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Manfree Biological Assessment

Mountain Peak Winery P13-00320
Planning Commission Hearing January 4, 2017

Attn:
John McDowell, Deputy Planning Director
Napa County Planning, Building, and Environmental Services Department
1195 Third Street Suite 210
Napa, CA 94559

Re: Mountain Peak Winery - Use Permit Application #P13-00320-UP

Dear Mr. McDowell,

The Mountain Peak Winery proposes, as part of its development, to increase groundwater pumping from existing and proposed wells within 1,000 feet of a section of Rector Creek, a reach with high ecological values, and to produce nearly 30,000 cubic yards of cave spoils material. A feasibility analysis of groundwater pumping was performed, but flaws in that analysis intimate that the groundwater pumping rate and volume are under-biased while groundwater recharge rates are over-biased (see Appendix 1). No analysis was conducted on the likely reduction in future water supply due to climate change, which is expected to shift precipitation to briefer, more intense events later in the water-year; reduce cumulative totals; and generally provide less opportunity for groundwater recharge. The project documents provide little detail on how cave spoils will be handled, despite the fact that they will be placed immediately adjacent to surface-water features. Such inaccuracies and incomplete descriptions of procedures leave reasonable concern that the project may harm biological resources in the Rector Creek watershed.

Presence-absence surveys indicate that Rector Creek above its reservoir is home to a remarkable diversity of native aquatic species indicative of a system with high ecological integrity. An extensive list of plant species (Appendix 2) demonstrates the quality of this species community. The aquatic-insect community is especially rich with families representative of pristine streams, such as roach stoneflies (Peltoperlidae), yellow sallie stoneflies (Chloroperlidae), green rockworm caddisflies (Rhyacophilidae), mahogany dun mayflies (Leptophlebiidae), and many others. The amphibian fauna is likewise rich (appendix 3), with both Coast Range and rough-skinned newts (*Taricha torosa* and *T. granulosa*, respectively) and possible hybrids being abundant. Two California Species of Special Concern (SSC) are present and abundant: foothill yellow-legged frogs (*Rana boylii*) and California giant salamanders (*Dicamptodon ensatus*). The creek is home to rainbow trout/steelhead that, given burgeoning knowledge of salmonid genetics gained over the last decade, may represent increasingly rare, purely native strains without any genetic dilution from introduction of out-of-basin or hatchery fish. Such genetically pure native populations are ideal sources of genetic material for re-establishing healthy steelhead runs as part of ongoing restoration in Napa Valley.

Rector Creek's native aquatic species require cool, flowing water; streambeds covered with gravel-sized and larger rocks; and relatively stable water elevations during important biological periods. Foothill yellow-legged frogs, for example, will only lay eggs on cobbles in running water and will not reproduce in still water such as that in ponds or lakes; decreases in stream-water elevation can kill frog eggs. California giant salamander eggs need cold water percolating through large rocks from spring through

autumn, one of the longest amphibian incubation times known. Rainbow trout eggs likewise need gravel-sized rocks for successful egg incubation, and all trout life-cycle stages require cool water for survival.

While Rector Creek harbors a diverse native aquatic fauna, non-native species have infiltrated the creek, especially the tributary nearest the proposed project. Largemouth bass (*Micropterus salmoides*) and green sunfish (*Lepomis cyanellus*) have both been observed in this tributary and, in recent dry years, the mainstem. Non-native American bullfrogs (*Lithobates catesbeianus*) have also been observed in the tributary. All three of these non-natives were likely introduced by discharges from local impoundments, such as those maintained by vineyards. All of these non-native species and related similar species have been found to compete and/or prey on the SSC natives found in Rector Creek or related endangered species. Unlike the native species, these non-natives flourish in warmer and slower-moving water, and have little preference for substrate size.

Groundwater-to-surface flow is supported by the shallowest part of the water table, so even a slight drawdown can impact flow in streams as well as ponds, seeps, vegetation rooted in the upper part of the water table, and neighboring wells. As water levels drop, flow to riparian system is reduced, and part of the impact is a reduction in the linear extent of surface water in the creek bed and thus available habitat for aquatic species. Less flow also generally translates to escalating water temperatures. Hence the potential not only exists for the proposed project's groundwater pumping (possibly coupled with increased sedimentation) to harm the rich native diversity of insects, fish, frogs, and salamanders by reducing available habitat by shortening the wetted linear extent of the creek, by warming the creek's water, by slowing that water down, and by decreasing the water elevation at key periods in the native species' lifecycles, but also by concurrently creating conditions favorable to non-native species that are likely to outcompete or eat the native species. Even an ephemeral pulse of fine sediment concurrent with warmer water could harm reproduction of the native trout and amphibians while allowing successful reproduction of the non-native species, giving the non-native species a foothold and thus affecting the long-term survival of Rector Creek's native species. The planning documents state that "no special species" are found, yet the possible effects of the project on special species found in its 1,000-foot zone of influence from existing and proposed wells and downstream locations in the watershed may very well be interactive and myriad.

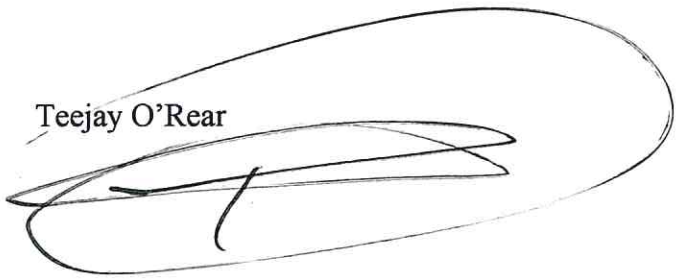
State and federal natural-resource agencies [*e.g.*, California Department of Fish and Wildlife (CDFW)] focus their conservation and restoration plans on both SSC animals as well as those listed on the endangered species acts (ESAs), with the hope that such actions will inhibit the listing of SSC animals on either ESA. A major ecosystem target of such plans (*e.g.*, CDFW's *State Wildlife Action Plan*) is riparian woodlands, of which Rector Creek is an example. Habitat restorations, despite the enormous amounts of money and energy spent on them, often fail to bolster populations of the species for which they were designed. Rector Creek currently contains pristine stream habitat with high numbers of SSC species. This is not only the kind of habitat and species community that agencies work to re-create at enormous time and expense, but one that could serve as a reference site for other restoration projects (appendix 4). Like state and federal resource agencies, the County of Napa is presently engaged in costly riparian restoration projects

to improve conditions for salmon, steelhead, and other aquatic species. It would be counterproductive to not fully evaluate effects of the Mountain Peak project on Rector Creek and have the creek's native fauna harmed by the project, only to have the public ultimately pay millions of dollars to attempt to re-create equivalent habitat there or somewhere else. It would thus be prudent for the county to require a more thorough evaluation of Mountain Peak Winery's impacts on siltation and on flow in Rector Creek.

The character and value of habitat adjacent to and downstream of the proposed Mountain Peak project, the presence of Species of Special Concern, and the likelihood of adverse impacts resulting from this project due to inadequate environmental assessment and planning by the applicant compel a full Environmental Impact Report.

Respectfully,

Teejay O'Rear



Amber Manfree

Rob Gailey

Jacob Katz

Peter Moyle

Appendices

1. Groundwater technical comments
2. Species lists
3. Photographs

Appendix 1: Comments on Richard Slade and Associates 10/31/15 memo

Prepared by Robert Gailey, P.G., C.HG.

Page 3: The projected 14.86 af/yr of irrigation water use seems low for 25 acres of vineyards. While water use depends upon the type of crop and irrigation practices used (not described in the report), other information presented in the report appears to indicate that the 14.86 af/yr value is low. The report states that current water use for 28 acres of vineyards is 14.75 af/yr; however, 14 months of monitoring shows 32.2 af/yr of water use. These data indicate that annual water use is roughly double what is stated. It seems unlikely that the reduction from 28 to 25 acres of vineyards will reduce water use to the stated 14.86 af/yr. There may be more information in the Bartelt Engineering report that supports the 14.86 af/yr figure presented; however, it appears that the project water use will be higher than indicated.

Page 4: The primary water demand (90% of the demand) is for irrigation which will vary significantly with the seasons. As a result, the pumping rates presented are likely low for peak irrigation season (summer and fall) and high for the off season (winter and spring). Additional underestimation of the pumping rates may have occurred to the extent that the assumption of 50 to 100 percent operating time is inaccurate. (The operating time will depend upon aspects of the engineered water supply system such as 1) pump production capacity and control system and 2) storage tank capacity.) Therefore, water level impacts to wells near the project may be more pronounced than predicted in the report.

Page 7: A case is made that the pumping rate used for the pumping test exceeds the short-term peak day demand (STPD); however, a value for the STPD is not provided. Therefore, there is no way to evaluate whether this statement is correct and whether the pumping rate used for the test was sufficient to produce useful information.

Pages 13 through 16: An estimated range for average annual recharge from rainfall on the project property is provided. This approach ignores likely occurrences of lower recharge stemming from meteorological cycles and climate change trends. Therefore, lower values for recharge may be necessary to consider for analysis of critical impacts.

Pages 16 and 17: Calculations are presented to indicate that the proposed project water demand is significantly less than an estimate for total storage beneath the property. This approach ignores the fact that relatively small decreases in storage can result in groundwater water levels declining below critical depths (i.e., pump intakes and well bottoms for domestic supply wells; elevations of seeps, springs and beds that supply streams; root depths for certain vegetation). It is not the decrease in storage relative to

some starting point that matters. Rather, the potential decrease in groundwater levels relative to critical elevations of sensitive beneficial uses should be considered. This evaluation should be performed for critical periods (late in pumping season and during droughts).

Pages 18 through 20: An analysis of impacts during drought is presented. However, the analysis is flawed because it incorporates the mistake identified in the paragraph above. The analysis does not consider effects on water levels and, therefore, provides no useful information regarding potential impacts of the project on other beneficial uses of groundwater near the proposed project.

Pages 20 through 22: Several of the conclusions present arguments addressed by comments that appear above.

Page 21, second bullet: It is argued that the proposed groundwater extraction is slightly less than the site recharge. Based upon apparent uncertainty in both the project demand and recharge (see comments above), this may not be true. Moreover, the argument appears to be incorrectly presented as justification for the proposed extraction. Pumping the vast majority of recharge will significantly alter flows across the property and decrease groundwater levels on lands located down flow.

Page 21 and 22, last bullet: It is suggested that pumping activities and groundwater levels be monitored after the project has been implemented so that "the property owner can address potential declines in water levels and well production in the area (if any)." This recommendation essentially proposes that the project move forward in the absence of information about likely impacts and appears to assume that the project owner will decrease pumping if negative impacts occur. Such an approach would constitute unsound planning.

Appendix 2: Plant species present in Rector Canyon above Reservoir, Napa County, California

Prepared by Amber Manfree, Ph.D.

Ferns and Allies

Blechnaceae Deer Fern Family
Woodwardia fimbriata Chain fern Native
Equisetaceae Horsetail Family
Equisetum sp. Horsetail Native
Pteridaceae Brake Fern Family
Adiantum aleuticum Five-finger fern Native
Adiantum jordanii California Maiden-hair Fern Native
Polypodiaceae Polypod Fern Family
Polypodium glycyrrhiza Licorice fern

Gymnosperms

Pinaceae Pine Family
Pseudotsuga menziesii Douglas fir Native
Taxaceae Yew Family
Torreya californica California nutmeg Native

Dicots

Anacardiaceae Sumac Family
Toxicodendron diversilobum Poison oak Native
Apocynaceae Dogbane Family
Vinca major Greater periwinkle Exotic invasive
Aristolochiaceae Pipevine Family
Aristilochia californica Dutchman's pipe Native
Asteraceae Sunflower Family
Anisocarpus madioides Woodland madia Native
Artemesia douglasiana Mugwort Native
Hieracium albiflorum White-flowered hawkweed Native
Betulaceae Birch Family
Alnus rhombifolia White alder Native
Calycanthaceae Spicebush Family
Calycanthus occidentalis Spicebush Native
Caryophyllaceae Pink Family
Silene laciniata Indian pink Native
Ericaceae Heath Family
Rhododendron occidentale Western azalea Native
Fabaceae Pea Family
Genista monsplessulana French broom Exotic invasive
Hoita macrostachya Leather-root Native
Pickeringia montana var. montana Chaparral pea Native
Rupertia physodes California tea

Fagaceae Oak Family
Quercus agrifolia Coast live oak Native
Quercus chrysolepis Canyon oak Native
Quercus wisizeni var. frutescens Interior-live oak (Shrub) Native
Grossulariaceae Gooseberry Family
Ribes sp. Gooseberry Native
Hydrangeaceae Hydrangia Family
Whipplea modesta Yerba de selva, Modesty Native
Lamiaceae Mint Family
Mentha arvensis Field mint Native
Trichostema laxum Turpentine weed Native
Lauraceae Laurel Family
Umbellularia californica California bay Native
Myrsinaceeae Myrsine Family
Trientalis latifolia Starflower Native
Oleaceae Olive Family
Fraxinus latifolia Oregon ash Native
Onagraceae Evening Primrose Family
Clarkia concinna ssp. concinna Red ribbons Native
Epilobium cilatum ssp. cilatum California willowherb Native
Orobanchaceae Broom-rape Family
Castilleja affinis ssp. affinis Paintbrush Native
Phrymaceae Lopseed Family
Mimulus auranticus Orange-bush monkeyflower Native
Mimulus cardinalis Scarlet monkeyflower Native
Mimulus guttatus Seep-spring monkeyflower Native
Mimulus pilosus Minature monkeyflower Native
Plantaginaceae Plantain Family
Collinsia heterophylla Chinese houses Native
Keckiella corymbosa Red beardtongue Native
Polygonaceae Buckwheat Family
Rumex salicifolia Willow dock Native
Ranunculaceae Buttercup Family
Delphinium nudicaule Canyon delphinium Native
Rhamnaceae Buckthorn Family
Ceanothus parryii Parry's ceanothus Native
Rosaceae Rose Family
Amelanchier utahensis Utah serviceberry Native
Holodiscus discolor Ocean spray Native
Physocarpus capitatus Ninebark Native
Rosa californica California rose Native
Rubus ursinus California blackberry Native
Sapindaceae Soapberry Family
Acer macrophyllum Big-leaf maple Native
Aesculus californica California buckeye Native
Saxifragaceae Saxifrage Family

Boykinia occidentalis Brook foam Native
Heuchera micrantha Alum root Native
Vitaceae Grape Family
Vitis californica California grape Native

Monocots

Cyperaceae Sedge Family
Carex nudata Torrent sedge Native
Liliaceae Lily Family
Fritillaria affinis Checker lily Native
Orchidaceae Orchid Family
Epipactis gigantea Stream orchid Native
Poaceae Grass Family
Melica torreyana Torrey's onion grass Native

Appendix 3: Aquatic vertebrates present in Rector Creek above Reservoir, Napa County, California

Prepared by: Teejay O'Rear, M.S.

Species	Native	Substrate preference	Flow requirements	Temperature preference	Status
Foothill yellow-legged frog	Y	cobble	moderate	cool	SSC
CA giant salamander	Y	cobble	moderate	cool	SSC
rainbow trout	Y	cobble	moderate	cool	
rough-skinned newt	Y	> gravel	varies	cool	
Coast Range newt	Y	> gravel	varies	cool	
largemouth bass	N	none	still	warm	
green sunfish	N	none	still	warm	
bullfrog	N	none	still	warm	
Pacific chorus frog	Y	none	still	none	

Appendix 4: Photographs of Rector Creek above Reservoir, Napa County, California

Prepared by Amber Manfree, Ph.D.

Appendix 4 part 1: Habitat

Appendix 4 part 2: Aquatic invertebrates

Appendix 4 part 2: Aquatic invertebrates (continued)

Appendix 4 part 3: vertebrates

October 11, 2016

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McDowell, John

From: Amber Manfree <admanfree@gmail.com>
Sent: Saturday, November 19, 2016 6:28 PM
To: McDowell, John
Subject: Re: Comments on Mountain Peak Winery Use Permit Application #P13-00320-UP
Attachments: 2016_10_11_MountainPeak_BiologicalImpacts_attn_JohnMcDowell_all_signatures.pdf

Dear Mr. McDowell,

An updated letter with signatures from all parties is attached. There are no substantive changes - just one additional signature. I will send the inked copy to you via USPS at my earliest convenience.

Amber

On Wed, Oct 12, 2016 at 8:16 AM, McDowell, John <John.McDowell@countyofnapa.org> wrote:

Thank you for your comments. The attachment appears to have conveyed true and complete.

John McDowell

Deputy Planning Director

Napa County Planning, Building and Environmental Services Department

(707) 299-1354

From: Amber Manfree [mailto:admanfree@gmail.com]
Sent: Tuesday, October 11, 2016 6:08 PM
To: McDowell, John
Cc: taorear@ucdavis.edu; pbmoyle@ucdavis.edu; Jacob Katz; rmgailey@ucdavis.edu
Subject: Comments on Mountain Peak Winery Use Permit Application #P13-00320-UP

Dear Mr. McDowell,

Attached please find a letter regarding the Mountain Peak Winery Use Permit Application presently being considered by Napa County. Authors urge Napa County to require the applicant to prepare a full EIR for this project as materials submitted thus far do not demonstrate that there will be no significant biological impact(s).

Please consider me the corresponding author for this letter, which several natural resources professionals have collaborated on. Authors reserve the right to submit additional material between now and the hearing date.

Amber Manfree

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