SVWQC

January 8, 2013

Pamela Creedon, Executive Officer
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, California 95670-6114

RE: Management Plan Completion Request – *Pope Creek*

Dear Ms Creedon:

The Sacramento Valley Water Quality Coalition (Coalition) and Putah Creek Watershed Group (PCWG Napa) request Executive Officer approval for completion of the pH Management Plan at Pope Creek. As we describe in more detail below, the elevated pH observed in Pope Creek represents the natural condition in the drainage. Furthermore, the elevated pH is not a result of practices on the relatively small agricultural acreage in this drainage.

BACKGROUND FOR MANAGEMENT PLAN REQUIREMENT

There have been 24 sampling events at Pope Creek since monitoring began in January 2005. A number of early events were sampled using methods (pH paper "test strips") that didn't comply with the Coalition's Quality Assurance (QA) requirements and these data were rejected. For the 15 events monitored with proper equipment and techniques, there have been two water quality samples that have exceeded the water quality trigger limit range of 6.5-8.5. The Pope Creek pH Management Plan requirement was triggered by two marginal exceedances observed in December 2009 (8.61) and March 2010 (8.55).

DATA AND EXCEEDANCES

Relevant monitoring data for the management plan are provided in Table 1. Marginal exceedances were observed in December 2009 (8.61) and March 2010 (8.55). The average pH measured for all Pope Creek monitoring results was 8.18 units.

EVALUATIONS SUPPORTING REQUEST

The following evaluations were conducted to support this request:

Natural Background Conditions	Based on sampling in drainage tributaries, elevated pH near 8.5 represents the natural condition for streams in the drainage and should be considered in compliance with the water quality objective.
Lack of agricultural contribution to the exceedances	Agricultural acreage is a very small percentage of the drainage. The level of management practice implementation is high in the drainage.

The Sacramento Valley Water Quality Coalition (Coalition) conducted a special sampling study to evaluate pH conditions for tributaries in the Pope Creek drainage in Napa County. In February and April of 2012, the Napa County RCD conducted supplemental monitoring of pH at four tributary locations in addition to the primary sampling site. The results of this sampling confirmed that pH is naturally elevated above 8.0 in the streams in the region and that pH values between 8.5 and 9.0 should be considered to be within natural background and to meet water quality objectives appropriate for the drainage. Four of the five tributaries were similarly elevated in pH (8 - 8.5) and were in the upper range of the Basin Plan pH objective (6.5-8.5) for the February and April 2012 events. The results of these two sample events are provided in the attached maps and in Table 1. Based on these sampling results, it was confirmed that the elevated pH observed in Pope Creek represents the natural condition in the drainage and is not a result of practices by the relatively small agricultural acreage in this drainage.

Furthermore, the limited amount of irrigated acreage and high level of implementation of practices in this watershed also demonstrate that agriculture is unlikely to be contributing to the elevated pH. The PCWG-Napa watershed contains less than 2% irrigated agriculture land use, which is dominated by drip-irrigated grape vineyards (98.5%). Nearly all wine grape producers practice deficit irrigation, according to the recommendations of UC Extension researchers. Irrigation-induced soil erosion is not considered to be a concern in the drip-irrigated wine grape vineyards because application rates are well below minimum soil infiltration rates for all mapped soils in the drainage.

In 1991, the Napa County Conservation Regulations were adopted to establish agricultural requirements that address soil erosion, runoff, and riparian protection in developing and re-developing vineyard lands. The ordinance requires that applicants who are planting or replanting vineyards on lands greater than 5 percent slope submit an erosion control plan. The plans are carefully reviewed by the Napa County RCD and County Planning Department. In addition, all lands where vineyards are proposed for development must set back from seasonal and perennial creeks at least 35 feet to allow for water quality and riparian habitat protection. The County regulations require that growers propose and adopt best management practices before a permit is issued.

OUTREACH AND EDUCATION

Outreach and education efforts are not the basis for this request because elevated pH is natural for the drainage, and agriculture is not a contributing influence. However, the approval of the PCWG-Napa's proposal to conduct a Management Practices Pilot Program beginning in the summer of 2010 is relevant in supporting the conclusion that agricultural is not contributing to elevated pH. During that last two years they have surveyed 95% of their growers on the management practices they use to protect water quality and verified that practices reported are actually in place. Additionally, the Napa County Farm Bureau is a supporter of the Fish Friendly Farming program http://www.fishfriendlyfarming.org/ .

MANAGEMENT PRACTICES AND SURVEY RESULTS

No additional Management Practices were required or specifically implemented to manage pH exceedances. However, there is a high degree of management practice implementation in the PCWG-Napa subwatershed. As referenced above, the PCWG-Napa began the Management Practices Pilot Program in 2010. Growers were sent the program's grower questionnaire to document the use of BMPs in their farming operation. The first year 93.5% of our 62 PCWG members responded to the questionnaire with 85% (49 out of 58) of the respondents irrigate winegrapes exclusively. The results reported in the June 2011 Management Practices Pilot Program Annual Report include the following:

- 89% of all respondents maintain their access roads and cover crops to control stormwater runoff and reduce erosion.
- 93% of all respondents practice irrigation water management.
- 78 % of all respondents practice nutrient management.
- 81% of all respondents practice pest management.
- 83% of all respondents are actively engaged in the PCWG
- 55% of all respondents that grow winegrapes (51 total) have an erosion control plan approved by Napa County.

CONCLUSIONS

In February and April of 2012, the Napa County RCD conducted supplemental monitoring of pH at four tributary locations in addition to the primary sampling site. All of these tributaries were similarly elevated in pH (7.2 -8.5) and four of five tributaries had a pH of 8 or greater for the February and April 2012 events. Based on these sampling results, it is apparent that the elevated pH in Pope Creek represents the natural condition and is not a result of agricultural practices on the relatively small agricultural acreage in this region. Based on these findings, the Management Plan should be considered completed based on (1) a lack of agricultural contribution to the exceedances, and (2) the achievement of appropriate water quality objectives.

As specified in the SVWQC's *Criteria for Completion of a Management Plan,* we respectfully request that you make a determination of the completeness of this management plan.

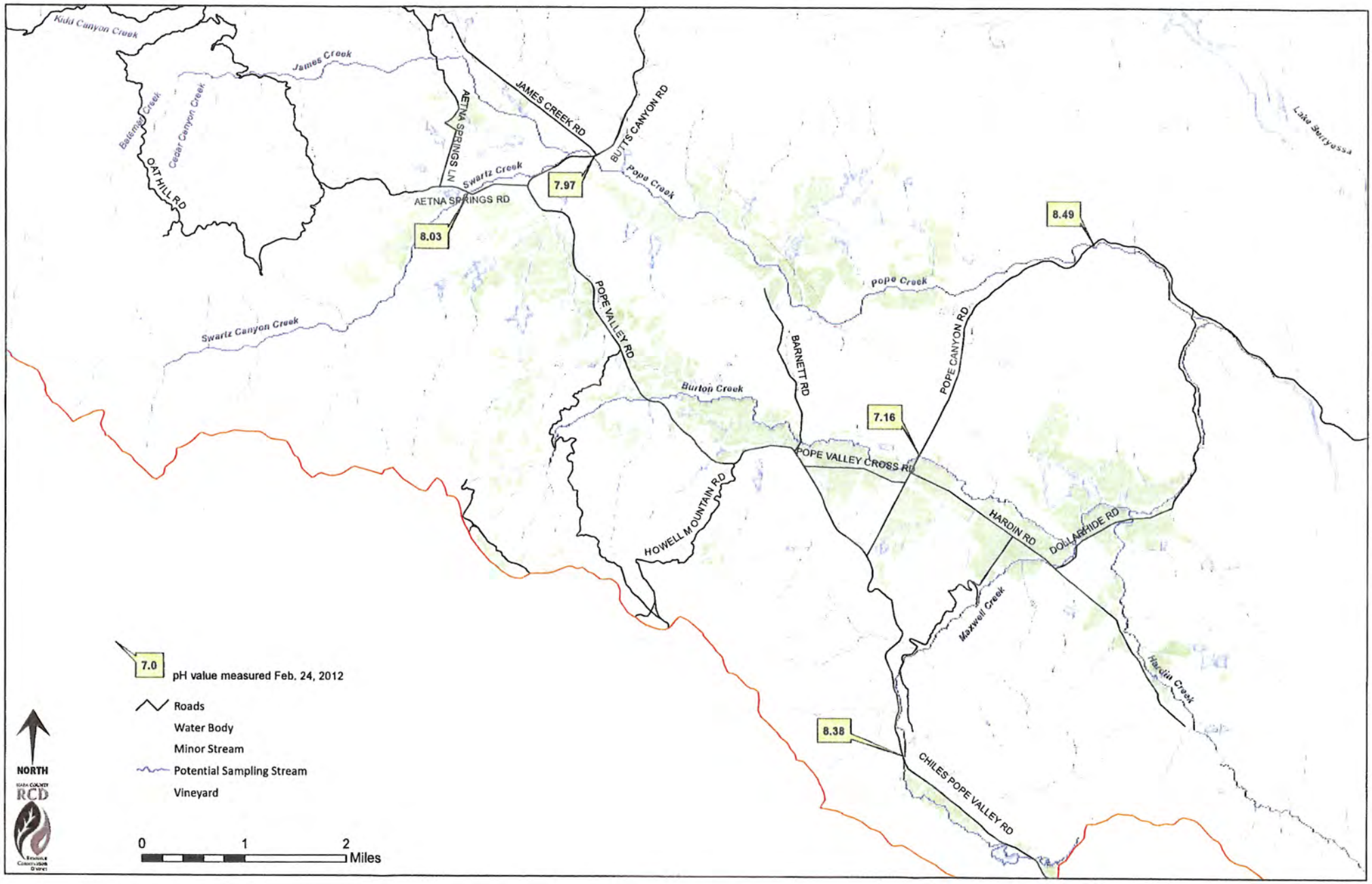
Sincerely,

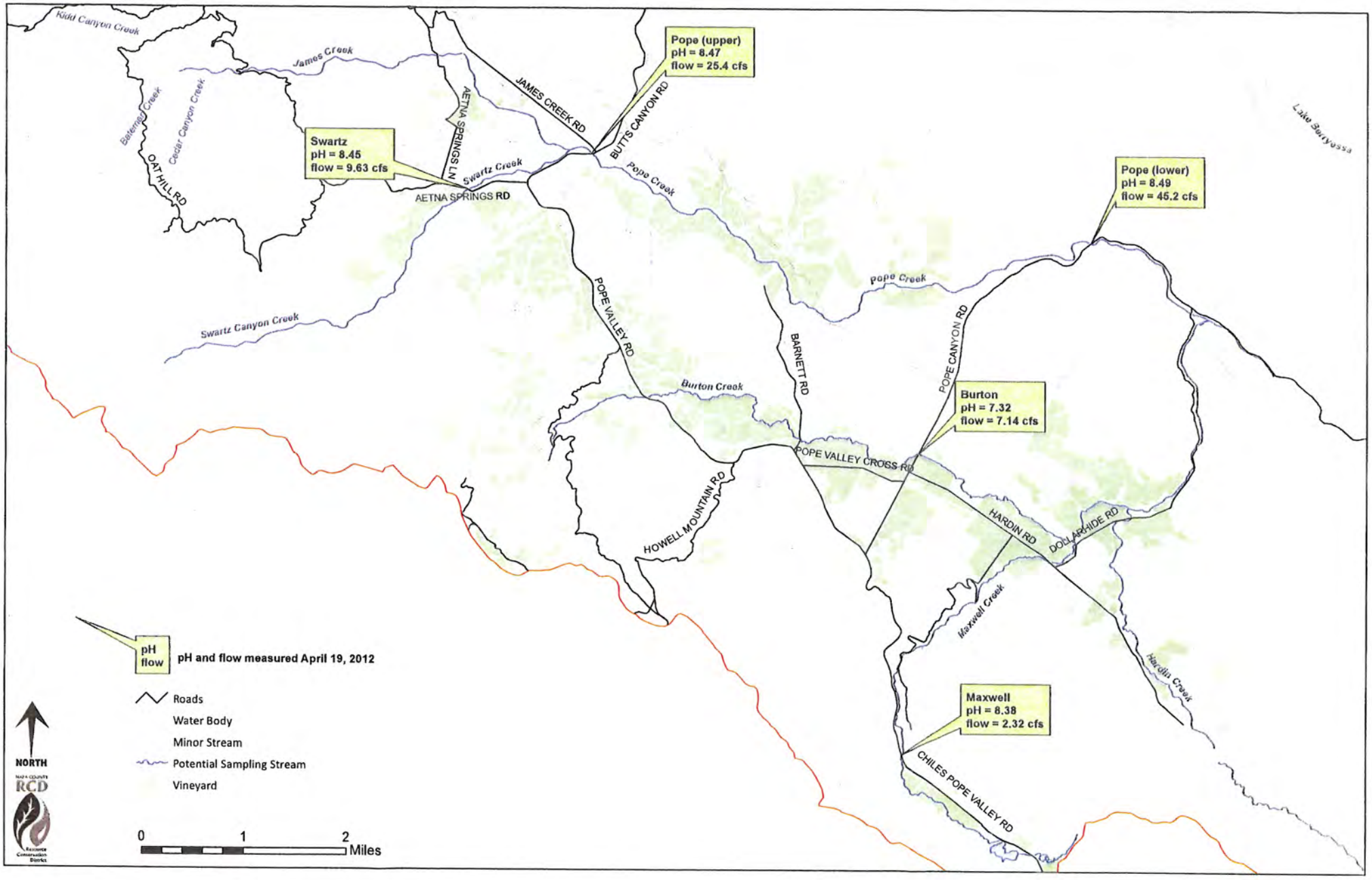
David J. Guy
President
Northern California Water Association

Cc: Joe Karkoski
Susan Fregien
Mark Cady
Jonathan Koehler
Sandy Elles
Bruce Houdesheldt
Claus Suverkropp

Table 1. Relevant Monitoring Results for Pope Creek Drainage

Event	Site	Sample Date	pH Result
1	Pope Creek upstream from Lake Berryessa	1/13/05	7.3
29	Pope Creek upstream from Lake Berryessa	5/1/08	7.3
36	Pope Creek upstream from Lake Berryessa	2/3/09	8.2
37	Pope Creek upstream from Lake Berryessa	3/2/09	7.5
38	Pope Creek upstream from Lake Berryessa	4/1/09	8.3
39	Pope Creek upstream from Lake Berryessa	5/1/09	8.3
46	Pope Creek upstream from Lake Berryessa	12/1/09	8.61
47	Pope Creek upstream from Lake Berryessa	1/4/10	7.9
47	Pope Creek upstream from Lake Berryessa	1/4/10	8.12
48	Pope Creek upstream from Lake Berryessa	2/1/10	8.13
49	Pope Creek upstream from Lake Berryessa	3/1/10	8.55
50	Pope Creek upstream from Lake Berryessa	4/1/10	8.23
51	Pope Creek upstream from Lake Berryessa	5/3/10	8.41
72	Pope Creek upstream from Lake Berryessa	2/24/12	8.49
72	Maxwell Creek at Pope Valley Road	2/24/12	8.38
72	Burton Creek at Pope Canyon Road	2/24/12	7.16
72	Upper Pope Creek at Pope Valley Road	2/24/12	7.97
72	Swartz Creek at Aetna Springs Road	2/24/12	8.03
74	Pope Creek upstream from Lake Berryessa	4/19/12	8.49
74	Maxwell Creek at Pope Valley Road	4/19/12	8.38
74	Burton Creek at Pope Canyon Road	4/19/12	7.32
74	Upper Pope Creek at Pope Valley Road	4/19/12	8.47
74	Swartz Creek at Aetna Springs Road	4/19/12	8.45


Kidd Canyon Creek
James Creek
Bateman Creek
Cedar Canyon Creek
OAT HILL RD
AETNA SPRINGS LN
JAMES CREEK RD
BUTTS CANYON RD
Swartz Creek
AETNA SPRINGS RD
7.97
8.03
Pope Creek
Lake Berryessa
8.49
pope Creek
POPE VALLEY RD
Swartz Canyon Creek
BARNETT RD
POPE CANYON RD
Burton Creek
7.16
POPE VALLEY CROSS RD
HOWELL MOUNTAIN RD
HARDIN RD
DOLLARHIDE RD
Maxwell Creek
Hardin Creek
8.38
CHILES POPE VALLEY RD
7.0
pH value measured Feb. 24, 2012
Roads
Water Body
Minor Stream
Potential Sampling Stream
Vineyard
NORTH
NAPA COUNTY RCD
0
1
2
Miles


Kidd Canyon Creek
James Creek
Bakeman Creek
Cedar Canyon Creek
OAT HILL RD
AETNA SPRINGS LN
JAMES CREEK RD
BUTTS CANYON RD
Pope (upper)
pH = 8.47
flow = 25.4 cfs
Swartz
pH = 8.45
flow = 9.63 cfs
Swartz Creek
AETNA SPRINGS RD
Pope Creek
Lake Berryessa
Pope (lower)
pH = 8.49
flow = 45.2 cfs
Swartz Canyon Creek
POPE VALLEY RD
BARNETT RD
POPE CANYON RD
Burton Creek
Burton
pH = 7.32
flow = 7.14 cfs
POPE VALLEY CROSS RD
HOWELL MOUNTAIN RD
HARDIN RD
DOLLARHIDE RD
Maxwell Creek
Hardin Creek
Maxwell
pH = 8.38
flow = 2.32 cfs
CHILES POPE VALLEY RD
pH
flow
pH and flow measured April 19, 2012
Roads
Water Body
Minor Stream
Potential Sampling Stream
Vineyard
NORTH
NAPA COUNTY RCD
Resource Conservation District
0
1
2
Miles