

The Need for and the Effect of Water Diversions for
Purposes of Frost Protection in Mendocino and
Sonoma Counties
Grower Comments, Concerns, and Perspectives

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MENDOCINO COUNTY

AMERICA'S GREENEST WINE REGIONSM

- County resume

- These farmers, grapegrowers and winemakers were at the forefront of the sustainable, organic, biodynamic and fish friendly farming movement long before it gained the attention of the general population.
- Extensive organic, biodynamic and sustainable farming and food processing across all crops including winegrapes and wines
- 22% of Mendocino County's winegrapes are certified organic.
- Organic winegrape acreage in California in 2007 (CDFFA):
 - Total of 8,718 acres in 2007
 - Of this, 40.6 % (or 3548 acres) is in Mendocino county
- 19,274 acres, or less than 1% of Mendocino's 2.4 million total acres, are under any cultivation, winegrapes represent 16,084 acres of this figure countywide
- Nation's first carbon neutral winery and the first winery to be recognized for its green leadership by Governor Schwarzenegger
- The Mendocino Winegrape & Wine Commission is an alliance of 75 wineries and 343 winegrape growers

Why do we use sprinklers for frost protection?

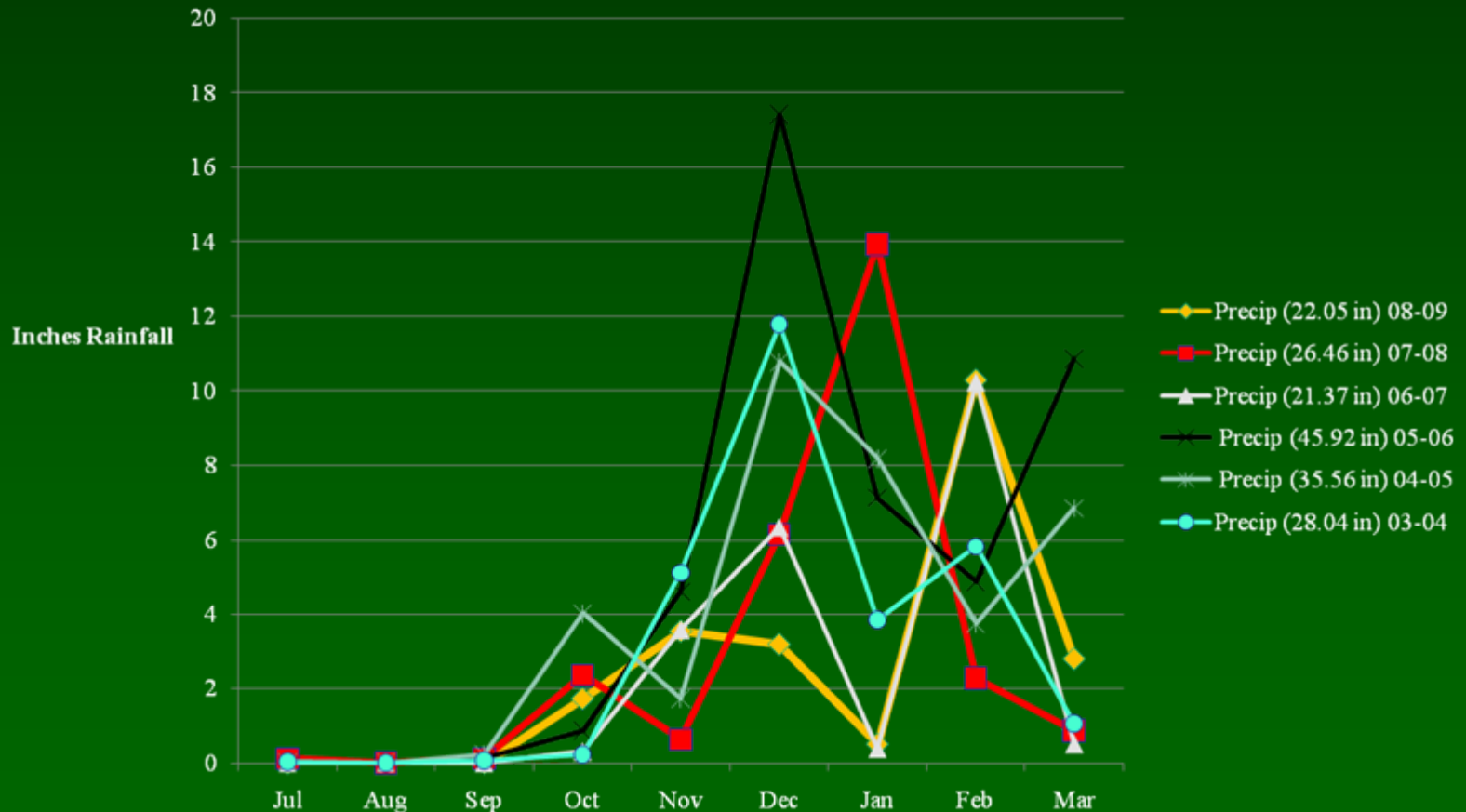
- Reliable in both types of frost events (radiation, advection)
- Provide the lowest temperature protection, Mendocino typically has more and colder events than Napa/Sonoma
- Reliable in operation, availability of parts
- Durable with machine operations in vineyard (harvest)
- Useful also for other cultural practices; establishment of cover crops for erosion control and natural fertility, dust abatement, insect control (via heat cooling)
- If there were a cheaper, more efficient, and equally effective system, we would use it

Why don't we use wells for frost protection?

- Boron levels in water typically high in Mendocino County
- Volumetric requirements (50 gallons per minute per acre)
- An 20 acre vineyard requires 1,000 gallons per minute for frost protection
 - A 1,000 gpm clean well in Mendocino County is not common
- Direct diversion from pond or stream is best
 - Approx. 1 ac-ft water storage/vineyard acre for frost & irrigation in a NORMAL year (1 ac-ft/acre used for frost in 2008)
- Many older vineyards have been redeveloped and newer designs are more efficient (blocking valves, pressure compensating nozzles)

Historical Precipitation Patterns

Annual Rainfall Pattern, Hopland CIMIS Station 2003-2009



Lead in to 2008

- What happened?
 - Low rainfall in February, March, and April (see prev. slide)
 - Most numerous frost events in 30 years, long duration events
 - Typical usage = 0.2-0.4 acre-feet per acre (5-6 events)
 - 2008 usage = 1 acre-foot per acre (26-28 events)
 - Reservoirs on tributaries were depleted due to usage and not overflowing to recharge tributaries
 - Dencutting of Russian River combined with low tributary flow caused drying of alluvial fans
- We still do not know the specifics of the take or the exact location from last year, even though we have participated in the Frost Task Force, how can we correct for this year?

What has been done since 2008

- Frost Task Force
 - *Draft Upper Russian River Frost Protection Pumping Coordination Protocol* – short term stop gap measure
 - Increased communication and cooperation between regulatory and grower entities-breakdown of “us vs. them”
 - The exceptions being the take at the mouth of McNab and Russian River, Sonoma County takes, crime and punishment vs. solution mentality
 - Have there been any biologists/geomorphologists in the river during frost?
- Grower meeting on frost technology and uses
 - Increase grower knowledge, regulatory agencies invited in order to understand grower technology
 - Gaps still exist for regulatory agencies understanding of technology/operational factors, knowledge of all facets of working river system

What has been done since 2008

- RRFC D informational meetings and open board meetings
- SCWA meetings on understanding operational flow control
- UCCE irrigation efficiency testing
- 75 acres voluntarily removed from direct diversion
- Informational letter to growers re: pond recharging pumping recommendations, reporting of protected acreage
- Increase in grower awareness of problem, information exchange, growers unanimously in favor of protecting fisheries, but need a long term, comprehensive solution that works for all

What is there to do? Cooperation/Coordination

- Continue Frost Task Force
 - Increased Ag representation on Task Force
 - Increased Ag/Environmental Science representation
 - Eel River/Pillsbury/Potter Valley diversion representation
 - Fully open discussions
- Re: March 23, 2009 RRFCD letter to Board
 - Installation of additional remote sensing gauge on Russian River
 - Install telemetry equipped meters on selected pump sites
 - Expedited permitting and construction of offstream Ag storage ponds – hydrologic study to determine quantity needed?
 - Expedited planning for, and use of, recycled water within the Russian River Flood Control district

What is there to do? Cooperation/Coordination

- Make it a comprehensive solution
 - Consider the entire system, not just Agricultural useage
 - DOWNCUTTING OF RUSSIAN RIVER/ALLUVIAL FAN INTERACTION
 - D1610 and storage rules in Lake Mendocino
 - Other factors affecting fishery health in conjunction with flows and usage – presence of predator fish in Russian River
 - Fix permitting process for new water storage facilities
 - Better use of Lake Sonoma water
 - A Watermaster is not an effective solution for the Russian
 - Napa River situation is different
 - Needed Ag storage infrastructure not present on Russian River
- Mendocino growers have a history of supporting the environment, give us guidance, let us try