In the Field and In the Stream: California Reasonable Use Law Applied to Water for Agriculture

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Paul Stanton Kibel*

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I. WATER USAGE IN CALIFORNIA: DOING MORE WITH LESS

When it comes to fresh water consumption in California, going forward we will need to learn to do more with less. There are at least two main reasons why California will need to learn to do more with less water.

First, there is a growing population in the state, a population that is increasingly urban1 which means there will be greater demand for urban municipal domestic water supplies.2

Second, there are now increasing demands to leave additional amounts of surface fresh water instream.3 The demands for additional instream flow relate in

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2. See id. at 173 (indicating that urban water demand could double by the end of the century due to population growth without aggressive conservation efforts).

3. See, e.g., id. at 210 (describing the Sacramento-San Joaquin Delta Reform Act of 2009, which requires
part to the declining condition of California’s native fisheries (such as salmon, steelhead and smelt). The demands for additional instream flow also relate to water quality and salinity concerns. With reduced fresh water flows in our coastal rivers, seawater is pushing further upriver, and increasingly saline water cannot be used for drinking or irrigating. With seawater intrusion, excessive upstream diversion of fresh water threatens the very supply of fresh water.

The long-standing debate over water exports from the Sacramento-San Joaquin Delta, and the impact of such Delta exports on salinity, water quality and native fisheries, is perhaps the most prominent illustration of such demands for additional instream flow.

The latest installment in the Delta instream flow debate came in March 2014, when the Ninth Circuit Court of Appeals reversed former federal district court Judge Oliver Wanger’s 2010 decision on the Biological Opinion prepared by the United States Fish and Wildlife Service (USFWS) for Delta smelt, a species listed under the federal Endangered Species Act. In its March 2014 ruling, the Ninth Circuit upheld the USFWS imposition of restrictions on Delta exports related to the operation of the Central Valley Project and the State Water Project to ensure additional instream flows to reduce salinity and maintain habitat for the Delta smelt.

As California turns its attention to how to do more with less in terms of fresh water resources, there are two considerations that are likely to be in play. First, about 77% of fresh water use in California is for irrigated agriculture. Given this level of usage, is it therefore likely that agricultural irrigation will be a main focus of efforts to improve water efficiency in the state. Second, the California Constitution and the California Water Code contain provisions establishing that all water use in the state must be reasonable and cannot be wasteful. These constitutional and statutory prohibitions on unreasonable use of water may be increasingly relied upon as a legal basis to press for more efficient irrigation practices in California’s agricultural sector.

These two considerations converged in January 2011, when Delta Watermaster Craig Wilson (a state official) presented a report to the State Water Resources Control Board titled The Reasonable Use Doctrine & Agricultural maintaining higher flows in the Delta).

4. See id. at 200 (indicating that over 80% of California’s native fish species are endangered, threatened, or in decline due to water and land management practices).
5. See id. at 82–84 (discussing California fresh water quality and salinity).
6. See id. at 59–62 (discussing salinity and seawater intrusion issues in the Bay-Delta).
7. See id. at 140 (describing the threat a rising sea level poses to the freshwater flows in the Bay-Delta).
8. See generally id. at 59–65 (describing the controversy surrounding the use of waters in the Bay-Delta ecosystem).
10. Id. at 608.
11. MANAGING CALIFORNIA’S WATER, supra note 1, at 88 (this figure is as of 2005).
12. CAL. CONST. art. X, § 2; CAL. WATER CODE § 100 (West 2009).
Water Use Efficiency (2011 Delta Watermaster report). The introduction to this 2011 publication stated:

The underlying premise of this report is that the inefficient use of water is an unreasonable use of water. Accordingly, the Reasonable Use Doctrine is available prospectively to prevent general practices of inefficient water use.

Maximizing the efficient use of water by projects that reduce consumptive water use is particularly important for the Sacramento/San Joaquin Delta. More efficient use of water upstream of the Delta can increase water flows into the Delta.

Specific recommendations in the 2011 Delta Watermaster report included: (i) creating a “Reasonable Water Use Unit” within the State Water Resources Control Board’s [(State Water Board)] Division of Water Rights,” whose mission would be “to enforce the prohibition against the waste or unreasonable use of water;” (ii) requiring “[d]ivers [o]f [w]ater [f]or [a]gricultural [u]se . . . [t]o [e]valuate [a]nd [i]mplement [a]ppropriate [c]onservation [p]ractices” which might include irrigation systems that reduce evapotranspiration; and (iii) “[i]rrigating only when necessary (e.g. . . . reducing irrigation of crops during stress-tolerant growth stages).”

Whether implementation of these recommendations is politically feasible or politically advisable are important questions, but questions that are beyond the scope of what this article will cover. This article will instead focus on the more limited question of the extent to which California reasonable use law provides a legal basis and legal foundation for the types of agricultural irrigation efficiency and water conservation recommendations presented in the 2011 Delta Watermaster report.

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14. Id. at 3.
15. Id. at 14.
16. Id. at 11, 15.
17. Id. at 11.
II. 1926 HERMINGHAUS DECISION AND 1928 CALIFORNIA CONSTITUTIONAL AMENDMENT

In 1928, the California Constitution was amended to provide in pertinent part:

It is hereby declared that because of the conditions prevailing in this State the general welfare requires that . . . the waste or unreasonable use or unreasonable method of use of water be prevented . . . . The right to water or to the use or flow of water in or from any natural stream or water course in this state . . . does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.18

The 1928 amendment to the California Constitution, in turn, provided the basis for the adoption of Section 100 of the California Water Code.19 Section 100 of the California Water Code provides:

The right to water or the use or flow of water in or from any natural stream or watercourse . . . shall be limited to such water as shall be reasonably required . . . and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.20

As we consider the irrigation-related recommendations in the 2011 Delta Watermaster report, it is important to remember the events that prompted the adoption in 1928 of the California Constitutional amendment. The main catalyst for this 1928 constitutional amendment was the California Supreme Court’s 1926 decision in the case of Herminghaus v. Southern California Edison Company.21

The Herminghaus litigation involved a dispute between a downstream riparian water rights user (Herminghaus) and a proposed upstream hydroelectric project under an appropriative right that would reduce downstream flows.22 The downstream riparian user had a ranch, and diverted nearly all of the flow of a river to flood irrigate grasses on her land.23 The downstream riparian user claimed generally that the grasses were used as pasture for ranching, but little or no information was presented at trial about the types or numbers of livestock that grazed on these grasses.24 In its decision, the California Supreme Court found that

19. CAL. WATER CODE § 100 (West 2009).
20. Id.
22. Id. at 86–87.
23. Id. at 86–87, 105.
24. Id. at 105.
the extent which the grasses were actually used for livestock was not legally relevant, holding that in a dispute between a riparian and a non-riparian the riparian’s water rights are “not limited by any measure of reasonableness.”

The California Supreme Court’s unwillingness in Herminghaus to evaluate the potential reasonableness and wastefulness of diverting such quantities of water, without a showing of the extent to which such grasses were actually being used for livestock grazing, prompted the 1928 Constitutional Amendment which held that all water use and diversion rights in California—whether riparian, appropriative or based on some other entitlement—must be reasonable.

III. “IN THE FIELD” AND “IN THE STREAM”

In terms of reviewing California court decisions and State Water Board actions implementing the reasonable use/waste provisions of the California Constitution and California Water Code, it is useful to keep in mind the distinction between concerns about water “in the field” and concerns about water “in the stream.” That is, sometimes the focus of California reasonable use law has been on the loss/usage of water on the agricultural lands being irrigated, and other times the focus of California reasonable use law has been on the instream impacts of diverting water for use on agricultural lands.

A. Water “in the Field” and California Reasonable Use Law

1. Tulare and Flood Irrigation

In the 1935 Tulare Irrigation District v. Lindsay-Strathmore Irrigation District case, the California Supreme Court reviewed the practice in California’s Central Valley of flood irrigating farmland in the winter (before planting seeds in the spring) to “drown[...] out gophers” that might be living in the fields. In reviewing this practice, the California Supreme Court noted:

What may be a reasonable beneficial use, where water is present in excess of all needs, would not be a reasonable beneficial use in an area of

25. Id. at 100–01.
26. SCOTT SLATER, CALIFORNIA WATER LAW & POLICY § 12.02 (Pub. No. 83013, Release 18, 2013) (“In 1926 the California Supreme Court decided Herminghaus v. Southern California Edison, holding that the riparian was entitled to the full flow of a stream for the purpose of flooding riparian land to grow permanent pasture. . . . After considerable public outcry against the waste of unused water resources, Californians acted to adopt a constitutional amendment mandating the reasonable use of water.”).
27. See infra Part III.A–B (discussing the distinction between water “in the stream” and “in the field”).
28. 3 Cal. 2d 489, 567–68 (1935)
great scarcity and great need. What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time.  

The Tulare court then found: “It seems quite clear to us that in such an area of need as the Kaweah [D]elta the use of an appreciable quantity of water for such a purpose cannot be held to be a reasonable beneficial use.”

2. Erickson and Evaporation Losses

In the 1971 Erickson v. Queen Valley Ranch Company decision, the California Court of Appeal reviewed a trial court decision in which it had been determined that five-sixths of the water diverted into an earthen canal was lost en route to the point of use for agricultural irrigation (due to evaporation to air and absorption to soil). In Erickson, the trial court had found these transmission losses “reasonable” but the California Court of Appeal reversed, holding:

By holding that transmission losses amounting to five-sixths of the flow are reasonable and consistent with local custom, the court effectually placed the seal of judicial approval on what appears to be an inefficient and wasteful means of transmission. . . .

. . . .

A finding of reasonableness which cloaks a transmission loss amounting to five-sixths of the diverted flow fails to respond to the demands of constitutional policy.

Erickson clarified that while diverting water for agricultural irrigation may constitute a beneficial use of freshwater resources, excessive losses of water to evaporation used in connection with agricultural irrigation may constitute an unconstitutionally unreasonable and wasteful use of such water.

Some of the 2011 Delta Watermaster report recommendations focused specifically on efforts to reduce the amount of water evapotranspiration occurring in agricultural fields, so Erickson provides legal support for grounding determinations of unreasonable and wasteful irrigation practices on evaporation-related concerns.

29. Id. at 567.
30. Id. at 568.
32. Id. at 585.
33. Id. at 584.
34. See supra note 16 and accompanying text.
3. IID, Canal Spills and Excess Tailwater

In its 1986 Imperial Irrigation District v. State Water Resources Control Board (IID) decision, the California Court of Appeal considered the application of California reasonable use law to allegations of water lost due to irrigation canal spills and excess tail water running from agricultural fields. After complaints were filed with the California Department of Water Resources (DWR), who delivered water to Imperial Irrigation District (IID) customers, DWR referred the matter to the State Water Board. In 1984 the State Water Board issued Decision 1600, finding that the failure of IID to implement appropriate water conservation measures to address the canal spills and tail water runoff constituted an unreasonable use of water pursuant to the requirements of the California Constitution.

IID filed suit challenging the State Water Board’s unreasonableness determination, and the trial court found that Decision 1600’s conclusion that the canal maintenance and irrigation practices of IID violated the California Constitution’s prohibitions on the unreasonable use and waste of water were “without binding effect.” In its 1986 decision, the California Court of Appeal then reviewed the extensive body of California reasonable use law and inquired:

In the light of these constitutional, statutory and Supreme Court authorities, which apparently establish all-encompassing adjudicatory authority in the [State Water Board] on matters on water resource management, how could the trial court have found an absence of such authority in the matter of unreasonable water use under article X, section 2?  

The California Court of Appeal answered its question by reversing the trial court, finding “[W]e hold in this case involving IID’s use of water under appropriative rights that the [State Water Board’s] authority includes the power to adjudicate the article X, section 2, issue of unreasonable use of water by IID.”

IID provides support for the authority of the State Water Board to find that the failure of an agricultural water user to implement appropriate water conservation measures in agricultural fields, such as proper maintenance of irrigation canals and reducing tail water runoff, may violate California reasonable use law.

35. 186 Cal. App. 3d 1160, 1163 (1986)
36. Id.
37. Id.
38. Id. at 1164.
39. Id. at 1169.
40. Id. at 1171.
B. Water “in the Stream” and California Reasonable Use Law

In considering water diverted “out of stream” for agricultural usage, it should be noted that the 2011 Delta Watermaster report specifically discussed the application of the California reasonable use law in the context of the need for additional instream fresh water flows into the Sacramento-San Joaquin Delta.\textsuperscript{41} In doing so, the report suggested that a legal analysis of the reasonableness or wastefulness of water used for agricultural may hinge in part on an assessment of the extent to which it can be shown that such diversions are resulting in adverse instream impacts.\textsuperscript{42}

1. The Racanelli Decision, Salinity, and Seawater Intrusion

In its 1986 decision in \textit{United States v. State Water Resources Control Board} (the Racanelli decision), the California Court of Appeal addressed the question of whether the State of California could modify the existing water rights permits (issued to the Bureau of Reclamation for the federal Central Valley Project and to the California Department of Water Resources for the State Water Project) to provide additional flow into the Sacramento-San Joaquin Delta to maintain water quality standards.\textsuperscript{43} More specifically, the California Court of Appeal decision (which became known as the Racanelli decision after Judge Racanelli who authored the opinion \textsuperscript{44}) considered whether California reasonable use/waste law provided the State Water Board with an independent basis to reduce Delta water exports so additional freshwater could remain instream to reduce salinity levels from saltwater intrusion.\textsuperscript{45}

In the 1986 Racanelli decision, the California Court of Appeal held:

Here, the Board determined that changed circumstances revealed in new information about the adverse effects of the projects upon the Delta necessitated revised water quality standards. Accordingly, the Board had the authority to modify the projects’ permits to curtail their use of water on the ground that the projects’ use and diversion of the water had become unreasonable.

\ldots Curtailment of project activities through reduced storage and export was eminently reasonable and proper to maintain the required level of water quality in the Delta.

\textsuperscript{41} 2011 \textsc{Delta Watermaster Report}, \textit{supra} note 13, at 3.
\textsuperscript{42} \textit{Id.} at 15–16.
\textsuperscript{44} \textsc{Norris Hundley, Jr.}, \textsc{The Great Thirst}, \textsc{Californians and Water: A History} 404 (Rev. ed. 2001).
We perceive no legal obstacles to the Board’s determination that particular methods of use have become unreasonable by their deleterious effects upon water quality. 46

The Racanelli decision clarified that, consistent with California reasonable use law, the State Water Board has independent authority to restrict fresh water diversions to maintain instream water quality and salinity levels. 47

2. EDF and Alternate Points of Diversion

In its 1980 Environmental Defense Fund, Inc. v. East Bay Municipal Utility District (EDF) decision, the California Supreme Court considered issues related to two agreements between East Bay Municipal Utility District (EBMUD) and the United States Bureau of Reclamation surrounding the construction of Auburn Dam on the American River (a tributary to the Sacramento River). 48 Pursuant to the 1970 agreement, EBMUD agreed to purchase up to 150,000 acre-feet of water, which would be delivered to EBMUD through the Folsom-South Canal that diverts water from the upper American River. 49 EBMUD’s proposed diversion of such quantities of water from the upper American River raised concerns about adverse impacts on water quality and fisheries in the lower American River, and led to proposals for EBMUD to instead divert water via a new proposed canal (the Hood-Clay Connection) that would be located on the Sacramento River below the confluence of the American River with the Sacramento River. 50 In response to these fishery concerns, the State Water Board imposed certain instream flow conditions in the appropriative permits issued to the United States Bureau of Reclamation for Auburn Dam. 51 More specifically, in 1971 the State Water Board issued Decision No. 1400 imposing minimum flows for the protection of fish in the American River and retaining jurisdiction to determine whether the EBMUD diversion of water though the Folsom-South Canal (as opposed to the alternative Hood-Clay Connection) constituted an unreasonable method of diversion. 52

In EDF, the California Supreme Court clarified that the State Water Board and the California courts have “concurrent jurisdiction” to prevent unreasonable water use or unreasonable methods of water diversion, 53 and on this basis granted EDF leave to amend its complaint against EBMUD to allege that the diversion of

46. Id. at 130.
47. Id. at 129.
48. 26 Cal. 3d 183, 188 (1980).
49. Id. at 188.
50. See id. at 189 (describing the Hood-Clay Connection).
51. Id. at 189–90.
52. Id. at 190.
53. Id. at 198-200.
water through the Folsom-South Canal rather than the proposed Hood-Clay Connection constituted an unreasonable method of diversion.\textsuperscript{54}

EDF therefore lends support to the independent and concurrent authority of California courts and the State Water Board to evaluate whether the selection of particular points of diversion constitute an unreasonable method of diversion due to adverse instream impacts on fisheries.

3. \textit{Frost Protection Diversions and Stream Flow}

\textit{a. Forni}

The question of fresh water diversions for frost protection arose first in the 1976 California Court of Appeals decision in \textit{People ex rel. State Water Resources Control Board v. Forni}.\textsuperscript{55} Although this decision did not focus specifically on salmon, it did focus on instream impacts.\textsuperscript{56} In \textit{Forni}, the Court noted:

\begin{quote}
[T]he State Water Resources Control Board [] initiated this action to enjoin certain vineyardists in the Napa Valley from drawing water directly from the Napa River to their vineyards for frost protection. The complaint charges that the direct diversion of water during the frost period extending from March 15 through May 15 each year constitutes an unreasonable method of diversion within the meaning of article XIV, section 3, of the California Constitution and section 100 of the Water Code. . . . [I]t is alleged, direct diversion during the frost season may at times dry up the river . . . .
\end{quote}

On this set of facts, the \textit{Forni} Court concluded:

\begin{quote}
It is readily apparent that the claim that respondents’ direct diversion of water constitutes an unreasonable use and an unreasonable method of use of water is predicated on the very premise that the direct pumping results in great temporary scarcity of water during the crucial frost period. . . . [T]he direct diversion of water for frost protection in the crucial period constitutes an unreasonable use and an unreasonable method of use of water within the purview of the Constitution and the statutory provisions. . . .
\end{quote}

\textsuperscript{54} \textit{Id.} at 200.
\textsuperscript{55} 54 Cal. App. 3d 743, 747 (1976).
\textsuperscript{56} \textit{See id.} (indicating that the contested diversions may cause the river to go dry).
\textsuperscript{57} \textit{Id.} at 747.
We find no merit in respondents’ assertion that the Board has exceeded its authority by declaring that the direct diversion of water in the frost period constitutes an unreasonable method of use within the meaning of the Constitution and Water Code.\(^{58}\)

\(b\). Light

More recently, in December 2011, the State Water Board adopted a new regulation (Regulation 862) pertaining to salmon and diversions of water from the Russian River for vineyard frost protection.\(^{59}\) The introductory paragraph to this regulation explains:

During a frost [] the high instantaneous demand for water for frost protection by numerous vineyardists and other water users may contribute to a rapid decrease in stream stage that results in the mortality of salmonoids due to stranding. Stranding mortality can be avoided by coordinating or otherwise managing diversions to reduce instantaneous demand. Because a reasonable alternative to current practices exists, the Board has determined these diversions must be conducted in accordance with this section.\(^{60}\)

The central component of the 2011 Russian River frost protection regulation is the requirement that diverters of water from the Russian River stream system must prepare and submit a Water Demand Management Program (WDMP) to the State Water Board.\(^{61}\) Along with other information, the WDMP must include data regarding “[a]creage frost protected and acres frost protected by means other than water diverted from the Russian River stream system” and “[t]he rate of diversion, hours of operation, and volume of water diverted during each frost event for the year.”\(^{62}\) If it is determined that the frost diversions described in the WDMP have the potential to cause salmonoid stranding mortality, “corrective actions” (such as the construction of offstream storage facilities) may be required to prevent such stranding mortality.\(^{63}\)

The closing paragraph of the 2011 Russian River frost protection regulation states:

The diversion of water in violation of this section, including the failure to implement the corrective actions included in any corrective action plan developed by the governing body, is an unreasonable method of

\(^{58}\) Id. at 750, 752.
\(^{59}\) CAL. CODE REGS. tit. 23, § 862 (2014).
\(^{60}\) Id.
\(^{61}\) Id. at § 862(a)–(b).
\(^{62}\) Id. at § 862(c)(1)(D)–(E).
\(^{63}\) Id. at § 862(c).
diversion and use and a violation of Water Code section 100, and shall be subject to enforcement by the board.\textsuperscript{64}

State Water Board Regulation 862 was challenged in a lawsuit filed in Mendocino County Superior Court.\textsuperscript{65} In its 2013 decision in \textit{Light v. State Water Board}, Mendocino County Superior Court struck down the regulation as unlawful on two primary grounds.\textsuperscript{66} First, the trial court held that California reasonable use law applies only to appropriative water rights holders and not to riparian water rights holders (and petitioner Light was a riparian water rights holder).\textsuperscript{67} Second, the trial court held that although courts could rely on California reasonable use law on a case-by-case to bring enforcement actions for violating reasonable use standards, the State Water Board could not rely upon California reasonable use law to enact regulations applying to general categories of water usage or water diversion.\textsuperscript{68}

The 2013 Mendocino County Superior Court decision in \textit{Light v. State Water Board} was appealed to the California Court of Appeal for the First District.\textsuperscript{69} In its briefing to the California Court of Appeal, the State Water Board relied extensively on the 1976 holding in \textit{Forni} (upholding reliance on California reasonable use law as a basis for regulating diversions for frost protection).\textsuperscript{70} In contrast, the petitioners opposing the Russian River frost protection regulation sought to distinguish \textit{Forni} on a number of grounds, including the assertion that the \textit{Forni} decision is limited to appropriative water rights holders and does not apply to riparian right diverters, and that \textit{Forni} recognized the State Water Board’s authority to bring enforcement actions but not its authority to adopt reasonable use regulations.\textsuperscript{71}

In its briefing to the California Court of Appeal for the First District, the State Water Board met these \textit{Forni}-related arguments head-on, focusing on the language in former section 659 (of the California Code of Regulations) that

\begin{itemize}
  \item \textsuperscript{64} Id. at § 862(e).
  \item \textsuperscript{66} Id. at 1477. The text accompanying this footnote was published previously in Kibel, supra note 65.
  \item \textsuperscript{67} Id. The text accompanying this footnote was published previously in Kibel, supra note 65.
  \item \textsuperscript{68} Id. The text accompanying this footnote was published previously in Kibel, supra note 65.
  \item \textsuperscript{69} Id.
\end{itemize}
imposed conditions on frost protection diversions from the Napa River. In its reply brief, the State Water Board contended:

In this case the trial court erred in its efforts to distinguish Forni. First, the trial court incorrectly concluded that “section 659 on its face only applied to appropriative rights holders—an important distinction from the present case.” While it is true that the second sentence of former section 659 is directed to appropriative right permit holders, the first sentence declared that the direct diversion of water from the Napa River during the frost period was unreasonable. The respondents in Forni who challenged the validity of section 659 were riparian diverters. There is simply no basis to conclude that section 659 did not apply to all water users, including riparians.

In an opinion issued on June 16, 2014, the California Court of Appeal for the First District reversed the Mendocino County Superior Court. In regard to the application of California reasonable use law to riparian water rights holders, the Court of Appeal held that the petitioners’ argument that riparian rights are vested rights exempt from the application of reasonable use has been “rejected repeatedly” by the California Supreme Court, and that this precedent establishes that “[r]iparian users’ vested water rights extend only to reasonable beneficial water use, which is determined at the time of use.” The June 16, 2014 opinion further clarified that “the [State Water] Board is charged with acting to prevent unreasonable and wasteful uses of water, regardless of the claim of right under which the water is diverted.”

In regard to the authority of the State Water Board to enact regulations to prevent unreasonable use of water, the Court of Appeal found:

In finding the Board lacked the authority to enact Regulation 862, the trial court recognized the Board had regulatory authority over the unreasonable use of state waters. It held, however, that this authority was limited, at least as to riparian users, to pursuing enforcement actions in the courts against allegedly unreasonable users, rather than enacting regulations to preclude unreasonable use.

74. Light, 226 Cal. App. 4th at 1498. The text accompanying this footnote was published previously in Kibel, supra note 65.
75. Id. at 1488. The text accompanying this footnote was published previously in Kibel, supra note 65.
76. Id. at 1482. The text accompanying this footnote was published previously in Kibel, supra note 65.
Neither decisional law nor the governing statutes support the trial court’s limited vision of the Board’s regulatory authority.\(^\text{77}\)

In this vein, the Court of Appeal opinion continued:

It appears that in many, or perhaps most circumstances, diversion for frost protection purposes from the Russian River is biologically harmless. Yet on those occasions when it might be damaging, it has the potential to inflict long-lasting damage on already fragile salmon populations. Restricting the Board to post-event litigation deprives it of any effective regulatory remedy, since the damage will have been done and the critical circumstances may not arise again for months or years. It is difficult to imagine what effective relief a court could grant, other than a broad and inflexible injunction against future diversion for purposes of frost protection, a ruling that would be in the interests of neither the enjoined growers nor the public. Efficient regulation of the state’s water resources in these circumstances demands that the Board have the authority to enact tailored regulations.

In upholding the lawfulness of the Russian River frost protection regulation in \textit{Light}, the California Court of Appeal established new precedent for reliance on California reasonable use law as an independent basis for the State Water Board to adopt policies and regulations of broad applicability to reduce the adverse impacts of out-of-stream diversions on instream fisheries.

\textbf{IV. CONCLUSION: MORE A QUESTION OF POLITICS THAN LAW}

As documented herein, there is a well-developed body of California law suggesting that the reasonable use/waste provisions of the California Constitution and the California Water Code can provide a proper and independent basis for courts and the State Water Board to address agricultural irrigation practices with impacts both “in the field” (such as flood irrigation, high levels of evaporation and canal spills/tail water) and “in the stream” (such as insufficient flow to maintain water quality/salinity standards, instream impacts associated with particular points of diversion, and prevention of fish mortality).

Moreover, at this point there is a substantial body of scientific evidence establishing high rates of water evapotranspiration on California farms (particularly in the southern Central Valley)\(^\text{78}\) and there is a substantial body of

\(^{77}\) \textit{Id.} The text accompanying this footnote was published previously in Kibel, \textit{supra} note 65.

\(^{78}\) See Blaine Hanson, Irrigation of Agricultural Crops in California at 13 (on file with the McGeorge Law Review) (reporting particularly high rates of evaporation for alfalfa, almonds, and rice grown in California).
scientific evidence establishing the adverse impacts of fresh water diversions on instream salinity levels and native fisheries.\textsuperscript{79}

These two considerations, taken together, suggest that whether the State Water Board decides to act on and implement the agricultural irrigation efficiency recommendations set forth in the 2011 Delta Watermaster’s report may therefore hinge more on politics rather than law. If the political will is present to act on and implement these recommendations, the State Water Board appears to be on solid legal ground to move forward. As to whether such political will exists, that remains to be seen. There are unfolding developments that may offer some insights in this regard.

For instance, pursuant to California’s Agricultural Water Management Planning Act, by 2013 agricultural water suppliers were required to submit agricultural water management plans to the California Department of Water Resources.\textsuperscript{80} These plans call for the inclusion of information about water efficiency and conservation efforts, and therefore might provide the basis for the State Water Board to further evaluate whether particular agricultural irrigation operations might qualify as unreasonable or wasteful.\textsuperscript{81}

As another example, in 2013 California Senate Bill 103 (S.B. 103) was adopted, which provides $2.5 million in funding to the State Water Board “for drought-related water right and water conservation actions, including establishing and enforcing requirements to prevent the waste or unreasonable use of water . . . .”\textsuperscript{82} S.B 103 does not expressly call for the creation of the “reasonable water use unit” proposed in the 2011 Delta Watermaster report, but seems to provide funding and the discretion for such an undertaking by the State Water Board.\textsuperscript{83}

In sum, given that agricultural irrigation presently represents the lion’s share of fresh water usage in California,\textsuperscript{84} and given the increasing instream and out of stream demands on California fresh water,\textsuperscript{85} the issue of agricultural water efficiency is likely to remain a central part of water debates in the state. The extent to and ways in which California reasonable use law will factor into these debates, however, is still an open question.

\textsuperscript{79} MANAGING CALIFORNIA’S WATER, supra note 1, at 140, 200–05 (discussing the Delta’s increasing salinity and the effects of reduced instream flow on native salmon and smelt fisheries). See also STATE WATER RES. CONTROL BD., DEVELOPMENT OF FLOW CRITERIA FOR THE SACRAMENTO-SAN JOAQUIN DELTA ECOSYSTEM 6, 36–37 (2010) (describing the increasing salinity of the Delta and its effect on fish migration patterns).

\textsuperscript{80} CAL. WATER CODE §§ 10800, 10820 (West 1992).

\textsuperscript{81} WATER § 10826


\textsuperscript{83} Id.; see supra note 15 and accompanying text.

\textsuperscript{84} See MANAGING CALIFORNIA’S WATER, supra note 1, at 88 (stating that as of 2005, seventy-seven percent of California’s fresh water is used for agricultural purposes).

\textsuperscript{85} See supra notes 1–7 and accompanying text.