

Russian River Property Owners Association

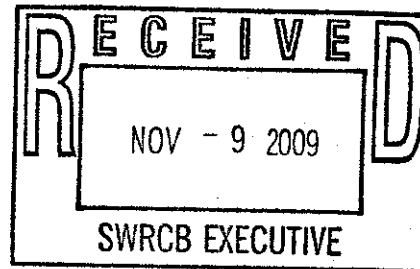


P.O. Box 2124

Healdsburg, Ca 95448

October 30, 2009

Mr. Charles R. Hoppin
Board Chair
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814



Re: Frost Protection in the Alexander Valley Reach of the Russian River Watershed,
Sonoma County

Dear Mr. Hoppin:

I am writing to inform the State Water Resources Control Board of the Russian River Property Owners Association (RRPOA) efforts underway in the Alexander Valley of Sonoma County relative to frost protection and agriculture. The RRPOA is made up of approximately one hundred land owners along the Alexander Valley reach of the Russian River. Our mission is to encourage responsible stewardship of the Russian River Watershed in order to protect and enhance its integrity; while respecting private property rights.

In February of this year, state and federal resource agencies raised concerns over the potential impacts that diversion for frost protection in the Alexander Valley reach of the Russian River and its tributary streams may have on stream flow and salmonid habitat during ecologically important periods of anadromous salmonid life cycle. In response to these concerns, the RRPOA, working with the resource agencies, has developed a *Frost Protection Best Management Practices Program (Program)*. We identified five components critical to the *Programs* success. They include the following:

- 1) Develop a near term *Water Conservation Best Management Practices Program*;
- 2) Develop a long term *Landscape Based Best Management Practices Program*;
- 3) Develop an implementation, monitoring and reporting component to the near term and long term *Landscape Based Best Management Practices Program*;
- 4) Prioritize streams in Sonoma County for gauging, monitoring and reporting water quantity data for development of stream specific water analysis;
- 5) Develop a *Water Quantity Based Best Management Program* that includes an implementation, monitoring and reporting component; and
- 6) Develop a landowner lead self-governance structure that provides a mechanism to build and document participation and results of implementing the *Program*.

Documentation will include near term and long term compliance, an adaptive management component, a monitoring component, an outreach/education component, and a transparent means for reporting (See Section VI).

- 7) Develop a Voluntary Agreement between the Russian River Property Owners Association and the Sonoma County Water Agency (SCWA) to identify and implement actions using existing and future data and sound science to manage water use consistent with the needs of fisheries resources and viticulture production in Alexander Valley (See Section VII).

As you will note, the RRPOA working with numerous partners including the resource agencies, the Sonoma County Water Agency, the Sotoyome Resource Conservation District, and the Center for Ecosystem Management and Restoration has already made substantial progress in addressing the challenges around frost protection.

Please review the attached document and let me know if it meets with your approval. I firmly believe that by working with people with diverse perspectives, interests and responsibilities we can develop and implement solutions that provide for the protection of watershed resources and the rights of individual property owners.

Thank you for taking the time to review the attached. I look forward to your comments.

Sincerely,

Alvin Cadd
Russian River Property Owners Association, President

cc: Dick Butler, National Marine Fisheries Service
Sarah Spilseth, National Marine Fisheries Service
David Hines, National Marine Fisheries Service
Chuck Armor, California Department of Fish & Game
Dan Wilson, California Department of Fish & Game
Catherine Kuhlman, North Coast Regional Water Quality Control Board
Bob Klamt, North Coast Regional Water Quality Control Board
Vicky Whitney, Chief Division of Water Rights

Russian River Property Owners Association
Frost Protection Best Management Practices Program
Sonoma County

In February 2009, state and federal resource agencies raised concerns over the potential impacts that diversion for frost protection in the Alexander Valley reach of the Russian River and its tributary streams may have on stream flow and salmonid habitat during ecologically important periods of anadromous salmonid life cycle. In response to these concerns, the RRPOA have developed a *Frost Protection Best Management Practices Program (Program)*. This *Program* includes a near term and long term component.

Critical to the success of this *Program* is a self-governance body that actively manages frost protection diversion and adapts to conditions and new information on a real time basis. Data collected through this *Program* will be used to inform modification of the *Program* to improve responsiveness, effectiveness and efficiency.

Outreach and education is also key. The governance body will coordinate implementation of frost protection measures, including monitoring and adaptive management of the *Program*. Additionally, working with the Code of Sustainable Winegrowing, the RRPOA will develop and implement landowner outreach and education efforts.

Agriculture Producers and Frost Protection Task Force Commitments

Agriculture producers, working with the Frost Protection Task Force have made the following commitments for the purposes of agriculture production water conservation in Sonoma County:

- 1) Develop a near term *Water Conservation Best Management Practices Program*;
- 2) Develop a long term *Landscape Based Best Management Practices Program*;
- 3) Develop an implementation, monitoring and reporting component to the near term and long term *Landscape Based Best Management Practices Program*;
- 4) Prioritize streams in Sonoma County for gauging, monitoring and reporting water quantity data for development of stream specific water analysis;
- 5) Develop a *Water Quantity Based Best Management Program* that includes an implementation, monitoring and reporting component; and
- 6) Develop a landowner lead self-governance structure that provides a mechanism to build and document participation and results of implementing the *Program*. Documentation will include near term and long term compliance, an adaptive management component, a monitoring component, an outreach/education component, and a transparent means for reporting (See Section VI).
- 7) Develop a Voluntary Agreement between the Russian River Property Owners Association and the Sonoma County Water Agency (SCWA) to identify and implement actions using existing and future data and sound science to manage water use consistent with the needs of fisheries resources and viticulture production in Alexander Valley (See Section VII).

I. Near Term Water Conservation Best Management Practices Program (BMPs)

The goal of the BMPs is to protect fisheries resources. Appropriate BMPs will be site specific and dependent upon the precipitation conditions for any given year. Therefore, a menu of near term Water Conservation BMPs has been developed. The menu includes:

- A. Manage cover crops, pruning regimes, and chemical mowing techniques with little/no impact to the ecosystem.
 - (i) Mow cover crops or use contact herbicides for chemical mowing to increase vineyard temperatures
 - (ii) Late prune or double prune to delay bud break
- B. Inter-blocking
 - (i) Place temperature loggers throughout the vineyard to identify temperature profiles and areas of similar frost risk
 - (ii) Redesign sprinkler distribution systems according to temperature profiles and frost risk within vineyard
- C. Time to turn on/off
 - (i) Increase staffing or vehicles to reduce the time to turn on/off sprinklers
 - (ii) Stage start up of irrigation
 - (iii) Use dew point values to determine your threshold for sprinkler start-up
 - (iv) Use more effective measurement tools (wet and dry bulbs)
 - (v) Install additional weather stations where they could inform turn on/off timing
 - (vi) Consider gauging temperature at the average block elevation instead of at the lowest elevation within the block (particularly if you have one small area within the block in a depression)
- D. Use "low water" sprinkler systems (i.e. pulsating sprinklers, micro sprinklers and linear sprinklers) or wind where possible
 - (i) Using 30 second rotation heads in place of 60 second rotation heads may yield a 15% decrease in water application rates without decreasing control <http://biomet.ucdavis.edu/frostprotection/Sprinkler%20Application/fp004.html>
 - (ii) Consider using flow-control nozzles in the sprinkler heads: that will even flows throughout a block, possibly saving water. Use smaller nozzles on the upper part of a block where temps are not as cold.
 - (iii) Switch to microsprinklers or wind in warmer blocks and/or prioritized areas
- E. Copper
 - (i) Avoid use of copper wherever possible
 - (ii) Use alternatives to copper for dormant spray
- F. Coordinate frost activities to minimize cumulative effects

II. Long Term Landscape Based Best Management Practices Program

The Water Conservation BMPs are important and need to be continued in the long term in years with dry conditions. However, to address the water use demand over the long term, additional

efforts will be required to curtail direct diversions. The long term program will provide specific goals for monitoring and adaptive management. Components of this program will include:

- Real time stream flow and water use data;
- Drainage water analysis;
- Analysis of the value of the *Water Conservation Best Management Practices Program* in maintaining stream flow necessary to protect fishery resources; and
- A means to provide feedback for an adaptive management process to make adjustments to the water use and diversion management measures.

Additionally, the ability to obtain water in the winter by diverting into off-stream storage reservoirs when water is plentiful needs emphasis. Similarly, the storage and reuse of recycled water for agriculture production deserves additional support. Storage and use of excess winter flow and recycled water will provide grape growers with a stable and more certain water supply, and reduced diversions in late spring and summer would conserve habitat for fish populations. Spread out over a large area, these reservoirs could provide agriculture producers in this region the potential to manage and gather water in a way that will not have the ecological impacts that are commonly associated with large reservoirs and direct diversions.

Plans to develop reservoir sites for both fresh and re-cycled water will begin in 2010. It is anticipated that the initial water analysis and actual water use (particularly in the tributaries) will further inform as to where we need to focus our attention to locate reservoirs.

III. Implementation, Monitoring and Reporting of Near Term Water Conservation and Long Term Landscape-Based Best Management Practices Programs

The self-governance body will execute a memorandum of understanding (MOU) with the Sonoma County Winegrape Commission for the purpose of providing BMP education and outreach to promote broad-based participation in the landscaped based BMPs.

As a component of the outreach/education effort, the Sustainable Winegrowing Program will do targeted education to those growers with self assessment elements that rank lower than other growers in the county. Targeted outreach will also extend to those areas that are most subject to frost events or where a preliminary water analysis indicates an area of concern. Outreach and education will be a component of the short and long-term BMPs delineated in this *Program*.

Utilizing the Sustainable Winegrowing Program, the self-governance body will collaborate with the Sonoma County Winegrape Commission to develop a self reporting program to report compliance with the Water Conservation BMP program.

The MOU will specify the number of participants, land mass associated with the BMP program and the frequency and timing of the reports to be submitted to the resource agencies.

IV. Priority Streams in Sonoma County

The following Alexander Valley streams have been identified by the resource agencies as priority streams. Two tributaries will be selected for monitoring commencing the winter of 2010 for the purposes of developing water quantity data and the identification of ground water/surface water interaction. Priority streams include the following:

Alexander Valley

Crocker Creek
Gill Creek
Miller Creek
Gird Creek
Sausal Creek
Lytton Creek

V. Monitoring and Reporting a Water Quantity Based Best Management Program

Existing Monitoring Efforts:

Over the last twelve months, the RRPOA has been working with the Center for Ecosystem Management and Restoration (CEMAR) to better understand the interaction between ground water and surface water in the Alexander Valley reach of the Russian River mainstem. Using pressure transducers to measure stage, data has been collected from the following locations:

- 1) Asti (northernmost point in the Russian River)
- 2) Gill Creek (downstream of the mouth of the creek)
- 3) Gird Creek (downstream of the mouth of the creek)
- 4) Jimtown Bridge (southernmost point in the Russian River)

On eight (8) separate occasions between April and October 2009, the Sotoyome Resource Conservation District (RCD) measured velocity at these locations. These measurements will be used to create rating curves for streamflow at each Russian River gauge through spring and summer.

Over the last nine months, 3 ground wells have been monitored. Data has been collected from the following location:

- 1) South of Gird Creek and East of the mainstem of the Russian River

Future Monitoring Efforts (Winter of 2010):

- 1) Relocate one existing transducer: Over the next three months, the RRPOA working with CEMAR will re-locate one of the existing pressure transducers in the Alexander Valley reach of

the Russian River mainstem. Working with CEMAR and the Sonoma County Water Agency (SCWA) the RRPOA will determine a new location for the RRPOA Jimtown Bridge transducer.

2) Two telemetric gauges (State Water Resource Control Board): Working with NMFS, CEMAR and the SCWA, the RRPOA will place two telemetric gauges in the Alexander Valley reach of the mainstem of the Russian River.

3) Two telemetric gauges (State Water Resource Control Board): Working with CEMAR and RRPOA members, the RRPOA will place two telemetric gauges in two tributaries on the floor of the Alexander Valley.

4) Two piezometer sites: working with the SCWA, the RRPOA will secure two piezometer sites, each consisting of a grid of piezometers, with a goal of investigating the direction of groundwater to or from the stream channel. One piezometer grid will be placed alongside a tributary and one piezometer will be placed in the Alexander Valley reach of the Russian River mainstem.

5) Apply for grant dollars to expand the monitoring program to secure additional data from tributaries in the Alexander Valley reach of the Russian River mainstem.

6) Working with NMFS, develop a field-based analysis program that examines water use impacts concurrent with frost protection and/or irrigation activity. A field-analysis program will also examine naturally occurring dewatering of streams.

In the winter of 2010, the Russian River Property Owners Association (RRPOA) will provide locations for stream flow gauges and a list of participating landowners.

Step One: Examine if flows are in balance or deficit, and if the balance or deficit is impacted by a surface/ground water relationship

Step Two: If water analysis shows a deficit quantify BMP impact

The preliminary analysis will also estimate the hydrologic benefits of prescribed frost protection BMPs where hydrologic effects of BMPs can be quantified (as an example, changing sprinkler heads and water savings calculations). The overall benefits of BMPs may be quantified by portion of vineyards along specific streams. Using this method a secondary frost protection analysis regarding the efficacy of these BMPs can be developed.

Gauges will be used to monitor stream flow and identify flow thresholds associated with particular steelhead trout and/or chinook salmon needs. Stream flow data and ecosystem flow thresholds will be used to create water management plans for participating growers to define how agriculture producers can meet water needs while minimizing impacts to stream flow and steelhead trout and/or chinook salmon habitat.

This data will provide resource agencies with the information necessary to determine whether the magnitude of diversions and volume taken are reasonable, given the need to protect salmonids. The information developed in the analysis will be used to refine future monitoring and for adaptive management purposes.

The data and analysis of stream flows and water use will be coalesced into a monitoring report. The frequency of reporting periods will be determined by the self-governance body, the resource agencies, and the third-party data gathering organization, but will probably occur biweekly through spring. The self-governance body will submit the monitoring reports to the resource agencies.

VI. Self-Governance Body

The Russian River Property Owners Association (RRPOA) will serve as the self-governance body. The RRPOA will work with all willing members of the grape growing community, the various agriculture organizations (including, but not limited, to the Sonoma County Wine Grape Commission, the United Grape Growers for Sonoma County, Fish Friendly Farming, the Sonoma County Farm Bureau, and potentially the Natural Resource Conservation Service and Sotoyome RCD) to implement a resource agency-approved Program.

The RRPOA, acting as the Governance body will immediately commence the following actions:

- Contract with the scientific non-profit research organization, the Center for Ecosystem Management and Restoration (CEMAR), to create water plans, monitor stream flows and document management of withdrawals during frost protection events. (Timeline for completion: January 2010)
- Collaborate with CEMAR to identify specific sites for placement of monitoring gauges and determine the types of gauges to be used. (Timeline for completion: January 2010)
- Delineate how/who will read the monitoring information. (Timeline for completion: January 2010)
- Detail how the information will be formatted and transmitted to the regulatory agencies (Timeline for completion: March 2010).
- Collaborate with landowners and the resource agencies in the event that a prioritized stream (or a portion thereof) is dewatered due to frost protection activity. (Timeline: spring 2010)
- Collaborate with the landowners and the NMFS in a transparent process to determine the cause of dewatering and develop an adaptive management process to avoid dewatering events. (Timeline: initial process fall 2010 and ongoing)
- Enter into an MOU with the Sonoma County Winegrape Commission for the purpose of providing education and outreach. (Timeline: January 2010)

- Work with the Sonoma County Winegrape Commission to utilize the Code of Sustainable Winegrowing to develop a self reporting structure that details the level of participation in the landscape based BMP program. (Timeline: January 2010 and ongoing)
- Establish a timeline for reporting to the resource agencies.

VII. Voluntary Agreement by/between the Sonoma County Water Agency (SCWA) and the Russian River Property Owners Association

The Agreement will be structured in a way that encourages an open, collaborative and cooperative process for implementation of a monitoring process and water management plan that will maximize coordination of information and actions for the future. Plan studies, projects and programs will be coordinated between the Sonoma County Water Agency and an Alexander Valley Viticulture Producer Panel (Sub group of the RRPOA). The Agreement will be designed to encourage coordination of activities, not to discourage activities.

Background

Alexander Valley Groundwater and Surface Water Resources have become the focus of numerous Federal and State Agencies in the last decade. With increasing and competing demands placed on surface and groundwater in Sonoma County it is important to detail the uses and the management of this resource. The voluntary, non-regulatory Agreement will identify a water monitoring and water management action to sustain the resource for future uses. The goal of the Agreement is to locally manage and protect surface and groundwater resources for all beneficial uses – and to do so in an ecologically sound and economically feasible manner.

Purpose

This Agreement will provide the SCWA of surface/groundwater interaction data that will inform when “the Russian River is being supplemented by project water”.

OBJECTIVES

- Monitor groundwater elevations within the Alexander Valley
- Maintain groundwater elevations for viticulture use
- Increase water use efficiency and conservation
- Improve the surface/groundwater data base and understanding through consistent monitoring and additional surveys, and improve basin analytical tools
- Manage the surface/groundwater through local control
- Explore, identify and maximize the non-regulatory approaches to manage surface/groundwater in the Alexander Valley

AGREEMENT COMPONENTS

Surface/Groundwater Management Plan - Based on best available science develop an integrated plan that coordinates water management between the Alexander Valley viticulture users and the Sonoma County Water Agency.

Enhance Participation, Cooperation and Coordination – Work with all Alexander Valley viticulture producers to grow participation levels.

Monitoring Program – Work with all Alexander Valley viticulture producers to develop monitoring programs and analyze results. The analysis will assist in determining future management actions or inaction.

Governance and Reporting Structure – The Russian River Property Owners Association will act as the governing organization to hold site specific data and present the aggregate data to the Sonoma County Water Agency. The RRPOA, acting as the governing organization, will call the meetings and work with the Sonoma County Water Agency to modify, if appropriate, the plan as new data is developed. The Agreement is a living document that will evolve as more information about the Alexander Valley water resources and hydrogeology becomes available. The RRPOA, along with the Sonoma County Water Agency may identify additional actions to meet the objectives.