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Reasonable Use on the Russian River: A Brief History of the Frost Protection Rule

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REASONABLE USE ON THE RUSSIAN RIVER: A BRIEF HISTORY OF THE FROST PROTECTION RULE

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I. INTRODUCTION

The Russian River Frost Protection Regulation ("Frost Protection Rule") states that "any diversion of water from the Russian River stream system, including the pumping of hydraulically connected groundwater, for purposes of frost protection" must be diverted in accordance with an approved "water demand management program" (WDMP), or the diversion "is an unreasonable method of diversion and use and a violation of Water Code section 100."[1] The California State Water Resources Control Board ("State Water Board") adopted the Frost Protection Rule on September 20, 2011.

Litigation over the rule culminated in the decision in *Light et al. v. State Water Res. Control Bd.*, 226 Cal. App. 4th 1463 (2014), which confirmed that the State Water Board has authority to adopt quasi-legislative rules for the reasonable use and reasonable manner of water diversion.[2] The court also reiterated that the reasonable use doctrine applies to all water rights—including riparian and pre-1914 appropriators.[3] Finally, the court approved the State Water Board's reliance on industry-led con-

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[1] ST. WATER RESOURCES CONTROL BOARD, FROST PROTECTION REGULATION: RUSSIAN RIVER WATERSHED (2012), http://www.swrcb.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/index.shtml (providing documents in the administrative record leading up to the adoption of the Frost Protection Regulation); *see also* CAL. CODE REGS. tit. 23, § 862 (West 2015) www.swrcb.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/adptd_reg092011.pdf.

[2] Light et al. v. State Water Res. Control Bd., 173 Cal. App. 4th 1463, 1484-87 (2014).

[3] *Light*, 173 Cal. App. 4th at 1487-88.

sortiums of water right holders to assist in the management of the frost protection program through the adoption of the WDMPs.[4]

Prominent water law decisions often have interesting stories behind them and *Light* is no exception. This context may help a reader understand the design choices that generated the legal issues presented in the case, including the State Water Board's reliance on industry-led WDMPs rather than exclusively top-down State regulations.

Readers of the *Light* decision could be forgiven for assuming that the case presented a classic conflict between heavy-handed regulators, environmental interests, and farmers. As the rule-making proceeded, there were moments of conflict and some grape growers eventually filed a lawsuit. However, there was also a great deal of common ground between others in the winegrape industry, State Water Board members, and the conservation community.

One of the Frost Protection Rule's untold stories is the tremendous amount of progress that was made "on the ground" while the rule was in development and delayed by litigation. The winegrape industry deserves credit for its actions, and the State Water Board and wildlife agencies deserve credit for bringing the issue forward. The progress that has happened on the ground augurs well for the future of the effort, and begs the question whether the Frost Protection Rule is already a success.

II. Background

A. Water is Sometimes Needed for Frost Protection

Frost can cause tremendous damage to vineyards and orchards and sometimes results in the entire loss of the yearly fruit crop in badly affected areas. One of the most effective and time-honored means of protecting crops is to spray them with water from overhead sprinklers.[5] As water freezes on the plant, heat is liberated from the water and transferred to the plant.[6] The temperature of 32 degrees Fahrenheit can be maintained so long as there is a mixture of water and ice, with water constantly dripping from the plants. This technique requires sustained spraying at a substantial rate, which can rapidly deplete streamflow and

[4] *Id.* at 1490-94.

[5] Glenn McGourty, Winegrowing Advisor, Rhonda Smith, Viticulture Advisor, Univ. of Cal. Div. of Agric. & Nat. Res., PowerPoint Presentation to State Water Board Frost Protection Workshop (Apr. 7, 2009), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/presentations/2_glenn_mcgourty.pdf.

[6] *Id.*

harm salmon and steelhead.[7] Fish become stranded in shallow areas of the watercourse when water levels drop quickly and they are left without water or are trapped in isolated pools. Juvenile fish are particularly susceptible to being stranded because they occupy shallow and slow moving edges of the river and are not yet strong swimmers.[8]

Other methods of protecting crops sometimes work. Fans (also called wind machines) are the most common and well-known alternative to sprinklers. Fans work well under some circumstances, but do not work for all types of terrain or frost events. The most common type of frost in most parts of the Russian River is called radiation frost. Radiation frost occurs when an inversion layer is created with cold air among the vines.[9] Depending on the topography, a fan can stir the air layers to circulate warmer air and protect the grapes from freezing.[10] Because fans and other types of frost protection do not work in some circumstances, sprinklers remain the best means of frost protection for some vineyards.

Using sprinklers for frost protection creates challenges for fisheries and other water users for three reasons. First, the rate of pumping required for frost protection spraying is relatively high—much higher than it is for irrigation. Using the most common setup, spraying for frost requires about 50 gallons per minute per acre, which amounts to 1.1 cubic feet per second (cfs) of water for every 10 acres of grapes.[11] By contrast, winegrapes are almost always irrigated with drip irrigation, which requires a great deal less water.[12]

The second reason frost protection with sprinklers is a particularly challenging issue is that, unlike irrigation, everyone engaged in spraying for frost protection is applying water at exactly the same time—when temperatures approach freezing. This effect was documented in the 1970s in nearby Napa County, when the high instantaneous demand for

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[7] *Id*.; *see Endangered and Threatened Marine Species under NMFS' Jurisdiction*, NOAA FISHERIES, http://www.nmfs.noaa.gov/pr/species/esa/listed.htm (last visited Oct. 4, 2015) (Coho salmon in the Russian River are listed as endangered under the federal Endangered Species Act, and steelhead are listed as threatened).

[8] *Light*, 226 Cal. App. 4th. at 1473.

[9] Glenn McGourty, Winegrowing Advisor, Rhonda Smith, Viticulture Advisor, Univ. of Cal. Div. of Agric. & Natural Res., POWERPOINT PRESENTATION TO STATE WATER BOARD FROST PROTECTION WORKSHOP (Apr. 7, 2009), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/presentations/2_glenn_mcgourty.pdf.

[10] *Id.*

[11] *Id.* at 39; *see also* Matthew J. Deitch, G. Mathias Kondolf & Adina M. Merenlender, *Hydrologic Impacts of Small-Scale Instream Diversions for Frost and Heat Protection in the California Wine Country*, 25 RIVER RESEARCH AND APPLICATIONS, 118, 130 (2009) (on file with author).

[12] The amount varies but a typical vineyard that Trout Unlimited worked with had an application rate for frost six times higher than for irrigation, based on personal communications with the vineyard and a hydrologist who worked on the project.

frost protection water exceeded the flow of the Napa River and was therefore insufficient supply for the needs of all vineyards.[13] Two decades later, University of California researchers working on the Russian River documented a similar phenomenon.[14] Led by Matthew Deitch, the researchers installed a network of streamflow gauges in tributaries to the river. They noticed that on some mornings, streamflow receded very rapidly, sometimes to nearly zero, and that these events coincided perfectly with air temperatures dropping below freezing. The team had not set out to document the effects of diversions for frost protection, but the figures published with the report provided dramatic evidence.

Finally, the need for frost protection water is widespread within the Russian River drainage, and corresponds highly to ecologically important streams. There are 21,000 acres of frost-protected land in the Russian River.[15] About 70 percent of Russian River vineyards are within 300 feet of a salmon or steelhead bearing stream.[16] Some years have no frost days while others have as many as 20.[17]

B. Some Methods for Diverting and Storing Water Create More Risks for Fisheries Than Others

Not all water diversions are equal. The source of water used for frost protection matters a great deal. One of the most potentially damaging methods for diverting water from the viewpoint of salmon or competing water users, is a so-called direct diversion, meaning that the water is pumped on demand, directly from the stream to the sprinklers as needed.

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[13] People *ex rel.* State Water Resources Control Bd. v. Forni, 54 Cal. App. 3d 743, 750 (1976).

[14] Deitch et al., *Hydrologic Impacts of Small-Scale Instream Diversions for Frost and Heat Protection in the California Wine Country, supra* note 11, at 118.

[15] State Water Res. Control Bd. California Environmental Protection Agency, Final Statement of Reasons for Rulemaking Including Summary of Comments and Agency Responses, Proposed Russian River Frost Protection Regulation (2011), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/fsor.pdf. Like the rule itself, it includes only those lands below the two large Army Corps of Engineers dams occupied by salmon and steelhead. It is in a ballpark with other estimates, including actual registrations from Sonoma County's frost protection ordinance, which totaled 18,000 acres in the Sonoma County portion of the watershed as of 2014 (on file with author).

[16] *Light,* 226 Cal. App. 4th at 1474; *see also* Cal. State Water Res. Control Bd., Res. No. 2011-0047, To Adopt a Proposed Russian River Frost Protection Regulation and Associated Environmental Impact Report 1 (2011), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/rs2011_0047.pdf.

[17] David Hines, Fishery Biologist/Water Rights Specialists, Brian Cluer, Ph. D., Hydrologist/Geomorphologist, Robert Hoffman, Assistant Regional Administrator, Nat'l Marine Fisheries Service, Scope of Potential Frost Protection Impacts on Salmonids 20, http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/presentations/3_4_hines_cluer_hoffman.pdf.

With direct diversions, the sprinkler demand is felt immediately on the resource. A once-common variation is a direct diversion pump coupled with a flashboard dam. With these systems used on small streams, the farmer places flashboards into permanent abutments beside the creek to create a temporary reservoir. Water for the sprinklers is then pumped from the reservoir. As the reservoir is filling, it cuts off all flow to the stream and any salmon or steelhead that might be below it. Then when the pump is turned on for frost, it can again cut off all flow to the stream when the demand is greater than inflow. A third setup that can be damaging for fish occurs with on-stream reservoirs when they are located on or immediately above fish-bearing streams. Where the pumping rate is higher than inflow, they will cut off flow to the stream and any salmon or steelhead that may be in it, just as with a flashboard dam. According to people familiar with the water diversions at issue, this was the situation with the de-watering event captured by the UC Cooperative Extension researchers.[18]

By contrast, many of the most common sources for frost protection water carry much less risk to fish or other water users. Some growers have access to recycled water.[19] The most common source used in Sonoma County is groundwater.[20] While it is possible that the cumulative effect of many wells could be felt in streamflow, the effect on surface water flow and therefore to fisheries is much more attenuated than it is with direct diversions from a stream. Limited research has been conducted regarding pumping from wells for frost protection, but thus far it has not uncovered a risk to fisheries.[21]

Another source of frost protection water that can usually be accessed and operated without undue risk to fisheries and other water users is offstream reservoirs. With this setup, the farmer can fill the reservoir gradually by pumping from the stream when flows are high and have water available for frost protection and irrigation. Depending on the size of the stream pump, the size of the reservoir, and the acreage that must be frost protected, measures still need to be taken to ensure that the filling and refilling of reservoirs after frost events does not cause harm to

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[18] Author communications with State Water Board staff and one of the authors of Deitch, et al., *Hydrologic Impacts of Small-Scale Instream Diversions for Frost and Heat Protection in the California Wine Country*, *supra* note 11.

[19] Sonoma County Frost Prot. Ordinance registrations current through 2014 (on file with author) (similar data is not available for Mendocino County.)

[20] *Id.*

[21] Matthew Deitch, PhD Center for Ecosystem Management and Restoration, Frost Protection Monitoring, Russian River Property Owners Ass'n: Actions in 2009 (2009), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/presentations2009nov/propertyowners.pdf.

fisheries. Nevertheless, offstream ponds are much easier to manage than a direct diversion because a farmer can use a lower pump rate and one farmer does not have to operate at the same time as all the neighbors. This last option is the best choice where fans do not work and the farmer does not have access to recycled water or a high-capacity deep well. It is this option that Trout Unlimited and many farmers are pushing as the solution to both fisheries and water reliability concerns for frost and irrigation demand.

C. Vineyards in Dry Creek Valley Demonstrated Improved Frost Protection Systems

Grape Creek is a small tributary to Dry Creek and the Russian River. It has a drainage area of 3.2 square miles, just large enough to support steelhead and coho.[22] Until recently, there were farms that used water directly from Grape Creek for frost protection. Two of the farms diverted from Grape Creek using flashboard dams. Together, they needed to spray about 15 acres of grapes during frost events, which would be a demand of about 1.6 cfs. During the frost protection period of March 15 to May 15, flows in the creek often drop below 2 cfs, particularly during dry years.

With support from the Russian River Coho Water Resources Partnership,[23] which includes Trout Unlimited, the National Fish and Wildlife Foundation, National Oceanic and Atmospheric Administration Restoration Center, Natural Resources Conservation Service, U.S. Fish and Wildlife Service, and others, both diversions have been replaced. One farmer was able to install a fan and eliminate the use of water for frost protection. The other constructed an off-stream pond that the farmer is able to fill with well water that is not connected to the creek. The well would not pump at a high enough rate to frost protect directly, but by storing the water first in the pond, the farmer is able to use that water for frost protection and also irrigation throughout the summer months. A third farm within the watershed had also used water for frost protection but secured its water from neighboring Dry Creek. This farm also installed fans. Finally, a fourth grape grower that did not require water for frost protection installed an off-stream reservoir for irrigation.

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[22] The information in this paragraph is based on the author's personal knowledge. *See also* Dave Stalling, *Wine, Water, Fish and People In California, They Go Well Together*, TROUT, Summer 2013, at 35.

[23] *See generally* Coho Partnership, *Russian River Coho Water Resources Partnership*, http://www.cohopartnership.org (last visited Apr. 27, 2015).

III. Frost Protection in the Spotlight

A. The Historical Context

The administrative record for the Frost Rule begins on February 19, 2009, with a letter from the National Marine Fisheries Service (NMFS) sent to the State Water Board requesting immediate assistance to protect salmon and steelhead trout from the harmful effects of water diversions for frost protection in the Russian River, Sonoma, and Mendocino counties.[24]

Yet awareness of the issue of frost protection in wine country goes back much farther. Four decades ago, the high instantaneous demand for frost protection water in adjacent Napa County led to its own reasonable use regulation. Litigation there resulted in the landmark *Forni* Court of Appeals decision on the reasonable use doctrine.[25]

In 1997, a State Water Board Staff Report ("1997 Staff Report"), "Russian River Watershed," recounted the special challenges faced by diversions for frost protection, given the relatively high rate of diversion and simultaneous pumping.[26] This report refers to the Napa experience discussed in *Forni* and states that "there are reasonable, cost-effective alternative methods of providing frost protection, other than further direct diversions from streams." For this reason, State Water Board staff concluded "that new diversions for frost protection represent an unreasonable method of diversion and use of water." This recommendation and others from the 1997 Staff Report were not adopted in a rulemaking by the Board, but the recommendation became part of the background for further policy efforts directed toward the Russian River.

After issuing the 1997 Staff Report, the State Water Board continued developing streamflow protection measures for listed salmon and steelhead. In 2002, the California Department of Fish and Wildlife (then Fish and Game) and NMFS prepared what came to be called the "Joint Guidelines."[27] When the Joint Guidelines were not officially adopted,

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[24] *See generally* Letter from Steven A. Edmondson, Northern California Habitat Supervisor, United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, to Victoria Whitney, State Water Resources Control Bd., Division of Water Rights (Feb. 19, 2009), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/noaa_request_letter.pdf.

[25] *See Forni*, 54 Cal. App. 3d at 851.

[26] State Water Res. Control Bd, Staff Report: Russian River Watershed 37-38 (1997), http://www.waterboards.ca.gov/waterrights/water_issues/programs/coastal_streams/docs/russian_river/russianrivr_rpt081597.pdf.

[27] *See* Cal. Dep't of Fish & Game & Nat'l Marine Fisheries Serv., Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diver-

Trout Unlimited and the Peregrine Chapter of the National Audubon Society filed an administrative petition with the State Water Board seeking "timely and effective regulation" of water diversions.[28] The same year, the state legislature adopted Assembly Bill 2121 (A.B. 2121). The bill required the State Water Board to adopt a policy for maintaining instream flows in coastal streams from the Mattole River in Humboldt County to San Francisco Bay.[29]

Development of the resulting North Coast Instream Flow Policy (the "Policy") started in 2006 and concluded with its adoption in 2010.[30] During the discussions over the Policy, Trout Unlimited developed a close working relationship with many of the leaders within the wine industry, built around what is generally a common vision for water management in coastal areas.[31] At its heart is a realization that there is enough water to go around and to satisfy fisheries and human needs, but historic patterns of on-demand pumping have created reliability problems for agriculture and exacerbated summertime low flows. The solution (in dramatically simplified form) is for farms and houses in coastal areas that cannot connect to central water systems to develop on-site storage in the form of farm ponds for irrigation and tanks for potable water.[32] The final Policy as adopted includes specific incentives for projects designed to install water storage and shift diversions from the dry period to wetter times of year.

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sions in Mid-California Coastal Streams (2012), http://www.waterboards.ca.gov/waterrights/water_issues/programs/coastal_streams/docs/nmfs_dgs_fish_guidelines_061702.pdf.

[28] *See* Trout Unlimited and Peregrine Audubon Society, Petition for Timely and Effective Regulation of New Water Diversions in Central Coast Streams (2004), http://www.waterboards.ca.gov/waterrights/water_issues/programs/coastal_streams/docs/tu_petition/tupetitionly102704.pdf.

[29] *See* A.B. 2121, 2003-2004 Leg., Reg. Sess. (Cal. 2004), 2004 Cal. Stat. Ch. 943, §§1-3 (adding sections 1259.2 & 1259.4 to the Water Code).

[30] *See* California Environmental Protection Agency, State Water Resources Control Bd., Instream Flows Policy Development (2014), http://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/policy_development.shtml (After CEQA litigation over the policy, it was slightly revised and re-adopted in 2013 in substantially the same form.).

[31] *See* Trout Unlimited, Wagner & Bonsignore, Ellison, Schnieder & Harris, Joint Recommendations for the North Coast Instream Flow Policy (2009), http://www.waterboards.ca.gov/waterrights/water_issues/programs/instream_flows/docs/joint_rec043009.pdf.

[32] Trout Unlimited pursues this vision in a number of venues, including Water and Wine, the Coastal Streamflow Stewardship Program, the aforementioned Russian River Coho Partnership, and a new partnership with California Trout and the Nature Conservancy we're calling the Coastal Coho and Steelhead Coalition. *Water and Wine*, Trout Unlimited, http://www.tu.org/tu-projects/water-and-wine (last visited Apr. 27, 2015); *California Coastal Streamflow Stewardschip Project*, Trout Unlimited, http://www.tu.org/node/87729 (last visited Apr. 27, 2015); *Russian River Coho Water Resources Partnership*, Coho Partnership, www.cohopartnership.org (last visited Apr. 27, 2015); *California Coastal Coho and Steelhead Coalition*, Trout Unlimited, http://www.tu.org/tu-programs/california-coastal-coho-and-steelhead-coalition (last visited Apr. 27, 2015).

B. The Fish Kills

In April 2008, when cold weather followed a dry winter, NMFS discovered two episodes of fatal salmon and steelhead strandings in the mainstem Russian River and a tributary stream called Felta Creek, a tributary to Dry Creek.

The event on the mainstem river near Hopland resulted from the combined effect of a number of direct diversions from the river, when it dropped about 80 cfs in minutes.[33] The Felta Creek event was deemed the result of one diverter on a small creek.[34]

The Office of Law Enforcement at NMFS created a Russian River Frost Task Force in July 2008, with 17 government and non-governmental groups including local winegrape interests, state officials, Trout Unlimited, and others.[35] The group fostered constructive discussions, but did not give the agency any confidence that the community could avoid future fish kills – and its own regulatory authority is most applicable in an enforcement situation after fish are killed. In February 2009, NMFS sent a letter to the State Water Board seeking their assistance to develop a more proactive solution that would avoid endangered species enforcement actions.[36]

C. The Winegrape Industry Response

The State Water Board held workshops in April 2009, and again in November 2009, to hear from interested parties including the winegrape industry, NMFS, and conservation interests.[37] At the workshops, wine industry representatives outlined actions they were taking to address the risk of future fish kills. In particular, the grape growers situated near the location of the Hopland fish kill took aggressive action. Several of the growers there, including large operations, constructed off-stream ponds. Those ponds allowed the farmers to fulfill the instantaneous demand for frost spraying from the impoundment, and to fill them at a slower and deliberate rate. Within a year or so, the farmers there had dramatically

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[33] Hines et al., *supra* note 17, at 16.

[34] *Light*, 226 Cal. App. 4th. at 1496.

[35] *See* Derek Roy, Special Agent, Nat'l Marine Fisheries Serv., Office of Law Enforcement, Russian River Watershed Frost Prevention Pumping Task Force, PowerPoint Presentation to Cal. State Water Res. Control Bd., http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/presentations/1_derek_roy.pdf.

[36] *See* Letter from Steven A. Edmondson to Victoria Whitney, *supra* note 24.

[37] *See Frost Protection Regulation: Russian River Watershed*, State Water Resources Control Board, http://www.swrcb.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/index.shtml (last visited Apr. 21, 2015) (providing information regarding the workshops).

reduced, and perhaps eliminated, the potential for future fish kills. In their effort, they were aided by the Russian River Flood Control District and the Sonoma County Water Agency.[38]

There was no organized effort to assess or address frost protection diversions in tributaries (as opposed to the mainstem) for the Russian River in Mendocino County, but growers in Sonoma County attempted to organize an industry-led coalition to address the situation in the tributaries.[39]

D. The State Water Board Working Group

The Chairman of the State Water Board at the time was Charlie Hoppin, a rice grower from the Sacramento Valley who had been appointed as the irrigated agriculture seat on the board. Chairman Hoppin was a no nonsense sort of person who doubted his agency's ability to regulate frost diversions in a way that worked. At the same time, he inferred that the likely effect of frost protection diversions was much wider than the fish kills that had been observed.

After the second 2009 workshop, the Board members heard presentations from groups of industry leaders in Mendocino and Sonoma counties who were attempting to develop two interrelated industry-led programs. The Board was impressed with the effort, but also questioned how a purely voluntary program could work if a few growers could opt out and undermine the entire effort. In addition, the Board was convinced that both the industry group and the Board needed to have information that documented the scope of the issue and the solutions, in the form of a basin-wide network of stream gages, reporting of diversions, and registration of parcels to be frost protected. In order to work, the Board and many stakeholders (including Trout Unlimited) believed that it had to have universal participation, or virtually so, in order to function. At the same time, the Board members, led by Chairman Hoppin, continually

[38] State Water Resources Control Bd., Russian River Frost Program, PowerPoint Presentation to Cal. State Water Res. Control Bd., http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/presentations2009nov/winegrape_growers.pdf; *see also* Letter from Devon Jones, Mendocino County Farm Bureau, David Koball, Fetzer Vineyards, Lex McCorvey, Sonoma County Farm Bureau, Doug McIlroy, Rodney Strong Vineyard, Pete Opatz, Silverado Premium Properties, Sean Whie, Mendocino County Russian River Flood Control and Water Conservation Improvement District, Laurel Marcus, California Land Stewardship Institute, to Charles Hoppin, Chairman, State Water Res. Control Bd. (Jan. 13, 2010), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/comments011910/devon_jones.pdf.

[39] *See* discussion *infra* Sonoma Cnty. Ordinance.

insisted that they wanted to rely on the industry efforts as much as possible, and leave room for adaptation and flexibility.[40]

The Board concluded that purely voluntary efforts to address the effects of frost protection diversions were unlikely to solve the problem and directed staff to prepare a "hybrid" program that required universal participation, streamflow gauging, and monitoring, but relied on the industry efforts to the extent possible and appropriate.[41]

Staff to the State Water Board wrote an initial draft of a rulemaking under the reasonable use authority, posted it for comment, and held another workshop in January 2010.[42] Chairman Hoppin then organized a working group to provide feedback to the Board on a potential rulemaking that would be conducted under the reasonable use authority.[43] The working group included prominent grape growers from Sonoma and Mendocino counties, the Mendocino County Farm Bureau, Trout Unlimited, and others. The meetings were also open to the public. The group met several times that spring and early summer.

Many industry representatives participating in the process agreed that their frost protection was an issue that needed to be addressed. Some, especially those focused on the Hopland situation, felt that it had already been addressed. Others supported purely voluntary efforts. Still others, particularly the larger Sonoma Countybased companies endorsed industry-led efforts but quietly appreciated having a state-led program to compel participation. Some growers distrusted industry-led efforts out of fear that they would be dominated by the big companies. Some environ-

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[40] *See, e.g.*, Chairman Charles Hoppin, Remarks at the Meeting of the State of California Water Board (Sept. 20, 2011) (transcript available at http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/transcript.pdf). Chairman Hopping comments at Sept. 20, 2011 final hearing, stating that "when we had the first of these meetings, I made it clear that I felt that 2- or 3,000 growers individually were never going to get where I felt we needed to be and that we needed some form of self-governance."

[41] *See* E-mail from Devon Jones, Mendocino County Farm Bureau, David Koball, Fetzer Vineyards, Laurel Marcus, California Land Stewardship Institute, Lex McCorvey, Sonoma County Farm Bureau, Doug McIlroy, Rodney Strong Vineyard, Pete Opatz, Silverado Premium Properties, Sean White, Mendocino County Russian River Flood Control and Water Conservation Improvement District, to Bill Cowan, State Water Res. Control Bd. (Nov. 30, 2010), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/ceqa_scoping/mendocino_county_farm_bureau_et_al.pdf (arguing that the first draft did not comport with the "hybrid" approach requested by the Board).

[42] *Division of Water Rights*, State Water Res. Control Bd., BOARD MEETING/WORKSHOP (2010), http://www.waterboards.ca.gov/board_info/agendas/2010/jan/011910_7.pdf.

[43] *See Division of Water Rights*, State Water Res. Control Bd., REVISED NOTICE OF RUSSIAN RIVER FROST PROTECTION WORKING GROUP MEETINGS (2010), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/notice_workshop031510rev.pdf.

mental groups endorsed regulation but distrusted an industry-led solution even if accompanied by a state backstop.[44]

The working group was guided by the following objectives set forth by the Board: "The goal of the regulation is to preserve the species; The regulation should encourage participation; The regulation needs to be flexible for adaptation; And the regulation needs to be broad enough to be workable; Transparency and clarity are important; More monitoring information is needed and monitoring of the rivers is important; The regulation must identify how we deal with enforceability."[45] The working group succeeded in narrowing the differences expressed by the interested parties, but did not reach consensus on a recommended approach. In the author's estimation, from his perspective as a working group representative for Trout Unlimited, the working group reached a broad agreement about how a regulation should be structured if one were to be adopted, but did not reach agreement on whether a regulation was necessary or appropriate in the first place.

IV. Actions by the State Water Board, Sonoma County, and the Legislature

A. The Structure of the Frost Protection Rule

The State Water Board issued a Notice of Preparation for the rule and scoping meetings for the CEQA review in late 2010.[46] By the summer of 2011, the Board completed its environmental review and heard another round of comments on the draft proposed rule.[47] After a number of amendments, the Board voted for the resolution adopting the rule and the CEQA document on September 20, 2011.[48]

The final rule provides that "any diversion of water from the Russian River stream system, including the pumping of hydraulically connected groundwater, for purposes of frost protection from March 15

[44] All of the assertions in this paragraph rely on the author's personal communications with wine growers and industry representatives during the workshop process.

[45] Transcript of board member remarks, Meeting of the State of California Water Board (Sept. 20, 2011) at 8, http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/transcript.pdf).

[46] State Water Res. Control Bd., Division of Water Rights, Notice of Preparation and Public Scoping Meeting (2010), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/nop_russianriverfrostreg.pdf.

[47] *See generally* California Environmental Protection Agency, State Water Res. Control Bd., Frost Protection Regulation (2012), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/index.shtml (see generally the series of documents under the header "2011 Activities").

[48] *Id.*; *see generally* Cal. State Water Res. Control Bd., Res. No. 2011-0047 (2011).

through May 15, shall be diverted in accordance with a board approved water demand management program (WDMP)."[49] The stated purpose of the WDMP is to "assess the extent to which diversions for frost protection affect stream stage" and to "manage diversions to prevent cumulative diversions . . . from causing a reduction in stream stage that causes stranding mortality."[50] This framework is in keeping with Chairman Hoppin's often stated desire that the rule start with universal participation, and then allow for an industry-led screening program to determine where there are potential problems.

The mandatory elements of a WDMP are as follows:

(1) an inventory of the frost diversion systems within the area subject to the WDMP,

(2) a stream stage monitoring program,

(3) an assessment of the potential risk of stranding mortality due to frost diversions,

(4) the identification and timelines for implementation of any corrective actions necessary to prevent stranding mortality caused by frost diversions, and

(5) annual reporting of program data, activities, and results.

In addition, the WDMP shall identify the diverters participating in the program and any known diverters within the area subject to the WDMP who declined to participate.[51] Finally, the WDMP is to "include a schedule for conducting the frost inventory, developing and implementing the stream stage monitoring program, and conducting the risk assessment."[52]

B. The Board's Reliance on the Reasonable Use Doctrine

The rule makes compliance a condition of all water right permits and licenses for frost protection. For its action, the State Water Board relied on the reasonable use doctrine. The rule states that diversions frost protection that are not compliant with the rule are an unreasonable method of diversion and use:[53]

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[49] State Water Res. Control Bd., 23 C.C.R. § 862 (2011), http://www.swrcb.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/adptd_reg092011.pdf. (The only exception is that the rule does not include diversions upstream of Warm Springs Dam or Coyote Dam, because those waters are not accessible to salmon and steelhead).

[50] *Id.*

[51] *Id.*

[52] *Id.*

[53] *Id.*; *see* State Water Res. Control Bd., Resolution No. 2011-047, §§ 3-5 (setting forth authority for the rule), http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2011/rs2011_0047.pdf.

> 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 diversion and use and a violation of Water Code section 100, and shall be subject to enforcement by the board.

Some contemporary reports and later statements in litigation interpreted the rule to declare that all frost protection diversions are an unreasonable use and will be unable to continue.[54] But the Board's choice of language was significant. Not only did the rule state that diversions were unreasonable only if they occurred without an approved WDMP, the rule also relied on the "unreasonable method of diversion" language of the Constitution, rather than the "unreasonable use" language.[55]

The Board set forth the logic chain in the Resolution adopting the rule:

> In this case, application of the reasonable use doctrine requires consideration of the benefits of diverting water for purposes of frost protection, the potential for stranding mortality to occur, and the diverters' ability to frost protect without causing stranding mortality by coordinating or otherwise managing their diversions to reduce instantaneous demand. If properly managed, flows during wet winters may provide enough water to meet human needs and prevent stranding mortality. A number of other management tools also exist that can be used to reduce the instantaneous demand for water during frost events. Because a reasonable alternative to current practices exist, these diversions are unreasonable unless conducted in accordance with a board-approved water demand management program to reduce their instantaneous impact.[56]

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[54] Letter from Rudolph H. Light, Ph.D., to Jeanine Townsend, Clerk of the State Water Res. Control Bd., (June 30, 2011) (on file with author), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/comments070511/jared_carter.pdf ("The Board is claiming the power to adopt new rules . . . that will deny the Lights the right to continue an established use during 2 months of every year . . .."). Some also argued that what the legislature had declared "beneficial" could not be made "unreasonable," but the subjects are distinct. *See Light*, 226 Cal. App. 4th at 1486, 1488 (explaining that use needs to be both beneficial and also reasonable).

[55] Cal. Const., art. X, § 2 ("The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, 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. . .")

[56] Resolution No. 2011-047 § 4.

C. The Phased Implementation of the Rule

Actions required under the rule will be phased in over time. During the first year, growers are to prepare their WDMPs, which are to include "the identity of the governing body, a list of the names of the participating diverters, and, for each participating diverter, the sources of water used and the acreage frost protected."[57] They will also include a schedule for completing the frost inventory, developing and implementing a stream stage-monitoring program with high priority gauges to be installed in the first year, and conducting a risk assessment.[58] During the second year, medium priority gauges are to be installed, and data will begin to be evaluated. The Board anticipates that "enough stream stage monitoring data will have been accumulated so that a risk assessment can be performed, and preliminary corrective actions, including notifying diverters of the potential risk, can be made."[59] In the third year, "the risk assessment will be revised due to the completion of the determination of the stream stages needed to prevent stranding mortality" and the governing body will prepare "a corrective action plan and implementation schedule if the risk assessment indicates corrective action is needed."[60]

V. Sonoma County's Frost Protection Ordinance

While the state Frost Protection Rule was coming into focus, many of the Sonoma County grape growers, with the support of Trout Unlimited, went to the Sonoma County Board of Supervisors to seek the County's help developing a local program. In particular, these grape growers sought to enlist the County's assistance in creating the universal registration program and the stream gaging program. In June 2010, the County Board of Supervisors directed staff to develop a frost protection program. Staff introduced the proposed ordinance in November, two months after the State Water Board adopted the Rule, and the County held a hearing on the ordinance on December 7.[61] After much discussion, a few workshops sponsored by the County, and brainstorming among the affected parties, the County Board voted to adopt the ordinance on De-

[57] Resolution No. 2011-047 §14.

[58] *Id.*

[59] *Id.*

[60] *Id.*

[61] Minutes of Sonoma Cnty. Agric. Pres. & Open Space Dist. Bd. Meeting (Dec. 7, 2010), http://sonomacounty.ca.gov/WorkArea/DownloadAsset.aspx?id=2147492455.

cember 14, 2010 and the fee schedule associated with the ordinance February 15, 2011.[62]

In its original form, the frost protection ordinance had four major components. First, it required that all frost water protection users register with the County Agricultural Commissioner. This annual registration includes "survey information on the nature of each frost system infrastructure and water diversions," as well as "a description of each water source, whether from a stream, well or recycled. For streams, each point of diversion will be mapped and the capacity of the diversion will be given. For wells, the distance from the nearest stream, well depth, seal depth and diversion capacity will be reported."[63] Second, the ordinance also provided for a registration fee charged on grape growers to cover the costs to the Agricultural Commissioner to manage the program.[64]

Third, the ordinance included a streamflow monitoring section. Fees resulting from the ordinance would fund a county-wide network of streamflow gauges needed for the WDMP to comply with the state Rule.[65] The ordinance provided that they would contract back to a group of grape growers, presumably the governing body of the WDMP, which would then contract to install and maintain the network.[66] As it set up the program, the County would be advised by an Independent Science Review Panel and they would work with the State Water Board, NMFS, Department of Fish and Wildlife (DFW) and other interested parties.[67] Finally, the County program would have required monitoring and reporting of diversions for frost protection, to satisfy that portion of the Frost Protection Rule's mandates.[68] At the time the ordinance was approved, stakeholders including Trout Unlimited had developed a draft program for monitoring and reporting of both streamflow data and diversions for frost protection.[69]

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[62] Minutes of Sonoma Cnty. Agric. Pres. & Open Space Dist. Bd. Meeting (Dec. 14, 2010), http://sonomacounty.ca.gov/WorkArea/DownloadAsset.aspx?id=2147492456; *see* Staff Report (Dec. 14, 2010) (on file with author); Minutes of Sonoma Cnty. Agric. Pres. & Open Space Dist. Bd. Meeting (Feb. 15, 2011), http://sonomacounty.ca.gov/WorkArea/DownloadAsset.aspx?id=2147492097.

[63] Sonoma Cnty., Vineyard and Orchard Frost Protection Ordinance (Dec.14, 2010), http://sonoma-county.granicus.com/MetaViewer.php?view_id=2&clip_id=131&meta_id=43556.

[64] *Id.*; *see also* Sonoma Cnty., Code of Ordinances §§11B.04.020-.030, https://www.municode.com/library/ca/sonoma_county/codes/code_of_ordinances?nodeId=CH11BVIORFRPR_ART04RE.

[65] Sonoma Cnty., Vineyard and Orchard Frost Protection Ordinance (Dec.14, 2010), http://sonoma-county.granicus.com/MetaViewer.php?view_id=2&clip_id=131&meta_id=43556.

[66] *Id.*

[67] *Id.*

[68] *See* Scoping Document for Sonoma Cnty. Russian River Stream Sys. Frost Monitoring Program (Dec. 1, 2010) (on file with author).

[69] *Id.*

Mendocino County and its grape growers did not undertake a similar effort.

Throughout the process, county staff worked with Sonoma grape growers with the support of Trout Unlimited to iron out the details of the reporting and stream gaging program. One of the difficult challenges was how to manage sensitive information. Many growers were concerned that the combination of dis-aggregated water diversion reporting plus stream gaging could expose them to litigation by third parties under the Endangered Species Act, for example. Some also felt that the County was in a better position to vet this data than their fellow growers and competitors. At the same time, once the County collected the data, it would be considered public records. Apart from the public records laws, Trout Unlimited and the State Water Board felt that the Board needed access to the disaggregated data in order to evaluate the WDMP's compliance with the Rule. All stakeholders agreed that the industry groups could not be the ones actually enforcing the Rule – the industry did not want that burden, and Trout Unlimited and the State concluded that the State could not delegate that authority.

We were still discussing those issues with the Sonoma County growers when it became clear that a faction within the industry would file a lawsuit, and the discussions were placed on hold.

After the *Light* lawsuit was filed and the first year of registration information became available to the County, the Sonoma County Board of Supervisors significantly revised the ordinance. In April 2012, the County voted to repeal the portion of the ordinance requiring fees and administration of a streamflow gaging program. It also revised the registration and reporting procedure to require updates to the initial registration only after a change to the frost protection system or change of ownership or control over the vineyard.[70] Although Trout Unlimited was disappointed at the development, we did not object.

VI. Legislative Enactment of Small Irrigation Registrations

The California Legislature also turned its attention to frost protection. Assembly member Jared Huffman authored A.B. 964, which was

[70] Sonoma Cnty., Vineyard and Orchard Frost Protection Ordinance (Chapter 11B) Revision and Program Update, (Apr. 17, 2012), http://sonoma-county.granicus.com/MetaViewer.php?view_id=2&clip_id=208&meta_id=83901; *see* Action Summary: Agenda, Sonoma Cnty. Bd. Of Supervisors (Apr. 17, 2012), http://sonoma-county.granicus.com/MinutesViewer.php?view_id=2&clip_id=208&doc_id=4fee7be7-8d22-102f-a808-375b24a1bccc; *see also* Action Summary: Agenda, Sonoma Cnty. Bd. Of Supervisors (Apr. 24 2014) (final reading) *available at* http://sonoma-county.granicus.com/MinutesViewer.php?view_id=2&clip_id=210&doc_id=4fee7be7-8d22-102f-a808-375b24a1bccc.

sponsored by the Wine Institute and Trout Unlimited, to improve water right permitting for frost protection alternatives. The bill created a Small Irrigation Registration mechanism in the Water Code modeled on the previously existing Small Domestic Use Registration program. The intent was to create a faster process for grape growers seeking to shift their diversions from a direct diversion to a diversion to offstem storage. It became law in October 2011.[71]

VII. The Litigation

A. The Superior Court Invalidated the Rule

The Frost Protection Rule was challenged in two petitions for a writ of mandate. On October 19, 2011, Rudolph H. Light and Linda Light, owners of 23 acres of vineyard, filed the first suit challenging the new code provisions in Mendocino County. On October 20, four other grape growers and a group called the Russian River Water Users for the Environment filed a second, in Sacramento County. The cases were consolidated in Mendocino County.[72] None of the largest or most visible vineyards or wineries joined the lawsuits.

The Superior Court entered a lengthy decision criticizing the State Water Board's action and finding it unlawful on a number of grounds, declaring the Rule "constitutionally void."[73] The trial court concluded that the State Water Board exceeded its authority by adopting the Rule, and concluded that there was not substantial evidence in the record to show that the Rule was necessary.

The court found several major flaws with the Rule: (1) the Board had no authority to adopt a rule that limited the use of water by riparian users; (2) the Rule violated the rule of priority; (3) the Rule improperly delegated regulatory authority to the WDMP's; and (4) the declaration of necessity for the regulation was not supported by substantial evidence.[74] In a subsequent order, the Superior Court also concluded that the Board

[71] A.B. 964, 2011-2012 Leg., Reg. Sess. (Cal. 2011), 2011 Cal. Stat. Ch. 579 (amending section 1228.1-8.2 of the Water Code), http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab_0951-1000/ab_964_bill_20111008_chaptered.html.

[72] *Light*, 226 Cal. App. 4th. at 1477.

[73] Order Granting Petition for Writ of Mandate in Consolidated Actions, Light *et al*. v. State Water Res. Control Bd., No. SCUK CVG 11 59127 (Cal. Super. Ct., Mendocino Cty. Sept. 26, 2012).

[74] This grouping of issues is from the Court of Appeal's framing, *see Light*, 226 Cal. App. 4th at 1477. The trial court offered several variations on those themes, and the parties made a number of other arguments, including an argument that the State Water Board lacked authority to enact reasonable use regulations (as opposed to conducting adjudicatory proceedings on a case by case basis).

violated California Environmental Quality Act (CEQA). The Board also stayed all proceedings to implement the Frost Protection Rule.

B. Court of Appeal Upheld the Rule

The Court of Appeal reversed the trial court in every respect. The trial court held that the Board's regulatory authority under the reasonable use doctrine "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."[75] The Court of Appeal concluded, however, that "[n]either decisional law nor the governing statutes support the trial court's limited vision of the Board's regulatory authority."[76]

Plaintiffs argued that even if the Board had authority to establish policy direction for the doctrine, it could not make case by case determinations; that job was reserved to the courts. The Court of Appeal rejected that line of argument as well, stating that "to the extent *Forni*'s ruling was based on the implicit rationale that only the judiciary has the power to declare a particular water use unreasonable, we conclude *Forni* construed the Board's authority too narrowly."[77] For this, the Court cited subsequent judicial decisions, particularly *California Trout, Inc. v. State Water Resources Control Bd.* 207 Cal. App. 3d 585 (1989), and concluded that "the Board's grant of authority to 'exercise the . . . regulatory functions of the state' (ellipses by the Court) necessarily includes the power to enact regulations governing the reasonable use of water."[78]

The Court of Appeal also made short work of the trial court's conclusion that the State Water Board's reasonable use authority did not extend to riparian or pre-1914 water rights. While such users cannot be required to obtain permits as a condition of exercising their right to divert, "that does not mean their use of California's waters is free from Board regulation." The Supreme Court had recognized this as recently as *California Farm Bureau Federation v. State Water Resources Control Bd.* 51 Cal. 4th 421, 429 (2011); "immediately after noting the Board 'has no permitting or licensing authority over riparian . . . rights, or over appropriative rights acquired before 1914,' the court observed the Board 'does have authority to prevent illegal diversions and to prevent waste or

[75] *Light*, 226 Cal. App. 4th. at 1482.

[76] *Id.*

[77] *Id.* at 1483.

[78] *Id.* at 1484-85.

unreasonable use of water, regardless of the basis under which the right is held.' "[79]

As for the *Light* plaintiffs' argument that "the 'vested rights' doctrine prevents the Board from 'redefining' an existing beneficial use as unreasonable," the Court noted that "position has been rejected repeatedly."[80]

Although it also rejected the trial court's holding that the Frost Protection Rule violated the rule of priority, the Court of Appeals warned the State Water Board and the governing bodies of the WDMPs to keep it in mind when making subsequent decisions. The litigation was a *per se* challenge to the Frost Rule, so no diversions had yet been affected. As the Court noted:

> While it is possible, as the Sacramento plaintiffs argue, that the decentralized system of WDMP's creates a risk of priority rule violations, such concerns are premature until WDMP's have been put into effect. This is a facial challenge to Regulation 862, and we hold only that there is no basis for finding Regulation 862, on its face, violates the rule of priority. A determination of whether specific regulatory measures adopted by the WDMP's violate the rule of priority, and whether any such violation is justified by the Board's responsibilities under Article X, Section 2, must await implementation of the regulation.[81]

The trial court concluded that the Frost Protection Rule improperly delegated the regulatory authority of the Board to WDMP's, reasoning that enforcement of the WDMPs had been delegated to the governing boards. The Court of Appeal disagreed, because under the Rule "failure to comply with a WDMP, once it has been approved, 'shall be subject to enforcement by the board,' " not the governing body of the WDMP.[82] The Court recognized that the governing body must report an uncooperative diverter to the Board, and must make recommendations as to "which growers must take corrective actions at any given time, those decisions must be made in accordance with the WDMP, which in turn must be approved by the Board."[83]

The Court of Appeal then considered the trial court's "conclusion that the issue of balancing water use for frost protection against water needs for the protection of wildlife is novel and 'fundamental,' " and

[79] *Id.* at 1487.
[80] *Id.* at 1488.
[81] *Id.* at 1490.
[82] *Id.* at 1492.
[83] *Id.*

called that conclusion "erroneous, both conceptually and factually."[84] Likewise, it rejected the *Light* plaintiffs' argument that there is a legislative preference for "riparian rights over fish."[85]

Finally, the Court of Appeal found that the State Water Board's finding of necessity was supported by substantial evidence, which is the standard of review. The Court recounted the record, the evidence submitted by NMFS and others, and the State Water Board's determination that it could not rely solely on a voluntary program because the grower groups could not by themselves compel participation, and concluded that "precisely what type of regulation of frost protection diversion is necessary to protect salmonids, the need for some type of regulation is supported by substantial evidence."[86] If anything, the Court may have appreciated the step-wise process envisioned by the Frost Protection Rule, where there will be a screening process through the WDMPs before regulatory prescriptions will be applied. "Given the potential impact on endangered and threatened salmon populations by these incidents," if it is true as plaintiffs argued that fish kills are rare, that "would be an argument for regulation responsive to environmental conditions, as Regulation 862 requires, not for an absence of regulation altogether."[87]

In an unpublished portion of the opinion, the Court of Appeal also reversed the trial court's CEQA decision.[88]

C. Discussion and Implications for Future Decisions

Throughout the rulemaking process, Trout Unlimited believed that the State Water Board's general authority to issue a reasonable use rule was clear. Similarly, Trout Unlimited never doubted that its regulatory authority under the reasonable use doctrine included diversions under claim of a riparian, pre-1914, or groundwater use claim. Based on this author's experience from participating in the discussion around the rule, very few individuals within the winegrape industry thought those arguments would prevail. Those questions appeared settled in the law, and in that respect the *Light* decision did not break new ground.

Somewhat more interesting is the Court of Appeals' explanation of the manner in which a State Water Board rulemaking can establish policy and procedures for individualized reasonable use determinations to come at a later date, and thereafter for particular regulation to be man-

[84] *Id.* at 1493.
[85] *Id.*
[86] *Id.* at 1497.
[87] *Id.* at 1498.
[88] *Id.* at 1498.

aged by the Board without a judicial proceeding. There too, the Board, and its staff attorneys, and Trout Unlimited, believed the Rule would survive judicial review.[89] Nevertheless, the posture of the case that resulted in a Court of Appeals opinion that will serve as a good summary and distillation for future readers the Board's rulemaking authority for the reasonable use doctrine.

Trout Unlimited supported the heavy reliance on industry-led WDMPs in the rulemaking, but the author would not have been entirely surprised if the Court of Appeal had limited that authority.[90] Instead, the Court seems to have provided broad leeway for future actions on a similar model.

Another notable feature of the Rule is its focus on establishing a process to determine (1) where impacts to fisheries might occur, and (2) whether good alternatives exist. While Trout Unlimited believed the Board had this authority, the Board arguably pushed the envelope beyond previous exercises of the reasonable use doctrine in that respect. Looking toward the future, this aspect of the Rule and the *Light* decision may well be its legacy. One can imagine a similar rulemaking designed to bring structure to a drought-related curtailment or a watershed-wide program to achieve water quality or fisheries objectives.

Regulation of groundwater has also been a major topic for recent discussion in California. "Hydraulically connected groundwater" is also covered by the Rule.[91] Somewhat surprisingly, groundwater does not factor explicitly into the Court of Appeals opinion.[92] Instead, the Court addressed the question implicitly, reaffirming the principle that "the 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."[93]

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[89] Communications between author and SWRCB Board Members and Staff throughout the rulemaking process.

[90] The irony of course, is that one of the major litigation points is in the Rule precisely because the major grapegrowers asked for it to be there, and because the Chair of the Board—a rice farmer—wanted it there. But the industry is not monolithic, and some of the smaller growers felt that the WDMPs would be dominated by the large landowners. It is also the case that large landowners will have the capacity to manage their compliance, while it will be a larger burden for smaller operations.

[91] State Water Resources Control Bd., 23 C.C.R. § 862 (2011), http://www.swrcb.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/adptd_reg092011.pdf

[92] Like riparian and pre-1914 rights, groundwater is not subject to the Board's permitting authority, unless it also flows within a so-called "subterranean stream." North Gualala Water Co. v. State Water Resources Control Bd.,139 Cal. App. 4th 1577 (2006); *see* Water Code § 1200.

[93] *Light*, 226 Cal. App. 4th at 1482.

VIII. Current Trends and Future Prospects

A. Submitted Water Demand Management Programs

As of this writing, three WDMPs have been approved.[94] The Russian River Water Conservation Council, a group of grape growers formed for this purpose, and the Russian River Property Owners Association submitted one that is set up to cover any participating water users in Sonoma County. Mendocino County Farm Bureau and Russian River Flood Control and Water Conservation Improvement District set up another to cover landowners on the Russian River mainstem between Coyote Dam and the border with Sonoma County. The third is from the California Land Stewardship Institute (a non-profit that runs, among other things, the successful Fish Friendly Farming program), and covers Mendocino County tributaries to the Russian River.

B. Developing Issues

It is far too early to tell how implementation will proceed, but it is encouraging that WDMPs are in place for the full territory covered by the Rule, and that the State Water Board concluded that each of the programs meets the requirements of the Frost Protection Rule for the first year as the regulation is being phased in. Many grape growers had feared that no programs would be approved, that all diversions would immediately be considered unreasonable, and that no one would be able to divert water for frost protection.[95] That has not been the case.

Going forward, Trout Unlimited will be tracking several things. The first is the extent to which the three WDMPs can gain active and full participation by eligible landowners with frost protection requirements. Landowners have a choice as to whether to join these plans or submit one on their own, or take a chance on enforcement. Because the phasing of the Rule requires the risk assessment to begin this year, the governing bodies will need greater participation in coming months than they needed to establish the program.

Another big test for the coming year is whether and to what extent the WDMPs are able to establish a stream gaging network with support

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[94] *Frost Protection Regulation: Russian River Watershed*, State Water Resources Control Board, http://www.swrcb.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/index.shtml (providing documents in the administrative record leading up to the adoption of the Frost Protection Regulation)

[95] *See* public comments from grape growers at the final comment period for the rulemaking (September 2011), http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/comments2011sept.shtml.

from landowners, who will have to pay for it and provide access for gauges. In Sonoma County, this was originally to happen through the County-sanctioned program. It remains to be seen whether another version of that County-led program will be established. Currently, there are also discussions of a special district being created for Sonoma County that would handle this function for growers, as well as other water-related tasks such as groundwater management under the new state law. The Mendocino mainstem group has an easier time, because there are existing gauges that should be sufficient for the program. The governing body for the Mendocino County tributaries WDMP has not yet created that part of their program.[96]

Third, it remains to be seen how the WDMPs and the State will treat diversions from connected groundwater. A high percentage of frost diversions make use of this method of diversion. By themselves, individual deep wells probably create the lowest risk of stranding fish of any type for frost protection diversions, and it may be that even in combination with other wells they have negligible effect on instantaneous flows or potential for stranding fish. The Frost Rule provides a mechanism for such diverters to be exempted from the Rule if they can show that the well is not hydraulically connected to the river.[97] It will be interesting to see if those well users bother to make a case for an exemption, or if they continue to participate in the WDMP.

Finally, we will be watching to see how the WDMPs work with the State Water Board and DFW to determine which diversions pose a potential risk to salmon and steelhead by themselves or in combination with others, and to see how the Governing Body and State Water Board respond when they identify potentially problematic diversions. Based on industry surveys conducted during the rulemaking, we estimated that there might be 50 to 60 flashboard dams or direct diversions for frost protection, and an unknown number of onstream reservoirs located directly upstream of salmonid habitat. These are the two most risky types of diversions in terms of their potential to harm fish. As will be discussed in the following section, a great many of these have been upgraded to eliminate the risk of fish stranding in the intervening years.

For the ones that remain and are determined to pose a potential risk, the first questions asked will be whether fans would be effective as an

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[96] *Frost Protection Regulation: Russian River Watershed*, STATE WATER RESOURCES CONTROL BOARD, http://www.swrcb.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/index.shtml (providing documents in the administrative record leading up to the adoption of the Frost Protection Regulation).

[97] State Water Resources Control Bd., 23 C.C.R. § 862 (2011), http://www.swrcb.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/adptd_reg092011.pdf.

alternative, and whether there is a location to install offstream storage, i.e. a farm pond, to hold water. Based on previous experience, most frost diversions can be made safe for salmon and steelhead with one of those two options. There may be a few landowners, however, who have no good alternative to their current practice, and also have a current practice that poses substantial risk to salmon and steelhead.

The good news is that the number of producers that find themselves in this situation is likely to be very small, nothing like the widespread economic ruin predicted by some opponents of the Rule. The bad news is that there may be a few growers that have no good alternative to a harmful practice, and the grower and Board will have to decide how to balance risks in that situation.

IX. Progress on the Ground

One of the great "untold stories" of the Frost Rule is the number of diversions that have already been upgraded to avoid harm to fisheries. Indeed, the Frost Rule could to some extent have been deemed a success before it even survived litigation.

Data from the federal Natural Resource Conservation Service (NRCS) is illustrative. The NRCS implements Farm Bill funding, has been a very strong partner, and is often in a position to help agricultural producers. In the years 2009 to 2013, NRCS helped fund thirty-four frost protection fans, four offstream ponds, five changes in the point of diversion from direct diversion to well, six irrigation system upgrades as part of pond construction, and thirteen weather stations, which reduce water use by making better predictions of when water is needed. This is just the number that proceeded with NRCS involvement, which is not available to many large producers.

This year, the author asked several grape grower industry veterans if they had estimates on the full number of projects already completed, and none did. But one responded that one of his grape growers just inquired about purchasing a fan, and was told that he would be number 61 on the wait list, which indicates that many grape growers are in the process of changing their frost protection systems.

Trout Unlimited and the author's partners in the Coho Partnership worked with grape growers to manage their diversions, including one that switched to a fan, and another that installed an offstream pond. In both cases, the regulatory and funding agencies were strong partners and made the projects possible.

The winegrape industry and many individual grape growers deserve credit for this progress. The State Water Board and fisheries agencies like NMFS and DFW also deserve credit for spurring this change.

X. Conclusion

The Frost Protection Rule became effective as of this year, but it will be phased in over time. Therefore, a number of significant questions remain as to how the rule will be administered.

In the meantime, the rule has already had a significant effect on farming practices. A large number of vineyards have switched to fans or offstream storage ponds as an alternative to their previous practices. In some respects, it is already a success.