who were once at the top of the proverbial water rights food chain (like riparian users) could have extracted freely whatever yields they required, but now they must consider the impact of costs on their use. This would replace the "use it or lose it" system mentioned above. A graduated fee structure poses an even heftier burden on large users of groundwater resources, such as corporate agriculture, and adds an additional layer of economic incentives on the user to put their water to the most reasonable and beneficial use. This piece of the legislation, if used correctly, could help deter the overuse of water by corporate agriculture without driving smaller farmers out of the family business.

150. STATE WATER RESOURCES CONTROL BOARD: COLOR OF WATER FACT SHEET, http://www.swrcb.ca.gov/water_issues/programs/swamp/docs/cwt/guidance/3159.pdf (last visited Sep. 8, 2015).

151. CAL. WATER CODE § 10720.8(a)(1)-(26).

152. *Id.*

153. CAL. WATER CODE § 10730.2(d).

XI. Proposed Plans of Action

A. Include Farming in Conservation Efforts

As stated earlier, agricultural water use absorbs eighty percent of the state's water resources. This number may be acceptable if California were not in a complete state of emergency with regards to water. However, Californians who are not farmers can make only a small impact in the effort to conserve water because they consume only a small portion of the total share. If California's population uses twenty percent of the total water supply, then a twenty-five percent decrease in their water use would only lead to a five percent decrease in water overall. The existing law only "considers" the interests of agricultural users when identifying groundwater sustainability plans. If all farmers were included in the statewide mandate to decrease water consumption by twenty-five percent, farming could increase its efficiency and put back sixteen percent of the state's water supply.

Additionally, this plan would not necessarily lead to a decrease in profit or production. Last June, the Natural Resources Defense Council ("NRDC") released a report detailing a number of farming methods that could be implemented in the Central Valley.[154] In the report, the NRDC states that although the farmers of the Central Valley have implemented some changes to modernize their methods, more can be done.[155] In agriculture, water use can be split into two categories: consumptive water use and non-consumptive water use.[156] The former refers to water use by farmers in which the water cannot be repurposed within the same basin from which it came.[157] The latter refers to water that can be reused within the same water basin from which it came.[158] Farming efficiently could benefit the farmers, their crops, and the state at large in terms of water conservation.[159] Methods such as weather-based irrigation scheduling, regulated deficit irrigation, and the installation of drip irrigation systems would all benefit the agricultural community and annual crop yield.[160] Weather-based irrigation scheduling refers to the practice of using local weather data to determine the amount of water a certain crop

154. NAT. RES. DEF. COUNCIL, *supra* note 7.
155. *Id.*
156. *Id.*
157. *Id.*
158. *Id.*
159. *Id.*
160. *Id.*

requires to thrive.[161] The resources are available for free from the California Irrigation Management Information System and are managed by the California Department of Water Resources.[162]

Regulated deficit irrigation could be very effective in the California nut industry. Regulated deficit irrigation is a practice that limits water to certain, more drought-resistant crops such as wine grapes and nuts.[163] Drip irrigations systems would also be effective in California because the practice allows for minimal, evenly distributed water to irrigate crops precisely.[164] Combined with the proposed regulations and management described in the Sustainable Groundwater Management Act, these farming methods could lead to greater control of limited water resources, greater yield for crops, and hold farmers more accountable for the drought.

B. Crop Shifting for Farmers

The federal government has categorized crops in tiers for purposes of the U.S. Farm Bill and could do so in this instance as well.[165] Commodity crops within the bill refer to plant crops that are often traded and have a high cash value. In the U.S. Farm Bill, the government distinguishes commodity crops from low value crops such as alfalfa and other feeds. Using this tier system, the State Water Resources Control Board could decide that certain low-value, high-water-usage crops are no longer supported by the reasonable use doctrine in light of the drought. Perhaps the Board could effectively outlaw the farming of certain crops, such as almonds and alfalfa. The Board has broad latitude in determining the boundaries of reasonable use. This policy would certainly create widespread economic issues, which cannot be fully discussed here, but at least the Board could create disincentives for farming alfalfa and almonds. Alternatively, it could deter farmers from planting those crops by regulating water in light of the reasonable use standard.

Conclusion

The Sustainable Groundwater Management Act and changing applicability of the reasonable use doctrine in response to the drought

161. *Id.*

162. *Id.*

163. *Id.*

164. *Id.*

165. *See generally* Perishable Agricultural Commodities Act, 1930, 7 U.S.C.A. § 499a (West 2015).

should apply to California's agricultural industry. If the SGMA cannot implement a plan of action within twenty years, the State Water Resources Control Board reserves the right to decide how farmers may use water because of the drought-imposed state of emergency. Although the industry produces a diverse array of crops and one-fifth of the world's food supply, it could also preserve the largest percentage of water of any other industry in California.

Before this legislation, there had never been a mechanism that automatically triggered adjudication. In most instances, parties voluntarily agreed to these adjudications in response to extensive overdraft. Before the *Mojave* adjudication, the basin had been in a state of overdraft for decades. So, to the extent that there is now legislation with goals and methods of obtaining an achievable reduction in a sustainable plan, this constitutes a tremendous alteration to water rights and the overall landscape of groundwater management.

There is tremendous urgency in the groundwater overdraft situation. These aquifers are experiencing compaction and overlying land subsidence at a rate of one foot per year, and this has been occurring for over a century. The groundwater extraction rate during the recent drought is historically high. At what point do we reach critical mass and say that it is in the public's best interest to mitigate future subsidence and compaction from overdraft? What happens in twenty years if there is minimal improvement? We are permanently minimizing our storage capacity each year that we doddle around. The groundwater legislation may have some built in work around some current limitations, but it may prove to be too little too late.

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