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10 RUSSIAN RIVERKEEPER,
11 FRED CORSON

12 STATE OF CALIFORNIA
13 STATE WATER RESOURCES CONTROL BOARD

14 In the Matter of the Petition of Russian
15 Riverkeeper and Fred Corson for Review of
16 Action by the California Regional Water
17 Quality Control Board, North Coast Region, in
18 Adopting Notice of Applicability No. WQ-
19 2014-0090-DWQ-R1001-01.

20 PETITION FOR REVIEW OF NORTH
21 COAST REGIONAL WATER QUALITY
22 CONTROL BOARD ACTION ADOPTING
23 NOTICE OF APPLICABILITY NO. WQ-
24 2014-0090-DWQ-R1001-01

1 In accordance with Section 13320 of the California Water Code and Section 2050 of Title
2 23 of the California Code of Regulations, Russian Riverkeeper and Fred Corson (“Petitioners”)
3 hereby petition the State Water Resources Control Board as follows:
4

5 **1. Name, address, telephone number and email address of the petitioners.**

6 RUSSIAN RIVERKEEPER

7 Don McEnhill, Executive Director

8 Mailing Address: P.O. Box 1335, Healdsburg, CA 95448

9 Phone: (707) 433 1958

10 Email: don@russianriverkeeper.org
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12
13 Fred Corson

14 Mailing Address: 3211 West Dry Creek Road, Healdsburg, CA 95448

15 Phone: (707) 433 7216

16 Email: fpcorson@digitalpath.net
17

18 **2. The specific action of the regional board which the state board is requested to**
19 **review, and a copy of any order or resolution of the regional board which is referred**
20 **to in the petition.**

21 Petitioners seek review of the final decision of the North Coast Regional Water Quality
22 Control Board (“Regional Board” or “Board”) issuing Notice of Applicability No. WQ-2014-
23 0090-DWQ-R1001-01 (“NOA”) (attached hereto as Exhibit A).
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25 **3. The date on which the Regional Board acted.**

26 The Regional Board approved the NOA at issue on July 1, 2016.
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1 **4. A full and complete statement of the reasons the action was inappropriate or**
2 **improper.**

3 The Regional Board’s issuance of the final NOA was improper because it does not
4 provide adequate safeguards for the protection of groundwater quality, particularly in the Middle
5 Reach of the Russian River region. The reasons why this is inappropriate are as follows:

6 ***A. Background***

7 The State Water Resources Control Board (“SWRCB”) adopted Order WQ 2014-0090-
8 DWQ – General Waste Discharge Requirements for Recycled Water Use – on June 3, 2014 (the
9 “2014 Order”); and, on June 7, 2016, the SWRCB adopted Order WQ 2016-0068-DDW – Water
10 Reclamation Requirements for Recycled Water Use (the “2016 Order”), which authorized
11 “beneficial, non-potable recycled water uses consistent with the Uniform Statewide Recycling
12 Criteria and any additional requirements specified in the Notice of Applicability” (2016 Order at
13 3). The 2014 and 2016 Orders (collectively, the “General Order”) regulate the use of recycled
14 water for all title 22 uses except groundwater recharge. The 2014 Order covers the period up to
15 August 5, 2016, and the 2016 Order takes effect on and after August 6, 2016.

16 The City of Healdsburg owns and operates a wastewater treatment facility in Healdsburg,
17 California. On May 5, 2016, Healdsburg submitted its Recycled Water Program Technical
18 Report and Amended Notice of Intent to comply with the General Order.

19 ***B. The NOA violates the agronomic rate protection for groundwater set out in***
20 ***the General Order.***

21 The 2016 General Order notes that use of recycled water “has the potential to increase
22 nutrients in groundwater supplies” (General Order at 5), and identifies nitrogen as a nutrient that
23 may be present in recycled wastewater “at a concentration that can degrade groundwater quality”
24

1 (General Order at 12). “In order to minimize the nutrient loading, this Order requires that recycled
2 water used for irrigation purposes be applied at agronomic rates.” (General Order at 5, 9.) All uses
3 of recycled water with “frequent or routine application” (such as agricultural or landscape
4 irrigation uses) must be “at agronomic rates and shall consider soil, climate, and plant demand”
5 (General Order at 20). The agronomic rate is defined in the General Order as:

7 The rate of application of recycled water to plants necessary to satisfy the plants'
8 evapotranspiration requirements, considering allowances for supplemental water (e.g.,
9 effective precipitation), irrigation distribution uniformity, and leaching requirement, thus
minimizing the movement of nutrients below the plants' root zone.

10 (General Order at D-1.)

11 An NOA that fails to correctly define and use an agronomic rate fails to comply with the
12 General Order and must be deemed invalid. The NOA acknowledges the need to use an
13 agronomic rate, providing that the application of recycled water for vineyard irrigation “will be
14 protective of groundwater quality by ensuring that the volume of recycled water used for at each
15 vineyard property does not exceed hydraulic and nitrogen agronomic rate thresholds on an
16 annual basis” (NOA at 7). However, the NOA ignores the General Order’s requirement that
17 supplemental water, for example, effective precipitation, be considered. The supplemental water
18 must also include water available in the soil available for uptake by plants at the start of the
19 growing season. In this region, water is almost always available in the soil as supplemental
20 supply, in significant amounts, at the start of the season due to winter and spring rains and the
21 high water holding capacity of the soils.
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24 The NOA fails to account for these factors, or achieve the goal of accurately defining the
25 agronomic rate. The maximum allowable hydraulic agronomic rate set out by the NOA is the
26 lower of 75% of ET_c (crop evapotranspiration) or 9 inches per year distributed over the March
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1 through October growing season (NOA at 6). The agronomic rate proposed by the City of
2 Healdsburg for its Notice of Intent and approved in the NOA is derived from a May 2014 report
3 prepared by Larry Walker associates, entitled “Programmatic Operations and Management
4 Technical Report for Micro-Irrigation of Vineyards in the Healdsburg Area” (the “Walker
5 Report”). The Walker Report states a generalized agronomic rate for irrigation in the
6 Healdsburg-Windsor Russian River Middle Reach region, based on a review of other scientific
7 works, including a study by viticulturist Dr. Mark Greenspan, “2012 Middle Reach Russian
8 River Irrigation Demonstration Project” (2013).

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11 Dr. Greenspan, one of the authors on whose work the Walker Report relied, undertook a
12 review of the Walker Report to determine the appropriate agronomic rate for the region.

13 (“Programmatic Operations and Management Technical Report for Micro-Irrigation of
14 Vineyards in the Healdsburg Area” (Oct. 8, 2014) (the “Greenspan Report,” attached hereto as
15 Exhibit B, and fully incorporated herein by reference.) The Greenspan Report, based on actual
16 field observations of the affected area, found that the agronomic rate given for vineyards in the
17 Walker Report “ignores values determined under actual field conditions in the Middle Reach
18 Russian River region and overstates the actual amount of irrigation that may be used by
19 vineyards” (Greenspan Report at 1). In particular, the Greenspan Report identifies problems with
20 how the Walker Report calculated: water available in the soil as the start of the growing season;
21 irrigation needs for the region; the calculation of the percentage of the full evapotranspiration
22 rate; and the nitrogen requirements of vineyards. These issues are addressed in turn.

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24
25 First, the Walker Report contemplates that recycled wastewater irrigation would occur
26 from March to October, so that the 75% of full ETc would be distributed over the entire growing
27 season. The Greenspan Report notes that this is factually incorrect because most growers in the
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1 region do not begin irrigating until late June through mid-July, with the actual starting time
2 dependent on spring rainfall patterns and the sites' water holding capacity (WHC) (Greenspan
3 Report at 1). Sites with very high WHC may not require irrigation until September, if at all,
4 because viticulturists prefer to wait to irrigate until soil moisture reserves are depleted
5 (Greenspan Report at 2). Indeed, the General Order prohibits recycled water applications when
6 soils are saturated. (General Order, Prohibition 2.) The Greenspan Report provided a soil survey
7 in the region found that WHC ranges from 1.8 to 9.0 inches. The Walker Report's approach to
8 irrigation requirements does not take such site-specific WHC or soil moisture storage into
9 account. This is not a "trivial omission" and resulted in an overestimation of irrigation
10 requirements, leading to the adverse impacts to groundwater the General Order sought to avoid
11 by and through the calculation of the actual agronomic rate. The Regional Board failed to
12 comply with the General Order and failed to base its decision on the weight of the evidence by
13 ignoring these documented site-specific conditions needed to determine the actual agronomic
14 rate.
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18 The percentage of full ETc used by the Walker Report in its agronomic rate
19 determination was 75%. The Greenspan Review states this is "clearly a substantial over-estimate
20 relative to what is likely to be applied in practice;" the Greenspan Study determined that the
21 agronomic rates in the region varied between 0.6 and 2.1 inches of water equivalent to between
22 5% and 18% of ETc as opposed to the 75% ETc used in the Walker Report and NOA (p. 3). The
23 Walker Report referred to the Greenspan Study, but discounted its findings on the basis that "the
24 sites evaluated used far less irrigation water than required and could have used more water
25 without adverse effects on the vines." This arbitrarily ignores the General Order requirement to
26 set the actual agronomic rate based on actual site conditions. Moreover, according to the
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1 Greenspan Report, this is simply incorrect from a viticultural standpoint, because application of
2 irrigation at a greater rate could have adverse effects on the vines, resulting in poorer wine
3 quality (Greenspan Report at 3).

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5 Finally, the Greenspan Report found that the Walker Report overestimated the amount of
6 nitrogen needed by vines at the point in the season when irrigation is undertaken. Any nitrogen
7 not taken up by the roots of the vines will be leached into the groundwater below (Greenspan
8 Report at 4).

9
10 To summarize, the Walker Report “grossly overstates the agronomic rate of irrigation for
11 vineyards in the Middle Reach of the Russian River region” (Greenspan Report at 4). This means
12 that there is for a likelihood that recycled wastewater would be applied at a rate that is higher
13 than the agronomic rate, resulting in over application leading to runoff or the accumulation of
14 nutrients and organic chemicals in the soil which will be flushed into the groundwater with the
15 winter rains.

16
17 The Regional Board relied on the Walker Report in reaching the agronomic rate set out in
18 the NOA, rather than using site specific information. Petitioners here presented the Greenspan
19 Report to the Board, prior to its approval of the NOA, yet the NOA does not refer to the
20 Greenspan Report, nor explain why the Board chose to follow the Walker Report. In choosing
21 the agronomic rate for the NOA, the Regional Board abused its discretion by ignoring site
22 specific conditions for the agronomic rate. The agronomic rate of the NOA is contrary to the
23 plain language, intent, and purpose of the General Order, and the Regional Board is afforded no
24 deference for its failure to simply apply the terms of the General Order. (*See Californians for*
25 *Pesticide Reform v. Department of Pesticide Regulation* (2010) 184 Cal.App.4th 887, 898
26
27 (deference may be appropriate only where agency interpretation is explained and official
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1 policy).) Irrigation rates permitted under the NOA will significantly exceed both real and
2 experimentally determined agronomic rates and will not be protective of groundwater quality.

3 Accordingly, the NOA is inappropriate because it does not correctly take into account
4 the “soil, climate and plant demand” conditions in the Middle Reach of the Russian River, as
5 contemplated by the General Order. The NOA therefore violates the General Order’s
6 requirements related to protection of groundwater quality, and should not have been approved on
7 these terms. The Regional Board’s approval of the NOA is not in accordance with law, and is not
8 based on the weight of the evidence.
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11 ***C. The NOA fails to account for existing nitrogen loads.***

12 Compounding the error of failing to account for existing saturated water available to
13 crops each spring, the NOA equally fails to account for existing nitrogen loads accumulated from
14 existing and past agricultural practices in the region. The attached studies demonstrate that
15 nitrogen plant uptake has historically been overestimated. (Exhibit C and Exhibit D, attached.)
16 The over-application of recycled water as a result of the NOA's inaccurate agronomic rate will
17 further increase nitrogen loading with potentially significant impacts to ground and surface
18 waters. This is unaccounted for by the NOA.
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21 ***D. The NOA fails to comply with California’s Antidegradation Policy.***

22 The NOA at issue violates the state’s antidegradation policy. By using an inaccurate
23 agronomic rate, the NOA will result in over-application of nutrients and runoff, and potential
24 degradation of groundwater and/or surface waters. The General Order’s anti-degradation
25 conclusion was based on compliance with a site specific agronomic rate, which the present NOA
26 fails to do.
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1 In fact, the NOA fails to include any of the required analysis pursuant to the State Water
2 Board's anti-degradation policy. The Regional Board had no discretion to fail to perform any
3 anti-degradation analysis for this new use of recycled water, especially where it relied on a
4 theoretical rather than field verified approach to calculating the agronomic rate designed to
5 prevent groundwater contamination. A regional board's anti-degradation analysis is inadequate
6 where it fails to rely on evidence supporting any conclusion that water quality degradation will
7 be avoided. (*See Association de Gente Unida por el Agua v. Central Valley Regional Water*
8 *Quality Control Board* (2012) 210 Cal.App.4th 1255, 1259.)
9

10 ***E. Conclusion***

11 For each of the reasons detailed above, Petitioners request that the State Board vacate the
12 NOA and enjoin all activities undertaken pursuant to it.
13

14 **5. The manner in which the petitioner is aggrieved.**

15 Petitioner Russian Riverkeeper is a non-profit environmental organization dedicated to
16 protecting and preserving the waterways in the Russian River basin for the public health and
17 enjoyment of local residents, down-stream users, and the local ecology. Petitioner members live
18 in and around the Russian River region. Petitioner's members are therefore aggrieved by the
19 Orders' inadequacy to protect groundwater quality in the region.
20

21 Petitioner Fred Corson is a member of the Russian Riverkeeper and a member of the
22 Clean Water Coalition of Northern Sonoma County and has been extensively involved in the
23 public process of permits and approvals for Healdsburg Recycle Water Project including the
24 2005 DEIR and FEIR and the 2014 and 2016 Addenda, the 2010 NPDES, the Master
25 Reclamation Requirements and Provisions, the Walker Report, the Greenspan Field Study, the
26 Greenspan Report, the NOI, and the NOA. Mr. Corson has met extensively with the Regional
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1 Board Staff and Executive Officer and explained in detail the differences between the Walker
2 Report theoretical determination of agronomic rate and the actual agronomic rate as
3 experimentally determined in the Greenspan Field Study and the significance of the
4 supplemental water available in the soil at the start of the growing season. Mr. Corson's fact-
5 based demonstrations have been ignored by the Regional Board.
6

7 **6. The specific action by the state or regional board which petitioner requests.**

8 Petitioners seek an Order by the State Board that overturns the Regional Board's Notice
9 of Applicability, and remands the matter to the Regional Board with specific direction to the
10 Board to remedy each of its violations of law as further described herein.
11

12 **7. A statement of points and authorities in support of legal issues raised in the**
13 **petition, including citations to documents or the transcript of the regional board**
14 **hearing if it is available.**

15 No hearing or opportunity to comment was provided by the Regional Board, and no
16 transcript is thus available.
17

18 Petitioners' arguments and points of authority are thoroughly and adequately established
19 above. (*See supra* at section IV.) The Regional Board has prejudicially abused its discretion by
20 failing to consider required criteria of the General Order, and by failing to support its findings
21 with the weight of evidence. Water Code § 13320; Code Civ. Procedure § 1094.5(c). The
22 Regional Board approval of the NOA was rendered in contradiction to the clear terms of the
23 General Order, and will result in a nuisance, pollution, and degradation of affected groundwaters.
24 (*See Association de Gente Unida por el Agua v. Central Valley Regional Water Quality Control*
25 *Board* (2012) 210 Cal.App.4th 1255, 1258 (anti-degradation analysis insufficient where
26 uncontradicted evidence shows possible degradation not considered).)
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1 Petitioners further reserve the right to submit supplemental briefing on arguments made
2 and on issues raised by this Petition. Lastly, Petitioners will gladly respond to any additional
3 questions the State Board may have regarding the issues in this Petition.
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5 **8. The petition has been sent to the appropriate regional board and to the**
6 **discharger.**

7 A true and correct copy of this Petition, with exhibits, was sent to the Regional Board and
8 the City of Healdsburg by U.S. mail on August 1, 2016.

9 **9. The substantive issues or objections raised in the petition were raised before the**
10 **regional board.**

11 Petitioners previously raised and presented all the issues addressed in this Petition
12 through correspondence with the Regional Board on May 12, 2016 and July 12, 2016, and by
13 telephone conversations with a Board representative on February 26, 2016 and July 6, 2016.
14 Petitioners were not provided an adequate or formal opportunity to comment on the final NOA.
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16
17 DATE: August 1, 2016

Respectfully submitted,

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19
20 /s/ Jason R. Flanders
21 Jason R. Flanders
22 AQUA TERRA AERIS LAW GROUP
23 Attorneys for Petitioners
24 Russian Riverkeeper and Fred Corson
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