



To: State Water Resources Control Board
Division of Water Rights
Re: Russian River Frost Protection Workshop 4/7/09
Fm: Larry Cadd

April 2, 2009

I am a fourth generation farmer in Alexander Valley, and currently farm 38 acres of wine grapes on the valley floor, 2 miles south of Geyserville. I have lived and farmed in the valley for sixty years now. I am an avid steelhead fisherman, paying close attention to river conditions, fish runs, restoration efforts, and suffering the frustrations brought about by government actions or lack thereof in the efforts to regulate fish back into existance.

The Russian River flows through our property on the west side, the east side of the property borders Highway 128. Water for irrigation and frost protection is pumped from two wells that are 1000 and 1500 yards distant from the river's edge. We still use a centrifugal pump for 600 gpm, as the water level is only 14 feet from the surface. The same well and equipment was used during the dry years of 1976 and 1977 as well as the dry years in the mid eighties. Most wells in the Alexander Valley are set back from the river's edge. There has been more than one casing left standing in the middle of the river or gravel bar after a flood so there is an incentive to move away. For purposes of this letter, my reference to Alexander Valley is the alluvial floodplain downstream of the natural channel constriction 2 miles below Asti to the next natural channel constriction at the Jimtown Bridge on Alexander Valley Road.

I have been keenly aware if issues at Franz Creek, Maacama Creek, Felta Creek, and other creeks in the west county. I am also aware of fish problems in the Russian River near Hopland. Through the Russian River Property Owners Association and the Sonoma County Winegrape Commision, and the Salmonid Coalition I am also aware of efforts to work with various agencies in drafting a 4D ruling with NMFS, creek restoration projects, on stream reservoir work with UC Extension & CEMAR for water storage, and the Sonoma County Water Agency regarding diversion timing and water conservation issues. So there is "stuff" going on and regular contact between the Ag community and the various agencies.

I am in receipt of a letter from the SWRCB dated Feb 26, 2009 warning that water rights and even riparian rights might be restricted. It was very disappointing to obtain a copy of a letter from NMFS dated Feb 19, 2009 to the SWRCB, that listed areas of concern regarding salmonid "take" and included the Alexander Valley. One would think that if there was a problem in Alexander Valley that the Ag community would have been made aware as were the other areas of concern. The letter further asks for immediate action to prevent significant salmonid mortality. NMFS has refused to disclose details of fish strandings on the basis that is is an "enforcement action." So if there is a problem in the Alexander Valley, it's not public. If it's a concern in the AV then it should have been so stated, but then there's that call for immediate action. Evidently within the Santa Rosa office of NMFS there are four departments, none report to the other, so it appears that enforcement is not one of the regular contacts for the Sonoma Co Ag community, and

Alexander Valley has not been included in any of the contacts prior to issuance of their letter.

The Need for Frost Protection

It's an all or nothing game. Without frost protection there is no crop and it only takes a few minutes to cause irreversible damage. Not only is the crop lost for the current year but the delayed secondary shoot growth after the first freeze is typically small in diameter and bud fruitfulness is poor for the following year resulting in a reduced crop. Chances are that if there is no frost protection for the first shoots to push, there will not be frost protection for the secondary shoots either, there is only one left to push, and then it is just plant survival suckers that will remain on the vine trunk.

There are different types of protection methods for differing situations. Wind machines work where there is an inversion and warm air above to mix with the cool air below, pockets and depressions are the most common areas. Impact sprinklers at 50 GPM/Acre will protect down to 26 degrees, as the water freezes heat is released and the leaf surface is held at 32 degrees. Micro sprinklers use lower rates but in the end use almost as much total volume of water. Due to the small diameter tubing and lower flow rate these systems must be started earlier to before water freezes in the tubing and nozzles, and must run later to thaw out developed ice. The slightest crosswind will tend to move the fine spray to one side of the vine and the other side will freeze since the micro's shoot parallel to the row, over the top.

The economic benefit to Sonoma County's economy, the job market, tourism, and tax revenues for the state and local governments is an obvious point of consideration. That is not to infer that fish should be a dispensable commodity for the sake of economics, but the reality is that everything is a balancing act.

The Alexander Valley Aquifer

As I noted most of the wells in the Alexander Valley are set back from the river bank. I am unaware of a single vineyard in the Alexander Valley that draws water directly from the river for irrigation or frost protection. As I mentioned above I am an avid fisherman and drift the river in my boat regularly, I would know.

Based on no more than local knowledge wells in the AV are 80 to 120 feet deep, the casing driven into an impervious layer below. On top there is anywhere from not much to 20 feet of topsoil. In between is a gravel layer with a static water level at about 15 feet depending on the topsoil depth. For all intents and purposes the static aquifer level is roughly river water level. I'll not try to estimate the acre feet stored in the aquifer but it is 6 miles long, 1 to 1 1/2 miles wide and holds about 70 feet of water depth. Pumping for frost protection from these wells must first lower the aquifer in order to draw water from the river into the aquifer. I suggest that the underground storage in the AV is huge and pumping from this aquifer has a moderating effect on river flow and level changes. This may be cause for concern and further study but not "immediate action". The California Department of Water Resources estimates 762,000 acre feet of storage in the Alexander Valley Subbasin (1983). While this estimate encompasses a

larger area than just the Alexander Valley floodplain, it does support the notion that there is a lot of water in the AV and that pumping from this aquifer is not the same as direct diversion from the river channel.

The frost event of last year supports my claim. On April 21, 2008 a drop in flow was recorded at the Hopland USGS of 72 CFS, the same 72, CFS was recorded at the Cloverdale Gauging station, the Healdsburg station recorded a 74 CFS drop in flow. If Alexander Valley was dramatically affecting the river level there should have been some additional reduction in flow at the Healdsburg station. The effect of pumping and the rate of water level change in the river is moderated by the size of the aquifer.

The Russian River System Today

The River is a highly modified system from what it was in the fifties. Coyote Dam, water diversions from the Eel River, changes in the Eel River diversions, urban and Ag development, levies, gravel mining, various other dams and restrictions, Sonoma County Water Agency selling water to municipalities, lateral erosion and the resultant silt discharge, increased demand for recreation, four wheel enthusiasts charging down the channel during spawning season, the list is endless. One agency after another, be it state, county, or federal, in separate offices with differing agendas attempting to regulate the their turf.

During the recent changes in Eel River diversions agreement 1610 was not amended to coincide with the changes. It is gross negligence on the part of government as a whole to allow discharge rates from Mendocino to be related to the level of water in Lake Pillsbury, with that logic, any pond would do.

In the workshop notice from the SWRCB the Napa river model was held up as a possible solution for the Russian where reservoirs could be filled during certain higher river flow periods, in fact the court held that riparian users could be required to "endure some inconvenience and reasonable expense". This could have been a good approach to follow during the modifications of the Eel River diversions. Wintertime conditions exist where diversion from the Eel would not be detrimental to the Eel and would be beneficial to the Russian system. Those diversions this year would have Mendocino at a higher level, and there would be less stress on fish and other users. I am certain that the SWRCB and FERC are in separate offices, where they need to "endure some inconvenience and reasonable expense".

What's Ahead

The lack of a comprehensive fisheries enhancement and river management plan leaves all stakeholders in the land of uncertainty. At this point it is illogical to expect that the river system would ever return to it's state of 100 years ago, likewise it is illogical to allow further degradation. Today it's frost protection, tomorrow will be something else. Finding the balance between managing what we have and maintaining a healthy fishery

must be the challenge we face today. One situation to avoid is that of causing property owners to lose faith in their ability to work with government agencies, in the long run that would be detrimental to all stakeholders.

Ag is willing to work with the various agencies to maintain a healthy fishery, but we need some regulatory certainty as well.

We've been farming this land since 1925, we've been frost protecting vineyards since the mid seventies. We use less overall water now that we did when the entire farm was planted to apples in the sixties. We are licensed and doing the same as we always have, yet on Feb 26, I received a notice of intent to curtail my water rights. The current drought is induced by regulations, and complicated by low rain fall, it is not caused by my farming practices.

Perhaps NMFS enforcement should send notice to FERC for the emergency transfer of water from the Eel during appropriate high flow times in order to have sufficient water for steelhead and chinook in the Russian.

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