CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

MEETING OF JULY 11-12, 2012
SOUTH LAKE TAHOE

ITEM: 6

SUBJECT: **WORKSHOP ON LIVESTOCK GRAZING AND WATER QUALITY**

WORKSHOP DESCRIPTION: Staff will present information on recent efforts to modify grazing activities to protect or improve water quality, including grant support to install and evaluate grazing management practices. Staff will also describe the Water Board's process to consider revising water quality objectives to account for grazing activities. Recent federal, state and regional actions to revise the coliform bacteria standards will be shared, including plans to revise the coliform standard in the *Water Quality Control Plan for the Lahontan Region* (Basin Plan).

DISCUSSION: In California, about 40 million acres are used as rangeland, with half in public, half in private ownership. Nearly 100 water quality impairments identified on the 2010 Clean Water Act Section 303(d) list (impaired water bodies list) in California are located on lands with active grazing operations; these grazing operations are likely contributing to many of these water quality impairments and associated impacts to beneficial uses. Some of these impairments are due to bacteria or pathogens. In the Lahontan Region, thirteen of the 43 water body segments listed as impaired are for violations of pathogen water quality objectives. This is 30 percent of the Region's listed waters. The total mileage of pathogen-listed streams (no lakes or wetlands are listed for pathogens) is 87 miles. Because many of these water bodies are located in the Bridgeport Valley of Mono County, the Water Board began focusing actions to address the impairments in this watershed, and will consider future regulatory actions on grazing activities in other watersheds with impaired water bodies as resources allow.

Livestock feces in waterways can spread many pathogens. Specific waterborne pathogens (such as *Cryptosporidium*, *Giardia*, and *Campylobacter*) are very difficult to monitor on a routine basis, and the methods for monitoring them are not well standardized nor widely accepted. Thus, cost-effective bacterial indicators such as fecal coliform and *Escherichia coli* (*E.coli*) have long been used to evaluate the risk of water contamination by enteric pathogens because they signal fecal contamination.

As part of the Region's Surface Water Ambient Monitoring and Nonpoint Source Programs, staff has been monitoring bacteria for many years from sites on both public and private lands. During the 2011 field season, staff collected water samples from several streams in the eastern Sierra Nevada. Samples were analyzed for two bacterial indicators (fecal coliform and *E. coli*). The results show that the highest

concentrations of fecal coliform bacteria typically occurred at sites where rangeland livestock grazing was the predominant land use at the time of sampling. (See results at http://www.waterboards.ca.gov/lahontan/water_issues/programs/nps/docs/bacteria_monitoring.pdf.) Other bacterial sampling documented water quality improvements at Big Meadow Creek and a reach of the Upper Truckee River in the Lake Tahoe Basin. Both of these waters were impaired and had been grazed. Water Board data supported the delisting. This work was showcased as a Nonpoint Source Success Story by the U.S. Environmental Protection Agency (USEPA). (See http://water.epa.gov/polwaste/nps/success319/ca_bigmeadow.cfm to read the Success Story.)

To encourage improved management of grazing operations, staff has pursued funding opportunities for ranchers. Water Board staff secured a Proposition 84 Agricultural Water Quality (AWQ) Grant of $1M to implement grazing management practices and assess, through water quality monitoring, the effectiveness of these practices This project is now underway with collaboration from the Sierra Business Council and the U.C. Cooperative Extension Rangeland Science Department. (See http://www.waterboards.ca.gov/lahontan/publications_forms/publications/prop84fs.pdf for a Fact Sheet on this grant.)

To more efficiently address water quality impairments associated with grazing operations, the Water Boards have formed a team to work on the Statewide Grazing Regulatory Action Project. The work team is under the lead of Lahontan Water Board staff with participation from staff at five other Regional Boards and from the State Water Board. The work team is developing grazing regulatory tools that may include statewide permitting templates, multi-region permits, statewide policies or permits. The work team is striving to balance statewide consistency with Regional Board autonomy, as individual Regional Boards will determine the best regulatory approach to be used in a specific watershed or region. The work team expects that the draft regulatory tools will be completed within the next six months and will then be available for public review, with a planned completion date of March 2014.

As noted above, fecal coliform and *E. coli* have long been used to evaluate the risk of water contamination by enteric pathogens from animal wastes. Since 1986, USEPA guidance has recommended that states replace existing fecal coliform bacteria standards with *E.coli* criteria. In 2011, the USEPA published draft water quality criteria for recreation that include *E. coli* standards. These draft criteria are currently undergoing scientific review with the final criteria document scheduled for public release in October 2012, followed by the release of the final technical supporting documents in December 2012. In coordination with the USEPA, the State Water Board is also developing a draft recreation water policy and staff report targeted for public release in late 2012 after the release of the USEPA's final criteria document.

The Region's Basin Plan currently has no numeric water quality objectives for *E. coli*. In 2010, the U.C. Cooperative Extension Rangeland Science Department completed a study for the Water Board to assess the correlation between fecal coliform and indicator *E.coli* concentrations across a broad suite of streams and rivers in the Region. Data from this study, along with data collected by staff, UC Davis, USFS, and ranchers assessing grazing management practices, will be used to inform appropriate water quality objectives for *E. coli* and potential future revisions to the Basin Plan to include these new *E. coli* objectives.

State and federal anti-degradation analyses will be required to consider revising the water quality objectives to a less stringent level than what is currently in the Basin Plan. As specified in the Clean Water Act, once the existing uses of a water body have been established – by evaluating the water's quality relative to uses already attained- the State must maintain the level of water quality that has been identified as being necessary to support those existing uses. If the water quality is better than what is necessary to support the existing uses, the State has discretion to allow less stringent water quality objectives provided that the existing uses can still be supported and pollution controls are being implemented (stringent technology-based controls for point sources of pollution and reasonable, cost-effective best management practices for non-point sources of pollution.)

This process to revise water quality objectives and the Basin Plan is expected to take several years with a planned completion date of January 2019. Data from the completed Proposition 84 AWQ grant is a necessary part of the process and will not be available until April 2015. Analyses of several years of bacteria data collected by staff and ranchers will need to be completed. Once the recommended revisions are drafted in 2016, required environmental impact analyses, peer review and public review are expected to be completed by 2018. Approximately one more year (until about January 2019) will be needed to complete the Regional and State Water Board public hearings, and obtain required approvals by USEPA and CA Office of Administrative Law.

Water Board staff intends to bring a recommendation for the Basin Planning priorities for the next three years to the Board in Fall 2012. The Board at that time will consider setting a schedule for revised bacteria standards.

RECOMMENDATION: This is an informational item. The Water Board will not be asked to take any action but may provide direction to staff.

ENCLOSURE 1

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Wike, Amber@Waterboards

From: Smith, Doug@Waterboards
Sent: Tuesday, July 03, 2012 3:22 PM
To: Wike, Amber@Waterboards
Subject: FW: Agenda Item 6 (1of 4)
Attachments: Comments re Workshop Agenda Item 6.PDF; Declaration of WJT-FC History.PDF; Declaration of WJT-FC Comparison.PDF

Amber,

Please print the email and the three attachments. This is the first of four email.

D☺

From: Linda Graham [mailto:Linda.Graham@bbklaw.com]
Sent: Thursday, June 28, 2012 2:29 PM
To: Warden, Bruce@Waterboards; Kouyoumdjian, Patty@Waterboards
Cc: William Thomas
Subject: Agenda Item 6

Relative the the Lahontan Regional Board workshop/hearing of July 11, 2012, attached please find a comment letter addressing Item 6 of the Workshop Agenda, and two supporting declarations of William Thomas.

Additionally, we respectfully request that you provide the Board Chair and the Board Members with copies of these documents.

Thank you,
Linda Graham

William J. Thomas
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CENTENNIAL RANCHES
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Respond to:
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June 28, 2012

Don Jardine, Board Chair
Peter Pumphrey, Vice Chair
Jack Clarke, Board Member
Keith Dyas, Board Member
Amy Horne, Ph.D., Board Member
Eric Sandel, Board Member
Patricia Kouyoumdjian, Executive Officer
Bruce Warden, Ph.D
California Regional Water Quality Control Board
Lahontan Region
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150

RE: CENTENNIAL RANCHES - COMMENTS RE BASIN PLAN WORKSHOP AGENDA ITEM 6

Dear Board Chair, Board Members, Ms. Kouyoumdjian, and Dr. Warden:

Follows are Centennial Ranches' comments in respect to the workshop on the basin plan pathogen objective.

1. Unreasonable Delay

We are very distressed in respect to what we regard as an irresponsible delay in addressing the abnormal and inappropriate basin plan fecal coliform objective for grazing areas of the region. It has been widely recognized since at least 2005 that the 20 col FC/100 mL was placed in the basin plan to protect Lake Tahoe, was never reviewed as to its applicability in the agricultural areas, is unreasonably extreme, and in the need for amendment.

When the 2006 agricultural waiver was initially promulgated this Board recognized the 20 col FC objective's inappropriateness and advanced in its stead a 200 col. FC/100 mL interim objective, and called for a review of this objective. Throughout the 5-year waiver period the Bridgeport Ranchers have sought this objective to be reviewed by the Lahontan Board. Staff have failed to put this on the Board's agenda, failed to commence a triennial review of the objective or in any other meaningful way consider reviewing the objective.

The SWRCB SWAMP program, University of California and Regional Board have all engaged extensive monitoring over the last six years. Moreover, the Bridgeport Ranchers in coordination with the University of California and the Regional Board have collected six years of water monitoring data throughout the Bridgeport Valley area. This constitutes an enormous data base and certainly enough on which to base an adjustment in the applicability of the 20 col./100 mL objective to only Lake Tahoe and pristine waters that it was designed to protect and set 200 col/100 mL (the same as virtually all other regional waters in the state) in the agricultural areas of the Lahontan Region.

The schedule advanced in this workshop notice does not even start the amendment process for three additional years and drags out the "triennial review" for a total of seven more years (a total of 13 years for government to correct a mistake). This is irresponsible and if need be, we will have to bring this issue to another forum for resolution.

2. The Original Waiver Itself Recognized the Extreme Nature of the Basin Plan Objective

When the Lahontan Regional Board was considering its initial agricultural waiver (dated June 13, 2007), it was pointed out to the Board that the Lahontan basin plan contained a very unusual 20 col 100 ml fecal coliform objective.[1] This objective was originally adopted based on Lake Tahoe's unique purity. Therefore, we argued that this standard should be amended or clarified so that in agricultural areas of the region outside of the Tahoe basin the objective should be 200 col/100 ml to match all other areas of the state. Board members expressed an interest in this potential amendment to the basin plan at that time; however, Harold Singer suggested the waiver operate under an interim standard of 200 col FC/100 ml for 10 years, during which it would be determined if 20 col FC/100 ml would be easily achieved and, if not, the interim standard of 200 col/100 ml would be made permanent.

The Lahontan Board went with the interim standard approach, but was so apprehensive as to even the possibility of applying the 20 col FC/100 ml objective, that in the adoption of the waiver they included Finding 4 which recognized the unusual and extreme nature of this objective. The Finding further indicated that the 200 col FC/100 ml would fully protect the beneficial uses of water in the Bridgeport valley, agriculture and recreation uses. The Finding closed by indicating the Board would review and amend the standard, a commitment that Lahontan staff has repeated to the Bridgeport Ranchers throughout the several years we have

[1] No other water in the state or nation is regulated to the 20 col FC/100 mL objective. We compared this Region's pathogen objective to those other Regional Boards which have the base objective of 200 col. FC/100 mL for municipal and contact recreation and most have non-contact recreation objective at 2000 col. The Bridgeport waters do not have municipal or contact recreation beneficial uses. See my declaration attached as Exhibit A.

operated under the waiver; however, the Board has neglected to do so, notwithstanding repeated requests/suggestions.[2]

3. History of the Lahontan Basin Plan Fecal Objective

We had officially served a Public Record Act request on the Regional Board for all records and documents relating to the development of the present basin plan objective.

The earlier records confirm that the early focus was principally limited to the waters surrounding Lake Tahoe and in the Lake waters themselves. It is very instructive that the water data from 1966-1971 set forth fecal standards in Lake Tahoe itself of 32, 64, 240 and 700 fecal colonies depending on lakeshore development and distance from shore.

The early Basin was bifurcated and referred to as the North and the South Lahontan Regions. The Lahontan Board for the North Lahontan Region in 1973 set forth an REC 1 objective of 200 FC/100 mL for most Regional waters, including the East Walker and Lake Tahoe, and the non-contact REC 2 standard was set at 2000 FC/100mL.

In December 1974, the Lahontan South Basin also referenced the U.S. Department of Interior federal standard of 1000 FC/100mL.

In 1975 the State Board stated: "State Board has indicated the desire to achieve uniform wording and presentation of water quality objectives in the basin plans." At that time, they set 200 FC/100mL as the REC 1 standard, but also stated: "As a minimum requirement, fecal coliform limits should be established for all waters using the language provided. Alternative, more stringent limits for individual waters or groups of waters may be included if substantiated by local epidemiological experience or evidence of existing water quality."

In 1976, the US EPA recommended revising the North Lahontan areas near Lake Tahoe to be the then present Lake Tahoe water quality. The Region's response was that the Lake may be near zero in the middle, but is far higher at shore, so the Regional staff merely arbitrarily

[2] Waiver Finding 4: "Fecal Coliform Water Quality Objective. The Water Board has set the Region-wide water quality objective for fecal coliform at 20 colonies per 100 ml, ten times more stringent than the Federal standard at 200 colonies per 100 ml and any other Region in California, recognizing that waters in the Lahontan Region are generally pristine, and recreation is the major use of these waters. USEPA finds the Federal standard to be protective of water contact recreational beneficial uses. However, during the Grazing workshop and Triennial review of the October 11, 2006 Water Board meeting, the Water Board heard public comments regarding revising the fecal coliform standard to be consistent with Federal standards for areas, such as Bridgeport Valley, where beneficial uses have historically been predominantly agricultural. If, during the time of this Waiver, the Water Board has sufficient information to propose a Basin Plan Amendment for fecal coliform, Waiver conditions, milestones, and timelines may be revised accordingly."

settled on a single 20 FC/100mL value for the Lake. In 1983, therefore, the North Lahontan Region set a 20 FC/100 mL standard for the Truckee River to protect from "human wastes".

In 1994, the North and South Lahontan Regions were combined and the 20 FC/100mL objective was thereby simply retained in the basin plan throughout the Region and was also expanded to deal with human and livestock waste.

Notwithstanding the State Board's directive for uniformity, the Lahontan Region, which had been nearly exclusively focused on Lake Tahoe, (a) collapsed the North and South Regions together, (b) came up with an arbitrary Lake Tahoe standard of 20 FC, notwithstanding that much of the Lake itself exceeded that level even then, (c) expanded its scope to also deal with livestock waste (no mention of wildlife contribution) and (d) imposed the 20 FC/100 mL objective throughout the Region. It did so without any supportive epidemiological experience or water data or consideration of the agricultural sectors of the Region as the State Board had directed in 1975.

This Board had no data to support that objective ever being applied to agricultural water. Moreover, we do not propose to amend the objective for Lake Tahoe or other pristine waters. Therefore, we are "not reducing" a present health standard (additionally, there is no MUN or REC1 use of the Bridgeport waters), we are merely pointing out it was set with no supportive data, is improper, and must be immediately amended as to the agricultural waters so as to harmonize this region with other regions of the state. Refer to my supportive declaration which covers the history of the 20 col/100 mL objective in further detail. (Attached as Exhibit B)

4. Beneficial Uses on Bridgeport Ranchlands

The Bridgeport Valley is entirely private property with the exception of highways and certain in-town and governmental parcels. This includes all the grazing property and the Bridgeport Reservoir itself. Historical water quality data confirm that the water leaving the private property into the East Walker River at the discharge point of the Bridgeport Reservoir is not only totally within basin plan standards, it generally has no evidence of fecal coliform. Consequently, this entire concern over Bridgeport Valley water quality issue only involves the "on ranch" coliform levels which involve less than six miles of the watercourses entirely while they are serving agriculture on private property. The East Walker water leaving the Valley at the Reservoir is within basin plan objectives.

There is no lawful access onto any of the Bridgeport ranches. Notwithstanding the general basin plan reference to designated beneficial uses, there is no municipal (MUN) or contact recreation (REC-1) use of these Bridgeport waters. The only significant beneficial uses in the valley are agriculture (AGR), fish habitat (COLD), and non-contact recreation (REC-2).

5. The California Water Code Demands Only Reasonable Regulation of Water Quality.

Throughout the Porter-Cologne provisions of the California Water Code (CWC), there is an underlying requirement of reasonableness as a limit to the regulation of water quality in the state. For example, under CWC section 13300, the state may only regulate water quality "reasonabl[y], considering all demands being made and to be made on those waters." Similarly, under section 13050, "pollution means any alteration of the quality of water which may unreasonably affect" the waters of the state. Even more instructive is the provision in CWC § 13050 which states that while each Regional Board is required to ensure the "reasonable protection of beneficial uses,...it is recognized that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses."

These legislative instructions for reasonableness and balancing the uses of water and water purity are particularly relevant to the Board's consideration of this basin plan objective. The 20 colony objective is clearly inappropriate and unreasonable for the agricultural use of water anywhere in the region, but particularly as to grazing meadows such as the Bridgeport Valley. Grazing in this valley is the economic engine for this county and, furthermore, enables and supports the recreational (Twin Lakes and Bridgeport Reservoir) and aesthetic values of the valley and along the US 395 corridor. Grazing, which has thrived here for 150 years, is now entirely at risk by this basin standard. The law itself demands your timely responsible and reasonable action.

6. Best Management Practices

Best practical control practices (i.e., crossings, fence off riparian pastures, cattle management, vegetative buffer zones, control irrigation runoff, etc.) have been employed and have contributed to water quality improvements; however, additional practices or technologies will have to yet be developed by the landowners working with the University to achieve consistent compliance with a reasonable water quality objective.

We have installed nearly 15 miles of riparian protective fences and have fenced off a vegetative filter along the entire three to four mile south side of US 395. We have also installed many miles of temporary fencing for water protection and to allow for improved cattle management. We have also gone to more intense short-term grazing in key areas all governed by consideration of water quality. These capital, operational and management costs have exceeded several hundred thousand dollars of commitment by Centennial Ranches to water quality.

7. Water Quality Monitoring

The above described Best Management Practices couple with similar efforts of our neighbors to improve water quality throughout the valley. Attached as Attachment A is an actual summary of the six years of water quality monitoring.

Sincerely,

WILLIAM J. THOMAS

WJT:lmg
attachments

ATTACHMENT A

Attached as Exhibit B please find a chart of the Bridgeport water quality monitoring data over six years from 2006-2011. These data are also relevant to the pressing issue of evaluating the appropriateness of the 20 col/100 ml basin standard. Follows are our thoughts on (A) the 20 col/100 ml issue, and (B) our 6-year data.

A. Need for amendment of the 20 col/100 ml Lahontan basin plan objective.

A major factor in evaluating a basin plan objective is its reasonableness. Forgetting for the moment about the inapplicability of this extreme purity standard to a grazing meadow, a valid analysis of the applicability of this standard is how it applies to virgin waters coming off the Sierras into the valley. In that regard the 6-year data shows that the "into the valley waters" exceed the 20 col/100 ml standard somewhat routinely. Consequently, this standard cannot be sustained as applicable or reasonable.

Swauger Creek: 8 exceedances, of the 20 col/100 ml and 4 exceedances of the 200 col/100 ml objective. The high is 71 times the present basin plan standard.

July 09	117 col/100ml
July 20	160 col/100ml
Aug 09	224 col/100ml
Aug 10	118 col/100ml
Sept 09	384 col/100ml
Sept 10	172 col/100ml
Oct. 07	220 col/100ml
Oct. 10	1410 col/100ml

Buckeye: 9 exceedances of the 20 col/100 ml and 1 over the 200 col/100 ml objective.

June 10	30 col/100ml
July 09	44 col/100ml
July 10	80 col/100ml
Aug 09	83 col/100ml
Aug 10	104 col/100ml
Sept 09	36 col/100ml
Sept 10	20 col/100ml
Oct 09	52 col/100ml
Oct 10	820 col/100ml

Robinson: 7 exceedances of the 20 col/100 ml and 3 over the 200 col/100 ml objective.

May 10	50 col/100ml

July 09	122 col/100ml
Aug 09	496 col/100ml
Aug 10	146 col/100ml
Sept 09	164 col/100ml
Sept 10	260 col/100ml
Oct 10	370 col/100ml

Virginia: 11 exceedances of the 20 col/100 ml and 2 over the 200 col/100 ml objective.

June 09	28 col/100ml
June 10	40 col/100ml
July 07	400 col/100ml
July 09	150 col/100ml
July 10	40 col/100ml
Aug 09	113 col/100ml
Aug 10	44 col/100ml
Sept 09	116 col/100ml
Sept 10	114 col/100ml
Oct. 09	42 col/100ml
Oct. 10	370 col/100ml

Green: 4 exceedances of the 20 col/100 ml and 1 over the 200 col/100 ml objective.

June 09	2 col/100ml
June 10	30 col/100ml
July 10	24 col/100ml
Oct 10	370 col/100ml

Summer: 4 exceedances of the 20 col/100 ml and 1 of the 200 col/100 ml objective.

June 09	168 col/100ml
June 10	30 col/100ml
July 10	124 col/100ml
Oct 10	370 col/100ml

On balance, over six years of seasonal monitoring the waters above the Bridgeport Valley and irrigated agriculture exceed the present basin plan objective 43 times and even exceed the 200 col/100 ml objective 12 times. These exceedances mostly occur in the 5 month (June – October) time period. This is the same period that cattle are in the valley.

This presents a compelling challenge to the present basin plan objective for the agricultural areas of the region and demands an appropriate amendment. It is totally improper for the region to maintain this present objective in the basin plan. If the Lahontan Board expects the continued cooperation of the Bridgeport Ranchers, it is reasonable that the Board timely amend this objective.

B. 6-Year Data Analysis

1. Swauger Creek

This data set compels caution in analysis as the livestock use has remarkably changed (cattle pair, sheep, cattle yearlings) over the test period, and the ownership and management have also changed and markedly improved.

There appear to be no issues in any year until June. In June 2009 and again in June 2010, the readings off the ranch significantly exceeded those coming onto the ranch (2009: 12 in, 412 out; 2010: 4 in, 990 out). Those are alarming increases, however, they totally reverse themselves in July (2009: 117 in, 120 out; 2010: 160 in, 190 out). That favorable data held through August, September and October 2009 and 2010 (August 2009: 224 in, 88 out; August 2010: 118 in, 88 out; September 2009: 384 in, 72 out; October 2010: 1410 in, 820 out). On balance, the ranch was properly managed and generally cleaned up water once we got into July, but it certainly needs some additional attention in June.

On balance Swauger Creek is in pretty good shape, but more attention is merited.

2. Buckeye Creek

When we commenced monitoring in 2006 and 2007, Buckeye started exceeding the 200 col objective at US 396 by mid-May, and Buckeye at the reservoir significantly exceeded the objective in 2006 and 2007 in September and October.

Moving to 2011, Buckeye did not exceed the standard until mid-June (330 at US 395), but it was only 28 at US 395, and 100 at the reservoir in July. It was only 74 at US 395, and 420 at the reservoir in August, and by September on all waters were within standards.

This data is very promising as it not only shows marked improvement, but the waters are nearly within standards. If Centennial can duplicate its 2011 efforts, concludes some planned runoff controls, fences additional portions of Buckeye and commences its wetland and ponding project, the waters by US 395 will meet the 200 col/100 ml objectives.

If Centennial and Gansberg can identify and implement protective strategies between US 395 and the reservoir over the next three years, Buckeye throughout the valley will be a significant success story. It also must be remembered that Buckeye comes into the valley over the objective in mid to late summer.

3. Robinson Creek

In 2006 Robinson exceeded the standard commencing in May, but by 2010 and 2011 the May waters were fine at both US 395 and the reservoir. In 2009 and 2010 Robinson waters were surprisingly bad in summer, but in 2011 they were within the 200 col standard at both US 395 and the reservoir.

Centennial hopes to duplicate its management efforts to maintain those results, and will be assessing the efforts being planned for Buckeye involving wetlands and settling basins to determine if some of that may be transferable to Robinson Creek.

4. Virginia, Green and Summers Creeks

Virginia and Green Creeks have only had a couple of exceedances over the six years, and offer no direct problems. Because, however, they are source waters to the valley, all efforts to further reduce those contributions would be merited.

Summers Creek has offered some higher fecal counts in some mid-summer months, but in 2011 it was also within the objective.

5. East Walker River

The Walker River picks up not just the Green, Virginia and Summers waters, but considerable runoff waters from the Rickey Ditch and other valley waters. In some years, this has raised levels above the objective when it reached town. The E. Walker also generally picks up additional non-agricultural fecals passing through town.

In 2011, however, it modestly exceeded the objective only twice, once in July (250) and once in September (440). Management efforts have shown to be effective in 2011 and, hopefully, quality will maintain or improve next year.

Again, Centennial is going to evaluate the efforts that are planned on Buckeye in 2012-2014 relating to experimentally adding some settling ponds and wetlands. If successful, there may be the possibility of incorporating some in of the Walker tributary drainage.

BRO - Public Data [2006 - 2011]
Water Quality Monitoring Data By Station

LOCATIONS

0	Swauger Creek above Huntoon Valley
1	Swauger Creek
2	Buckeye above ranch
3	Robinson above ranch
4	Virginia Creek
5	Green Creek
6	Summers Creek

7	Buckeye 395
8	Buckeye Reservoir
9	Robinson 395
10	Robinson Reservoir
11	Walker at town
12	Walker below town

	Sample Number												
Sample Date	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
11-Apr-06	2	6	<2	<2	22	<2	<2	<2	<2	<2	<2	10	
10-Apr-08	<2	2	<2	<2	<2	28	<2	n/a	16	2	<2	<2	<2
6-Apr-09	Fecal 0	Fecal 20	Fecal 4	Fecal 0	Fecal 7	Fecal 1	Fecal 0	Fecal 2	Fecal 8	Fecal 0	Fecal 0	Fecal 3	Fecal n/a
	Ecoli 0	Ecoli 7	Ecoli 4	Ecoli 0	Ecoli 2	Ecoli 1	Ecoli 1	Ecoli 1	Ecoli 1	Ecoli 1	Ecoli 0	Ecoli 1	Ecoli n/a
12-Apr-10	Fecal 1	Fecal n/a	Fecal 3	Fecal 1	Fecal 17	Fecal 1	Fecal 2	Fecal 3	Fecal 3	Fecal 15	Fecal 1	Fecal 5	Fecal 6a
	Ecoli 2	Ecoli n/a	Ecoli 4	Ecoli 0	Ecoli 15	Ecoli 1	Ecoli 1	Ecoli 2	Ecoli 2	Ecoli 10	Ecoli 1	Ecoli 4	Ecoli 4
8-Apr-11	<2	2	<2	<2	<2	6	2	<2	4	2	2	2	2
1-May-06	<2	2	<2	<2	20	2	<2	2	8	10	28	20	
15-May-06	4	8	4	4	24	4	12	360	380	400	300	138	
10-May-07	2	8	<2	<2	20	8	6	960	110	18	14	4	
7-May-08	<2	<2	<2	<2	2	<2	8	2	4	<2	<2	72	28
4-May-09	Fecal 1	Fecal 38	Fecal 6	Fecal 0	Fecal 6	Fecal 2	Fecal 1	Fecal 11	Fecal 34	Fecal 109	Fecal 87	Fecal 308	Fecal 414
	Ecoli 1	Ecoli 28	Ecoli 4	Ecoli 1	Ecoli 3	Ecoli 0	Ecoli 0	Ecoli 7	Ecoli 33	Ecoli 69	Ecoli 51	Ecoli 264	Ecoli 345
3-May-10	Fecal 1	Fecal 16	Fecal 9	Fecal 50	Fecal 7	Fecal 9	Fecal 5	Fecal 24	Fecal 13	Fecal 22	Fecal 15	Fecal 16	Fecal 14
	Ecoli 0	Ecoli 2	Ecoli 4	Ecoli 9	Ecoli 4	Ecoli 4	Ecoli 1	Ecoli 19	Ecoli 9	Ecoli 20	Ecoli 17	Ecoli 14	Ecoli 13
5-May-11	<2	6	n/a	<2	<2	<2	<2	<2	2	<2	2	<2	<2
5-Jun-06	6	44	28	2	52	20	66	700	720	740	640	640	
19-Jun-06	12	82	14	6	34	50	36	260	420	92	140	720	
11-Jun-07	2	88	<2	<2	8	18	310	230	210	270	220	320	
6-Jun-08	<2	190	<2	<2	12	2	18	180	220	260	150	290	240
1-Jun-09	Fecal 12	Fecal 412	Fecal 12	Fecal 6	Fecal 28	Fecal 21	Fecal 168	Fecal 144	Fecal 188	Fecal 304	Fecal 600	Fecal 200	Fecal 400
	Ecoli 28	Ecoli 348	Ecoli 18	Ecoli 1	Ecoli 32	Ecoli 14	Ecoli 128	Ecoli 188	Ecoli 152	Ecoli 280	Ecoli 500	Ecoli 300	Ecoli 400
7-Jun-10	Fecal 4	Fecal 990	Fecal 30	Fecal 4	Fecal 40	Fecal 30	Fecal 190	Fecal 1740	Fecal 2210	Fecal 1830	Fecal 2680	Fecal 1480	Fecal 1830
	Ecoli 3	Ecoli 690	Ecoli 20	Ecoli 4	Ecoli 10	Ecoli 24	Ecoli 84	Ecoli 1150	Ecoli 1400	Ecoli 1660	Ecoli 2270	Ecoli 890	Ecoli 1030
13-Jun-11	<2	450	<2	<2	8	6	10	330	520	24	150	140	160
10-Jul-06	<2	<2	<2	<2	<2	<2	2	18	4	54	56	46	
17-Jul-06	68	70	18	8	78	16	140	<2	26	54	160	198	
12-Jul-07	120	260	64	18	400	6	92	420	210	740	390	60	
17-Jul-08	8	300	8	13	130	30	50	300	1600	280	200	300	360
6-Jul-09	Fecal 117	Fecal 120	Fecal 44	Fecal 122	Fecal 150	Fecal 4	Fecal 130	Fecal 1148	Fecal 784	Fecal 540	Fecal 440	Fecal 400	Fecal 400
	Ecoli 48	Ecoli 116	Ecoli 35	Ecoli 3	Ecoli 50	Ecoli 1	Ecoli 70	Ecoli 708	Ecoli 420	Ecoli 408	Ecoli 380	Ecolu 100	Ecoli 500
6-Jul-10	Fecal 160	Fecal 190	Fecal 80	Fecal 16	Fecal 40	Fecal 24	Fecal 38	Fecal 136	Fecal 312	Fecal 276	Fecal 360	Fecal 400	Fecal 1200
	Ecoli 170	Ecoli 120	Ecoli 80	Ecoli 4	Ecoli 40	Ecoli 12	Ecoli 20	Ecoli 80	Ecoli 172	Ecoli 204	Ecoli 276	Ecolu 400	Ecoli 300

EXHIBIT B

Sample Date	0	1	2	3	4	5	6	7	8	9	10	11	12
18-Jul-11	8	870	10	<2	20	8	110	28	100	130	50	250	160
7-Aug-06	90	130	36	6	missing	missing	missing	160	220	60	74	122	
21-Aug-06	120	130	58	8	54	16	120	210	580	360	120	220	
9-Aug-07	58	290	4	8	60	4	42	680	130	270	420	50	
6-Aug-08	20	100	4	2	20	<2	10	1600	80	200	180	40	<20
3-Aug-09	Fecal 224	Fecal 88	Fecal 83	Fecal 496	Fecal 113	Fecal 3	Fecal 312	Fecal 508	Fecal 900	Fecal 1500	Fecal 372	Fecal 144	Fecal 212
	Ecoli 92	Ecoli 44	Ecoli 61	Ecoli 12	Ecoli 51	Ecoli 3	Ecoli 156	Ecoli 352	Ecoli 100	Ecoli 2400	Ecoli 324	Ecoli 124	Ecoli 124
2-Aug-10	Fecal 118	Fecal 88	Fecal 104	Fecal 146	Fecal 44	Fecal 10	Fecal 990	Fecal 168	Fecal 380	Fecal 330	Fecal 460	Fecal 330	Fecal 360
	Ecoli 46	Ecoli 88	Ecoli 56	Ecoli 12	Ecoli 16	Ecoli 6	Ecoli 400	Ecoli 96	Ecoli 240	Ecoli 210	Ecoli 110	Ecoli 190	Ecoli 150
19-Aug-11	46	130	84	8	28	6	14	74	420	240	120	70	86
7-Sep-06	82	102	94	44	40	106	32	122	480	122	102	500	
18-Sep-06	166	48	18	10	missing	missing	missing	240	720	240	220	480	
13-Sep-07	12	18	22	6	26	2	16	190	260	220	520	640	
12-Sep-08	110	34	10	4	56	6	80	1400	240	170	76	240	460
8-Sep-09	Fecal 384	Fecal 72	Fecal 36	Fecal 164	Fecal 116	Fecal 4	Fecal 376	Fecal 240	Fecal 370	Fecal 540	Fecal 112	Fecal 248	Fecal 180
	Ecoli 120	Ecoli 46	Ecoli 10	Ecoli 4	Ecoli 22	Ecoli 8	Ecoli 172	Ecoli 132	Ecoli 340	Ecoli 220	Ecoli 92	Ecoli 160	Ecoli 100
13-Sep-10	Fecal 172	Fecal 200	Fecal 20	Fecal 260	Fecal 114	Fecal 4	Fecal 220	Fecal 424	Fecal 1800	Fecal 290	Fecal 560	Fecal 280	Fecal 360
	Ecoli 62	Ecoli 128	Ecoli 18	Ecoli 0	Ecoli 30	Ecoli 4	Ecoli 130	Ecoli 328	Ecoli 1260	Ecoli 200	Ecoli 430	Ecoli 120	Ecoli 170
16-Sep-11	28	230	50	12	12	2	8	96	240	200	180	440	360
2-Oct-06	<2	54	18	30	8	300	60	38	380	200	100	320	
18-Oct-06	2	92	8	<2	640	2	<2	8	100	108	12	46	
5-Oct-07	220	30	4	<2	6	12	4	38	260	130	48	480	
10-Oct-08	6	68	10	<2	8	4	10	20	90	82	64	28	48
5-Oct-09	Fecal 56	Fecal 56	Fecal 52	Fecal 92	Fecal 42	Fecal 4	Fecal 80	Fecal 28	Fecal 180	Fecal 88	Fecal 184	Fecal 156	Fecal 280
	Ecoli 28	Ecoli 18	Ecoli 40	Ecoli 2	Ecoli 14	Ecoli 6	Ecoli 47	Ecoli 8	Ecoli 80	Ecoli 44	Ecoli 160	Ecoli 184	Ecoli 108
4-Oct-10	Fecal 1410	Fecal 1170	Fecal 820	Fecal 370	Fecal 392	Fecal 370	Fecal 1220	Fecal 6600	Fecal 10000	Fecal 30000	Fecal 8800	Fecal 2200	Fecal 1780
	Ecoli 1040	Ecoli 860	Ecoli 460	Ecoli 100	Ecoli 276	Ecoli 350	Ecoli 730	Ecoli 4700	Ecoli 8300	Ecoli 16500	Ecoli 7300	Ecoli 1820	Ecoli 1480
00-Oct-11	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
13-Nov-06	<2	18	<2	<2	10	<2	42	<2	12	<2	4	<2	
9-Nov-07	2	2	20	<2	16	<2	<2	30	38	76	54	120	
6-Nov-08	4	20	70	<2	4	4	4	64	92	36	26	110	92
2-Nov-09	Fecal 6	Fecal 16	Fecal 10	Fecal 6	Fecal 14	Fecal 7	Fecal 0	Fecal 22	Fecal 40	Fecal 35	Fecal 76	Fecal 60	Fecal 100
	Ecoli 2	Ecoli 8	Ecoli 6	Ecoli 2	Ecoli 4	Ecoli 2	Ecoli 0	Ecoli 16	Ecoli 90	Ecoli 30	Ecoli 24	Ecoli 28	Ecoli 88
00-Nov-10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4-Nov-11	<2	48	<2	<2	<2	2	22	6	42	56	26	34	54

EXHIBIT "A"

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Attorneys for Petitioner
CENTENNIAL RANCHES

BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LAHONTAN REGION

IN THE MATTER REGARDING THE WORKSHOP ON LIVESTOCK GRAZING AND WATER QUALITY BASIN PLAN PATHOGEN OBJECTIVE, AGENDA ITEM 6	CRWQCB Agenda Item 6 DECLARATION OF WILLIAM J. THOMAS IN SUPPORT OF TIMELY AMENDMENT OF BASIN PLAN PATHOGEN OBJECTIVE AND COMPARISON OF OTHER REGIONS' PATHOGEN OBJECTIVES

DECLARATION OF WILLIAM J. THOMAS

REGARDING THE BASIN PLAN PATHOGEN STANDARDS

I, William J. Thomas, declare and state as follows:

1. I am an attorney with the law firm Best Best & Krieger, and I have represented agriculture and ranchers on water quality issues for nearly all of the 37 years that I have practiced law. I am also engaged in the cattle business and have been on the management team of Dave Wood Ranches where we have grazed cattle on irrigated meadows in the Lahontan Region for about thirty (30) years. We are in partnership with Lacey Livestock, doing business as Centennial Ranches in Bridgeport Valley. I have represented Centennial Ranches in all water quality matters and have been fully involved in all the agriculture waiver issues involving the basin plan water quality objectives.

2. Each of the facts herein stated is within my personal knowledge, and I would so testify if called as a witness at hearing.

3. On February 15, 2012, we submitted an official Public Records Act request to the Lahontan Regional Board for all records that may in any way relate to the review and adoption of the present basin plan objective for pathogens. Those records and documents indicate that the 20 col./100 mL objective was arbitrarily set as an average of data only taken from Lake Tahoe and no consideration whatsoever was directed as to its applicability in the agricultural areas of the region. Those records are the subject of a related declaration. We further reviewed the pathogen standards in each of the other nine regional basin plans so as to compare the Lahontan standard with the pathogen objective to the other nine regions of the state.

4. Eight of the nine other basin plans set forth a 200 colony FC objective (the only exception is the North Coast region for their native rivers and even it is several times higher than the Lahontan's Lake Tahoe objective). Attached please find a summary chart of such objectives for REC-1 (human contact) beneficial use which I prepared from such basin plan reviews. On balance, virtually all other waters of the state have the 200 col FC/100 mL objective. Attached also are the relevant pages from such other nine basin plans. These basin plan excerpts

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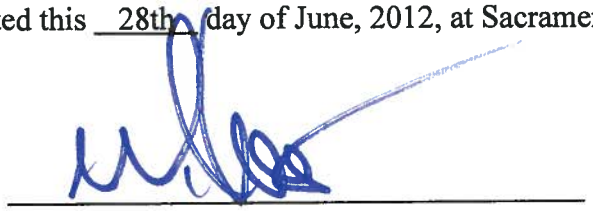
underscore that the Lahontan region's basin plan objective is entirely out of phase with each of the other regional basin plans. Moreover, the national standard as set by US EPA likewise sets the fecal standard at 200 col/100Ml. The Lahontan objective is totally out of phase with all other water quality objectives regulating all other potential dischargers in the state and nation.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct. Executed this 28th day of June, 2012, at Sacramento, California.



William J. Thomas

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EXHIBIT "A"

BASIN PLANS	Water Contact Recreation (REC-1)
Lahontan	20/100ml
North Coast	50/100ml
San Francisco Bay	200/100 ml
Central Coast	200/100 ml
Los Angeles	200/100 ml
Central Valley	
Sacramento/San Joaquin Basin	200/100 ml Folsom lake: 100/100 ml
Tulare Lake Basin	200/100 ml
Colorado River	200/100 ml
Santa Ana River	For Bays, Estuaries, Lakes and Streams: 200/100 ml.
San Diego	200/100 ml

BASIN PLANS	Water Contact Recreation (REC-1)	Non-Contact Water Recreation (REC-2)	Water for Shellfish Harvesting (SHEL)	Water for Municipal Supply (MUN)	
Measurement: fecal coliform per 100 ml for no less than 5 samples during any 30 day period unless stated otherwise.				*Surface Water*	*Groundwater*
Lahontan	**20/100ml** 10% of all samples cannot exceed **40/100ml** For the Susanville Hydrologic Unit, 10% of all samples cannot exceed **75/100ml.**	Not stated explicitly in basin plan	Not stated explicitly in basin plan	Not stated explicitly in basin plan	median concentration of coliform organisms over any 7 day period shall be less than **1.1/100ml**
North Coast	**50/100ml** 10% of samples cannot exceed **400/100ml**	Not stated explicitly in basin plan	**43/100ml** for 5-tube decimal dilution test **49/100ml** for three-tube decimal dilution test	Not stated explicitly in basin plan	median of most probable number of coliform organisms over any 7-day period shall be less than **1.1 MPN/100ml, less than 1 colony/100ml, or absent**
San Francisco Bay	fecal coliform: **200/100ml** total coliform: **240/100ml** enterococcus: **35/100ml** fecal coliform: 10% of samples cannot exceed **400/100ml** Total coliform: no sample greater than **10,000/100ml** Enterococcus: no sample greater than **104/100ml**	**2000/100ml** 10% of samples cannot exceed **4000/100ml**	fecal coliform: median less than **14/100ml** total coliform: median less than **70/100ml** fecal coliform:10% of samples cannot exceed **43/100ml** total coliform: 10% of samples cannot exceed **230/100ml**	fecal coliform: geometric mean less than **20/100ml** total coliform: geometric mean less than **100/100ml**	fecal coliform: geometric mean less than **20/100ml** total coliform: geometric mean less than **1.1/100ml**

Central Coast	**200/100ml**	**2000/100ml**	median total coliform no more than **70/100ml**		
	10% of samples cannot exceed **400/100ml**	10% of samples cannot exceed **4000/100ml**	10% of samples cannot exceed **230/100ml** for five-tube decimal dilution test or **330/100ml** for three-tube decimal dilution test	Not stated explicitly in basin plan	median concentration of coliform organisms over any 7 day period shall be less than **2.2/100ml**
Los Angeles	**200/100ml**	**2000/100ml**	median total coliform concentration no more than **70/100 ml**		
	10% of samples cannot exceed **400/100ml**	and no more than 10% exceed **4000/100ml**	10% of samples cannot exceed **230/100ml** for five-tube decimal dilution test or **330/100ml** for three-tube decimal dilution test	Not stated explicitly in basin plan	concentration of coliform organisms over any 7-day period shall be less than **1.1/100ml**
Central Valley					
Sacramento/San Joaquin Basin	**200/100ml** Folsom lake: **100/100ml**				
	10% of samples should not exceed **400/100ml** Folsom Lake: **200/100 ml**	Not stated explicitly in basin plan	Not stated explicitly in basin plan	Not stated explicitly in basin plan	most probable number of coliform organisms over any seven-day period should be less than **2.2/100ml**
Tulare Lake Basin	**200/100ml**				
	10% of samples should not exceed **400/100ml**	Not stated explicitly in basin plan	Not stated explicitly in basin plan	Not stated explicitly in basin plan	concentration of total coliform organisms over any 7-day period shall be less than **2.2/100ml**

Colorado River	fecal coliform: **200/100ml** e. coli: **126/100ml** enterococci: **33/100ml**	e. coli: **630/100ml** enterococci: **165/100ml**			
	fecal coliform: 10% should not exceed **400/100ml** e.coli: no sample shall exceed **400/100ml** enterococci: no sample shall exceed **100/100ml** Colorado River: e. coli should not exceed **235/100ml** and enterococci **61/100ml**	fecal coliform: not stated explicitly in basin plan e. coli: no sample shall exceed **2000/100ml** enterococci: **500/100ml** Colorado River: e. coli shall not exceed **1175/100ml** and enterococci **305/100ml**	Not stated explicitly in basin plan	Not stated explicitly in basin plan	Follows limits in Code of Regs title 22, chapter 15, article 3. However, citation is incorrect and not clear what the limit is.
Santa Ana River	For Bays, Estuaries, Lakes and Streams: **200/100ml**	For Bays and Estuaries: Not stated explicitly in basin plan For Lakes and Streams **2000/100ml**	Median concentration less than **14/100ml**		
	10% of samples should not exceed **400/100ml**	10% of samples cannot exceed: **4000/100ml**	10% of samples cannot exceed **43/100ml**	Lakes and Streams: total coliform less than **100/100ml**	total coliform numbers shall not exceed **2.2/100ml** median over any 7-day period
San Diego	fecal coliform: **200/100ml** See below for e. coli and enterococci chart for REC-1	**2000/100ml**	median total coliform concentration no more than **70/100 ml**		
	fecal coliform: 10% of samples should not exceed **400/100ml**	10% of all samples cannot exceed **4000/100ml**	10% of samples cannot exceed **230/100ml** for five-tube decimal dilution test and **330/100ml** for three-tube decimal dilution test	Not stated explicitly in basin plan	Not stated explicitly in basin plan

	In bays and estuaries: most probable number of coliform organisms in the upper 60 feet of the water column shall be less than 1,000/100ml and 20% cannot exceed 1,000/100 ml and no single sample when verified by repeat sample taken within 48 hours shall exceed 10,000/100 ml.				
	E. coli and Enterococci Objectives for REC-1:	E. Coli	Enterococci		
	all areas	**126/100ml**	Freshwater: **33/100ml** Saltwater: **35/100ml**		
	designated beach	**235/100ml**	Freshwater: **61/100ml** Saltwater: **104/100ml**		
	moderately or lightly used area	**406/100ml**	Freshwater: **108/100ml** Saltwater: **276/100ml**		
	infrequently used area	**576/100ml**	Freshwater: **151/100ml** Saltwater: **500/100ml**		
	San Diego Bay	no more than 7/1ml in more than 20% of any 20 daily consecutive samples of bay water.			

EXHIBIT “B”

WATER QUALITY CONTROL PLAN FOR THE LAHONTAN REGION

NORTH AND SOUTH BASINS

Plan effective March 31, 1995, amendments effective August 1995 through December 2005.

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Lahontan Region

2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150
Phone (530) 542-5400
Fax (530) 544-2271

14440 Civic Drive, Suite 200
Victorville, CA 92392-2383
Phone (760) 241-6583
Fax (760) 241-7308

$n_{1h} = 1h\text{-}NH_3 \div f$, or $n_{4d} = 4d\text{-}NH_3 \div f$

where:

n_{1h} is the one-hour criteria for total ammonia species ($NH_4^+ + NH_3$)

n_{4d} is the four-day criteria for total ammonia species ($NH_4^+ + NH_3$)

$f = 1 \div (10^{(pKa-pH)}+1)$

$pKa = 0.0901821 + [2729.92 \div (T+273.15)]$

and:

pKa is the negative log of the equilibrium constant for the $NH_4^+ \rightleftharpoons NH_3 + H^+$ reaction

f is the fraction of unionized ammonia to total ammonia species: $[NH_3 \div (NH_4^+ + NH_3)]$

Values outside of the ranges 0–30 C or pH 6.5–9.0 cannot be extrapolated from these relationships. Site-specific objectives must be developed for these conditions. A microcomputer spreadsheet to calculate ammonia criteria was developed by Regional Board staff. An example of output from this program is given in Table 3-5. Contact the Regional Board if a copy is desired.

Bacteria, Coliform
Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes.

The fecal coliform concentration during any 30-day period shall not exceed a log mean of 20/100 ml, nor shall more than 10 percent of all samples collected during any 30-day period exceed 40/100 ml. *The log mean shall ideally be based on a minimum of not less* than *five samples collected as evenly spaced as practicable during any 30-day period. However, a log mean concentration exceeding 20/100 ml for any 30-day period shall indicate violation of this objective even if fewer than five samples were collected.*

Biostimulatory Substances
Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.

Chemical Constituents
Waters designated as MUN shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) based upon drinking water standards specified in the following provisions of Title 22 of the California Code of Regulations which are incorporated by reference into this plan: Table 64431-A of Section 64431 (Inorganic Chemicals), Table 64431-B of Section 64431 (Fluoride), Table 64444-A of Section 64444 (Organic Chemicals), Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits), and Table 64449-B of Section 64449 (Secondary Maximum Contaminant Levels-Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

Waters designated as AGR shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes).

Waters shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses.

Chlorine, Total Residual
For the protection of aquatic life, total chlorine residual shall not exceed either a median value of 0.002 mg/L or a maximum value of 0.003 mg/L. Median values shall be based on daily measurements taken within any six-month period.

Color
Waters shall be free of coloration that causes nuisance or adversely affects the water for beneficial uses.

Dissolved Oxygen
The dissolved oxygen concentration, as percent saturation, shall not be depressed by more than 10 percent, nor shall the minimum dissolved oxygen concentration be less than 80 percent of saturation.

For waters with the beneficial uses of COLD, COLD with SPWN, WARM, and WARM with SPWN, the minimum dissolved oxygen concentration shall not be less than that specified in Table 3-6.

Floating Materials
Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses.

For natural high quality waters, the concentrations of floating material shall not be altered to the extent that such alterations are discernable at the 10 percent significance level.

Temperature
The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration in temperature does not adversely affect the water for beneficial uses.

For waters designated WARM, water temperature shall not be altered by more than five degrees Fahrenheit (5°F) above or below the natural temperature. For waters designated COLD, the temperature shall not be altered.

Temperature objectives for COLD interstate waters and WARM interstate waters are as specified in the "Water Quality Control Plan for Control of Temperature in The Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" including any revisions. This plan is summarized in Chapter 6 (Plans and Policies), and included in Appendix B.

Toxicity
All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. *Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Regional Board.*

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for "experimental water" as defined in *Standard Methods for the Examination of Water and Wastewater* (American Public Health Association, et al. 1998).

Turbidity
Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.

Water Quality Objectives For Certain Water Bodies

The narrative and numerical water quality objectives which follow in this section are directed toward protection of surface waters (including wetlands) in certain hydrologic units (HUs), watersheds, or water bodies within the Lahontan Region. These surface waters are listed by hydrologic unit, in a north to south direction. Specific numerical criteria are organized in a tabular format. Maps (figures) are included to illustrate the locations of surface waters listed in the tables. Figures and tables are located at the end of the Chapter.

Surprise Valley Hydrologic Unit

(See Figure 3-1 and Table 3-7 for water quality objectives for the Surprise Valley HU.)

Susanville Hydrologic Unit

(Figures 3-2 and 3-3, Tables 3-8 and 3-9)
Unless otherwise specified, the following additional water quality objectives apply to all surface waters of the ***Eagle Drainage Hydrologic Area*** (Figure 3-2):

Algal Growth Potential: The mean monthly mean of algal growth potential shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.

Bacteria, Fecal Coliform
The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 20/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 75/100 ml.

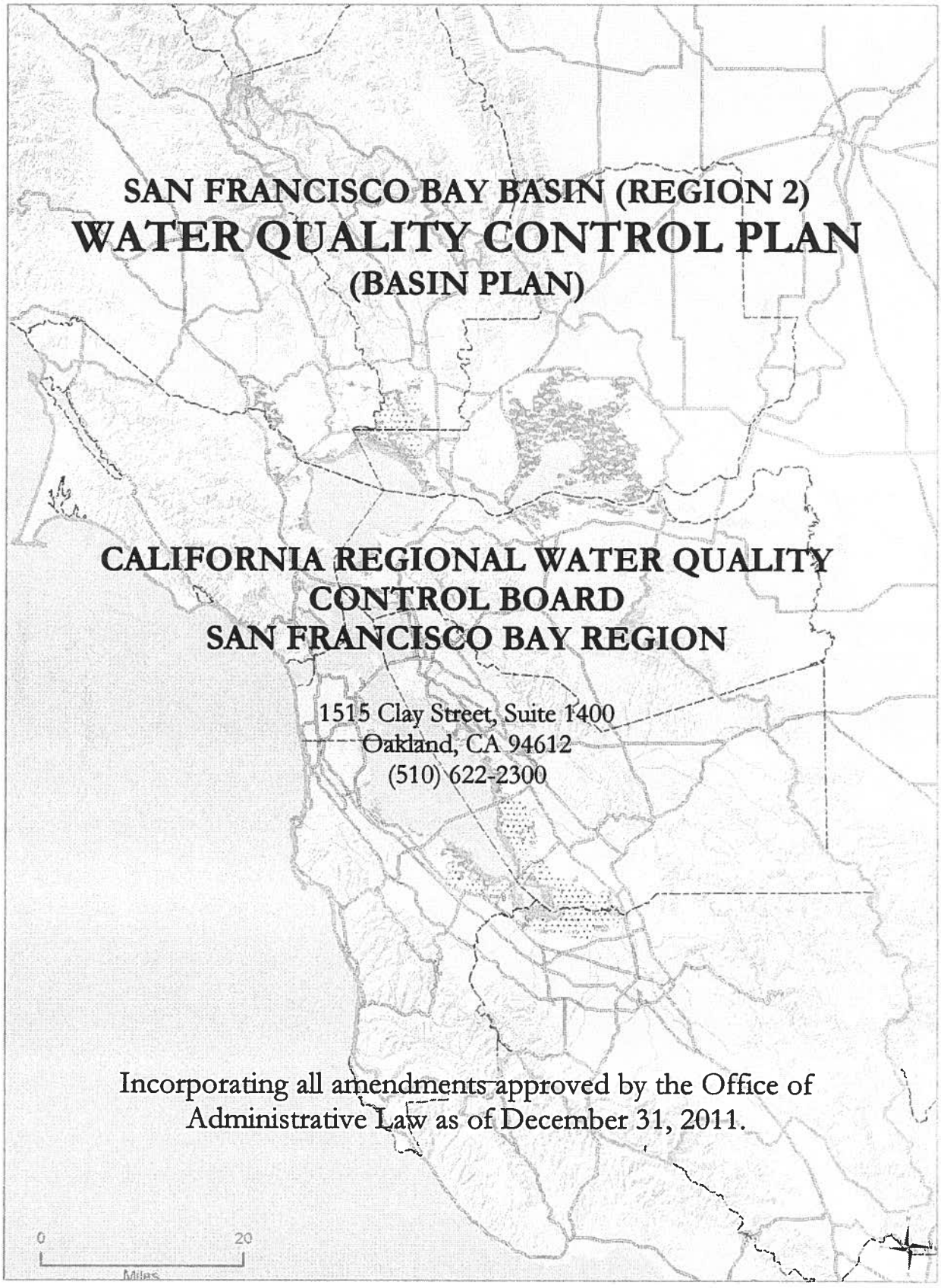
Biostimulatory Substances: The concentrations of biostimulatory substances shall not be altered in an amount that could produce an increase in aquatic biomass to the extent that such increases in aquatic biomass are discernible at the 10 percent significance level.

Chlorophyll-a: For the following Eagle Lake stations listed below and mapped in Figure 3-2, the chlorophyll-a levels, as measured in micrograms per liter on a mean of monthly mean basis, shall not exceed the following values:

Station	Chlorophyll-a
Middle Basin 5A	5.2
South Basin 11	4.5

Also, chlorophyll-a levels in Eagle Lake shall not be increased to the extent that such alterations are discernible at the 10 percent significance level.

Dissolved Oxygen: In all waters of Eagle Lake except for the hypolimnion, the dissolved oxygen concentration shall not be depressed by more than 10 percent, below 80 percent saturation, or below 7.0 mg/L at any time, whichever is more restrictive.



SAN FRANCISCO BAY BASIN (REGION 2)
WATER QUALITY CONTROL PLAN
(BASIN PLAN)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

1515 Clay Street, Suite 1400
Oakland, CA 94612
(510) 622-2300

Incorporating all amendments approved by the Office of Administrative Law as of December 31, 2011.

Table 3-1: Water Quality Objectives for Bacteria[a]

Beneficial Use	Fecal Coliform (MPN/100ml)	Total Coliform (MPN/100ml)	Enterococcus (MPN/100ml)[g]
Water Contact Recreation	geometric mean < 200 90th percentile < 400	median < 240 no sample > 10,000	geometric mean < 35 no sample > 104
Shellfish Harvesting[b]	median < 14 90th percentile < 43	median < 70 90th percentile < 230[c]	
Non-contact Water Recreation[d]	mean < 2000 90th percentile < 4000		
Municipal Supply: - Surface Water[e] - Groundwater	geometric mean < 20	geometric mean < 100 < 1.1[f]	

Notes:

a. Based on a minimum of five consecutive samples equally spaced over a 30-day period.

b. Source: National Shellfish Sanitation Program.

c. Based on a five-tube decimal dilution test or 300 MPN/100 ml when a three-tube decimal dilution test is used.

d. Source: Report of the Committee on Water Quality Criteria, National Technical Advisory Committee, 1968.

e. Source: California Department of Public Health recommendation.

f. Based on multiple tube fermentation technique; equivalent test results based on other analytical techniques, as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 141.21(f), revised June 10, 1992, are acceptable.

g. Applicable to marine and estuarine waters only. Numeric values are based on Section 7958 of Title 17 of the California Code of Regulations, 69FR 67217 et seq., and 40 CFR Part 131.41 (effective date December 16, 2004).

Water Quality Control Plan

for the

Central Coastal Basin

June 2011

Regional Water Quality Control Board, Central Coast Region
State Water Resources Control Board
California Environmental Protection Agency

Bacteria

Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml.

NON-CONTACT WATER RECREATION (REC-2)

pH

The pH value shall neither be depressed below 6.5 nor raised above 8.3.

Bacteria

Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 2000/100 ml, nor shall more than ten percent of samples collected during any 30-day period exceed 4000/100 ml.

COLD FRESHWATER HABITAT (COLD)

pH

The pH value shall not be depressed below 7.0 or raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters.

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 7.0 mg/l at any time.

Temperature

At no time or place shall the temperature be increased by more than 5oF above natural receiving water temperature.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of the limits listed in Table 3-5.

WARM FRESHWATER HABITAT (WARM)

pH

The pH value shall not be depressed below 7.0 or raised above 8.5.

Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters.

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 5.0 mg/l at any time.

Temperature

At no time or place shall the temperature of any water be increased by more than 5oF above natural receiving temperature.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of the limits listed in Table 3-5.

FISH SPAWNING (SPWN)

Cadmium

Cadmium shall not exceed .003 mg/l in hard water or .0004 mg/l in soft water at any time. (Hard water is defined as water exceeding 100 mg/l CaCO3.)

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 7.0 mg/l at any time.

WATER QUALITY CONTROL PLAN
Los Angeles Region

Basin Plan
for the
Coastal Watersheds of
Los Angeles and Ventura Counties

California Regional Water Quality Control Board

Los Angeles Region (4)

Under the Antidegradation Policy, any actions that can adversely affect water quality in all surface and ground waters (i) must be consistent with the maximum benefit to the people of the state, (ii) must not unreasonably affect present and anticipated beneficial use of such water, and (iii) must not result in water quality less than that prescribed in water quality plans and policies. Furthermore, any actions that can adversely affect surface waters are also subject to the federal Antidegradation Policy (40 CFR 131.12), developed under the CWA. The USEPA, Region IX, has also issued detailed guidance for the implementation of federal antidegradation regulations for surface waters within its jurisdiction (USEPA, 1987).

Regional Objectives for Inland Surface Waters

Narrative or numerical water quality objectives have been developed for the following parameters (listed alphabetically) and apply to all inland surface waters and enclosed bays and estuaries (including wetlands) in the Region. *Water quality objectives are in italics.*

Ammonia

The neutral, un-ionized ammonia species (NH_3) is highly toxic to fish and other aquatic life. The ratio of toxic NH_3 to total ammonia ($NH_4^+ + NH_3$) is primarily a function of pH, but is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Ammonia also combines with chlorine (often both are present) to form chloramines - persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge.

In order to protect aquatic life, ammonia concentrations in receiving waters shall not exceed the values listed for the corresponding instream conditions in Tables 3-1 to 3-4.

Timing of compliance with this objective will be determined on a case-by-case basis. Discharges will have up to 8 years following the adoption of this plan by the Regional Board to (i) make the necessary adjustments/improvements to meet these objectives or (ii) to conduct studies leading to an approved site-specific objective for ammonia. If it is determined that there is an immediate threat or impairment of beneficial uses due to ammonia, the objectives in Tables 3-1 to 3-4 shall apply.

In order to protect underlying groundwater basins, ammonia shall not be present at levels that when oxidized to nitrate, pose a threat to groundwater.

Bacteria, Coliform

Total and fecal coliform bacteria are used to indicate the likelihood of pathogenic bacteria in surface waters. Water quality objectives for total and fecal coliform vary with the beneficial uses of the waterbody and are described below:

In waters designated for water contact recreation (REC-1), the fecal coliform concentration shall not exceed a log mean of 200/100 ml (based on a minimum of not less than four samples for any 30-day period), nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml.

In waters designated for non-water contact recreation (REC-2) and not designated for water contact recreation (REC-1), the fecal coliform concentration shall not exceed a log mean of 2000/100 ml (based on a minimum of not less than four samples for any 30-day period), nor shall more than 10 percent of samples collected during any 30-day period exceed 4000/100 ml.

In all waters where shellfish can be harvested for human consumption (SHELL), the median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml, nor shall more than ten percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used.

THE WATER QUALITY CONTROL PLAN (BASIN PLAN)

FOR THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

FOURTH EDITION

Revised October 2011 (with Approved Amendments)

THE SACRAMENTO RIVER BASIN AND THE SAN JOAQUIN RIVER BASIN

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD CENTRAL VALLEY REGION

Katherine Hart, Chair
Lyle Hoag, Member
Karl Longley, Member
Sandra Meraz, Member
Dan Odenweller, Member

Pamela C. Creedon, Executive Officer

COVER PHOTO ACKNOWLEDGMENTS:
Rafting the American River: Rapid Shooters, Lotus CA
Yosemite: David Rosen/ Ducks Unlimited
Sunset Waterfowl: David Rosen/ Ducks Unlimited
Sugar Beets: Brenda Grewell/ Dept. of Water Resources

Bacteria

In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.

For Folsom Lake (50), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 100/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 200/100 ml.

Biostimulatory Substances

Water shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

Chemical Constituents

Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The chemical constituent objectives in Table III-1 apply to the water bodies specified. Metal objectives in the table are dissolved concentrations. Selenium, molybdenum, and boron objectives are total concentrations. Water quality objectives are also contained in the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta, adopted by the State Water Board in May 1995 and revised in 2006.

At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain lead in excess of 0.015 mg/l. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. To protect all beneficial uses the Regional Water Board may apply limits more stringent than MCLs.

TABLE III-1
TRACE ELEMENT WATER QUALITY OBJECTIVES

CONSTITUENT	MAXIMUM CONCENTRATION [a] (mg/l)	APPLICABLE WATER BODIES
Arsenic	0.01	Sacramento River from Keswick Dam to the I Street Bridge at City of Sacramento (13, 30); American River from Folsom Dam to the Sacramento River (51); Folsom Lake (50); and the Sacramento-San Joaquin Delta.
Barium	0.1	As noted above for Arsenic.
Boron	2.0 (15 March through 15 September) 0.8 (monthly mean, 15 March through 15 September)	San Joaquin River, mouth of the Merced River to Vernalis
	2.6 (16 September through 14 March) 1.0 (monthly mean, 16 September through 14 March)	
	1.3 (monthly mean, critical year[b])	
	5.8 2.0 (monthly mean, 15 March through 15 September)	Salt Slough, Mud Slough (north), San Joaquin River from Sack Dam to the mouth of Merced River
Cadmium	0.00022 [c]	Sacramento River and its tributaries above State Hwy 32 bridge at Hamilton City

California Regional Water Quality Control Board
Central Valley Region

Water Quality Control Plan for the Tulare Lake Basin Second Edition

Revised January 2004 (with Approved Amendments)

water quality objectives being exceeded, controllable factors are not allowed to cause further degradation of water quality. The Regional Water Board recognizes that manmade changes that alter flow regimes can affect water quality and impact beneficial uses.

The third point is that water quality objectives are achieved primarily through the adoption of waste discharge requirements (including federal NPDES permits) and enforcement orders. When adopting requirements and ordering actions, the Regional Water Board considers the beneficial uses within the area of influence of the discharge, the existing quality of receiving waters, and water quality objectives that apply to the reach or uses of the receiving water. Effluent limits may be established to reflect what is necessary to achieve water quality objectives, or, if more stringent, will reflect the technology-based standard for the type of discharge being regulated. The objectives in this plan do not require improvement over naturally occurring background concentrations. Water quality objectives contained in this plan, and any State or Federally promulgated objectives applicable to the Tulare Lake Basin, apply to the main water mass. They may apply at or in the immediate vicinity of effluent discharges, or may apply at the edge of an approved mixing zone. A mixing zone is an area of dilution or criteria for diffusion or dispersion defined in the waste discharge requirements. The Regional Water Board recognizes that immediate compliance with water quality objectives adopted by the Regional Water Board or the State Water Board, or with water quality criteria adopted by the federal Environmental Protection Agency, may not be feasible in all circumstances. Where the Regional Water Board determines it is infeasible for a discharger to comply immediately with such objectives or criteria, compliance shall be achieved in the shortest practicable period of time, not to exceed ten years after the adoption of applicable objectives or criteria. This policy shall apply to water quality objectives and water quality criteria adopted after the effective date of this Basin Plan update.

The fourth point is that, in cases where water quality objectives are formulated to preserve historic conditions, there may be insufficient data to determine completely the temporal and hydrologic variability representative of historic water quality. When violations of such water quality objectives occur, the Regional Water Board evaluates the reasonableness of achieving those objectives through regulation of the controllable factors in the areas of concern.

The fifth point is that the State Water Board adopts policies and plans for water quality control that can specify water quality objectives or affect their implementation. Chief among the State Water Board's policies for water quality control is State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (Anti-degradation Policy). It requires that, wherever the existing quality of surface or ground waters is better than the objectives established for those waters, the existing quality will be maintained unless as otherwise provided by Resolution No. 68-16 or any revisions thereto. This policy and others establish general objectives.

The sixth point is that water quality objectives may be in numerical or narrative form. The enumerated milligram-per-liter (mg/l) limit for dissolved oxygen is an example of a numerical objective; the objective for color is an example of a narrative objective.

WATER QUALITY OBJECTIVES FOR INLAND SURFACE WATERS

Surface water quality in the Basin is generally good, with excellent quality exhibited by most eastside streams. The Regional Water Board intends to maintain this quality. The water quality objectives below are presented by categories which, like the beneficial uses of Chapter II, were standardized for uniformity among the regional water boards. Designated beneficial uses of the waters of the Tulare Lake Basin for which provisions should be made are identified in Chapter II; this chapter gives the water quality objectives to protect those beneficial uses. As new information becomes available, the Regional Water Board will review the appropriateness of these objectives, and may modify them accordingly.

Ammonia

Waters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/l (as N) in receiving waters.

Bacteria

In waters designated REC-1, the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.

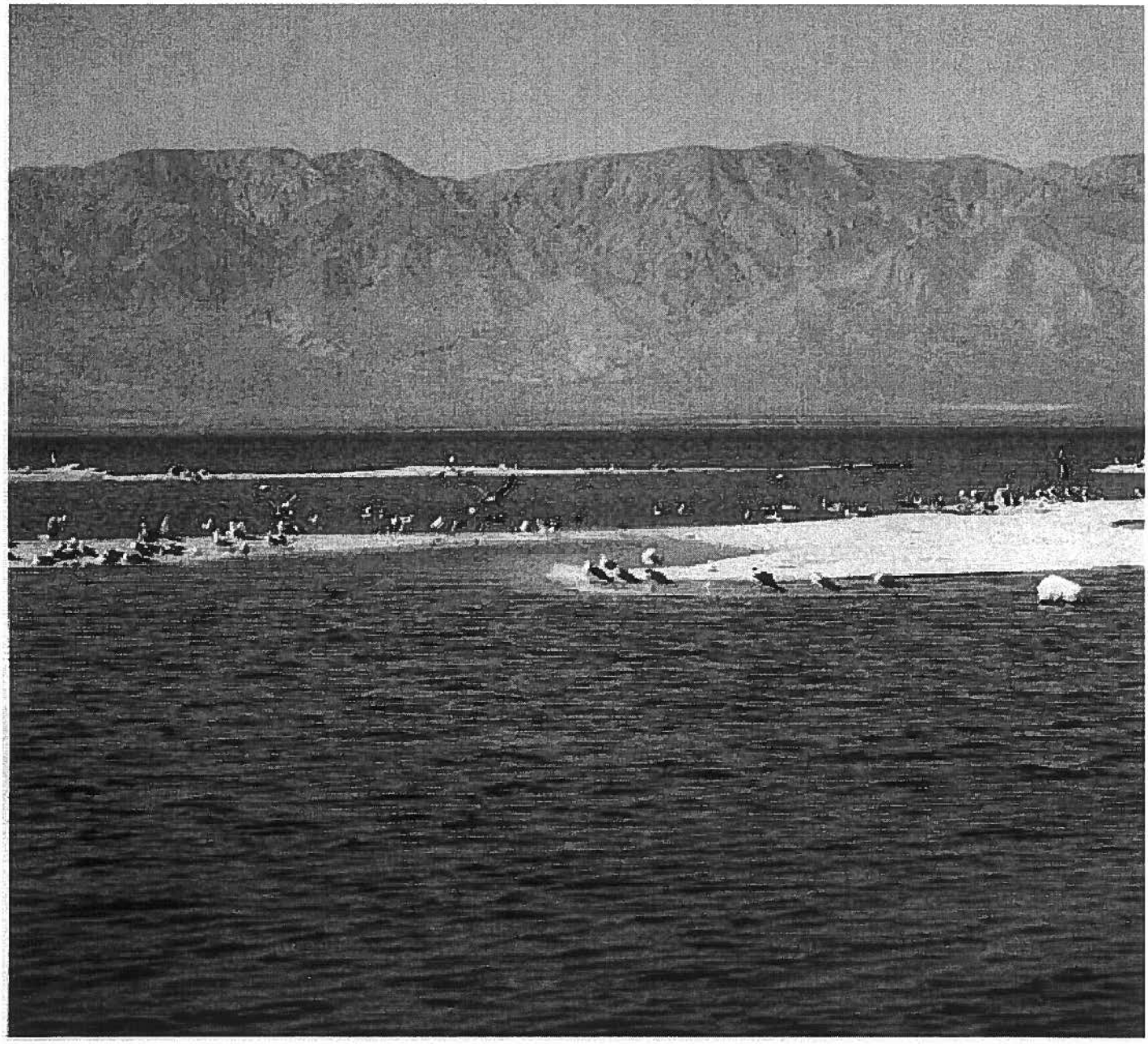
Biostimulatory Substances

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the

WATER QUALITY CONTROL PLAN

COLORADO RIVER BASIN- REGION 7

Includes Amendments Adopted by the Regional Board through June 2006



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
STATE WATER RESOURCES CONTROL BOARD

COLORADO RIVER BASIN MAPS

	TDS (mg/L)	
	Annual Ave.	Maximum
New River	4000	4500
Alamo River	4000	4500
Imperial Valley Drains	4000	4500
Coachella Valley Drains	2000	2500
Palo Verde Valley Drains	2000	2500

I. BACTERIA

In waters designated for water contact recreation (REC I) or noncontact water recreation (REC II), the following bacterial objectives apply. Although the objectives are expressed as fecal coliforms, E. coli, and enterococci bacteria, they address pathogenic microorganisms in general[1] (e.g., bacteria, viruses, and fungi).

Based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of the indicated bacterial densities should not exceed one or the other of the following:

	REC I	REC II
E. coli	126 per 100 ml	630 per 100 ml
enterococci	33 per 100 ml	165 per 100 ml

nor shall any sample exceed the following maximum allowables:

	REC I	REC II
E. coli	400 per 100 ml	2000 per 100 ml
enterococci	100 per 100 ml	500 per 100 ml

except that for the Colorado River, the following maximum allowables shall apply:

	REC I	REC II
E. coli	235 per 100 ml	1175 per 100ml
enterococci	61 per 100 ml	305 per 100 ml

In addition to the objectives above, in waters designated for water contact recreation (REC I), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400 MPN per 100 ml.

[1] Fecal coliforms and E. coli bacteria are being used as the indicator microorganisms in the Region until better and similarly practical tests become readily available in the region to more specifically target pathogens.

J. BIOSTIMULATORY SUBSTANCES

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. Nitrate and phosphate limitations will be placed on industrial discharges to New and Alamo Rivers and irrigation basins on a case-by-case basis, taking into consideration the beneficial uses of these streams.

K. SEDIMENT

The suspended sediment load and suspended sediment discharge rate to surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

L. TURBIDITY

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

M. RADIOACTIVITY

Radionuclides shall not be present in waters in concentrations which are deleterious to human, plant, animal or aquatic life or that result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal or aquatic life.

Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in the California Code of Regulations, Title 22, Chapter 15, Article 5, Section 64443, as listed below:

Constituent	Maximum Contaminant Level, pci/L
Combined Radium-226 and Radium-228	5
Gross Alpha particle activity (including Radium-226 but excluding Radon and Uranium)	15
Tritium	20,000
Strontium-90	8
Gross Beta particle activity	50
Uranium	20

WATER QUALITY CONTROL PLAN

SANTA ANA RIVER BASIN (8)

TABLE OF CONTENTS

species, unless that domination is caused by physical habitat limitations. A balanced community also (5) may include historically introduced non-native species, but (6) does not include species present because best available technology has not been implemented, or (7) because site-specific objectives have been adopted, or (8) because of thermal discharges.

Algae

Excessive growth of algae and/or other aquatic plants can degrade water quality. Algal blooms sometimes occur naturally, but they are often the result of excess nutrients (*i.e.,* nitrogen, phosphorus) from waste discharges or nonpoint sources. These blooms can lead to problems with tastes, odors, color, and increased turbidity and can depress the dissolved oxygen content of the water, leading to fish kills. Floating algal scum and algal mats are also an aesthetically unpleasant nuisance.

Waste discharges shall not contribute to excessive algal growth in receiving waters.

Bacteria, Coliform

Fecal bacteria are part of the intestinal flora of warm-blooded animals. Their presence in bay and estuarine waters is an indicator of pollution. Total coliform is measured in terms of the number of coliform organisms per unit volume. Total coliform numbers can include non-fecal bacteria, so additional testing is often done to confirm the presence and numbers of fecal coliform bacterial. Water quality objectives for numbers of total and fecal coliform vary with the uses of the water, as shown below.

Bays and Estuaries

REC-1 *Fecal coliform: log mean less than 200 organisms/100 mL based on five or more samples/30 day period, and not more than 10% of the samples exceed 400 organisms/100 mL for any 30-day period.*

SHEL *Fecal coliform: median concentration not more than 14 MPN (most probable number)/100 ml and not more than 10% of samples exceed 43 mpn / 100 mL*

Chlorine, Residual

Wastewater disinfection with chlorine usually produces a chlorine residual. Chlorine and its reaction products are toxic to aquatic life.

To protect aquatic life, the chlorine residual in wastewater discharged to enclosed bays and estuaries shall not exceed 0.1 mg/L.

Color

Color in water may arise naturally, such as from minerals, plant matter or algae, or may be caused by industrial pollutants. Color is primarily an aesthetic consideration.

WATER QUALITY CONTROL PLAN
FOR THE SAN DIEGO BASIN (9)

SEPTEMBER 8, 1994

(with amendments effective prior to April 25, 2007)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN DIEGO REGION

A change of one point on this scale represents a ten-fold increase in acidity or alkalinity. Many pollutants can alter the pH, raising or lowering it excessively. In some cases even small changes in pH can harm aquatic biota. The pH changes can alter the chemical form of certain constituents, thereby increasing their bioavailability and toxicity. For example a decrease in pH can result in an increase in dissolved metal concentrations. Ammonia, which is a major component of sewage discharges, can be completely safe at pH 7.0 and extremely toxic to fish at pH 8.5 for the same total ammonia concentration.

Water Quality Objective for pH:

The pH value shall not be changed at any time more than 0.2 pH units from that which occurs naturally.

INLAND SURFACE WATERS, ENCLOSED BAYS AND ESTUARIES, COASTAL LAGOONS AND GROUND WATERS

The following objectives apply to all inland surface waters, enclosed bays and estuaries, coastal lagoons, and ground waters of the Region as specified below.

THERMAL PLAN

Thermal Plan Water Quality Objective:

The terms and conditions of the State Board's "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" (Thermal Plan) and any revisions thereto are incorporated into this Basin Plan by reference. The terms and conditions of the Thermal Plan apply to the Inland Surface Waters, Enclosed Bays and Estuaries, and Coastal Lagoons within this Region.

AGRICULTURAL SUPPLY BENEFICIAL USE

Water Quality Objective for Agricultural Supply:

Waters designated for use as agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use.

AMMONIA, UN-IONIZED

Ammonia is a pungent, colorless, gaseous alkaline compound of nitrogen and hydrogen that is highly soluble in water. Un-ionized ammonia (NH_3) is toxic to fish and other aquatic organisms. In water, NH_3 exists in equilibrium with ammonium (NH_4^+) and hydroxide (OH^-) ions. The proportions of each change as the temperature, pH, and salinity of the water change.

Water Quality Objective for Un-ionized Ammonia:

The discharge of wastes shall not cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/l (as N) in inland surface waters, enclosed bays and estuaries and coastal lagoons.

BACTERIA - TOTAL AND FECAL COLIFORM

Fecal bacteria are part of the intestinal flora of warm-blooded animals. Their presence in surface waters is an indicator of pollution. Total coliform numbers can include non-fecal bacteria, so additional testing is often done to confirm the presence and numbers of fecal coliform bacteria. Water quality objectives for numbers of total and fecal coliform vary with the uses of the water, as shown below.

(1) Waters Designated for Contact Recreation (REC-1) Beneficial Use

Water Quality Objective for Contact Recreation:

In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 milliters (ml), nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml.

(2) Waters Designated for Non-Contact Recreation (REC-2) Beneficial Use

Water Quality Objective for Non-contact Recreation:

In waters designated for non-contact recreation (REC-2) and not designated for contact

WATER QUALITY CONTROL PLAN
FOR THE
NORTH COAST REGION

MAY 2011

NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD
5550 Skylane Blvd., Suite A
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Telephone: (707) 576-2220

pH

The pH shall conform to those limits listed in Table 3-1. For waters not listed in Table 3-1 and where pH objectives are not prescribed, the pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.2 units in waters with designated marine (MAR) or saline (SAL) beneficial uses nor 0.5 units within the range specified above in fresh waters with designated COLD or WARM beneficial uses.

Dissolved Oxygen

Dissolved oxygen concentrations shall conform to those limits listed in Table 3-1. For waters not listed in Table 3-1 and where dissolved oxygen objectives are not prescribed the dissolved oxygen concentrations shall not be reduced below the following minimum levels at any time.

Waters designated WARM, MAR, or SAL	5.0 mg/L
Waters designated COLD	6.0 mg/L
Waters designated SPWN	7.0 mg/L
Waters designated SPWN during critical spawning and egg incubation periods	9.0 mg/L

Bacteria

The bacteriological quality of waters of the North Coast Region shall not be degraded beyond natural background levels. In no case shall coliform concentrations in waters of the North Coast Region exceed the following:

In waters designated for contact recreation (REC-1), the median fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed 50/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml (State Department of Health Services).

At all areas where shellfish may be harvested for human consumption (SHELL), the fecal coliform concentration throughout the water column shall not exceed 43/100 ml for a 5-tube decimal dilution test or 49/100 ml when a three-tube decimal dilution test is used (National Shellfish Sanitation Program, Manual of Operation).

Temperature

Temperature objectives for COLD interstate waters, WARM interstate waters, and Enclosed Bays and Estuaries are as specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions thereto. A copy of this plan is included verbatim in the Appendix Section of this Plan. In addition, the following temperature objectives apply to surface waters:

The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

At no time or place shall the temperature of any COLD water be increased by more than 5℉ above natural receiving water temperature.

At no time or place shall the temperature of WARM intrastate waters be increased more than 5℉ above natural receiving water temperature.

Toxicity

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary for other control water that is consistent with the requirements for "experimental water" as described in "Standard Methods for the Examination of Water and Wastewater", 18th Edition (1992). As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute bioassays of effluents will be prescribed. Where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged.

EXHIBIT "B"

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CENTENNIAL RANCHES

BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LAHONTAN REGION

IN THE MATTER REGARDING THE WORKSHOP ON LIVESTOCK GRAZING AND WATER QUALITY BASIN PLAN PATHOGEN OBJECTIVE, AGENDA ITEM 6	CRWQCB Agenda Item 6 DECLARATION OF WILLIAM J. THOMAS IN SUPPORT OF TIMELY AMENDMENT OF BASIN PLAN PATHOGEN OBJECTIVE AND HISTORY OF THE PATHOGEN OBJECTIVE

LAW OFFICES OF
BEST BEST & KRIEGER LLP
500 CAPITOL MALL, SUITE 1700
SACRAMENTO, CALIFORNIA 95814

DECLARATION OF WILLIAM J. THOMAS REGARDING THE HISTORY OF THE PATHOGEN OBJECTIVE

I, William J. Thomas, declare and state as follows:

1. I am an attorney with the law firm Best Best & Krieger, and I have represented agriculture and ranchers on water quality issues for nearly all of the 37 years that I have practiced law. I am also engaged in the cattle business and have been on the management team of Dave Wood Ranches where we have grazed cattle on irrigated meadows in the Lahontan Region for about thirty (30) years. We are in partnership with Lacey Livestock, doing business as Centennial Ranches in Bridgeport Valley. I have represented Centennial Ranches in all water quality matters and have been fully involved in all the agriculture waiver issues involving the basin plan water quality objectives.

2. Each of the facts herein stated is within my personal knowledge, and I would so testify if called as a witness at hearing.

3. On February 15, 2012, we requested per California Public Records Act that the Lahontan Regional Board provide us with all records that may in any way relate to the review and adoption of the present basin plan objective for pathogens.

4. Our office has completed review of the Public Records Act request documents which were delivered by the Lahontan Regional Board relating to the preparation and adoption of the Water Quality Control Plan (WQCP) for the Lahontan Region, specifically related to the background and history of the current 20 col/100 mL fecal coliform limit. We were able to find only scattered references to the fecal coliform standard that was originally established for the Lake Tahoe area, and which was later incorporated into the WQCP for the entire Lahontan Region.

5. Attached as Exhibit A are Basin Plan summary charts.

6. Attached as Exhibit B are relevant excerpts from each of the nine Regional Water Board's Basin Plan.

7. The following are excerpts from the documents where the fecal coliform standard

was referenced, in chronological order. This will provide context for the casual development of this 20 col/100 mL objective in the basin plan.

> Stream Sampling Program, 1954-1966: A large amount of stream sampling data for these years is included in the records. The stream samplings from the mid 1950s included the Lake Tahoe area and the Truckee and Mojave Rivers, but nothing from the Bridgeport area. Limited samplings from the East Walker River, at Bridgeport, was added in 1958, with one sampling in 1958, one in 1959, and additional samplings beginning in 1960. Those samplings show a wide variation in coliform levels (although not specific to fecal coliform).

8. There was data contained in the "Truckee River Bacteriological Study," prepared for the State Water Resources Control Board by the State of California Department of Public Health, Bureau of Sanitary Engineering, September 1969 which defined base line concentrations of coliform and fecal coliform organisms at various points throughout the Truckee River.

> 1966-69: There are references to the Water Quality Objectives to be maintained in the water of Lake Tahoe:
>
> Undeveloped lake-front areas – 10 yds. offshore: maximum of 32 MPN / 100 ml, and median 5 MPN / 100 ml;
>
> Undeveloped lake-front areas – 100 yds. offshore: maximum of 15 MPN / 100 ml, and median 3 MPN / 100 ml;
>
> Developed lake-shore areas – 10 yds. offshore: maximum 700 MPN / 100 ml; and median 240 MPN / 100 ml.
>
> 100 yds offshore: maximum of 64 MPN / 100 ml; and median 15 MPN / 100 ml.
>
> Areas influenced by streams – 10 yds. from mouth of stream: maximum of 700 MPN / 100 ml; and median 240 MPN / 100 ml.
>
> 100 yds. from mouth of stream: maximum 240 MPN / 100 ml; and median 32 MPN / 100 ml.
>
> June 1971: There was an Interim Water Quality Control Plan for the North Lahontan Basin 6A. Water quality objectives for coliform organisms for Lake Tahoe, as recommended by the California State Department of Public Health, are:
>
> Undeveloped lake-front areas – greater than 10 yds. offshore: maximum of 32 MPN / 100 ml, and median 6 MPN / 100 ml; [Up from median 5 MPN / 100 ml in 1966.]
>
> Developed lake-shore areas – 10 yds. offshore: maximum 700 MPN / 100 ml; and median 240 MPN / 100 ml.
>
> 100 yds offshore: maximum of 64 MPN / 100 ml.; and median 15 MPN /

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100 ml.

Directly influenced by streams – 10 yds. from mouth of stream: maximum of 700 MPN / 100 ml.; and median 240 MPN / 100 ml.

100 yds. from mouth of stream: maximum 240 MPN / 100 ml.; and median 32 MPN / 100 ml.

Truckee River, Carson River and Walker River are noted that "None attributable to human wastes." (P. VI-3.)

January 22, 1975: Memo from State Water Resources Control Board to all Regional Board Executive Officers, re Revisions in Water Quality Objectives. "State Board has indicated the desire to achieve uniform wording and presentation of water quality objectives in the basin plans. To accomplish this, State Board staff has developed revisions to Chapter 4 of the basin plans that are considered necessary for the achievement of statewide uniformity of water quality objectives to the greatest extent practicable." (p. 1.)

Attachment A: "In waters designated for contact recreation (REC 1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml." (P. 8.) "Additional objectives as determined appropriate by the Regional Board and in accordance with accompanying explanatory material." (P. 8.)

Attachment B: "As a minimum requirement, fecal coliform limits should be established for all waters using the language provided. Alternative, more stringent limits for individual waters or groups of waters may be included if substantiated by local epidemiological experience or evidence of existing water quality." (p. 5.)

June 26, 1975: WQCP for North Lahontan Basin, adopted by RWQCG Lahontan Region, and submitted to State Water Resources Control Board for approval, included effluent limitations standard for Fecal Coliform of less than 20 MPN/100 ml (30-day average) (Table 5-4, TTSA Effluent Limitations).

June 26, 1975, Addendum to WQCP for North Lahontan Basin: "Many studies have been made of water quality in recreation areas; however, very few have demonstrated a direct correlation between recreational water use and disease transmission. … Though they were not definitive studies, the committee felt that detectable health effect may occur at a fecal coliform level of about 400 per 100 ml." (P. 5.)

October 1975: WQCP Report, North Lahontan Basin (6A): "In March 1973, the 1971 Interim Plan was updated to include a definitive standard for coliform organisms in all basin waters except Lake Tahoe, which was already covered by a more stringent coliform standard." (P. I-3-2.)

"Specific water quality objectives for Lake Tahoe had previously been established in the "Lake Tahoe Water Quality Control Policy," dated June 1966. These objectives were reviewed in relation to additional background data collected on the lake water since 1966.

"The water quality objectives which follow supersede and replace those

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contained in the Interim Water Quality Control Plan (1971) and where necessary the water quality control policies for the Truckee River (1967), Lake Tahoe (1966) (the addendum to the Lake Tahoe Policy regarding Control of Siltation (1970)), East and West Forks of the Carson River (1967), Bryant Creek (1970), East Walker River (1967) and West Walker River and Topaz Lake (1967)." (P. I-4-6.)

"Waters shall not contain concentrations of coliform organisms attributable to human wastes. Also, in waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml, with the following exceptions: Eagle Lake; Susan River; Lake Tahoe; Truckee River; East Form Carson River; West Fork Carson River; East Walker River, West Walker River, Lake Topaz; Bryant Creek. ¶ The fecal coliform concentration for these waters and their tributaries, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 40/100 ml. ¶ In waters designated for noncontact recreation (REC-2) and not designated for contact recreation (REC-1), the average fecal coliform concentration for any 30-day period shall not exceed 2000/100 ml nor shall more than 10 percent of samples collected during any 30-day period exceed 4000/100 ml." (P. I-4-8.)

December 17, 1975: Environmental Protection Agency Conditions of approval of Water Quality, Standards South Lahontan Basin (6B): For waters which have not been designated REC-1, revise the objective for bacteria to be at least as stringent as the recommendation specified in the Secretary of the Interior Report (April 1968), which recommends: "...the fecal coliform content...shall not exceed a log mean of 1,000/100ml, nor equal or exceed 2,000/100ml in more than 10 percent of the samples." (Enclosure 1, #4.)

January 21, 1976: Letter from EPA on Water Quality Control Plan Report, North Lahontan Basin (6A):

"Revise the fecal coliform objective for Lake Tahoe to reflect existing fecal coliform levels in the Lake. ... Current fecal coliform levels in the Lake are measured as essentially zero, with occasional measurements of one or two per 100 ml. The adopted fecal coliform objective would permit a significant degradation of the extremely high quality of the Lake." (Enclosure 1, #2.)

Lahontan Response: "The fecal coliform levels in Lake Tahoe are essentially zero in the center of the Lake only; levels near shore vary widely depending on the degree of swimming, runoff, etc. We understand that the 20/100 ml value may not be as good as existing center-lake values; however, it is better than existing conditions near shore. Due to the difficulty of distinguishing the dividing line between "center-of-lake" and "near-shore" objectives, one objective for the whole lake was adopted. Revision of the objective downward to reflect the better "center-of-lake" condition will be considered at the annual update."

"In waters designated for REC-2 without an accompanying designation for REC-1, either: a. Revise the objective for bacteria (p. 4-10) to be at least as stringent as the recommendation specified in "Water Quality Criteria," Report of the National Technical Advisory Committee to the Secretary of the Interior, April 1968, Washington, D.C., p. 10, i.e., ...the fecal coliform content, ... should not exceed a log mean of 1,000/100 m., nor equal or exceed 2,000/100 ml in more than 10 percent of the samples," or b. Add the designation for REC-1 to Table 2-1 for

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those waters now without a REC-1 designation." (Enclosure 1, #3.)

Lahontan Response: "The coliform limits adopted as water quality objectives in the Basin Plan are consistent with all national guidelines except for a literal—but, in our staff's judgment, incorrect—interpretation of the 1968 National Technical Advisory Committee Report on Water Quality Criteria, which would require stricter limits for noncontact water recreation (REC-2). More recent publications, such as Water Quality Criteria 1972 and Proposed Criteria for Water Quality (EPA, October 1973), either make no coliform recommendations for noncontact water recreation (the former publication) or allow for limits very similar to those adopted in the Basin Plan."

March 6, 1978: Letter from EPA to State Water Resources Control Board, with updates on the Status of EPA Approval of Water Quality Standards, Basin Plans and Subsequent Amendments.

Enclosure 6, re North Lahontan Basin (6A): "For Condition 2, the SWRCB agreed to consider the revision of the fecal coliform objective for Lake Tahoe to better reflect existing coliform levels in the Lake. This revision shall be done as part of the continuing planning process (CPP) and its status shall be updated in the 106 quarterly progress reports." (Enclosure 6, #1.a.)

1983 Adopted Amendment to the Water Quality Control Plan for the North Lahontan Basin for Exemptions to the 100-Year Flood Plain Discharge Prohibitions for the Truckee River and Little Truckee River Hydrologic Units States, and the November 9, 1983 Amendments to the Water Quality Control Plan for the North Lahontan Basin Concerning the West Fork Carson River and Indian Creek Watersheds both contain the following standard:

Bacteria. Waters shall not contain concentrations of coliform organisms attributable to human wastes. Also, the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 20/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 40/100 ml.

1994 Water Quality Control Plan for the Lahontan Region, North and South Basins: Plan results from the combination and revision of two separate Basin Plans, for the North and South Lahontan Basins, which were adopted in 1975, and each were amended a numbers of times between 1975 and 1991.

"Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes. The fecal coliform concentration during any 30-day period shall not exceed a log mean of 20/100 ml, nor shall more than 10 percent of all samples collected during any 30-day period exceed 40/100 ml. (Pp. 3-4; 5.1-7.) Additional language was added in the 1995 Updated Plan: "The log mean shall ideally be based on a minimum of not less than five samples collected as evenly spaced as practicable during any 30-day period. However, a log mean concentration exceeding 20/100 ml for any 30-day period shall indicate violation of this objective even if fewer than five samples were collected."

The Tahoe Regional Planning Agency (TRPA) was designated by California, Nevada, and the USEPA as the areawide water quality planning agency under Section 208 of the federal Clean Water Act. "As part of its 1989 conditional certification of TRPA's 1988 revisions to the 208 Plan, the State Board directed

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the Lahontan Regional Board to incorporate the most appropriate provisions of the 208 Plan and the Lake Tahoe Basin Water Quality Plan into the Water Quality Control Plan for the North Lahontan Basin." Chapter 5 of the 1995 WQCP fulfills that direction.

June 1994: Summary of and Rationale for Proposed Amendments to the Water Quality Control Plan for the Lahontan Region:

"The 1975 North and South Lahontan Basin Plan objectives for bacteria provided that: 'Waters shall not contain concentrations of coliform organisms attributable to human wastes.' The 1993 Basin Plan amendments changed this sentence to read: 'Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes.' This change is justified because coliform bacteria from all domestic warm-blooded sources are indicators of the presence of pathogenic (i.e., disease causing) organisms (American Public Health Association 1989)." (P. 27.)

The 1975 North and South Lahontan Basin Plans contained separate sets of fecal coliform objectives for surface waters designated for water contact recreation (REC-1) and for waters designated for non-contact water recreation (REC-2). The REC-1 objectives were more stringent (the REC-1 designation involves the assumption that water may be ingested). The North Lahontan Basin Plan included still more stringent fecal coliform objectives for certain bodies of water. The 1993 Basin Plan amendments extended the objectives for these specific water bodies throughout the Lahontan Region and did not include separate objectives based on REC-1 versus REC-2 use designations. (P. 27.)

March 31, 1995; Office of Administrative Law Notice of Approval and Disapproval, and Reasons for Approval and Disapproval of Parts of Rulemaking Action: "Lake Tahoe Basin: incorporates and revises essential standards and control measures from the Water Quality Management Plan for the Lake Tahoe Region ("208 Plan," ...) and from the Lake Tahoe Basin Water Quality Plan (State Water Resources Control Board 1980); ... (2) Surface Waters: (A) incorporates and revises water quality objectives for ... coliform bacteria ... [and] (3) Ground Waters: incorporates and revises water quality objectives for coliform bacteria ..." (Secs. (m)(2) and (3).)

9. The documents make it clear that the 1975 North and South Lahontan Basin Plans contained separate sets of fecal coliform objectives for surface waters designated for water contact recreation (REC-1) (200/100 ml) and for waters designated for non-contact water recreation (REC-2) (2000/100 ml). The North Lahontan Basin Plan included the more stringent fecal coliform objectives for certain bodies of water (20/100 ml) by the early 1980s.

10. While there are numerous references throughout the more recent years, in various documents, to the 20/100 ml fecal coliform standard for the Lake Tahoe region, and that standard was carried over to the entire North and South Lahontan Basin, there is no actual information provided on how that standard actually originated, and no analysis of the applicability of that

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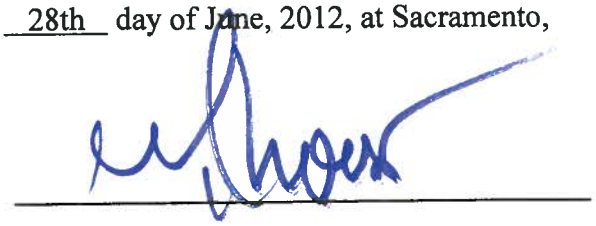
objective to the agricultural waters of the region.

11. The 1994 Basin Plan amendments extended the objectives for the specific water bodies throughout the entire Lahontan Region and did not include separate objectives based on REC-1 versus REC-2 use designations, providing for a basin-wide standard of 20/100 ml. There is no data or analysis as to the Bridgeport Valley or any analysis of the applicability of this 20/100 ml objective to agricultural areas.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct. Executed this 28th day of June, 2012, at Sacramento, California.



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Attorneys for Petitioner
CENTENNIAL RANCHES

BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LAHONTAN REGION

IN THE MATTER REGARDING THE WORKSHOP ON LIVESTOCK GRAZING AND WATER QUALITY BASIN PLAN PATHOGEN OBJECTIVE, AGENDA ITEM 6	CRWQCB Agenda Item 6 DECLARATION OF WILLIAM J. THOMAS IN SUPPORT OF TIMELY AMENDMENT OF BASIN PLAN PATHOGEN OBJECTIVE AND COMPARISON OF OTHER REGIONS' PATHOGEN OBJECTIVES

DECLARATION OF WILLIAM J. THOMAS

REGARDING THE BASIN PLAN PATHOGEN STANDARDS

I, William J. Thomas, declare and state as follows:

1. I am an attorney with the law firm Best Best & Krieger, and I have represented agriculture and ranchers on water quality issues for nearly all of the 37 years that I have practiced law. I am also engaged in the cattle business and have been on the management team of Dave Wood Ranches where we have grazed cattle on irrigated meadows in the Lahontan Region for about thirty (30) years. We are in partnership with Lacey Livestock, doing business as Centennial Ranches in Bridgeport Valley. I have represented Centennial Ranches in all water quality matters and have been fully involved in all the agriculture waiver issues involving the basin plan water quality objectives.

2. Each of the facts herein stated is within my personal knowledge, and I would so testify if called as a witness at hearing.

3. On February 15, 2012, we submitted an official Public Records Act request to the Lahontan Regional Board for all records that may in any way relate to the review and adoption of the present basin plan objective for pathogens. Those records and documents indicate that the 20 col./100 mL objective was arbitrarily set as an average of data only taken from Lake Tahoe and no consideration whatsoever was directed as to its applicability in the agricultural areas of the region. Those records are the subject of a related declaration. We further reviewed the pathogen standards in each of the other nine regional basin plans so as to compare the Lahontan standard with the pathogen objective to the other nine regions of the state.

4. Eight of the nine other basin plans set forth a 200 colony FC objective (the only exception is the North Coast region for their native rivers and even it is several times higher than the Lahontan's Lake Tahoe objective). Attached please find a summary chart of such objectives for REC-1 (human contact) beneficial use which I prepared from such basin plan reviews. On balance, virtually all other waters of the state have the 200 col FC/100 mL objective. Attached also are the relevant pages from such other nine basin plans. These basin plan excerpts

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underscore that the Lahontan region's basin plan objective is entirely out of phase with each of the other regional basin plans. Moreover, the national standard as set by US EPA likewise sets the fecal standard at 200 col/100Ml. The Lahontan objective is totally out of phase with all other water quality objectives regulating all other potential dischargers in the state and nation.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct. Executed this 28th day of June, 2012, at Sacramento, California.

William J. Thomas

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EXHIBIT "A"

BASIN PLANS	Water Contact Recreation (REC-1)
Lahontan	20/100ml
North Coast	50/100ml
San Francisco Bay	200/100 ml
Central Coast	200/100 ml
Los Angeles	200/100 ml
Central Valley	
Sacramento/San Joaquin Basin	200/100 ml Folsom lake: 100/100 ml
Tulare Lake Basin	200/100 ml
Colorado River	200/100 ml
Santa Ana River	For Bays, Estuaries, Lakes and Streams: 200/100 ml.
San Diego	200/100 ml

BASIN PLANS	Water Contact Recreation (REC-1)	Non-Contact Water Recreation (REC-2)	Water for Shellfish Harvesting (SHEL)	Water for Municipal Supply (MUN)	
Measurement: fecal coliform per 100 ml for no less than 5 samples during any 30 day period unless stated otherwise.				*Surface Water*	*Groundwater*
Lahontan	**20/100ml** 10% of all samples cannot exceed **40/100ml** For the Susanville Hydrologic Unit, 10% of all samples cannot exceed **75/100ml**.	Not stated explicitly in basin plan	Not stated explicitly in basin plan	Not stated explicitly in basin plan	median concentration of coliform organisms over any 7 day period shall be less than **1.1/100ml**
North Coast	**50/100ml** 10% of samples cannot exceed **400/100ml**	Not stated explicitly in basin plan	**43/100ml** for 5-tube decimal dilution test **49/100ml** for three-tube decimal dilution test	Not stated explicitly in basin plan	median of most probable number of coliform organisms over any 7-day period shall be less than **1.1 MPN/100ml, less than 1 colony/100ml, or absent**
San Francisco Bay	fecal coliform: **200/100ml** total coliform: **240/100ml** enterococcus: **35/100ml** fecal coliform: 10% of samples cannot exceed **400/100ml** Total coliform: no sample greater than **10,000/100ml** Enterococcus: no sample greater than **104/100ml**	**2000/100ml** 10% of samples cannot exceed **4000/100ml**	fecal coliform: median less than **14/100ml** total coliform: median less than **70/100ml** fecal coliform:10% of samples cannot exceed **43/100ml** total coliform: 10% of samples cannot exceed **230/100ml**	fecal coliform: geometric mean less than **20/100ml** total coliform: geometric mean less than **100/100ml**	fecal coliform: geometric mean less than **20/100ml** total coliform: geometric mean less than **1.1/100ml**

Central Coast	**200/100ml**	**2000/100ml**	median total coliform no more than **70/100ml**		
	10% of samples cannot exceed **400/100ml**	10% of samples cannot exceed **4000/100ml**	10% of samples cannot exceed **230/100ml** for five-tube decimal dilution test or **330/100ml** for three-tube decimal dilution test	Not stated explicitly in basin plan	median concentration of coliform organisms over any 7 day period shall be less than **2.2/100ml**
Los Angeles	**200/100ml**	**2000/100ml**	median total coliform concentration no more than **70/100 ml**		
	10% of samples cannot exceed **400/100ml**	and no more than 10% exceed **4000/100ml**	10% of samples cannot exceed **230/100ml** for five-tube decimal dilution test or **330/100ml** for three-tube decimal dilution test	Not stated explicitly in basin plan	concentration of coliform organisms over any 7-day period shall be less than **1.1/100ml**
Central Valley					
Sacramento/San Joaquin Basin	**200/100ml** Folsom lake: **100/100ml**				
	10% of samples should not exceed **400/100ml** Folsom Lake: **200/100 ml**	Not stated explicitly in basin plan	Not stated explicitly in basin plan	Not stated explicitly in basin plan	most probable number of coliform organisms over any seven-day period should be less than **2.2/100ml**
Tulare Lake Basin	**200/100ml**				
	10% of samples should not exceed **400/100ml**	Not stated explicitly in basin plan	Not stated explicitly in basin plan	Not stated explicitly in basin plan	concentration of total coliform organisms over any 7-day period shall be less than **2.2/100ml**

Colorado River	fecal coliform: **200/100ml** e. coli: **126/100ml** enterococci: **33/100ml**	e. coli: **630/100ml** enterococci: **165/100ml**			
	fecal coliform: 10% should not exceed **400/100ml** e.coli: no sample shall exceed **400/100ml** enterococci: no sample shall exceed **100/100ml** Colorado River: e. coli should not exceed **235/100ml** and enterococci **61/100ml**	fecal coliform: not stated explicitly in basin plan e. coli: no sample shall exceed **2000/100ml** enterococci: **500/100ml** Colorado River: e. coli shall not exceed **1175/100ml** and enterococci **305/100ml**	Not stated explicitly in basin plan	Not stated explicitly in basin plan	Follows limits in Code of Regs title 22, chapter 15, article 3. However, citation is incorrect and not clear what the limit is.
Santa Ana River	For Bays, Estuaries, Lakes and Streams: **200/100ml**	For Bays and Estuaries: Not stated explicitly in basin plan For Lakes and Streams **2000/100ml**	Median concentration less than **14/100ml**		
	10% of samples should not exceed **400/100ml**	10% of samples cannot exceed: **4000/100ml**	10% of samples cannot exceed **43/100ml**	Lakes and Streams: total coliform less than **100/100ml**	total coliform numbers shall not exceed **2.2/100ml** median over any 7-day period
San Diego	fecal coliform: **200/100ml** See below for e. coli and enterococci chart for REC-1	**2000/100ml**	median total coliform concentration no more than **70/100 ml**		
	fecal coliform: 10% of samples should not exceed **400/100ml**	10% of all samples cannot exceed **4000/100ml**	10% of samples cannot exceed **230/100ml** for five-tube decimal dilution test and **330/100ml** for three-tube decimal dilution test	Not stated explicitly in basin plan	Not stated explicitly in basin plan

	In bays and estuaries: most probable number of coliform organisms in the upper 60 feet of the water column shall be less than 1,000/100ml and 20% cannot exceed 1,000/100 ml and no single sample when verified by repeat sample taken within 48 hours shall exceed 10,000/100 ml.				
	E. coli and Enterococci Objectives for REC-1:	E. Coli	Enterococci		
	all areas	**126/100ml**	Freshwater: **33/100ml** Saltwater: **35/100ml**		
	designated beach	**235/100ml**	Freshwater: **61/100ml** Saltwater: **104/100ml**		
	moderately or lightly used area	**406/100ml**	Freshwater: **108/100ml** Saltwater: **276/100ml**		
	infrequently used area	**576/100ml**	Freshwater: **151/100ml** Saltwater: **500/100ml**		
	San Diego Bay	no more than 7/1ml in more than 20% of any 20 daily consecutive samples of bay water.			

EXHIBIT "B"

WATER QUALITY CONTROL PLAN FOR THE LAHONTAN REGION

NORTH AND SOUTH BASINS

Plan effective March 31, 1995, amendments effective August 1995 through December 2005.

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Lahontan Region

2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150
Phone (530) 542-5400
Fax (530) 544-2271

14440 Civic Drive, Suite 200
Victorville, CA 92392-2383
Phone (760) 241-6583
Fax (760) 241-7308

$n_{1h} = 1h\text{-}NH_3 \div f$, or $n_{4d} = 4d\text{-}NH_3 \div f$

where:

n_{1h} is the one-hour criteria for total ammonia species ($NH_4^+ + NH_3$)

n_{4d} is the four-day criteria for total ammonia species ($NH_4^+ + NH_3$)

$f = 1 \div (10^{(pKa-pH)}+1)$

$pKa = 0.0901821 + [2729.92 \div (T+273.15)]$

and:

pKa is the negative log of the equilibrium constant for the $NH_4^+ \rightleftharpoons NH_3 + H^+$ reaction

f is the fraction of unionized ammonia to total ammonia species: $[NH_3 \div (NH_4^+ + NH_3)]$

Values outside of the ranges 0–30 C or pH 6.5–9.0 cannot be extrapolated from these relationships. Site-specific objectives must be developed for these conditions. A microcomputer spreadsheet to calculate ammonia criteria was developed by Regional Board staff. An example of output from this program is given in Table 3-5. Contact the Regional Board if a copy is desired.

Bacteria, Coliform
Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes.

The fecal coliform concentration during any 30-day period shall not exceed a log mean of 20/100 ml, nor shall more than 10 percent of all samples collected during any 30-day period exceed 40/100 ml. *The log mean shall ideally be based on a minimum of not less* than *five samples collected as evenly spaced as practicable during any 30-day period. However, a log mean concentration exceeding 20/100 ml for any 30-day period shall indicate violation of this objective even if fewer than five samples were collected.*

Biostimulatory Substances
Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.

Chemical Constituents
Waters designated as MUN shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) based upon drinking water standards specified in the following provisions of Title 22 of the California Code of Regulations which are incorporated by reference into this plan: Table 64431-A of Section 64431 (Inorganic Chemicals), Table 64431-B of Section 64431 (Fluoride), Table 64444-A of Section 64444 (Organic Chemicals), Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits), and Table 64449-B of Section 64449 (Secondary Maximum Contaminant Levels-Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

Waters designated as AGR shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes).

Waters shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses.

Chlorine, Total Residual
For the protection of aquatic life, total chlorine residual shall not exceed either a median value of 0.002 mg/L or a maximum value of 0.003 mg/L. Median values shall be based on daily measurements taken within any six-month period.

Color
Waters shall be free of coloration that causes nuisance or adversely affects the water for beneficial uses.

Dissolved Oxygen
The dissolved oxygen concentration, as percent saturation, shall not be depressed by more than 10 percent, nor shall the minimum dissolved oxygen concentration be less than 80 percent of saturation.

For waters with the beneficial uses of COLD, COLD with SPWN, WARM, and WARM with SPWN, the minimum dissolved oxygen concentration shall not be less than that specified in Table 3-6.

Floating Materials
Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses.

For natural high quality waters, the concentrations of floating material shall not be altered to the extent that such alterations are discernable at the 10 percent significance level.

Temperature
The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration in temperature does not adversely affect the water for beneficial uses.

For waters designated WARM, water temperature shall not be altered by more than five degrees Fahrenheit (5°F) above or below the natural temperature. For waters designated COLD, the temperature shall not be altered.

Temperature objectives for COLD interstate waters and WARM interstate waters are as specified in the "Water Quality Control Plan for Control of Temperature in The Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" including any revisions. This plan is summarized in Chapter 6 (Plans and Policies), and included in Appendix B.

Toxicity
All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. *Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Regional Board.*

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for "experimental water" as defined in *Standard Methods for the Examination of Water and Wastewater* (American Public Health Association, et al. 1998).

Turbidity
Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.

Water Quality Objectives For Certain Water Bodies

The narrative and numerical water quality objectives which follow in this section are directed toward protection of surface waters (including wetlands) in certain hydrologic units (HUs), watersheds, or water bodies within the Lahontan Region. These surface waters are listed by hydrologic unit, in a north to south direction. Specific numerical criteria are organized in a tabular format. Maps (figures) are included to illustrate the locations of surface waters listed in the tables. Figures and tables are located at the end of the Chapter.

Surprise Valley Hydrologic Unit

(See Figure 3-1 and Table 3-7 for water quality objectives for the Surprise Valley HU.)

Susanville Hydrologic Unit

(Figures 3-2 and 3-3, Tables 3-8 and 3-9)
Unless otherwise specified, the following additional water quality objectives apply to all surface waters of the ***Eagle Drainage Hydrologic Area*** (Figure 3-2):

Algal Growth Potential: The mean monthly mean of algal growth potential shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.

Bacteria, Fecal Coliform
The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 20/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 75/100 ml.

Biostimulatory Substances: The concentrations of biostimulatory substances shall not be altered in an amount that could produce an increase in aquatic biomass to the extent that such increases in aquatic biomass are discernible at the 10 percent significance level.

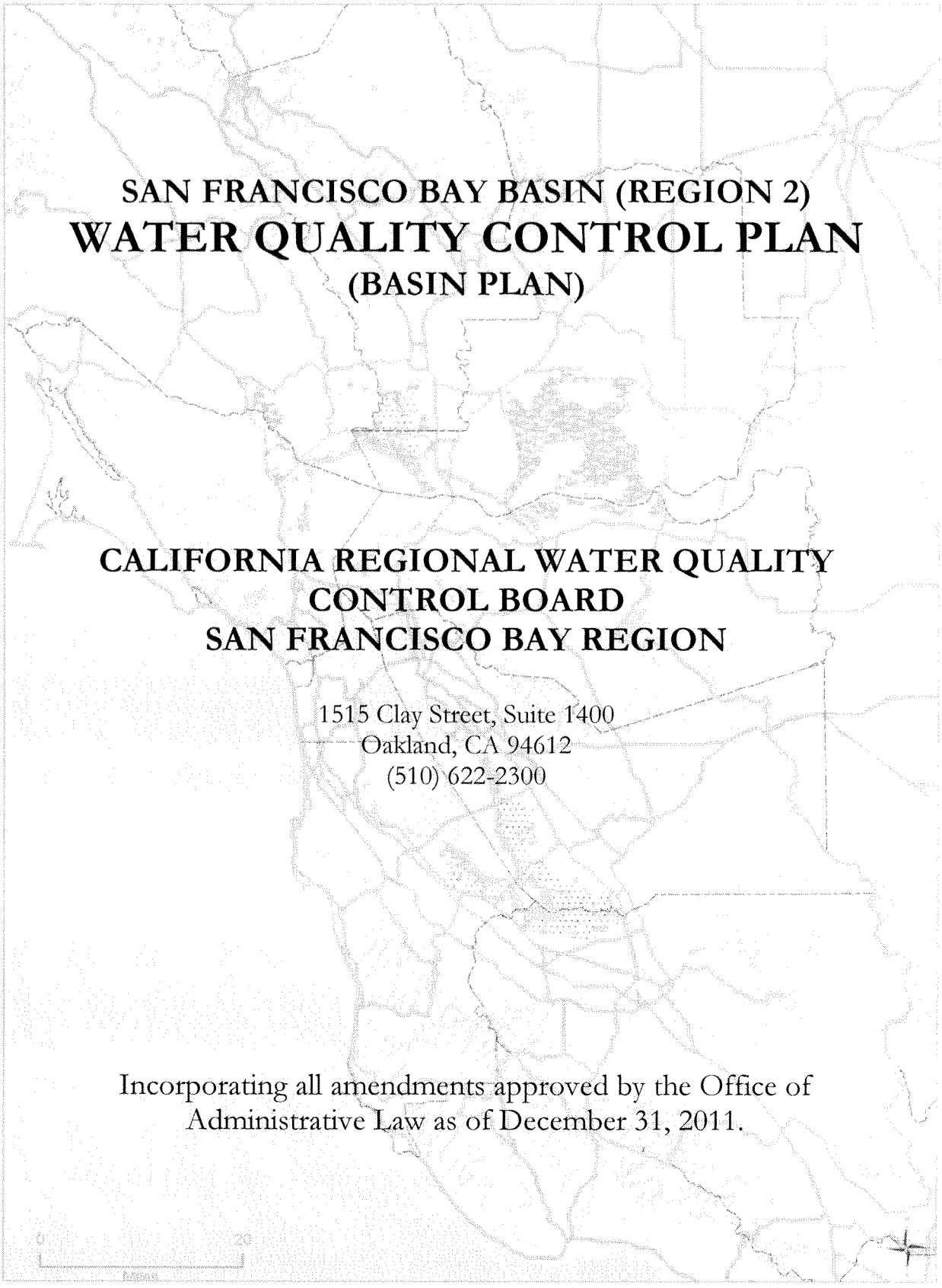
Chlorophyll-a: For the following Eagle Lake stations listed below and mapped in Figure 3-2, the chlorophyll-a levels, as measured in micrograms per liter on a mean of monthly mean basis, shall not exceed the following values:

Station	Chlorophyll-a
Middle Basin 5A	5.2
South Basin 11	4.5

Also, chlorophyll-a levels in Eagle Lake shall not be increased to the extent that such alterations are discernible at the 10 percent significance level.

Dissolved Oxygen: In all waters of Eagle Lake except for the hypolimnion, the dissolved oxygen concentration shall not be depressed by more than 10 percent, below 80 percent saturation, or below 7.0 mg/L at any time, whichever is more restrictive.

SAN FRANCISCO BAY BASIN (REGION 2)
WATER QUALITY CONTROL PLAN
(BASIN PLAN)



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

1515 Clay Street, Suite 1400
Oakland, CA 94612
(510) 622-2300

Incorporating all amendments approved by the Office of Administrative Law as of December 31, 2011.

Table 3-1: Water Quality Objectives for Bacteria[a]

Beneficial Use	Fecal Coliform (MPN/100ml)	Total Coliform (MPN/100ml)	Enterococcus (MPN/100ml)[g]
Water Contact Recreation	geometric mean < 200 90th percentile < 400	median < 240 no sample > 10,000	geometric mean < 35 no sample > 104
Shellfish Harvesting[b]	median < 14 90th percentile < 43	median < 70 90th percentile < 230[c]	
Non-contact Water Recreation[d]	mean < 2000 90th percentile < 4000		
Municipal Supply: - Surface Water[e] - Groundwater	geometric mean < 20	geometric mean < 100 < 1.1[f]	

Notes:

a. Based on a minimum of five consecutive samples equally spaced over a 30-day period.

b. Source: National Shellfish Sanitation Program.

c. Based on a five-tube decimal dilution test or 300 MPN/100 ml when a three-tube decimal dilution test is used.

d. Source: Report of the Committee on Water Quality Criteria, National Technical Advisory Committee, 1968.

e. Source: California Department of Public Health recommendation.

f. Based on multiple tube fermentation technique; equivalent test results based on other analytical techniques, as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 141.21(f), revised June 10, 1992, are acceptable.

g. Applicable to marine and estuarine waters only. Numeric values are based on Section 7958 of Title 17 of the California Code of Regulations, 69FR 67217 et seq., and 40 CFR Part 131.41 (effective date December 16, 2004).

Water Quality Control Plan

for the

Central Coastal Basin

June 2011

Regional Water Quality Control Board, Central Coast Region
State Water Resources Control Board
California Environmental Protection Agency

Bacteria

Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml.

NON-CONTACT WATER RECREATION (REC-2)

pH

The pH value shall neither be depressed below 6.5 nor raised above 8.3.

Bacteria

Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 2000/100 ml, nor shall more than ten percent of samples collected during any 30-day period exceed 4000/100 ml.

COLD FRESHWATER HABITAT (COLD)

pH

The pH value shall not be depressed below 7.0 or raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters.

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 7.0 mg/l at any time.

Temperature

At no time or place shall the temperature be increased by more than 5oF above natural receiving water temperature.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of the limits listed in Table 3-5.

WARM FRESHWATER HABITAT (WARM)

pH

The pH value shall not be depressed below 7.0 or raised above 8.5.

Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters.

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 5.0 mg/l at any time.

Temperature

At no time or place shall the temperature of any water be increased by more than 5oF above natural receiving temperature.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of the limits listed in Table 3-5.

FISH SPAWNING (SPWN)

Cadmium

Cadmium shall not exceed .003 mg/l in hard water or .0004 mg/l in soft water at any time. (Hard water is defined as water exceeding 100 mg/l CaCO3.)

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 7.0 mg/l at any time.

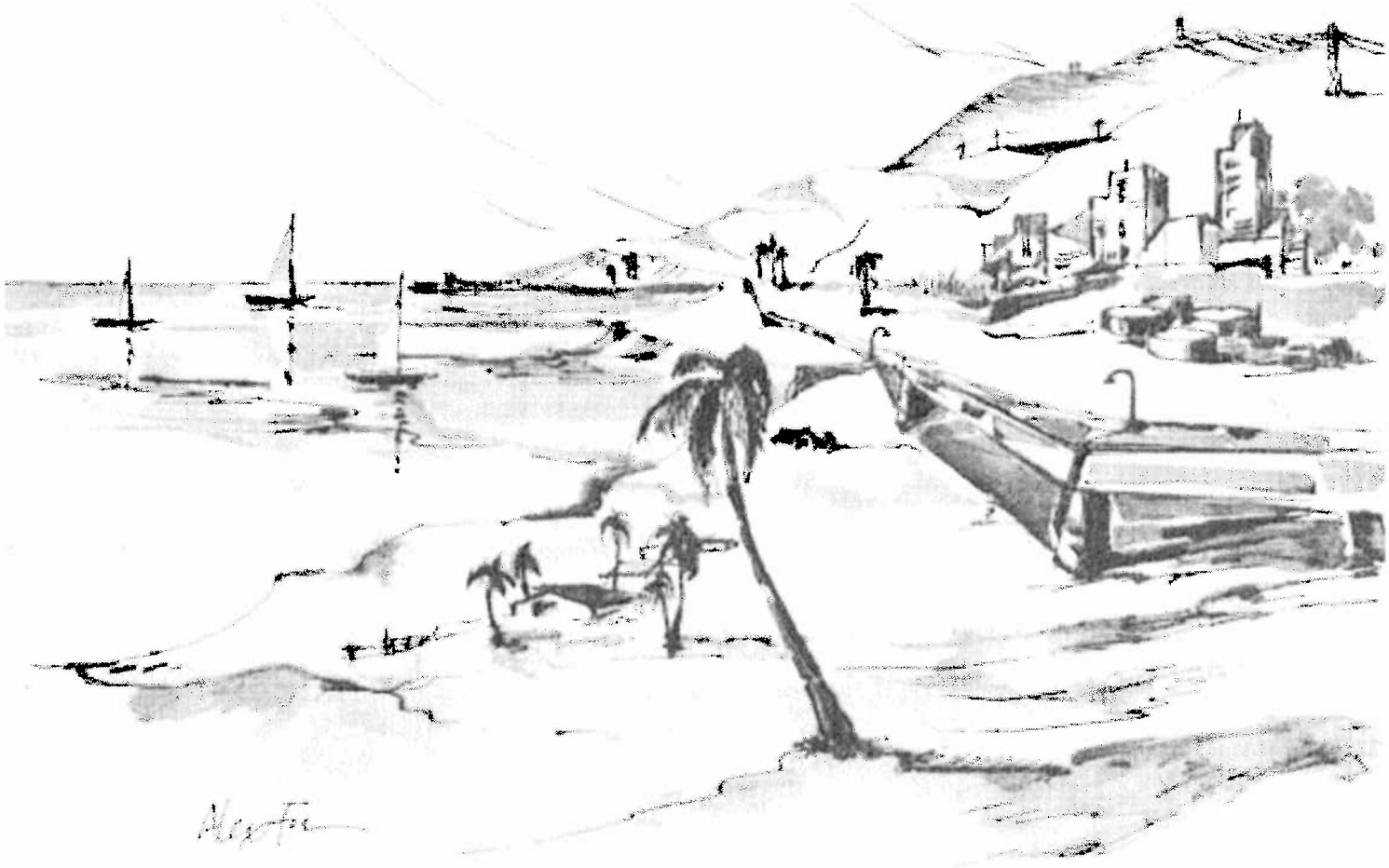
WATER QUALITY CONTROL PLAN
Los Angeles Region

Basin Plan

for the

Coastal Watersheds of

Los Angeles and Ventura Counties



California Regional Water Quality Control Board

Los Angeles Region (4)

Under the Antidegradation Policy, any actions that can adversely affect water quality in all surface and ground waters (i) must be consistent with the maximum benefit to the people of the state, (ii) must not unreasonably affect present and anticipated beneficial use of such water, and (iii) must not result in water quality less than that prescribed in water quality plans and policies. Furthermore, any actions that can adversely affect surface waters are also subject to the federal Antidegradation Policy (40 CFR 131.12), developed under the CWA. The USEPA, Region IX, has also issued detailed guidance for the implementation of federal antidegradation regulations for surface waters within its jurisdiction (USEPA, 1987).

Regional Objectives for Inland Surface Waters

Narrative or numerical water quality objectives have been developed for the following parameters (listed alphabetically) and apply to all inland surface waters and enclosed bays and estuaries (including wetlands) in the Region. *Water quality objectives are in italics.*

Ammonia

The neutral, un-ionized ammonia species (NH_3) is highly toxic to fish and other aquatic life. The ratio of toxic NH_3 to total ammonia ($NH_4^+ + NH_3$) is primarily a function of pH, but is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Ammonia also combines with chlorine (often both are present) to form chloramines - persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge.

In order to protect aquatic life, ammonia concentrations in receiving waters shall not exceed the values listed for the corresponding instream conditions in Tables 3-1 to 3-4.

Timing of compliance with this objective will be determined on a case-by-case basis. Discharges will have up to 8 years following the adoption of this plan by the Regional Board to (i) make the necessary adjustments/improvements to meet these objectives or (ii) to conduct studies leading to an approved site-specific objective for ammonia. If it is determined that there is an immediate threat or impairment of beneficial uses due to ammonia, the objectives in Tables 3-1 to 3-4 shall apply.

In order to protect underlying groundwater basins, ammonia shall not be present at levels that when oxidized to nitrate, pose a threat to groundwater.

Bacteria, Coliform

Total and fecal coliform bacteria are used to indicate the likelihood of pathogenic bacteria in surface waters. Water quality objectives for total and fecal coliform vary with the beneficial uses of the waterbody and are described below:

In waters designated for water contact recreation (REC-1), the fecal coliform concentration shall not exceed a log mean of 200/100 ml (based on a minimum of not less than four samples for any 30-day period), nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml.

In waters designated for non-water contact recreation (REC-2) and not designated for water contact recreation (REC-1), the fecal coliform concentration shall not exceed a log mean of 2000/100 ml (based on a minimum of not less than four samples for any 30-day period), nor shall more than 10 percent of samples collected during any 30-day period exceed 4000/100 ml.

In all waters where shellfish can be harvested for human consumption (SHELL), the median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml, nor shall more than ten percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used.

THE WATER QUALITY CONTROL PLAN (BASIN PLAN)

FOR THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

FOURTH EDITION

Revised October 2011 (with Approved Amendments)

THE SACRAMENTO RIVER BASIN AND THE SAN JOAQUIN RIVER BASIN

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD CENTRAL VALLEY REGION

Katherine Hart, Chair
Lyle Hoag, Member
Karl Longley, Member
Sandra Meraz, Member
Dan Odenweller, Member

Pamela C. Creedon, Executive Officer

COVER PHOTO ACKNOWLEDGMENTS:

Rafting the American River: Rapid Shooters, Lotus CA
Yosemite: David Rosen/ Ducks Unlimited
Sunset Waterfowl: David Rosen/ Ducks Unlimited
Sugar Beets: Brenda Grewell/ Dept. of Water Resources

Bacteria

In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.

For Folsom Lake (50), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 100/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 200/100 ml.

Biostimulatory Substances

Water shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

Chemical Constituents

Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The chemical constituent objectives in Table III-1 apply to the water bodies specified. Metal objectives in the table are dissolved concentrations. Selenium, molybdenum, and boron objectives are total concentrations. Water quality objectives are also contained in the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta, adopted by the State Water Board in May 1995 and revised in 2006.

At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain lead in excess of 0.015 mg/l. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. To protect all beneficial uses the Regional Water Board may apply limits more stringent than MCLs.

TABLE III-1
TRACE ELEMENT WATER QUALITY OBJECTIVES

CONSTITUENT	MAXIMUM CONCENTRATION [a] (mg/l)	APPLICABLE WATER BODIES
Arsenic	0.01	Sacramento River from Keswick Dam to the I Street Bridge at City of Sacramento (13, 30); American River from Folsom Dam to the Sacramento River (51); Folsom Lake (50); and the Sacramento-San Joaquin Delta.
Barium	0.1	As noted above for Arsenic.
Boron	2.0 (15 March through 15 September) 0.8 (monthly mean, 15 March through 15 September) 2.6 (16 September through 14 March) 1.0 (monthly mean, 16 September through 14 March) 1.3 (monthly mean, critical year[b]) 5.8 2.0 (monthly mean, 15 March through 15 September)	San Joaquin River, mouth of the Merced River to Vernalis Salt Slough, Mud Slough (north), San Joaquin River from Sack Dam to the mouth of Merced River
Cadmium	0.00022 [c]	Sacramento River and its tributaries above State Hwy 32 bridge at Hamilton City

California Regional Water Quality Control Board
Central Valley Region

Water Quality Control Plan for the Tulare Lake Basin Second Edition

Revised January 2004 (with Approved Amendments)

water quality objectives being exceeded, controllable factors are not allowed to cause further degradation of water quality. The Regional Water Board recognizes that manmade changes that alter flow regimes can affect water quality and impact beneficial uses.

The third point is that water quality objectives are achieved primarily through the adoption of waste discharge requirements (including federal NPDES permits) and enforcement orders. When adopting requirements and ordering actions, the Regional Water Board considers the beneficial uses within the area of influence of the discharge, the existing quality of receiving waters, and water quality objectives that apply to the reach or uses of the receiving water. Effluent limits may be established to reflect what is necessary to achieve water quality objectives, or, if more stringent, will reflect the technology-based standard for the type of discharge being regulated. The objectives in this plan do not require improvement over naturally occurring background concentrations. Water quality objectives contained in this plan, and any State or Federally promulgated objectives applicable to the Tulare Lake Basin, apply to the main water mass. They may apply at or in the immediate vicinity of effluent discharges, or may apply at the edge of an approved mixing zone. A mixing zone is an area of dilution or criteria for diffusion or dispersion defined in the waste discharge requirements. The Regional Water Board recognizes that immediate compliance with water quality objectives adopted by the Regional Water Board or the State Water Board, or with water quality criteria adopted by the federal Environmental Protection Agency, may not be feasible in all circumstances. Where the Regional Water Board determines it is infeasible for a discharger to comply immediately with such objectives or criteria, compliance shall be achieved in the shortest practicable period of time, not to exceed ten years after the adoption of applicable objectives or criteria. This policy shall apply to water quality objectives and water quality criteria adopted after the effective date of this Basin Plan update.

The fourth point is that, in cases where water quality objectives are formulated to preserve historic conditions, there may be insufficient data to determine completely the temporal and hydrologic variability representative of historic water quality. When violations of such water quality objectives occur, the Regional Water Board evaluates the reasonableness of achieving those objectives through regulation of the controllable factors in the areas of concern.

The fifth point is that the State Water Board adopts policies and plans for water quality control that can specify water quality objectives or affect their implementation. Chief among the State Water Board's policies for water quality control is State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (Antidegradation Policy). It requires that, wherever the existing quality of surface or ground waters is better than the objectives established for those waters, the existing quality will be maintained unless as otherwise provided by Resolution No. 68-16 or any revisions thereto. This policy and others establish general objectives.

The sixth point is that water quality objectives may be in numerical or narrative form. The enumerated milligram-per-liter (mg/l) limit for dissolved oxygen is an example of a numerical objective; the objective for color is an example of a narrative objective.

WATER QUALITY OBJECTIVES FOR INLAND SURFACE WATERS

Surface water quality in the Basin is generally good, with excellent quality exhibited by most eastside streams. The Regional Water Board intends to maintain this quality. The water quality objectives below are presented by categories which, like the beneficial uses of Chapter II, were standardized for uniformity among the regional water boards. Designated beneficial uses of the waters of the Tulare Lake Basin for which provisions should be made are identified in Chapter II; this chapter gives the water quality objectives to protect those beneficial uses. As new information becomes available, the Regional Water Board will review the appropriateness of these objectives, and may modify them accordingly.

Ammonia

Waters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/l (as N) in receiving waters.

Bacteria

In waters designated REC-1, the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.

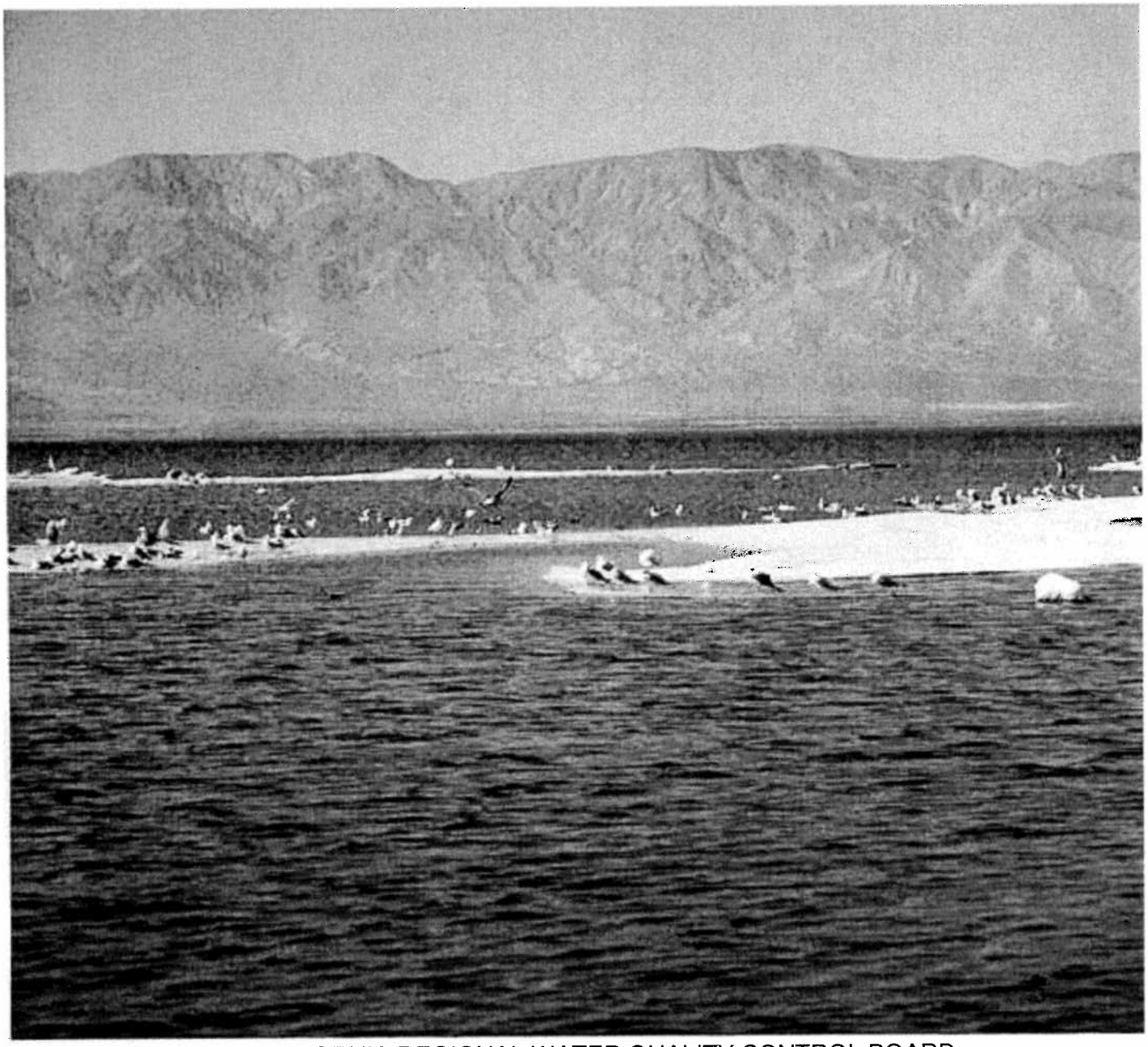
Biostimulatory Substances

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the

WATER QUALITY CONTROL PLAN

COLORADO RIVER BASIN- REGION 7

Includes Amendments Adopted by the Regional Board through June 2006



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
STATE WATER RESOURCES CONTROL BOARD

COLORADO RIVER BASIN MAPS

	TDS (mg/L)	
	Annual Ave.	Maximum
New River	4000	4500
Alamo River	4000	4500
Imperial Valley Drains	4000	4500
Coachella Valley Drains	2000	2500
Palo Verde Valley Drains	2000	2500

I. BACTERIA

In waters designated for water contact recreation (REC I) or noncontact water recreation (REC II), the following bacterial objectives apply. Although the objectives are expressed as fecal coliforms, E. coli, and enterococci bacteria, they address pathogenic microorganisms in general[1] (e.g., bacteria, viruses, and fungi).

Based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of the indicated bacterial densities should not exceed one or the other of the following:

	REC I	REC II
E. coli	126 per 100 ml	630 per 100 ml
enterococci	33 per 100 ml	165 per 100 ml

nor shall any sample exceed the following maximum allowables:

	REC I	REC II
E. coli	400 per 100 ml	2000 per 100 ml
enterococci	100 per 100 ml	500 per 100 ml

except that for the Colorado River, the following maximum allowables shall apply:

	REC I	REC II
E. coli	235 per 100 ml	1175 per 100ml
enterococci	61 per 100 ml	305 per 100 ml

In addition to the objectives above, in waters designated for water contact recreation (REC I), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400 MPN per 100 ml.

[1] Fecal coliforms and E. coli bacteria are being used as the indicator microorganisms in the Region until better and similarly practical tests become readily available in the region to more specifically target pathogens.

J. BIOSTIMULATORY SUBSTANCES

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. Nitrate and phosphate limitations will be placed on industrial discharges to New and Alamo Rivers and irrigation basins on a case-by-case basis, taking into consideration the beneficial uses of these streams.

K. SEDIMENT

The suspended sediment load and suspended sediment discharge rate to surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

L. TURBIDITY

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

M. RADIOACTIVITY

Radionuclides shall not be present in waters in concentrations which are deleterious to human, plant, animal or aquatic life or that result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal or aquatic life.

Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in the California Code of Regulations, Title 22, Chapter 15, Article 5, Section 64443, as listed below:

Constituent	Maximum Contaminant Level, pci/L
Combined Radium-226 and Radium-228	5
Gross Alpha particle activity (including Radium-226 but excluding Radon and Uranium)	15
Tritium	20,000
Strontium-90	8
Gross Beta particle activity	50
Uranium	20

WATER QUALITY CONTROL PLAN

SANTA ANA RIVER BASIN (8)

TABLE OF CONTENTS

species, unless that domination is caused by physical habitat limitations. A balanced community also (5) may include historically introduced non-native species, but (6) does not include species present because best available technology has not been implemented, or (7) because site-specific objectives have been adopted, or (8) because of thermal discharges.

Algae

Excessive growth of algae and/or other aquatic plants can degrade water quality. Algal blooms sometimes occur naturally, but they are often the result of excess nutrients (*i.e.,* nitrogen, phosphorus) from waste discharges or nonpoint sources. These blooms can lead to problems with tastes, odors, color, and increased turbidity and can depress the dissolved oxygen content of the water, leading to fish kills. Floating algal scum and algal mats are also an aesthetically unpleasant nuisance.

Waste discharges shall not contribute to excessive algal growth in receiving waters.

Bacteria, Coliform

Fecal bacteria are part of the intestinal flora of warm-blooded animals. Their presence in bay and estuarine waters is an indicator of pollution. Total coliform is measured in terms of the number of coliform organisms per unit volume. Total coliform numbers can include non-fecal bacteria, so additional testing is often done to confirm the presence and numbers of fecal coliform bacterial. Water quality objectives for numbers of total and fecal coliform vary with the uses of the water, as shown below.

Bays and Estuaries

REC-1 *Fecal coliform: log mean less than 200 organisms/100 mL based on five or more samples/30 day period, and not more than 10% of the samples exceed 400 organisms/100 mL for any 30-day period.*

SHEL *Fecal coliform: median concentration not more than 14 MPN (most probable number)/100 ml and not more than 10% of samples exceed 43 mpn / 100 mL*

Chlorine, Residual

Wastewater disinfection with chlorine usually produces a chlorine residual. Chlorine and its reaction products are toxic to aquatic life.

To protect aquatic life, the chlorine residual in wastewater discharged to enclosed bays and estuaries shall not exceed 0.1 mg/L.

Color

Color in water may arise naturally, such as from minerals, plant matter or algae, or may be caused by industrial pollutants. Color is primarily an aesthetic consideration.

WATER QUALITY CONTROL PLAN
FOR THE SAN DIEGO BASIN (9)

SEPTEMBER 8, 1994

(with amendments effective prior to April 25, 2007)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN DIEGO REGION

A change of one point on this scale represents a ten-fold increase in acidity or alkalinity. Many pollutants can alter the pH, raising or lowering it excessively. In some cases even small changes in pH can harm aquatic biota. The pH changes can alter the chemical form of certain constituents, thereby increasing their bioavailability and toxicity. For example a decrease in pH can result in an increase in dissolved metal concentrations. Ammonia, which is a major component of sewage discharges, can be completely safe at pH 7.0 and extremely toxic to fish at pH 8.5 for the same total ammonia concentration.

Water Quality Objective for pH:

The pH value shall not be changed at any time more than 0.2 pH units from that which occurs naturally.

INLAND SURFACE WATERS, ENCLOSED BAYS AND ESTUARIES, COASTAL LAGOONS AND GROUND WATERS

The following objectives apply to all inland surface waters, enclosed bays and estuaries, coastal lagoons, and ground waters of the Region as specified below.

THERMAL PLAN

Thermal Plan Water Quality Objective:

The terms and conditions of the State Board's "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" (Thermal Plan) and any revisions thereto are incorporated into this Basin Plan by reference. The terms and conditions of the Thermal Plan apply to the Inland Surface Waters, Enclosed Bays and Estuaries, and Coastal Lagoons within this Region.

AGRICULTURAL SUPPLY BENEFICIAL USE

Water Quality Objective for Agricultural Supply:

Waters designated for use as agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use.

AMMONIA, UN-IONIZED

Ammonia is a pungent, colorless, gaseous alkaline compound of nitrogen and hydrogen that is highly soluble in water. Un-ionized ammonia (NH_3) is toxic to fish and other aquatic organisms. In water, NH_3 exists in equilibrium with ammonium (NH_4^+) and hydroxide (OH^-) ions. The proportions of each change as the temperature, pH, and salinity of the water change.

Water Quality Objective for Un-ionized Ammonia:

The discharge of wastes shall not cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/l (as N) in inland surface waters, enclosed bays and estuaries and coastal lagoons.

BACTERIA - TOTAL AND FECAL COLIFORM

Fecal bacteria are part of the intestinal flora of warm-blooded animals. Their presence in surface waters is an indicator of pollution. Total coliform numbers can include non-fecal bacteria, so additional testing is often done to confirm the presence and numbers of fecal coliform bacteria. Water quality objectives for numbers of total and fecal coliform vary with the uses of the water, as shown below.

(1) Waters Designated for Contact Recreation (REC-1) Beneficial Use

Water Quality Objective for Contact Recreation:

In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 milliliters (ml), nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml.

(2) Waters Designated for Non-Contact Recreation (REC-2) Beneficial Use

Water Quality Objective for Non-contact Recreation:

In waters designated for non-contact recreation (REC-2) and not designated for contact

WATER QUALITY CONTROL PLAN
FOR THE
NORTH COAST REGION

MAY 2011

NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

Telephone: (707) 576-2220

pH

The pH shall conform to those limits listed in Table 3-1. For waters not listed in Table 3-1 and where pH objectives are not prescribed, the pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.2 units in waters with designated marine (MAR) or saline (SAL) beneficial uses nor 0.5 units within the range specified above in fresh waters with designated COLD or WARM beneficial uses.

Dissolved Oxygen

Dissolved oxygen concentrations shall conform to those limits listed in Table 3-1. For waters not listed in Table 3-1 and where dissolved oxygen objectives are not prescribed the dissolved oxygen concentrations shall not be reduced below the following minimum levels at any time.

Waters designated WARM, MAR, or SAL .... 5.0 mg/L
Waters designated COLD ..... 6.0 mg/L
Waters designated SPWN ..... 7.0 mg/L
Waters designated SPWN during critical spawning and egg incubation periods..... 9.0 mg/L

Bacteria

The bacteriological quality of waters of the North Coast Region shall not be degraded beyond natural background levels. In no case shall coliform concentrations in waters of the North Coast Region exceed the following:

In waters designated for contact recreation (REC-1), the median fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed 50/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml (State Department of Health Services).

At all areas where shellfish may be harvested for human consumption (SHELL), the fecal coliform concentration throughout the water column shall not exceed 43/100 ml for a 5-tube decimal dilution test or 49/100 ml when a three-tube decimal dilution test is used (National Shellfish Sanitation Program, Manual of Operation).

Temperature

Temperature objectives for COLD interstate waters, WARM interstate waters, and Enclosed Bays and Estuaries are as specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions thereto. A copy of this plan is included verbatim in the Appendix Section of this Plan. In addition, the following temperature objectives apply to surface waters:

The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

At no time or place shall the temperature of any COLD water be increased by more than 5°F above natural receiving water temperature.

At no time or place shall the temperature of WARM intrastate waters be increased more than 5°F above natural receiving water temperature.

Toxicity

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary for other control water that is consistent with the requirements for "experimental water" as described in "Standard Methods for the Examination of Water and Wastewater", 18th Edition (1992). As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute bioassays of effluents will be prescribed. Where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged.

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Attorneys for Petitioner
CENTENNIAL RANCHES

BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LAHONTAN REGION

IN THE MATTER REGARDING THE WORKSHOP ON LIVESTOCK GRAZING AND WATER QUALITY BASIN PLAN PATHOGEN OBJECTIVE, AGENDA ITEM 6	CRWQCB Agenda Item 6 DECLARATION OF WILLIAM J. THOMAS IN SUPPORT OF TIMELY AMENDMENT OF BASIN PLAN PATHOGEN OBJECTIVE AND HISTORY OF THE PATHOGEN OBJECTIVE

LAW OFFICES OF
BEST BEST & KRIEGER LLP
500 CAPITOL MALL, SUITE 1700
SACRAMENTO, CALIFORNIA 95814

DECLARATION OF WILLIAM J. THOMAS REGARDING THE HISTORY OF THE PATHOGEN OBJECTIVE

I, William J. Thomas, declare and state as follows:

1. I am an attorney with the law firm Best Best & Krieger, and I have represented agriculture and ranchers on water quality issues for nearly all of the 37 years that I have practiced law. I am also engaged in the cattle business and have been on the management team of Dave Wood Ranches where we have grazed cattle on irrigated meadows in the Lahontan Region for about thirty (30) years. We are in partnership with Lacey Livestock, doing business as Centennial Ranches in Bridgeport Valley. I have represented Centennial Ranches in all water quality matters and have been fully involved in all the agriculture waiver issues involving the basin plan water quality objectives.

2. Each of the facts herein stated is within my personal knowledge, and I would so testify if called as a witness at hearing.

3. On February 15, 2012, we requested per California Public Records Act that the Lahontan Regional Board provide us with all records that may in any way relate to the review and adoption of the present basin plan objective for pathogens.

4. Our office has completed review of the Public Records Act request documents which were delivered by the Lahontan Regional Board relating to the preparation and adoption of the Water Quality Control Plan (WQCP) for the Lahontan Region, specifically related to the background and history of the current 20 col/100 mL fecal coliform limit. We were able to find only scattered references to the fecal coliform standard that was originally established for the Lake Tahoe area, and which was later incorporated into the WQCP for the entire Lahontan Region.

5. Attached as Exhibit A are Basin Plan summary charts.

6. Attached as Exhibit B are relevant excerpts from each of the nine Regional Water Board's Basin Plan.

7. The following are excerpts from the documents where the fecal coliform standard

was referenced, in chronological order. This will provide context for the casual development of this 20 col/100 mL objective in the basin plan.

> Stream Sampling Program, 1954-1966: A large amount of stream sampling data for these years is included in the records. The stream samplings from the mid 1950s included the Lake Tahoe area and the Truckee and Mojave Rivers, but nothing from the Bridgeport area. Limited samplings from the East Walker River, at Bridgeport, was added in 1958, with one sampling in 1958, one in 1959, and additional samplings beginning in 1960. Those samplings show a wide variation in coliform levels (although not specific to fecal coliform).

8. There was data contained in the "Truckee River Bacteriological Study," prepared for the State Water Resources Control Board by the State of California Department of Public Health, Bureau of Sanitary Engineering, September 1969 which defined base line concentrations of coliform and fecal coliform organisms at various points throughout the Truckee River.

> 1966-69: There are references to the Water Quality Objectives to be maintained in the water of Lake Tahoe:
>
> Undeveloped lake-front areas – 10 yds. offshore: maximum of 32 MPN / 100 ml, and median 5 MPN / 100 ml;
>
> Undeveloped lake-front areas – 100 yds. offshore: maximum of 15 MPN / 100 ml, and median 3 MPN / 100 ml;
>
> Developed lake-shore areas – 10 yds. offshore: maximum 700 MPN / 100 ml; and median 240 MPN / 100 ml.
>
> 100 yds offshore: maximum of 64 MPN / 100 ml; and median 15 MPN / 100 ml.
>
> Areas influenced by streams – 10 yds. from mouth of stream: maximum of 700 MPN / 100 ml; and median 240 MPN / 100 ml.
>
> 100 yds. from mouth of stream: maximum 240 MPN / 100 ml; and median 32 MPN / 100 ml.
>
> June 1971: There was an Interim Water Quality Control Plan for the North Lahontan Basin 6A. Water quality objectives for coliform organisms for Lake Tahoe, as recommended by the California State Department of Public Health, are:
>
> Undeveloped lake-front areas – greater than 10 yds. offshore: maximum of 32 MPN / 100 ml, and median 6 MPN / 100 ml; [Up from median 5 MPN / 100 ml in 1966.]
>
> Developed lake-shore areas – 10 yds. offshore: maximum 700 MPN / 100 ml; and median 240 MPN / 100 ml.
>
> 100 yds offshore: maximum of 64 MPN / 100 ml.; and median 15 MPN /

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100 ml.

Directly influenced by streams – 10 yds. from mouth of stream: maximum of 700 MPN / 100 ml.; and median 240 MPN / 100 ml.

100 yds. from mouth of stream: maximum 240 MPN / 100 ml.; and median 32 MPN / 100 ml.

Truckee River, Carson River and Walker River are noted that "None attributable to human wastes." (P. VI-3.)

January 22, 1975: Memo from State Water Resources Control Board to all Regional Board Executive Officers, re Revisions in Water Quality Objectives. "State Board has indicated the desire to achieve uniform wording and presentation of water quality objectives in the basin plans. To accomplish this, State Board staff has developed revisions to Chapter 4 of the basin plans that are considered necessary for the achievement of statewide uniformity of water quality objectives to the greatest extent practicable." (p. 1.)

Attachment A: "In waters designated for contact recreation (REC 1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml." (P. 8.) "Additional objectives as determined appropriate by the Regional Board and in accordance with accompanying explanatory material." (P. 8.)

Attachment B: "As a minimum requirement, fecal coliform limits should be established for all waters using the language provided. Alternative, more stringent limits for individual waters or groups of waters may be included if substantiated by local epidemiological experience or evidence of existing water quality." (p. 5.)

June 26, 1975: WQCP for North Lahontan Basin, adopted by RWQCG Lahontan Region, and submitted to State Water Resources Control Board for approval, included effluent limitations standard for Fecal Coliform of less than 20 MPN/100 ml (30-day average) (Table 5-4, TTSA Effluent Limitations).

June 26, 1975, Addendum to WQCP for North Lahontan Basin: "Many studies have been made of water quality in recreation areas; however, very few have demonstrated a direct correlation between recreational water use and disease transmission. ... Though they were not definitive studies, the committee felt that detectable health effect may occur at a fecal coliform level of about 400 per 100 ml." (P. 5.)

October 1975: WQCP Report, North Lahontan Basin (6A): "In March 1973, the 1971 Interim Plan was updated to include a definitive standard for coliform organisms in all basin waters except Lake Tahoe, which was already covered by a more stringent coliform standard." (P. I-3-2.)

"Specific water quality objectives for Lake Tahoe had previously been established in the "Lake Tahoe Water Quality Control Policy," dated June 1966. These objectives were reviewed in relation to additional background data collected on the lake water since 1966.

"The water quality objectives which follow supersede and replace those

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contained in the Interim Water Quality Control Plan (1971) and where necessary the water quality control policies for the Truckee River (1967), Lake Tahoe (1966) (the addendum to the Lake Tahoe Policy regarding Control of Siltation (1970)), East and West Forks of the Carson River (1967), Bryant Creek (1970), East Walker River (1967) and West Walker River and Topaz Lake (1967)." (P. I-4-6.)

"Waters shall not contain concentrations of coliform organisms attributable to human wastes. Also, in waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml, with the following exceptions: Eagle Lake; Susan River; Lake Tahoe; Truckee River; East Form Carson River; West Fork Carson River; East Walker River, West Walker River, Lake Topaz; Bryant Creek. ¶ The fecal coliform concentration for these waters and their tributaries, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 40/100 ml. ¶ In waters designated for noncontact recreation (REC-2) and not designated for contact recreation (REC-1), the average fecal coliform concentration for any 30-day period shall not exceed 2000/100 ml nor shall more than 10 percent of samples collected during any 30-day period exceed 4000/100 ml." (P. I-4-8.)

December 17, 1975: Environmental Protection Agency Conditions of approval of Water Quality, Standards South Lahontan Basin (6B): For waters which have not been designated REC-1, revise the objective for bacteria to be at least as stringent as the recommendation specified in the Secretary of the Interior Report (April 1968), which recommends: "...the fecal coliform content...shall not exceed a log mean of 1,000/100ml, nor equal or exceed 2,000/100ml in more than 10 percent of the samples." (Enclosure 1, #4.)

January 21, 1976: Letter from EPA on Water Quality Control Plan Report, North Lahontan Basin (6A):

"Revise the fecal coliform objective for Lake Tahoe to reflect existing fecal coliform levels in the Lake. ... Current fecal coliform levels in the Lake are measured as essentially zero, with occasional measurements of one or two per 100 ml. The adopted fecal coliform objective would permit a significant degradation of the extremely high quality of the Lake." (Enclosure 1, #2.)

Lahontan Response: "The fecal coliform levels in Lake Tahoe are essentially zero in the center of the Lake only; levels near shore vary widely depending on the degree of swimming, runoff, etc. We understand that the 20/100 ml value may not be as good as existing center-lake values; however, it is better than existing conditions near shore. Due to the difficulty of distinguishing the dividing line between "center-of-lake" and "near-shore" objectives, one objective for the whole lake was adopted. Revision of the objective downward to reflect the better "center-of-lake" condition will be considered at the annual update."

"In waters designated for REC-2 without an accompanying designation for REC-1, either: a. Revise the objective for bacteria (p. 4-10) to be at least as stringent as the recommendation specified in "Water Quality Criteria," Report of the National Technical Advisory Committee to the Secretary of the Interior, April 1968, Washington, D.C., p. 10, i.e., ...the fecal coliform content, ... should not exceed a log mean of 1,000/100 m., nor equal or exceed 2,000/100 ml in more than 10 percent of the samples," or b. Add the designation for REC-1 to Table 2-1 for

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those waters now without a REC-1 designation." (Enclosure 1, #3.)

Lahontan Response: "The coliform limits adopted as water quality objectives in the Basin Plan are consistent with all national guidelines except for a literal—but, in our staff's judgment, incorrect—interpretation of the 1968 National Technical Advisory Committee Report on Water Quality Criteria, which would require stricter limits for noncontact water recreation (REC-2). More recent publications, such as Water Quality Criteria 1972 and Proposed Criteria for Water Quality (EPA, October 1973), either make no coliform recommendations for noncontact water recreation (the former publication) or allow for limits very similar to those adopted in the Basin Plan."

March 6, 1978: Letter from EPA to State Water Resources Control Board, with updates on the Status of EPA Approval of Water Quality Standards, Basin Plans and Subsequent Amendments.

Enclosure 6, re North Lahontan Basin (6A): "For Condition 2, the SWRCB agreed to consider the revision of the fecal coliform objective for Lake Tahoe to better reflect existing coliform levels in the Lake. This revision shall be done as part of the continuing planning process (CPP) and its status shall be updated in the 106 quarterly progress reports." (Enclosure 6, #1.a.)

1983 Adopted Amendment to the Water Quality Control Plan for the North Lahontan Basin for Exemptions to the 100-Year Flood Plain Discharge Prohibitions for the Truckee River and Little Truckee River Hydrologic Units States, and the November 9, 1983 Amendments to the Water Quality Control Plan for the North Lahontan Basin Concerning the West Fork Carson River and Indian Creek Watersheds both contain the following standard:

Bacteria. Waters shall not contain concentrations of coliform organisms attributable to human wastes. Also, the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 20/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 40/100 ml.

1994 Water Quality Control Plan for the Lahontan Region, North and South Basins: Plan results from the combination and revision of two separate Basin Plans, for the North and South Lahontan Basins, which were adopted in 1975, and each were amended a numbers of times between 1975 and 1991.

"Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes. The fecal coliform concentration during any 30-day period shall not exceed a log mean of 20/100 ml, nor shall more than 10 percent of all samples collected during any 30-day period exceed 40/100 ml. (Pp. 3-4; 5.1-7.) Additional language was added in the 1995 Updated Plan: "The log mean shall ideally be based on a minimum of not less than five samples collected as evenly spaced as practicable during any 30-day period. However, a log mean concentration exceeding 20/100 ml for any 30-day period shall indicate violation of this objective even if fewer than five samples were collected."

The Tahoe Regional Planning Agency (TRPA) was designated by California, Nevada, and the USEPA as the areawide water quality planning agency under Section 208 of the federal Clean Water Act. "As part of its 1989 conditional certification of TRPA's 1988 revisions to the 208 Plan, the State Board directed

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the Lahontan Regional Board to incorporate the most appropriate provisions of the 208 Plan and the Lake Tahoe Basin Water Quality Plan into the Water Quality Control Plan for the North Lahontan Basin." Chapter 5 of the 1995 WQCP fulfills that direction.

June 1994: Summary of and Rationale for Proposed Amendments to the Water Quality Control Plan for the Lahontan Region:

"The 1975 North and South Lahontan Basin Plan objectives for bacteria provided that: 'Waters shall not contain concentrations of coliform organisms attributable to human wastes.' The 1993 Basin Plan amendments changed this sentence to read: 'Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes.' This change is justified because coliform bacteria from all domestic warm-blooded sources are indicators of the presence of pathogenic (i.e., disease causing) organisms (American Public Health Association 1989)." (P. 27.)

The 1975 North and South Lahontan Basin Plans contained separate sets of fecal coliform objectives for surface waters designated for water contact recreation (REC-1) and for waters designated for non-contact water recreation (REC-2). The REC-1 objectives were more stringent (the REC-1 designation involves the assumption that water may be ingested). The North Lahontan Basin Plan included still more stringent fecal coliform objectives for certain bodies of water. The 1993 Basin Plan amendments extended the objectives for these specific water bodies throughout the Lahontan Region and did not include separate objectives based on REC-1 versus REC-2 use designations. (P. 27.)

March 31, 1995; Office of Administrative Law Notice of Approval and Disapproval, and Reasons for Approval and Disapproval of Parts of Rulemaking Action: "Lake Tahoe Basin: incorporates and revises essential standards and control measures from the Water Quality Management Plan for the Lake Tahoe Region ("208 Plan," ...) and from the Lake Tahoe Basin Water Quality Plan (State Water Resources Control Board 1980); ... (2) Surface Waters: (A) incorporates and revises water quality objectives for ... coliform bacteria ... [and] (3) Ground Waters: incorporates and revises water quality objectives for coliform bacteria ..." (Secs. (m)(2) and (3).)

9. The documents make it clear that the 1975 North and South Lahontan Basin Plans contained separate sets of fecal coliform objectives for surface waters designated for water contact recreation (REC-1) (200/100 ml) and for waters designated for non-contact water recreation (REC-2) (2000/100 ml). The North Lahontan Basin Plan included the more stringent fecal coliform objectives for certain bodies of water (20/100 ml) by the early 1980s.

10. While there are numerous references throughout the more recent years, in various documents, to the 20/100 ml fecal coliform standard for the Lake Tahoe region, and that standard was carried over to the entire North and South Lahontan Basin, there is no actual information provided on how that standard actually originated, and no analysis of the applicability of that

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objective to the agricultural waters of the region.

11. The 1994 Basin Plan amendments extended the objectives for the specific water bodies throughout the entire Lahontan Region and did not include separate objectives based on REC-1 versus REC-2 use designations, providing for a basin-wide standard of 20/100 ml. There is no data or analysis as to the Bridgeport Valley or any analysis of the applicability of this 20/100 ml objective to agricultural areas.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct. Executed this 28th day of June, 2012, at Sacramento, California.

William J. Thomas

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Wike, Amber@Waterboards

From: Smith, Doug@Waterboards
Sent: Tuesday, July 03, 2012 3:23 PM
To: Wike, Amber@Waterboards
Subject: FW: Agenda Item 6 (2 of 4)
Attachments: Declaration of Wood_Lacey.PDF

Amber, please print the email and the attachment. This is the second of four email.

From: William Thomas [mailto:William.Thomas@BBKLAW.COM]
Sent: Thursday, June 28, 2012 2:32 PM
To: Warden, Bruce@Waterboards; Kouyoumdjian, Patty@Waterboards
Subject: Agenda Item 6

Attached please find declaratory statements by our principals in Centennial Livestock as to the need to immediately revise the basin plan pathogen objective. Please provide the Board Chair and the Board Members with copies of this document.

Thank you,
William J. Thomas

William J. Thomas
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Attorneys for Petitioner
CENTENNIAL RANCHES

BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LAHONTAN REGION

IN THE MATTER REGARDING THE WORKSHOP ON LIVESTOCK GRAZING AND WATER QUALITY BASIN PLAN PATHOGEN OBJECTIVE, AGENDA ITEM 6	CRWQCB Agenda Item 6 DECLARATION OF JOHN LACEY AND DAVID E. WOOD IN SUPPORT OF TIMELY AMENDMENT OF BASIN PLAN PATHOGEN OBJECTIVE

DECLARATION OF JOHN LACEY AND DAVID E. WOOD

We, John Lacey and David E. Wood, jointly submit this statement/declaration regarding the Lahontan Regional Water Quality Control Board Basin Plan pathogen objective and hereby declare as follows:

1. John Lacey is the general partner of Lacey Livestock, which together with David E. Wood operates in a partnership known as Centennial Livestock.

2. We collectively purchased the historic Dressler Ranch located in the Bridgeport Valley in 1999. Subsequent to that transaction, we have also purchased additional contiguous ranch properties. Additionally, Lacey Livestock has held a 20-year lease on the Strosnider Point Ranch, which is adjacent to the Centennial Livestock ranch properties. Together, our ranching operations occupy the majority of the Bridgeport Valley.

3. Our ranches enjoy very senior pre-1914 appropriative water rights pursuant to California law and fully adjudicated rights in the Walker River decree governed by the Nevada Federal District Court

4. We have placed the Dressler Ranch in a conservation easement to protect in perpetuity its grazing and conservation values, which include the green grazing meadows, scenic views across the meadows to the Sierra crest, and fish habitat, and to tie the surface and storage water in the area to the Ranch for the purpose of maintaining the meadow environment. The California Rangeland Trust is the easement holder, and state and federal funds were used to finance the endowment for the conservation easement. The same thing was done with the Sweetwater Ranch, which is one of the other aforementioned additional properties, with the Eastern Sierra Land Trust acting as easement holder. True and correct copies of the aforementioned easements are attached hereto as Exhibits A and B.

5. These conservation easements preserve these ranch properties, and the State of California has been and continues to be heavily vested in preserving the irrigation and grazing on the ranches as reflected in these recorded easements. The Centennial/Dressler Ranch Conservation Easement, held by California Rangeland Trust, states in relevant part:

"C. The Property possesses … the natural balance of the ranchland

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environment, all of which are of great importance to Grantor, Grantee and the people of the State of California.

D. Grantee and Landowner agree that … commercially viable livestock grazing, which is essential to the purposes of this Conservation Easement, will continue to be conducted on the Property …

E. Landowner intends voluntarily to convey … for the primary purpose of assuring that the agricultural productivity, open space and scenic qualities created by working landscapes, and the natural balance of the ranchland environment will be conserved, maintained, and protected forever, and that uses of the land that are inconsistent with the Conservation Values will be prevented or corrected."

"1. Use of Property. It is the purpose of this Conservation Easement to preserve and protect the Conservation Values by encouraging commercially viable livestock grazing…"

6. The Centennial/Sweetwater Ranch Conservation Easement, held by Eastern Sierra Land Trust, states in relevant part:

"M. …Grantor voluntarily grants and conveys to Grantee, and Grantee voluntarily accepts, a perpetual conservation easement, as defined by section 815.1 of the California Civil Code and California Public Resources Code section 10211 …:

1. *Conservation Purpose*. The conservation purpose ("Conservation Purpose") of this Easement, pursuant to the governmental policies detailed in the Recitals hereto, and in order to yield a significant public benefit, is to enable the Property to remain in productive agricultural and ranching use by preventing uses of the Property that will impair or interfere with the Property's Conservation Values, including its agricultural productivity, open space character as a working landscape, the natural balance of the ranchland environment, its scenic character and its natural habitat values. …

3. *Right to Use Property for Agricultural Purposes*. Grantor retains the right to use the Property for agricultural purposes, including commercial cattle operations…"

7. It is therefore clear that any action by this Regional Board that has the affect of curtailing irrigation or grazing would be contrary to the interests of the State, would be contrary to the provisions and intent of these recorded easements, and would be actionable. Moreover, the local economy is dependent on ranching and the tourism industry created in part by irrigation of the Bridgeport Valley, so curtailment of irrigation in the region would devastate the local community.

8. Bridgeport Valley is a water rich environment and in abundant water periods the waters sheet flow across the grazing pastures. The water rights on the valley date back 150 years.

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The water distribution networks across our ranches, most of it naturally occurring, are elaborate and water gets intermixed across all the source waters. Buckeye Creek water can get all the way to the East Walker River. Robinson Creek water can cross to both sides of the valley. This water system makes the valley very desirable for ranching, recreation and scenic values. It can also transport fecal materials from livestock, wildlife and human sources across the valley and into the streams.

9. We have been working in conjunction with the Lahontan Regional Board and the University of California at Davis to address water quality in the Bridgeport Valley for over six years, and have been active participants in the Lahontan Region's agricultural waiver. When the waiver was originally promulgated in 2006, we indicated to the Lahontan Regional Board that the unique 20 fecal coliform colonies (FCC) per 100 mL objective in the Basin Plan was unreasonable for, and unattainable in, the Bridgeport Valley. The 20 FCC/ 100 mL objective, which exists nowhere else in the State, had originally been introduced to preserve the unique waters of Lake Tahoe, but by inserting this objective in the Basin Plan for the Lahontan Region, it would drive a severe regulatory program into the agricultural regions of the Bridgeport Valley. In recognition of this unique issue the Lahontan Regional Board acted to advance an interim objective of 200 FCC/ 100 mL, the same standard that exists in all but one of the other regions of the State and as promulgated by the United States EPA, and concluded that the interim objective would be active for a ten year period during which review and revision of the 20 FCC/ 100 mL objective would occur.

10. During the five years operating under the existing waiver, we have expended several hundred thousand dollars implementing water quality mitigations such as riparian fencing, cross fencing, grazing controls, armored crossings, cattle control and management, enclosure fencing, irrigation controls, return flow limitations, and other measures. The resulting water quality improvements have been acknowledged and commended by the Lahontan Regional Board staff. All other ranchers in the Bridgeport Valley will also be similarly affected by the Region's extreme basin plan fecal objective.

11. During this interim period, we have made many requests to the Lahontan Regional

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Board to commence the process of reviewing and amending the Basin Plan's 20 FCC/ 100 mL objective as it relates to areas that do not affect Lake Tahoe. Board staff has resisted initiating review on every occasion and advanced a new waiver proposal. The originally proposed new waiver called for immediately achieving the interim standard of 200 FCC/ 100 mL and, thereafter, required that the 20 FCC/ 100 mL objective be met through a graduated step-down schedule. That proposed waiver promulgated by Board staff made no reference to amending the 20 FCC/ 100 mL standard.

12. We have recently learned that the Board now proposes to retain the 200 col FC/100 mL through the next five-year waiver and that the Board will hold a workshop on amending this unreasonable objective. This declaration is submitted for consideration during that workshop. We request the Board to immediately pursue the amendment of this objective, at least insofar as it applies in the Bridgeport Valley, and prioritize efforts to do so on a timely basis. We do not object to the retention of the 20 FCC/ 100 mL standard for the pristine waters of Lake Tahoe, but urge the Board to revise the Basin Plan to impose a more reasonable and attainable standard for the Bridgeport Valley.

13. The 20 FCC/ 100 mL objective for fecal coliform in the Basin Plan is not only unreasonable, but would be impossible to meet. There is no feasible way that fecal levels may be reduced to the 20 FCC/ 100 mL level, even with the best control strategies without reducing cattle numbers well below any commercially viable level. Imposition of a 20 FCC/ 100 mL objective would therefore mean nothing less than the elimination of cattle ranching from the Bridgeport Valley. That, in turn, would be contrary to the State's longstanding interest, would be violative of the recorded easements described above, would be devastating to the local economy and environment, and would constitute a regulatory taking measured in the tens of millions of dollars of both our property and the easements held by others.

14. The continued inclusion of 20 FCC/ 100 mL objective for fecal coliform in the Basin Plan creates enormous uncertainty that damages both our ranching operation and the operations of others in the Bridgeport Valley. As explained above, cattle ranching in the Bridgeport Valley would cease if that standard is ever imposed. That cloud of uncertainty

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inhibits our ability to make investments in our business, including the investments necessary to continue to make water quality improvements like those described above. That is bad for our operation, and bad for the region. That uncertainty also affects our ability to borrow and prevents us from making long-term plans that extend beyond the term of the new waiver. We therefore urge the Board to lift that cloud by immediately pursuing and adopting an amendment to the Lahontan Basin Plan relative to the 20 FCC/ 100 mL objective for fecal coliform in the Bridgeport Valley.

Each of the undersigned declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of this knowledge and belief.

Executed on June 28, 2012, at Fresno, California.

John Lacey

David E. Wood

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EXHIBIT “A”

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GRANT DEED OF AGRICULTURAL CONSERVATION EASEMENT

This Grant Deed of Agricultural Conservation Easement ("Easement") is made on this 15th day of December 2011, by **CENTENNIAL LIVESTOCK**, a California general partnership ("Grantor"), to the **EASTERN SIERRA LAND TRUST**, a California nonprofit public benefit corporation, having an address at P.O. Box 755, Bishop CA 93515 ("Grantee"), for the purpose of forever conserving the agricultural productive capacity and open space character of the subject property.

RECITALS

A. Grantor is the sole owner in fee simple of that certain ranch property located in Mono County, California, legally described in Exhibit A ("Legal Description") attached to and made a part of this Easement, consisting of 718.8 ± acres of land and commonly known as the "Sweetwater Ranch," together with improvements ("Property"), also identified by Property ID Numbers 007190011000 and 007190036000 (historical assessor parcel numbers 07-190-36 and 07-190-11). The Property and the existing improvements within the approximately fourteen and six tenths (14.6) acre farmstead area ("Farmstead Area") are depicted in Exhibits B-1 and B-2, also attached to and made a part of this Easement. Except as shown in Exhibits B, the Property is open ranchland, with flood irrigated pastureland, meadows and emergent wetlands and rangeland. Its soils and water resources are of a quality and quantity adequate to support sustained agricultural production.

B. The Property possesses native and improved pasture and associated ranching values; wildlife habitat, including riparian habitat values; open space and scenic values (collectively, "Conservation Values"), all of which are of great importance to Grantor, Grantee and the people of the State of California.

C. The Property is located in the scenic Bridgeport Valley, with the nearest incorporated town, being Mammoth Lakes, 56 miles to the south. Bridgeport, an

unincorporated town and the county seat, is located approximately 5 miles to the east. The Property is surrounded on three sides by other protected open space lands, consisting of the 6,390 acre "Centennial Ranch" (formerly known as the Dressler Ranch) to the south, owned and operated by Grantor and protected with a conservation easement held by the California Rangeland Trust and funded in part through the California Department of Transportation's Transportation Enhancement Activities grant program, the Humboldt-Toiyabe National Forest to the west, and Scenic Highway 395 to the east. The protection provided by the Easement will preserve uninterrupted views toward the Sierra Nevada Mountain range and Yosemite National Park. The Property's location between and among these publicly owned and other private protected properties significantly increases the benefit of its protection with the Easement by contributing to the expansion of the scenic, open space, and connectivity and habitat values of the existing protected lands.

D. The Property has significant water resources including riparian rights in By Day Creek, Buckeye Creek and Log Cabin Creek. Grantor has supplemental water storage rights in Twin Lakes reservoir to augment years of low stream flow for irrigation. Just upstream on By Day Creek is a State Reserve Land area created to protect the Lahontan Cutthroat Trout, a species that is federally listed as Threatened.

E. The majority of the Property is composed of irrigated meadows with emergent wetlands present. The upslope areas are comprised of sage brush scrub leading into a woodland ecosystem and the Humboldt-Toiyabe National Forest. In addition to riparian and wetland protection, critical habitat for several species will be preserved by this Easement. The East Walker deer herd migration route passes directly through the Property and the deer also use the area for summer range and fawning. The Property also provides habitat for many species of wintering raptors, according to California Department of Fish and Game biologists, including bald eagle, northern harrier, rough-legged hawk, red-tailed hawk as well as migratory waterfowl. The California Audubon society has identified Bridgeport Valley as an "Important Bird Area," in part of a worldwide effort to identify and protect sites deemed most critical to birds.

F. The agricultural and other specific characteristics of the Property constituting the Conservation Values, the current use and state of improvement, are documented and described in a baseline documentation report dated April 6, 2011 ("Baseline Report"), prepared by Grantee with the cooperation of Grantor and incorporated herein by reference. Grantor and Grantee acknowledge that the Baseline Report is complete and accurate as of the date of this Easement. Both Grantor and Grantee shall retain duplicate originals of the Baseline Report. The Baseline Report may be used to establish that a change in the use or condition of the Property has occurred, but its existence shall not preclude the use of other evidence to establish the condition of the Property as of the date of this Easement.

G. The California Department of Transportation's Environmental Enhancement and Mitigation Program (referred to in this Easement as "Caltrans") has made a grant of funds to Grantee to support the acquisition of this Easement in mitigation of a transportation

project by Caltrans. Caltrans' funds represent a substantial investment by the People of the State of California in the long-term conservation of ranching and agricultural land, and their valuable scenic and natural resources and values and the protection of these resources and values in perpetuity. The Property and this Easement have met the Environmental Enhancement and Mitigation Program's mandatory eligibility criteria and certain selection criteria, and have multiple natural resource conservation objectives.

H. The Department of Conservation's California Farmland Conservancy Program (referred to in this Easement as the "Department") has made a grant of funds to Grantee to support the acquisition of this Easement. The Department's funds represent a substantial investment by the People of the State of California in the long-term conservation of valuable agricultural land, and the retention of agricultural land in perpetuity. The Property and this Easement have met the California Farmland Conservancy Program's mandatory eligibility criteria and certain selection criteria, and have multiple natural resource conservation objectives. The rights vested herein in the State of California arise out of the State's statutory role in fostering the conservation of agricultural land in California and its role as fiduciary for the public investment represented here.

I. Under the authority of the Farm and Ranch Lands Protection Program, the United States Department of Agriculture, Natural Resources Conservation Service (hereinafter alternately referred to as "NRCS," "USDA" or the "United States") has provided certain funds to support the acquisition of this Easement, entitling the United States certain rights as set forth herein.

J. The conservation purposes of this Easement are recognized by, and the grant of this Easement will serve, the following clearly delineated governmental conservation policies:

> The Farmland Protection Policy Act, P.L. 97-98, 7 U.S.C. section 4201 et seq., whose purpose is "to minimize the extent to which Federal programs and policies contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government and private programs and policies to protect farmland;"
>
> Section 815.1 of the California Civil Code, which defines conservation easements;
>
> California Constitution Article XIII, section 8, California Revenue and Taxation Code, sections 421.5 and 422.5, and California Civil Code section 815.1, under which this Easement is an enforceable restriction, requiring that the Property's tax valuation be consistent with restriction of its use for purposes of food and fiber production and conservation of natural resources;
>
> Section 10200 et seq. of the California Public Resources Code, which creates the California Farmland Conservancy Program within the Department;

Section 51220 of the California Government Code, which declares a public interest in the preservation of agricultural lands;

The California General Plan law, section 65300 et seq., and section 65400 et seq. of the California Government Code, and the Mono County General Plan, as amended in 2010, which includes as one of its goals to protect all viable farmlands designated as prime, of statewide importance, unique, or of local importance from conversion to and encroachment of non-agricultural uses; and

Resolution No. RO9-39, approved by the Board of Supervisors of Mono County on the 16th day of June, 2009 which expresses support for the acquisition of this Easement on the Property, and such protection is consistent with the County's General Plan.

K. Grantee is a California publicly supported nonprofit organization within the meaning of California Public Resources Code section 10221 and California Civil Code section 815.3, and is a tax exempt and "qualified organization" within the meaning of section 170(h)(3) of the Internal Revenue Code. Grantee's primary mission is the preservation, protection, or enhancement of land in its natural, scenic, agricultural, forested and/or open space condition.

L. Grantor grants this Easement to Grantee for valuable consideration, with a percentage of the value donated as a charitable gift, for the purpose of assuring that, under Grantee's perpetual stewardship, the Property's agricultural productivity, open space created by working landscapes and the natural balance of the ranchland environment will be conserved and maintained forever, and that uses of the land that are inconsistent with these conservation purposes will be prevented. The parties agree that the current agricultural use of, and improvements to, the Property are consistent with the conservation purposes of this Easement. The Easement's protection of the Property and its Conservation Values will therefore yield a significant public benefit.

M. Grantor and Grantee intend that this Easement shall constitute a qualified conservation easement within the meaning of sections 170(h) and 2031(c) of the Internal Revenue Code, as amended, and the regulations promulgated thereunder.

NOW, THEREFORE, for the reasons given, and in consideration of their mutual promises and covenants, terms, conditions and restrictions contained herein, and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, Grantor voluntarily grants and conveys to Grantee, and Grantee voluntarily accepts, a perpetual conservation easement, as defined by section 815.1 of the California Civil Code and California Public Resources Code section 10211, and of the nature and character described in this Easement for the purpose described below, and agree as follows:

1. *Conservation Purpose*. The conservation purpose ("Conservation Purpose") of this Easement, pursuant to the governmental policies detailed in the Recitals hereto, and in

order to yield a significant public benefit, is to enable the Property to remain in productive agricultural and ranching use by preventing uses of the Property that will impair or interfere with the Property's Conservation Values, including its agricultural productivity, open space character as a working landscape, the natural balance of the ranchland environment, its scenic character and its natural habitat values. The aforestated natural balance between the agricultural uses of the Easement and the natural habitat was created and is sustained by those uses. Grantee recognizes that this favorable environment exists because of the past stewardship of Grantor and depends on the continuance of responsible commercial livestock ranching with future good stewardship decisions by Grantor and its successors. Grantor is entrusted with those future management decisions. Maintaining the natural balance of the ranchland environment shall not prevent changes in the agricultural uses of the land and vegetation management, provided that such changes do not significantly impair the Conservation Values of the Property. Grantee is entrusted with determining and ensuring that the Conservation Values have been preserved and protected in perpetuity.

2. *Right to Use Property for Agricultural Purposes*. Grantor retains the right to use the Property for agricultural purposes, including commercial cattle operations, or to permit others to use the Property for agricultural purposes, in accordance with applicable law, as long as the agricultural productive capacity and open space character of the Property are not thereby significantly impaired. The term "significantly impaired" (or any derivation thereof, as applicable) shall mean a material, adverse effect on the Conservation Values of the Property, including the Property's quality or character, that are intended to be protected (as described in the Baseline Report). Grantor's obligations under this Easement are to only maintain the Conservation Values of the Property as described in the Baseline Report. Subject to Section 3 of this Easement, Grantor shall not be obligated to take any affirmative actions to alter, enhance or improve such condition of the Property. This Easement is not intended to limit Grantor's discretion to employ Grantor's choices of agricultural and ranching uses and management practices so long as those uses and practices are consistent with this Easement.

3. *Prohibited Uses*. Grantor shall not perform, or knowingly allow others to perform, any act on or affecting the Property that is inconsistent with this Easement. Any use or activity that would diminish or impair the agricultural productive capacity and open space character of the Property or that would cause significant soil degradation or erosion is prohibited. This Easement authorizes Grantee to enforce these covenants in the manner described herein. However, unless otherwise specified, nothing in this Easement shall require Grantor to take any action to restore the condition of the Property damaged by earthquake, fire, flood or other acts of God. Grantor shall have no obligation to enhance the Conservation Values of the Property, including its quality or character, (as described in the Baseline Report). Nothing in the Easement shall require Grantor to take any actions or operate the Property in a manner contrary to then-applicable legal, judicial, regulatory, administrative or other requirements; nor shall anything in this Easement be construed as relieving Grantor of its obligation to undertake activities on the Property in accordance with then-applicable legal, judicial, regulatory, administrative or other requirements. Grantor shall not be in breach of this Easement by reason of complying

with then-applicable legal, judicial, regulatory, administrative or other requirements.

4. *Permission of Grantee*. Where Grantor is required to obtain Grantee's permission or approval for a proposed action hereunder, said permission or approval (a) shall not be unreasonably delayed by Grantee, (b) shall be sought and given in writing, with copies of all documents to be provided to the Department and the USDA, and (c) shall in all cases be obtained by Grantor prior to taking the proposed action. In seeking approval, Grantor will provide Grantee with adequate information, documents and plans in sufficient detail, so as to enable Grantee to make an informed judgment as to the activity's consistency with the terms of this Easement and to keep its records current. Grantee shall review the notice and the information submitted and shall, within fourteen (14) days after receipt, notify Grantor that the notice was received and whether the information submitted by Grantor is reasonably sufficient for Grantee to make an informed judgment of the activity's consistency with the terms of this Easement ("Sufficiency Notice"). If the information submitted was insufficient, then, in the Sufficiency Notice, Grantee shall request from Grantor the additional information Grantee reasonably deems necessary to allow Grantee make such a judgment. Grantee shall grant or withhold its approval in writing within forty-five (45) days from the later of: a) the date of Grantee's Sufficiency Notice, notifying Grantor that Grantee has received the initial notice and that the information from Grantor is sufficient; or b) the date after the Sufficiency Notice that Grantee receives from Grantor the additional information requested by Grantee in the Sufficiency Notice. If Grantee fails to act on a request for permission or approval within such forty-five (45) day period, such permission or approval shall be deemed given. Grantee may grant permission or approval to Grantor only where Grantee, acting in Grantee's sole reasonable discretion and in good faith, determines that the proposed action will not significantly diminish or impair the agricultural productive capacity and open space character of the Property and would not cause significant soil degradation or erosion. If, in the judgment of Grantee, the proposed use or activity should not be permitted in the form proposed, but could be permitted if modified, then Grantee's response may propose to Grantor suggested modification(s) and/or conditions that would permit the use or activity. If Grantor disagrees with the Grantee's decision, the parties may agree to mediate the disagreement.

5. *Permitted Uses and Actions; Actions Permitted without Prior Approval of Grantee as long as Conducted in Manner Consistent With This Easement*. The following uses and actions are permitted without the prior approval of Grantee as long as they are conducted in a manner consistent with this Easement. Grantor shall give advance notice to Grantee in writing in accordance with Section 20 prior to undertaking any significant construction or other improvement on the Property as permitted herein (e.g. any activity or improvement requiring a building, grading, or zoning permit or environmental regulatory review or permit), providing Grantee with adequate information, documents and plans so as to enable Grantee to confirm compliance with this Easement and enable Grantee to keep its records current ("Written Advisement").

Except as permitted in this Easement, all other construction, erection, installation or placement of buildings, structures, or other improvements on the Property is prohibited.

For purposes of this Section, "improvements" shall not refer to trees, vines, or other living improvements planted for agricultural or residential landscaping purposes, nor shall it refer to agricultural and irrigation improvements necessary or desirable to produce agricultural crops on the Property, such as all of which may be made without the consent of Grantee and without advising Grantee.

(a) *Fences.* Existing fences may be repaired and replaced, and new fences may be built on the Property for purposes of reasonable and customary management of livestock, wildlife and farm produce, and the reasonable and customary security of the livestock, farm produce and the residences and other improvements upon the Property. All repairs, replacements and new fences shall be sited and designed to protect the Conservation Values of the Property, including but not limited to wildlife corridors.

(b) *Ranching and Agricultural Structures and Improvements.* Existing agricultural and ranching structures and improvements as shown in Exhibits B may be repaired, reasonably enlarged, and replaced at their current locations for agricultural and ranching purposes. New buildings and other structures and improvements to be used solely for ranching and/or agricultural production on the Property, including barns, equipment sheds, and improvements to be used for ranching and/or agricultural production purposes or sale of farm products predominantly grown or raised on the Property may be built on the Property within the Farmstead Area. Minor agricultural structures, such as pump houses, solar panels or wind generators that exclusively supply power for irrigation on the Property used for ranching or the direct growing or support of growing agricultural crops, are allowed outside of the Farmstead Area. Each individual minor agricultural structure that is to be located outside of the Farmstead Area may not exceed one hundred (100) square feet and the aggregate area of all of such minor structures shall not exceed three hundred (300) square feet.

Grantor may construct and maintain corrals, holding pens or pastures on the Property for carrying out its livestock ranching operations. Commercial feedlots are prohibited under Section 7(m). Grantor may confine livestock for discretionary seasonal feeding and may lease grazing rights for livestock owned by others, provided the confinement of livestock or leasing of grazing rights does not interfere with, impair or otherwise burden the Conservation Values of the Property.

(c) *Agricultural Employee Housing.* There is no existing agricultural employee housing on the Property. Up to three (3) new dwellings or structures to be used primarily to house ranch tenants, ranch employees or others engaged in ranching or agricultural production on the Property may be built on the Property, and may be repaired or replaced, provided they are located entirely within the Farmstead Area. The total aggregate living area of such new housing shall not exceed four thousand (4,000) square feet.

(d) *Utilities and Septic Systems.* Wires, lines, pipes, cables or other facilities providing electrical, gas, water, sewer, communications, energy generation, or other utility services solely to and serving the improvements permitted herein, or to transmit power generated on the Property, may be installed, maintained, repaired, removed, relocated and replaced.

Grantor may grant rights-of-way over and under the Property for such purposes with Written Advisement to Grantee, provided such rights-of-way are not inconsistent with this Easement. Septic or other underground sanitary systems serving the improvements permitted herein may be installed, maintained, repaired, replaced, relocated or improved, and shall be placed with the Farmstead Area, where possible. Power generation and transmission facilities primarily for agricultural and other permitted uses on the Property may be constructed within the Farmstead Area. Power generated in excess of requirements on the Property may be sold to appropriate public utilities.

(e) *Use and Storage of Agricultural Products, Residential and Agricultural Waste, and Equipment.* The use and storage of the following is permitted as long as they are for use on the Property and carried out in accordance with applicable law and labeling requirements: agricultural and ranching products, chemicals, byproducts, and equipment. "Agricultural and ranching chemicals" includes herbicides, pesticides, fungicides, fertilizers, and other materials commonly used in farming and ranching operations even though they may be "Hazardous Materials" as defined in Section 22. Composting of organic materials from the Property is also permitted provided that the Conservation Values of the Property are not significantly impaired. Temporary storage of residential and agricultural waste generated on the Property for periodic removal off-site is permitted.

(f) *Paving and Road Construction.* Construction and maintenance of unpaved farm roads that are reasonably necessary and incidental to carrying out the uses permitted on the Property by this Easement are permitted, provided that, to the extent reasonable, with respect to agricultural efficiency, productivity and cost, such unpaved farm roads shall not be located on prime soils identified by the United States and shall not significantly diminish or impair the agricultural productive capacity of the Property. Paving within the Farmstead Area and/or for a new driveway, if necessary, leading from Highway 395 to any new agricultural employee housing in the Farmstead Area, is permitted. Grantor shall give Grantee Written Advisement of any relocation of or net addition to unpaved farm roads.

(g) *Recreational Uses.* Non-commercial recreational and educational activities such as hiking and bird-watching are permitted. Grantor expressly reserves the right for themselves and their family and guests to fish, hunt, camp and engage in other similar passive recreational activities on the Property. The limited use of motorized vehicles on the Property off roadways and outside the Farmstead Area exclusively in connection with the aforesaid permitted recreational activities is permitted. Off-road use of motorized vehicles, to the limited extent permitted, shall be carried out in a manner which does not diminish or impair the agricultural productive capacity and open space character of the Property or cause significant soil degradation or erosion.

(h) *Customary Rural Enterprises.* Customary rural enterprises, such as agricultural and ranch management offices, are permitted on the Property in the permitted buildings constructed and maintained in the Farmstead Area for agricultural employee housing and

agricultural use of the Property. Customary rural enterprises that require their own buildings are prohibited.

(i) *Subsequent Liens or Encumbrances on Property.* Grantor may use the Property as collateral for a subsequent borrowing, provided any subsequent obligations secured by the Property are subordinate to this Easement.

(j) *Emergencies and Construction of Temporary Improvements.* In an emergency, Grantor may take such limited and temporary actions as are reasonably necessary to protect physical safety of persons and property on the Property and the Property itself, including residential, ranching and agricultural improvements and agricultural products and only to the limited extent necessary for such protection and provided such actions are in compliance with applicable laws. The construction, placement, or use of limited, temporary living, or construction of temporary farm management quarters or mobile homes on the Property during limited periods of agricultural employee housing construction or during or immediately following an emergency rendering such housing uninhabitable, is permitted, provided such construction or use is in compliance with applicable laws and such trailers or temporary improvements are removed immediately after the period of emergency is over or construction is completed, as determined by Grantee. Grantor shall give Grantee prompt notice of any emergency actions taken under this Section. If emergency actions taken in accordance with this Section continue for more than sixty (60) days, Grantor will seek Grantee's approval pursuant to Section 4 of this Easement and such approval shall not be unreasonably withheld.

(k) *Tree Removal or Harvesting.* The cutting or removal of trees used for ranching and agricultural purposes is permitted. Native trees shall be maintained to the extent possible, but may be removed if they are diseased, damaged, or otherwise interfere with the ranching and agricultural use of the Property.

(l) *Wetland Restoration.* The restoration of wetlands on the Property is permitted if the restoration is consistent with the terms and purposes of the Easement.

(m) *Motorized Vehicle Use for Agricultural and Ranching Purposes.* The use of motorized vehicles off roadways or outside the Farmstead Area in support of permitted agricultural, ranching, habitat management, safety, limited residential and conservation uses of Property, and for the purpose of monitoring this Easement, is permitted. Permitted motor vehicle use shall be carried out in a manner which does not diminish or impair the agricultural productive capacity and open space character of the Property or cause significant soil degradation or erosion. The use of motorized vehicles on the Property within roadways and inside the Farmstead Area is permitted for all purposes.

6. *Uses and Actions Permitted with Prior Approval of Grantee.* The following uses and practices may be consistent with this Easement, depending on the manner in which they are carried out. Prior written notice to and approval of Grantee is required before Grantor begins these uses and practices. Prior approval shall be sought by Grantor in accordance with Section 4.

(a) *New Agricultural Enterprise Structures.* New structures and improvements to be used for "Agricultural Enterprises" (as defined below) may be permitted if the structures are located solely within the Farmstead Area. "Agricultural Enterprises" means otherwise lawful and customary agricultural rural enterprises owned and operated by Grantor or Grantor's lessees, such as, but not limited to, marketing of farm products predominantly grown, raised or produced on the Property or on other real property in Mono County owned by Grantor and businesses principally providing agricultural-related goods and services to other farms and farmers in the vicinity of the Property. All such structures individually and collectively must be consistent with this Easement and approved under local zoning and building codes. A single "roadside stand" in accordance with the County Zoning Ordinance in effect as of the date of this Easement and located within the Farmstead Area may be constructed. Roadside stand is defined as an area of an agricultural property set aside for the sale of processed and unprocessed crops that are grown on and off the Property. Crops that have been grown or produced off the Property may only be sold in conjunction with the sale of crops grown on the Property.

(b) *Signs for Agricultural Use*. Signs may be placed on the Property only for the purpose of identifying the Property, identifying the Property as a participant in the FRPP, CFCP or EEMP program, or to advertise ranching and agricultural enterprises operating on the Property or a roadside stand operating on the Property, in accordance with this Easement, with content and design approved by Grantor. However, the total surface area of all the signs shall not exceed eighteen (18) square feet and the top of each sign shall be no more than ten (10) feet from the ground. A maximum of two (2) signs may be erected with no single sign exceeding a surface area of nine (9) square feet.

Grantee shall have the right to erect and maintain a sign or other appropriate marker not to exceed six (6) square feet, or of a size required by funders of the Easement, in a prominent location on the Property acceptable to Grantor, visible from a public road, bearing information indicating that the Property is protected by this Easement and acknowledging the sources of Grantee's funding for the acquisition of this Easement. The wording of the information and the location and size of the sign shall be subject to Grantor's review and approval, and shall clearly indicate that the Property is privately owned and not open to the public. Grantee shall be responsible for the costs of erecting and maintaining such sign or marker.

(c) *Lot Line Adjustment.* Lot line adjustment may be permitted solely with the approval of Grantee, which shall not be unreasonably withheld, and for purposes of maintaining, enhancing or expanding agricultural practices or productivity on the Property. Grantor shall take no actions to carry out a lot line adjustment unless and until Grantee approves the request.

7. *Prohibited Uses.* All activities and uses that are not consistent with the Conservation Purpose of this Easement are prohibited. The following uses and practices, though not an exhaustive recital of inconsistent uses and practices, are inconsistent with this Easement, and are prohibited on the Property, except as specifically permitted in Sections 5 or 6 or elsewhere in this Easement:

(a) *Buildings.* Except as permitted in Sections 5 or 6 above, the construction or placement of any buildings, residential dwellings, camping accommodations, temporary living quarters of any sort, mobile homes, signs, billboards or other advertising materials, utility towers, or other structures is prohibited.

(b) *Dumping and Trash.* No trash, refuse, vehicle bodies or parts, rubbish, debris, junk, waste or "Hazardous Materials," as defined in Section 21, shall be placed, stored, dumped, buried or permitted to remain on the Property, except as permitted in Section 5(e) above.

(c) *Industrial and Commercial Uses.* Industrial and commercial uses are prohibited unless expressly permitted for agricultural purposes.

(d) *Mining and Surface Alteration.* Except to the limited extent as may be permitted in accordance with Section 5(f) (road construction), the mining or extraction of soil, sand, gravel, rock, oil, natural gas, fuel, or any other hydrocarbon or mineral substance, using any method that disturbs the surface of the land, is prohibited.

(e) *Commercial Recreational Structures.* Resort structures, golf courses, non-residential swimming pools, non-residential tennis courts, commercial equestrian facilities, playing fields, airstrips, helicopter pads, or any other commercial recreational structure are strictly prohibited on the Property. Operation of a public stable and the commercial raising, training and boarding of horses are prohibited.

(f) *No Subsequent Easements Restricting Agricultural Husbandry Practices.* The grant of any subsequent easements, other interests in land, or use restrictions that might diminish or impair the agricultural productive capacity or open space character of the Property or that restrict agricultural husbandry practices is prohibited. "Husbandry practices" means agricultural activities, such as those specified in section 3482.5(e) of the California Civil Code, conducted or maintained for commercial purposes in a manner consistent with proper and accepted customs and standards, as established and followed by similar ranching and agricultural operations in the same locality. Any such easement shall be in writing and shall be duly recorded in Mono County, as applicable. Grantee's written approval shall be obtained at least thirty (30) days in advance of Grantor's execution of any proposed subsequent easement, interests in land, or use restriction on the Property, and such subsequent easements, interests in land, and use restrictions shall make reference to and be subordinate to this Easement. Grantee shall notify the Department immediately upon receipt of request by Grantor to grant a subsequent easement, interest in land, or use restriction on the Property. Grantee shall notify the Department and USDA in the event that it approves the grant of any subsequent easement, interest in land, or use restriction on the Property. Grantee shall disapprove the granting of any proposed subsequent easement, interest in land, or use restriction that appears to restrict agricultural husbandry practices, or diminishes or impairs the agricultural productive capacity or open space character of the Property.

(g) *No Subsequent Easements for Utilities and Roads.* Except for permitted uses specified in Section 5, the granting of easements for utilities and roads is prohibited.

(h) *Subdivision and Common Ownership of the Property.* The division, subdivision, de facto subdivision or partition of the Property, including transfer of development rights, whether by physical, legal, or any other process, is prohibited. The Property is currently comprised of two assessor parcels. Grantor will not sell, exchange, convert, transfer, assign, mortgage or otherwise encumber, alienate or convey any parcel associated with the Property or portion of any parcel of the Property separately or apart from the Property as a whole, and Grantor and its successors in interest will at all times treat all parcels of the Property as a single integrated economic unit of property. Grantor will not apply for or otherwise seek recognition of additional legal parcels on the Property based on certificates of compliance or any other authority.

(i) *Road Paving and Construction.* Except as may be permitted in and a driveway to the Farmstead Area in accordance with Section 5(f), no portion of the Property shall be paved or otherwise covered with concrete, asphalt, or any other impervious paving material, unless such measures are required by air quality laws or regulations applicable to the Property.

(j) *Motorized Vehicle Use.* The use of motorized vehicles on the Property off roadways and outside the Farmstead Area is prohibited, except as provided in Sections 5(g) and 5(m) of this Easement.

(k) *Commercial Signs.* Commercial signs, including billboards, unrelated to permitted activities conducted on the Property are prohibited.

(l) *Commercial Power Generation and Collection.* Except as may be permitted in Section 5(d) (power collection, generation and sale for own use), commercial power generation, collection or transmission facilities, including solar or wind farms or facilities, are prohibited.

(m) *Commercial Feedlot.* The establishment or maintenance of a commercial feedlot is prohibited. For the purposes of this Easement, "commercial feedlot" is defined as a permanently constructed confined area or facility used and maintained for the purposes of engaging in the business of feeding livestock and is not grazed or cropped annually. Said term does not include the use or maintenance of corrals, holding pens or pastures as provided for in Section 5(b).

(n) *Limit on Impervious Surfaces.* In no instance may impervious surfaces, including any referred to in Section 5 or 6, exceed two percent (2%) of the total surface area of the Property, estimated at 14.36 acres. Impervious surfaces are permanent, non-seasonal rooftops, and concrete and asphalt surfaces and would include residential buildings, agricultural buildings (with and without flooring), and paved areas on the entire Property, both within and outside the Farmstead Area. Conservation practices listed in the NRCS Field Office Technical Guide are exempt from the impervious cover limitation. The limitation on impervious surfaces applies to all uses on the Property.

8. *Development Rights*. Except as specifically reserved in this Easement, Grantor hereby grants to Grantee all development rights that are now or shall hereafter be allocated to, implied, reserved, appurtenant to, or inherent in the Property, and the parties agree that such rights are released, terminated, and extinguished, and may not be used on or transferred by either party to any portion of the Property as it now or later may be bounded or described, or to any other property adjacent or otherwise, or used for the purpose of calculating permissible lot yield of the Property or any other property. This Easement shall not create any development rights.

9. *Resource Rights and Stewardship*.

(a) *Water Rights and Water Use*. Grantor shall retain, maintain and preserve all rights to use all stream flow, storage rights and supplemental storage water rights associated with the Property. Grantor shall retain and reserve all ground water, and all appropriative, prescriptive, contractual or other water rights appurtenant to the Property as of the date of this Easement. Grantor shall have the right to make transfers, leases and/or trades of water, storage rights and/or water allocations, provided that the term of the transfer, lease, or trade agreement shall not exceed five (5) years, and further provided, that no transfer, lease or trade that impairs any of the agricultural or ranching Conservation Values is allowed, nor is any permanent alienation, transfer or trade. Grantor shall provide prior written notice to Grantee of any transfer, lease, or trade agreements.

Grantor retains the right to use, maintain, establish, construct, and improve water sources, water courses and water bodies within the Property for the uses permitted by this Easement, including water storage and irrigation, provided that Grantor does not significantly impair or disturb the natural course of the surface water drainage or runoff flowing over the Property. Grantor may alter the natural flow of water over the Property in order to improve drainage of agricultural soils, reduce soil erosion, or improve the ranching and agricultural management potential of the Property, provided such alteration is consistent with the Conservation Purpose of this Easement and the "Conservation Plan" referenced in Section 11, and is carried out in accordance with applicable laws.

(b) *Resource Stewardship*. In order to protect the Conservation Values, Grantor shall conduct all ranching and farming operations in accordance with good management practices with respect to soil and water conservation, erosion control, pest management, nutrient management and habitat protection. Grantor shall manage the riparian habitat areas on the Property and its water storage rights in the Twin Lakes reservoir to preserve, enhance and protect that habitat in support of dependent fish and wildlife resources in accordance with good ranch management practices; provided, that nothing in this Easement shall require Grantor to fence any such areas.

10. *Rights Retained by Grantor*. Subject to Section 8 and to interpretation under Section 23(a), as owner of the Property, Grantor reserves all interests in the Property not transferred, conveyed, restricted, prohibited or extinguished by this Easement. These ownership rights include, but are not limited to, the right to sell, lease, devise or otherwise transfer the Property to anyone Grantor chooses, as well as the right to privacy

and the right to exclude any member of the public from trespassing on the Property and any other rights consistent with the Conservation Purpose of this Easement. Nothing contained herein shall be construed as a grant to the general public of any right to enter upon any part of the Property.

11. *Conservation Plan.* All agricultural operations on the Property are encouraged to be conducted in a manner consistent with a conservation plan prepared by the NRCS in cooperation with Grantor, and utilizing the standards and specifications of the NRCS Field Office Technical Guide pursuant to 7 C.F.R. part 12. An AD-1026, Highly Erodible Land and Wetland Certification form has been filed at the appropriate USDA Service Center, certifying that the Property does not include any highly erodible lands or contain wetlands that will be filled.

12. *Responsibilities of Grantor and Grantee Not Affected.* Other than as specified herein, this Easement is not intended to impose any legal or other responsibility on Grantee, or in any way to affect any existing obligation of Grantor as owner of the Property. Among other things, this shall apply to:

(a) *Taxes* – Grantor shall be solely responsible for payment of all taxes and assessments levied against the interest Grantor owns in the Property. If Grantee ever pays any taxes or assessments on interests owned by Grantor in the Property, Grantor will reimburse Grantee for the same.

(b) *Upkeep and Maintenance* – Grantor shall be solely responsible for the upkeep and maintenance of the Property consistent with the terms of this Easement. Grantee, the Department and the United States shall have no obligation for the upkeep or maintenance of the Property. If Grantee, the Department or the United States acts to maintain the Property in order to protect Grantee's interest in the Property, Grantor will reimburse Grantee, the Department and the United States for any such costs.

(c) *Compliance with Law* – Grantor shall comply with all applicable laws with respect to the Property. Nothing in this Easement relieves Grantor of any obligation with respect to the Property or restriction on the use of the Property imposed by law, whether currently existing or hereafter enacted or otherwise promulgated by any federal, state, county, municipal, or other governmental body (whether legislative, administrative, or judicial), or by any competent official of any of the foregoing. In no event shall this Easement be construed as granting any landowner rights not permitted by local building, land use and/or zoning regulations at the time of construction, demolition, occupation, or other regulated use.

(d) *Liability and Indemnification* –Grantor shall indemnify, protect, defend and hold harmless Grantee, the Department, and the United States, their respective officers, directors, members, employees, contractors, legal representatives, agents, successors and assigns (collectively, "Agents and Assigns") from and against any and all liabilities, claims, demands, losses, expenses, damages, fines, fees, penalties, orders, liens, suits, proceedings, actions, and costs of actions, sanctions asserted by or on behalf of any person or governmental authority, and other liabilities (whether legal or equitable in

nature and including, without limitation, court costs, and reasonable attorneys' fees and attorneys' fees on appeal) to which Grantee may be subject or incur relating to the Property, arising from or in any way connected with Grantor's negligent acts or omissions or Grantor's breach of any representation, warranty, covenant, and agreements contained in this Easement, or violations of any Federal, State, or local laws, including all Environmental Laws. Grantor shall be solely liable for injury or the death of any person, or physical damage to any property, or any other costs or liabilities resulting from any act, omission, condition, violation of the law or of this Easement or other matter related to or occurring on or about the Property, regardless of cause, unless due to the negligence or intentional misconduct of Grantee, the United States and/or their respective Agents and Assigns.

Neither Grantee, the Department, the United States, nor their respective Agents and Assigns shall have responsibility for the operation of the Property, monitoring of hazardous conditions on it, or the protection of Grantor, the public or any third parties from risks relating to conditions on the Property. Without limiting the foregoing, neither Grantee, the Department, the United States, nor their respective Agents and Assigns shall be liable to Grantor or other person or entity in connection with consents given or withheld, or in connection with any entry upon the Property occurring pursuant to this Easement, or on account of any claim, liability, damage or expense suffered or incurred by or threatened against Grantor or any other person or entity, except to the extent the claim, liability, damage, or expense is the result of the negligence or intentional misconduct of Grantee, the Department, the United States and/or their respective Agents and Assigns.

Grantee shall be named as an additional insured on Grantor's general liability insurance policy. Grantor shall provide Grantee with a certificate of insurance on an annual basis evidencing compliance with the terms of this paragraph.

Grantee shall indemnify, protect, defend and hold harmless Grantor and its officers, directors, members, employees, contractors, legal representatives, agents, successors and assigns (collectively, Grantor's "Agents and Assigns") from and against any and all liabilities, claims, demands, losses, expenses, damages, fines, fees, penalties, orders, liens, suits, proceedings, actions, and costs of actions, sanctions asserted by or on behalf of any person or governmental authority, and other liabilities (whether legal or equitable in nature and including, without limitation, court costs, and reasonable attorneys' fees and attorneys' fees on appeal) to which Grantor may be subject or incur relating to the Property, arising from or in any way connected with any injury to or the death of any person or physical damages to any property, resulting from any act, omission, condition or other matter related to or occurring on or about the Property to the extent they arise from Grantee's negligence or the willful misconduct of Grantee, its agents, officers, directors and/or employees or Grantee's breach of any representation, warranty, covenant, and agreements contained in this Easement, or Grantee's violations of any Federal, State, or local laws, including all Environmental Laws.

13. *Monitoring Reports*. Grantee shall manage its responsibilities as holder of this Easement so as to uphold the Conservation Purpose of this Easement. Grantee's

responsibilities include, but are not limited to, annual monitoring, such additional monitoring as circumstances may require, record keeping, and enforcement, for the purpose of preserving the Property's agricultural productive capacity and open space character in perpetuity. Grantee shall report to the Department and the NRCS by June 30 annually after the annual monitoring visit, describing method of monitoring, condition of the Property, stating whether any violations were found during the period, describing any corrective actions taken, the resolution of any violation, and any transfer of interest in the Property. Failure to do so shall not impair the validity of this Easement or limit its enforceability in any way.

14. *Monitoring and Enforcement*. With reasonable advance notice (except in the event of an emergency or suspected emergency), Grantee shall have the right to enter upon, inspect, observe, monitor and evaluate the Property to identify the current condition of, and uses and practices on the Property and to determine whether the condition, uses and practices are consistent with this Easement. The NRCS may accompany Grantee on its annual monitoring visit to the Property to observe Grantee carrying out the monitoring process. Monitoring visits shall be subject to the following conditions:

(a) Grantee shall give at least seven (7) days' written notice to Grantor before entering upon the Property, except in the event of an emergency or suspected emergency, in which case reasonable oral notice shall be given. The notice shall indicate the purpose of the entry and shall provide the timeframe during which Grantee shall be upon the Property;

(b) Entry shall take place during normal business hours unless otherwise required due to exigent circumstances; and

(c) Grantee shall indemnify, defend with counsel of Grantor's choice, and hold Grantor harmless from, all expense, loss, liability, damages and claims, including Grantor's attorneys' fees, if necessary, arising out of Grantee's entry on the Property, unless caused by a violation of this Easement by Grantor or by Grantor's negligence or willful misconduct.

Subject to the provisions of the following paragraph, Grantee may take all actions that it deems necessary to ensure compliance with the terms, conditions, covenants and Conservation Purposes of this Easement. Grantee shall have the right to prevent and correct violations of the terms of this Easement. Grantor shall indemnify, protect, defend and hold harmless Grantee, the Department, their respective officers, directors, members, employees, contractors, legal representatives, agents, successors and assigns from and against all liabilities, costs, losses, orders, liens, penalties, claims, demands, damages, expenses, or causes of action or cases, including without limitation reasonable attorneys' fees, arising out of the violation of the terms of this Easement.

If Grantee finds what it believes is a violation or potential violation, it may at its discretion take appropriate legal action to ensure compliance with the terms, conditions, covenants and Conservation Purposes of this Easement and shall have the right to correct violations and prevent the threat of violations. Except when an ongoing or imminent

violation could irreversibly diminish or impair the agricultural productive capacity and open space character of the Property, Grantee shall give Grantor written notice of the violation or potential violation and thirty (30) days to correct it. If Grantor fails to cure the violation within thirty (30) days after receipt of notice thereof from Grantee, or under circumstances where the violation cannot reasonably be cured within a thirty (30) day period, fails to begin curing such violation within the thirty (30) day period, or fails to continue diligently to cure such violation until finally cured, Grantee may bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this Easement.

If a court with jurisdiction determines that a violation may exist or has occurred or is about to occur, Grantee may obtain an injunction, specific performance, or any other appropriate equitable or legal remedy, including (i) money damages, including damages for the loss of the agricultural conservation values protected by this Easement; (ii) restoration of the Property to its condition existing prior to such violation; and (iii) an award for all Grantee's expenses incurred in stopping and correcting the violation, including but not limited to reasonable attorneys' fees. Grantee's remedies under this section shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity.

Without limiting Grantor's liability therefor, Grantee shall apply damages recovered to the cost of undertaking any corrective action on the Property. Should the restoration of lost values be impossible or impractical for whatever reason, Grantee shall apply any and all damages recovered to furthering Grantee's mission, with primary emphasis on agricultural conservation easement acquisition and enforcement.

In the event Grantee fails to enforce any term, condition, covenant or restriction of this Easement, as determined by the Director of the Department, the Director of the Department and his or her successors and assigns shall have the right to enforce this Easement after giving notice to Grantee and Grantor and providing a reasonable opportunity under the circumstances for Grantee to enforce any term, condition, covenant, or Conservation Purpose of the Easement. In the event that the Director of the Department determines that Grantee has failed to enforce any of the terms, conditions, covenants, or Conservation Purposes of the Easement, the Director of the Department and his or her successors and assigns shall be entitled to exercise the right to enter the Property granted to Grantee including rights of immediate entry in the event of an emergency or suspected emergency where the Director of the Department or his or her successor or assign determines that immediate entry is required to prevent, terminate or mitigate a violation of this Easement.

15. *Right of Enforcement of the United States of America.* Under this Easement, the United States is granted the right of enforcement in order to protect the public investment. The Secretary of the United States Department of Agriculture ("Secretary") or his or her assigns, on behalf of the United States, may exercise this right of enforcement under any authority available under State or Federal law if Grantee and the Department fail to enforce any of the terms of this Easement, as determined in the sole

discretion of the Secretary.

16. *Transfer of Easement*. This Easement may only be assigned or transferred to a private nonprofit organization that, at the time of transfer, shall be: (i) qualified to hold a conservation easement under section 815.3 of the California Civil Code; (ii) is a "qualified organization" as defined in section 170(h)(3) of the U.S. Internal Revenue Code, 26 U.S.C. §170(h)(3); (iii) not an "Affiliate" (as defined below) of Grantor or any lessee of any portion of the Property; (iv) willing and financially able to assume all of the responsibilities imposed on Grantee under this Easement including, without limitation, monitoring and enforcement; and (v) has similar purposes to preserve agricultural and range lands and open space. As used in this Section 16, "Affiliate" means an entity which directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with another person or entity. If no such private nonprofit organization exists or is willing to assume the responsibilities imposed by this Easement, then, and only then, this Easement may be transferred to a public agency authorized to hold interests in real property as provided in section 815.3(b) of the California Civil Code. Such an assignment or transfer may proceed only if the organization or agency expressly agrees to assume the responsibility imposed on Grantee by the terms of this Easement and is expressly willing and able to hold this Easement for the Conservation Purpose for which it was created. All assignment and assumption agreements transferring the Easement shall be duly recorded in the county in which the Property is located.

If Grantee should desire to transfer this Easement, Grantee, in consultation with Grantor, shall request the written permission from the Director of the Department and the Secretary, which permission shall not be unreasonably denied. This request shall state the name of the private nonprofit organization to which the transfer is proposed, the reasons therefore, and such other information as the Director of the Department or Secretary may request. If written consent is given for the proposed transfer by the Director of the Department and the Secretary, Grantee may transfer this Easement to an entity meeting the requirements of the first paragraph of this Section. Subject to above qualification, consultation and written permission requirements, Grantee shall first offer assignment or transfer of the Easement to the California Rangeland Trust, a California corporation ("CRT").

If Grantee ever ceases to exist or no longer qualifies under section 170(h) of the U.S. Internal Revenue Code, or applicable state law, the Department, and the U.S. Department of Agriculture shall, in consultation with Grantor, transfer this Easement, pursuant to the California Public Resources Code section 10235(b), to CRT or to another qualified organization, meeting the requirements set forth in the first paragraph of this Section, that agrees to assume the responsibility imposed by this Easement.

17. *Transfer of Property Interest*. Subject to the terms of this Easement, Grantor may transfer the Property or an interest therein, but each transferee shall be subject to, and be bound by, the terms and provisions of this Easement. Immediately after the recordation of this Easement, the parties shall record a notice entitled "Requirement for

Notice of Transfer of Property" which shall provide that (i) Grantor shall notify Grantee and the Department in writing at least thirty (30) days prior to the transfer of the Property or an interest therein and shall provide Grantee and the Department with a copy of the proposed document of conveyance, (ii) the document of conveyance, including any lease, shall expressly incorporate this Easement by reference and (iii) a failure of Grantor to comply with the terms of this section shall not impair the validity of this Easement or limit its enforceability in any way.

18. *Amendment of Easement*. This Easement may be amended only with the written consent of Grantor, Grantee, the Director of the Department and the United States. Any such amendment shall be consistent with the Conservation Purpose of this Easement, with Grantee's easement amendment policies, and shall comply with all applicable laws, including section 170(h) of the Internal Revenue Code, and any regulations promulgated in accordance with that section, and with section 815 et seq. of the California Civil Code, and the California Farmland Conservancy Program Act as codified in section 10200, et seq., of the California Public Resources Code, and any regulations promulgated thereunder, and with the United States Department of Agriculture Farm and Ranch Lands Protection Program, and any regulations promulgated thereunder. No amendment shall diminish or affect the perpetual duration or the Conservation Purpose of this Easement nor the status or rights of Grantee under the terms of this Easement. Copies of any amendments to this Easement shall be provided to the Department and the United States by Grantee.

19. *Termination of Easement.*

(a) It is the intention of the parties that the Purpose of this Easement shall be carried out forever as provided in section 10211 of the California Public Resources Code and section 815.2(b) of the California Civil Code. Liberal construction is expressly required for purposes of effectuating this Easement in perpetuity, notwithstanding conditions or hardship of any kind that could be asserted as a basis for termination of this Easement at law or in equity. Accordingly, Grantor hereby affirmatively waives on behalf of Grantor and Grantor's successors and assigns all right to request a non-judicial termination of this Easement pursuant to the provisions set forth in the California Public Resources Code Sections 10270 through 10277, inclusive. If circumstances arise in the future such as render the purpose of this Easement impossible to accomplish, this Easement can only be terminated or extinguished, whether in whole or in part, by judicial proceedings in a court of competent jurisdiction.

Waiver of Administrative Termination Rights:

Grantor's Initials: MJL DE

(b) No inaction or silence by Grantee shall be construed as abandonment of the Easement. The fact that the Property is not in ranching or other agricultural use is not reason for termination of this Easement. Other than pursuant to eminent domain or purchase in lieu of eminent domain, no other voluntary or involuntary sale, exchange, conversion, or conveyance of any kind of all or part of the Property, or of any interest in

it, shall limit or terminate this Easement or any provisions of this Easement. Grantee, Caltrans, the Department and the United States shall be notified at least thirty (30) days prior to initiation of any proceedings to terminate this Easement. Should this Easement be condemned or otherwise terminated on any portion of the Property, the balance of the Property shall remain subject to this Easement. In this event, all relevant related documents shall be updated and re-recorded by Grantee to reflect the modified easement area and encumbrances junior to this Easement shall remain subordinate to the Easement as amended.

(c) The grant of this Easement gives rise to a property right immediately vested in Grantee. For the purpose of determining the amount to be paid to Grantee, Caltrans, the Department of Conservation, California Farmland Conservancy Program Fund, and the USDA upon termination of the Easement pursuant to eminent domain or other judicial proceedings, and for the purpose of allocating proceeds from a sale, exchange, involuntary conversion or other disposition of all or any portion of the Property at the time of termination or extinguishment of the Easement and Grantee's property right therein, the allocation shall be consistent with Treasury Regulation section 1.170A-14(g)(6) and successor provisions and the following language shall be interpreted consistently with such provisions, the following shall apply:

As of the date of this Easement, an "Easement Percentage" is hereby defined and established as the ratio of the value of the Easement at the time of this grant to the value of the Property, unencumbered by the Easement, at the time of this grant. For the purposes of defining the "Easement Percentage," Grantor and Grantee agree that the ratio of the value of the Easement to the value of the Property unencumbered by the Easement is 64.92 %. Such ratio is a fraction, the numerator of which is the value of the Easement and the denominator is the value of the Property unencumbered by the Easement, and was determined by an appraisal of the Property approved by Caltrans, the Department and the USDA prior to funding the acquisition of this Easement. This Easement Percentage shall remain constant.

The parties stipulate and agree that the Easement shall have a fair market value determined as the *greater of*:

(i) The fair market value of the Property, excluding the value of the improvements on the Property, as though unencumbered by this Easement, at the time of the proposed termination, as determined by an appraisal prepared by a qualified appraiser acceptable to Grantor and Grantee, multiplied by the Easement Percentage; or

(ii) The value of the Easement at the time of the proposed termination as determined by a qualified appraiser acceptable to Grantor and Grantee.

The party initiating termination of the Easement through a judicial proceeding shall pay the cost of the appraisal and the appraisal shall be submitted to the Department and the

United States for review and comment. Nothing herein shall prevent Grantor, Grantee, Caltrans, the Department or the USDA from having an appraisal prepared at its own expense.

(d) Upon the sale, exchange, or involuntary conversion of any portion of the Property upon which the Easement has been terminated for any reason other than condemnation or threatened condemnation, which is covered by Section 23(e) below, Grantor shall reimburse the State of California, Department of Transportation, Environmental Enhancement and Mitigation Program, State of California, Department of Conservation California Farmland Conservancy Program Fund, the USDA, and Grantee the amount equal to the value of the Easement that is terminated as specified above. The amount required to be paid in connection with the termination shall be distributed as follows: (i) to the State of California, Department of Transportation, Environmental Enhancement and Mitigation Program, thirty-five and seventy-one hundredths percent (35.71 %); (ii) to the State of California, Department of Conservation, California Farmland Conservancy Program Fund, twenty-five percent (25.0 %); (iii) to the USDA, twenty-five percent (25.0 %), and (iv) to Grantee, fourteen and twenty-nine hundredths percent (14.29 %), representing the proportion of Easement value originally contributed by these agencies, or contributed by gift of Grantor to Grantee, for the purchase of this Easement. If only a portion of the Easement is so terminated, the reimbursement shall be pro-rated. This Easement shall not be deemed terminated under a judicial termination proceeding until such payment is received by the State of California, Department of Transportation, Environmental Enhancement and Mitigation Program, State of California, Department of Conservation California Farmland Conservancy Program Fund, the USDA, and Grantee. Grantee, in using any funds received from the termination of this Easement, shall use the funds in a manner consistent with the Purpose of this Easement.

(e) If the Easement is taken, in whole or in part, by exercise of the power of eminent domain by any public, corporate, or other authority, Grantee and Grantor shall join in appropriate actions at the time of the taking to recover the full value of the taking and all incidental or direct damages resulting from the taking. These proceeds shall be divided in accordance with the proportionate value of Grantor's and Grantee's interests as determined in accordance with Section 19(c) above, it being expressly agreed that the Easement constitutes a compensable property right. Grantee shall be entitled to compensation in accordance with applicable law for the value of the Easement taken and Grantor shall be entitled to compensation in accordance with applicable law for the value of the underlying fee taken. The ratio of the value of the Easement to the value of the underlying fee shall be as provided in Section 19(c), above.

Termination of the Easement through condemnation is subject to the requirements of section 10261 of the California Public Resources Code, the eminent domain laws of the State of California, federal law, and this Easement. The Property may not be taken by eminent domain or in lieu of eminent domain if the planned use is more than seven (7) years in the future (California Code of Civil Procedure section 1240.220). Grantee shall have an opportunity to accompany the appraiser for the condemning agency when the appraiser goes on the Property with Grantor. Purchase in lieu of condemnation, or

settlement of an eminent domain proceeding, shall occur pursuant to applicable laws and procedures, including but not limited to California Government Code sections 7267.1 and 7267.2. Grantee shall be paid by the condemnor the value of the Easement at the time of condemnation (Public Resources Code section 10261(a)(2)). The parties agree that proportionate contributions of Caltrans, the Department, the United States and Grantor on behalf of Grantee, to the total value of the Easement are as set forth in Section 19(d) above, and said parties' rights to compensation or reimbursement for the value of the Easement from the net proceeds received by Grantee (after Grantee deducts costs incurred by Grantee from the gross proceeds received in connection with the condemnation) shall be in accordance with said percentages. If the Easement is proposed to be taken in whole or in part by exercise of the power of eminent domain, the condemning authority shall notify the parties, Caltrans, the Department, and the United States as provided in this Easement.

Grantee shall not be obligated to pay Caltrans as provided above if Caltrans approves in writing Grantee's use of said agency's share of the proceeds for the protection of equivalent environmental resources under similar conditions, as specified at that time.

(f) If Grantee obtains payment on a claim under a title insurance policy insuring this Easement, payment shall be distributed as set forth in Section 19(d), (excluding reimbursement of attorneys' fees and costs, which Grantee shall be entitled to retain).

20. *Notices*. Any notices to Grantor and Grantee required by this Easement shall be in writing and shall be personally delivered or sent by First Class Mail, to the following addresses, unless a party has been notified by the other of a change of address:

To Grantor:

Centennial Livestock,
A California general partnership
652 W. Cromwell, Suite 103
Fresno, CA 93711
Attn: Lacey Livestock, Partner
David E. Wood, Partner

To Grantee:

Eastern Sierra Land Trust
P.O. Box 755
Bishop CA 93515

Any notices required by this Easement to be sent to Caltrans shall be in writing and shall be personally delivered or sent by First Class Mail, at the following address, unless a party has been notified by Caltrans of a change of address:

To the State of California/Department of Transportation:

State of California, Department of Transportation
Attn: Legal Department
1120 N Street, M.S. 57
Sacramento, CA 95814

Any notices required by this Easement to be sent to the Department shall be in writing and shall be personally delivered or sent by First Class Mail, at the following address, unless a party has been notified by the Department of a change of address:

To the Secretary of Resources/Department of Conservation:

Department of Conservation
801 K Street, M.S. 18-01
Sacramento, CA 95814
Attn: California Farmland Conservancy Program

Any notices required by this Easement to be sent to the United States shall be in writing and shall be personally delivered or sent by First Class Mail, at the following address, unless a party has been notified by the United States of a change of address:

USDA Natural Resources Conservation Service
State Conservationist
430 G Street, #4164
Davis CA 95616-4164

21. *Grantor's Environmental Warranty.*

(a) Nothing in this Easement shall be construed as giving rise to any right or ability in Grantee, the Department or the USDA to exercise physical or management control over the day-to-day operations of the Property, or any of the Grantor's activities on the Property, or otherwise to become an "owner" or "operator" or "arranger" or "generator" with respect to the Property as those words are defined and used in "Environmental Laws" (as defined below), including the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), as amended or any corresponding state and local statute or ordinance.

(b) Grantor warrants that it is in compliance with, and shall remain in compliance with, all applicable Environmental Laws. Grantor warrants that there are no notices by any governmental authority of any violation or alleged violation of, non-compliance or alleged non-compliance with or any liability under any Environmental Law relating to the operations or conditions of the Property. Grantor further warrants that it has no actual knowledge of a release or threatened release of "Hazardous Materials," as defined below on, at, beneath or from the Property.

(c) Grantor hereby promises to defend and indemnify Grantee, the Department and the United States against all litigation, claims, administrative actions, testing, investigation, remediation, demands, penalties and damages, including reasonable attorneys' fees, arising from or connected with the release or threatened release of any Hazardous Materials on, at, beneath or from the Property, or arising from or connected with a violation of any Environmental Laws on the Property by Grantor or any other prior owner of the Property. Grantor's indemnification obligation shall not be affected by any authorizations provided by Grantee, the Department or the United States to Grantor with respect to the Property or any restoration activities carried out by Grantee at the Property; provided, however, that Grantee shall be responsible for any Hazardous Materials contributed after this date to the Property by Grantee.

(d) "Environmental Law" or "Environmental Laws" means any and all federal, state, local or municipal laws, rules, orders, regulations, statutes, ordinances, codes, guidelines, policies or requirements of any governmental authority regulating or imposing standards of liability or standards of conduct (including common law) concerning air, water, solid waste, Hazardous Materials, worker and community right-to-know, hazard communication, noise, radioactive material, resource protection, subdivision, inland wetlands and watercourses, health protection and similar environmental health, safety, building and land use as may now or at any time hereafter be in effect.

(e) "Hazardous Materials" means any petroleum, petroleum products, fuel oil, waste oils, explosives, reactive materials, ignitable materials, corrosive materials, hazardous chemicals, hazardous wastes, hazardous substances, extremely hazardous substances, toxic substances, toxic chemicals, radioactive materials, infectious materials and any other element, compound, mixture, solution or substance which may pose a present or potential hazard to human health or the environment or any other material defined and regulated by Environmental Laws.

(f) If at any time after the effective date of this Easement there occurs a release, discharge or other incident in, on, or about the Property of any substance now or hereafter defined, listed, or otherwise classified pursuant to any federal, state, or local law, regulation, or requirement as hazardous, toxic, polluting, or otherwise contaminating to the air, water, or soil, or in any way harmful or threatening to human health or the environment, Grantor agrees to take any steps that are required of Grantor with respect thereto under federal, state, or local law necessary to ensure its containment and remediation, including any cleanup.

22. *Grantor's Title; No Prior Conservation Easements*. To Grantor's actual knowledge, Grantor has fee simple title to the Property, including the mineral estate, except as provided below, and hereby promises to defend this Easement against all claims that may be made against it. To Grantor's actual knowledge, Grantor has disclosed to Grantee any lease agreements, liens and encumbrances affecting the Property that are not shown on the preliminary title report referenced below. Grantee has obtained a preliminary title report on the Property from Inyo-Mono Title Company, Order No. 131819, Updated and

Amended, dated as of May 26, 2011, that shows that title to the Property is vested in Grantee subject to certain prior encumbrances affecting the Property ("Title Report"). To Grantor's actual knowledge, all financial liens or financial encumbrances shown on said Title Report existing as of the date of recording this Easement (excepting liens for property taxes which are not yet due and payable) have been discharged or subordinated to this Easement. Exhibit C sets forth the remaining prior encumbrances as shown on said Title Report (the "Prior Encumbrances"). Grantor represents and warrants that Grantor has not conveyed any other conservation easement whatsoever over the Property.

Grantor and Grantee acknowledge that the ownership of the surface estate of the Property and all uranium, thorium or any other material which is or may be determined to be peculiarly essential to the production of fissionable materials, whether or not of commercial value, (collectively referred to in this Section as the "Minerals") lying in or under the Property are separated by reservation to the United States as described in the Patent recorded February 14, 1961, in Book 49, Page 566 of Mono County Official Records. Grantor warrants that the United States, or any successor in interest, with respect to ownership of the Minerals, is not in any way related to Grantor. In accordance with Internal Revenue Code section 170 (26 U.S.C. 170) and accompanying regulations, the probability of extraction or removal of the Minerals from the Property by any surface mining method has been determined by a qualified professional geologist to be so remote as to be negligible, as set forth in a report, dated August 10, 2011, prepared by Wally Robinson , a State of Nevada Registered Professional Mining Engineer, No. 9674, and Certified Environmental Manager, No. 1054, and a State of California Registered Environmental Assessor, No. 04604, and reviewed by Dennis Bryan, a State of California Registered Professional Geologist, No. 3516, and a State of Nevada Registered Professional Geological Engineer, No. 4526 (among other professional qualifications/licenses), both of the firm, Robinson Engineering Company, Inc.. A true and complete copy of the report has been provided to Grantee, the Department and the United States.

Grantee shall obtain a title insurance policy on the interest granted to it under this Easement ("Title Policy"). If Grantor discovers at any time that an outstanding interest in the Property exists that is not disclosed herein and that conflicts with the Purpose of this Easement by restricting agricultural husbandry practices, or significantly diminishing or impairing the agricultural productive capacity or open space character of the Property, Grantor shall immediately notify Grantee and the Department of the discovery. Grantor shall take the necessary steps to ensure, through subordination or otherwise (as approved by Grantee), that the existence of the interest or the exercise of any rights under it does not interfere with the Purpose of this Easement. Notwithstanding the foregoing, to the extent Grantee has title insurance coverage for any matter, Grantee agrees to first look to its title insurance coverage for resolution of the matter.

23. *General Provisions.*

(a) *Interpretation.* This Easement shall be interpreted under the laws of the State of California and the United States, as applicable, resolving any ambiguities and questions of the validity of specific provisions so as to give maximum effect to its Conservation

Purposes. References to authorities in this Easement shall be to the statute, rule, regulation, ordinance or other legal provision that is in effect at the time this Easement becomes effective. No provision of this Easement shall constitute governmental approval of any improvements, construction or other activities that may be permitted under this Easement.

(b) *Successors; Termination of Rights and Obligations.* The covenants, terms, conditions, and restrictions of this Easement shall be binding upon, and inure to the benefit of, the parties hereto and their respective personal representatives, heirs, successors and assigns and shall continue as a servitude running in perpetuity with the Property. A party's rights and obligations under this Easement terminate upon transfer of that party's interest in the Easement or Property, except that liability for acts or omissions occurring prior to transfer shall survive transfer. Any party claiming third party beneficiary status under this Agreement shall be subject to all of its terms and conditions.

(c) *Severability.* If any term, provision, covenant, condition or restriction of this Easement is held by a court of competent jurisdiction to be unlawful, invalid, void, unenforceable, or not effective the remainder of the Easement shall remain in full force and effect and shall in no way be affected, impaired, or invalidated.

(d) *Perpetual Duration; No Merger or Forfeiture.* This Easement, pursuant to California Civil Code section 815.2 shall run with the land in perpetuity. No merger of title, estate or interest shall be deemed effected by any previous, contemporaneous, or subsequent deed, grant, or assignment of an interest or estate in the Property, or any portion thereof, to Grantee, or its successors or assigns. It is the express intent of the parties that this Easement not be extinguished by, or merged into, or modified, or otherwise deemed affected by any other interest or estate in the Property now or hereafter held by Grantee or its successors or assigns. In the event that Grantee shall ever acquire the fee simple title to the Property, Grantee will assign and convey its interest under this Easement to a third party in accordance with Section 16.

(e) *No Waiver.* Enforcement of the terms of this Easement is at the discretion of Grantee. Any forbearance by Grantee to exercise its rights under this Easement or any failure of Grantee to discover a violation or potential violation shall not be deemed or construed to be a waiver by Grantee of such term or of any of Grantee's rights under this Easement. No delay or omission by Grantee in the exercise of any right or remedy shall impair such right or remedy or be construed as a waiver. No forbearance or waiver by Grantee of any default or breach, whether intentional or not, shall be deemed to extend to any prior or subsequent defaults or breaches, nor shall it affect in any way any rights arising by virtue of any prior or subsequent occurrence.

(f) *Joint Obligation.* If and when Grantor consists of more than one party, the obligations imposed by this Easement upon Grantor shall be joint and several.

(g) *Recording.* This Easement and any amendments hereto or assignments hereof shall be recorded in the Official Records of the County of Mono, State of California.

(h) *Entire Agreement.* This Easement is the final and complete expression of the agreement between the parties with respect to this subject matter. Any and all prior or contemporaneous agreements with respect to this subject matter, written or oral, are merged into and superseded by this written instrument.

(i) *Exhibits.* All of the exhibits attached to this Easement are hereby incorporated into this Easement by this reference.

(j) *Administrative Costs.* The administration of this Easement by Grantee requires considerable time and expense. Grantee shall bear all routine administrative expenses related to the Easement. Grantor agrees to pay the reasonable and ordinary expenses of Grantee for non-routine administration of the Easement including, but not limited to actions requiring Grantee's prior approval, enforcement of Easement violations and any Easement amendment requests of Grantor.

(k) *Counterparts.* The parties may execute this instrument in two or more counterparts, which shall, in the aggregate, be signed by all parties; each counterpart shall be deemed an original instrument as against any party who has signed it. In the event of any disparity between the counterparts produced, the recorded counterpart shall be controlling.

(l) *Attorney's Fees.* If any litigation or arbitration is commenced between the parties hereto to interpret or enforce the provisions of this Easement, or the rights and duties of a party in relation thereto, the prevailing party in such litigation or arbitration shall be entitled to receive from the non-prevailing party, in addition to such other relief as may be granted, to a reasonable sum for its attorney's fees and costs in such action.

24. *Acceptance.*

As attested by the signature of its Executive Director affixed hereto, as authorized by Grantee's Board of Directors, in exchange for consideration, Grantee hereby accepts without reservation the rights and responsibilities conveyed by this Grant Deed of Agricultural Conservation Easement.

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[*signatures to follow on next page*]

To Have and To Hold, this Grant Deed of Agricultural Conservation Easement unto Grantee, its successors and assigns, forever.

In Witness Whereof, Grantor and Grantee, intending to legally bind themselves, have set their hands on the date first written above.

GRANTOR

CENTENNIAL LIVESTOCK
A California general partnership

By: _____
David E. Wood, Partner

By: Lacey Livestock,
a California general partnership, Partner

By: _____
Mark J. Lacey, Partner

By: _____
John W. Lacey, Partner

GRANTEE

EASTERN SIERRA LAND TRUST,
a California nonprofit public benefit corporation

By: _____
Karen Ferrell-Ingram, Executive Director

ACKNOWLDEGMENTS

STATE OF CALIFORNIA)
) ss.
COUNTY OF Inyo)

On December 15, 2011, before me, Christine Cortez, a Notary Public in and for said State, personally appeared David E. Wood, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

CHRISTINE CORTEZ
COMM. # 1895953
NOTARY PUBLIC - CALIFORNIA
INYO COUNTY
COMM. EXPIRES AUG. 14, 2014

Signature Christine Cortez (Seal)

STATE OF CALIFORNIA)
) ss.
COUNTY OF Inyo)

On December 15, 2011, before me, Christine Cortez, a Notary Public in and for said State, personally appeared Mark J. Lacey, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

CHRISTINE CORTEZ
COMM. # 1895953
NOTARY PUBLIC - CALIFORNIA
INYO COUNTY
COMM. EXPIRES AUG. 14, 2014

Signature Christine Cortez (Seal)

STATE OF CALIFORNIA)
) ss.
COUNTY OF Inyo)

On December 15, 2011, before me, Christine Cortez, a Notary Public in and for said State, personally appeared John W. Lacey, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

CHRISTINE CORTEZ
COMM. # 1895953
NOTARY PUBLIC - CALIFORNIA
INYO COUNTY
COMM. EXPIRES AUG. 14, 2014

Signature Christine Cortez (Seal)

STATE OF CALIFORNIA)
) ss.
COUNTY OF Inyo)

On December 15, 2011, before me, Christine Cortez, a Notary Public in and for said State, personally appeared Karen Ferrell-Ingram, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

CHRISTINE CORTEZ
COMM. # 1895953
NOTARY PUBLIC - CALIFORNIA
INYO COUNTY
COMM. EXPIRES AUG. 14, 2014

Signature Christine Cortez (Seal)

Exhibit A (Legal Description) Attached
Exhibits B-1 and B-2 (Property Sketch Map and Farmstead Area Map) Attached
Exhibit C (Prior Encumbrances) Attached
NRCS Acceptance Attached

EXHIBIT A
Legal Description

THE WEST HALF OF THE SOUTHWEST QUARTER AND THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 25 AND A PORTION OF SECTION 25 LYING ALONG THE WESTERLY SIDE OF U.S. HIGHWAY NO. 395 AND MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT THE SECTION CORNER COMMON TO SECTIONS 23, 24, 25 AND 26, TOWNSHIP 5 NORTH, RANGE 24 EAST; THENCE NORTH 88°59' EAST ALONG THE SECTION LINE 417.70 FEET TO A POINT ON THE WESTERLY RIGHT OF WAY LINE OF SAID HIGHWAY; THENCE SOUTH 36°59' EAST ALONG THE WESTERLY RIGHT OF WAY LINE 4941.11 FEET, MORE OR LESS, TO A POINT ON THE SUBDIVISION LINE AT THE SOUTHEAST CORNER OF THE PARCEL; THENCE WEST ALONG THE SUBDIVISION LINE 2099.41 FEET TO A POINT AT THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 25; THENCE NORTH 0°14' EAST ALONG THE SUBDIVISION LINE 2649.56 FEET TO A POINT; THENCE SOUTH 88°59' WEST ALONG THE SUBDIVISION LINE 1307.00 FEET TO THE WEST BOUNDARY LINE OF SAID SECTION 25; THENCE NORTH 0°14' EAST ALONG THE SECTION LINE 1313.20 FEET TO A POINT OF BEGINNING.

SECTION 26 AND THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 35, ALL IN TOWNSHIP 5 NORTH, RANGE 24 EAST, M.D.B., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THOSE 2 PARCELS AS SHOWN ON RECORD OF SURVEY NUMBER 32-45 AS RECORDED IN BOOK 2, OF RECORD OF SURVEYS, PAGE 143, IN THE OFFICE OF THE COUNTY RECORDER.

ALSO EXCEPT LOTS 1 TO 7 OF TRACT MAP NO. 32-08 AS PER MAP RECORDED IN BOOK 10 PAGES 32 TO 32F OF MAPS IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXHIBIT B-1
Property Sketch Map

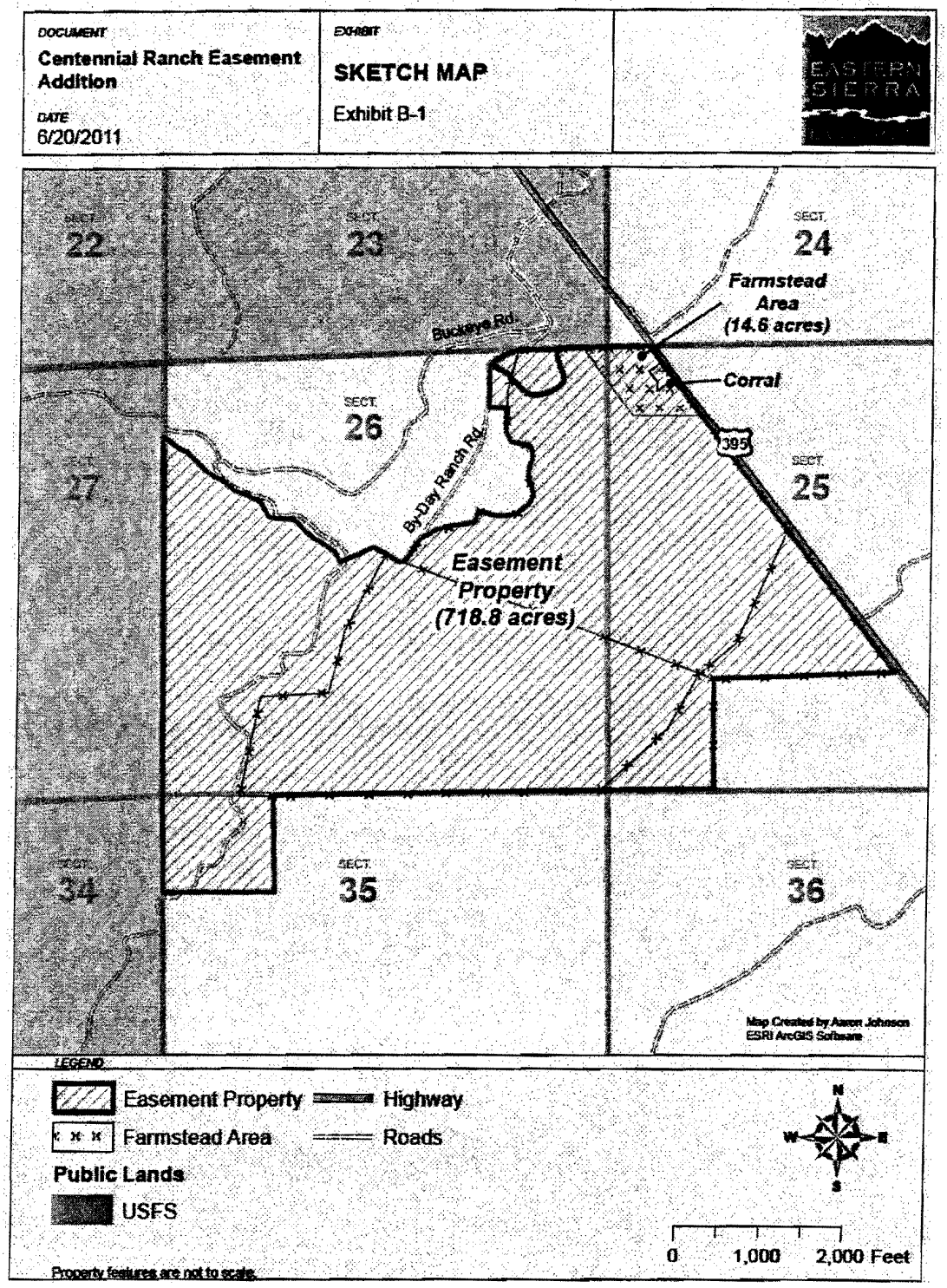

EXHIBIT B-2
Farmstead Area Map

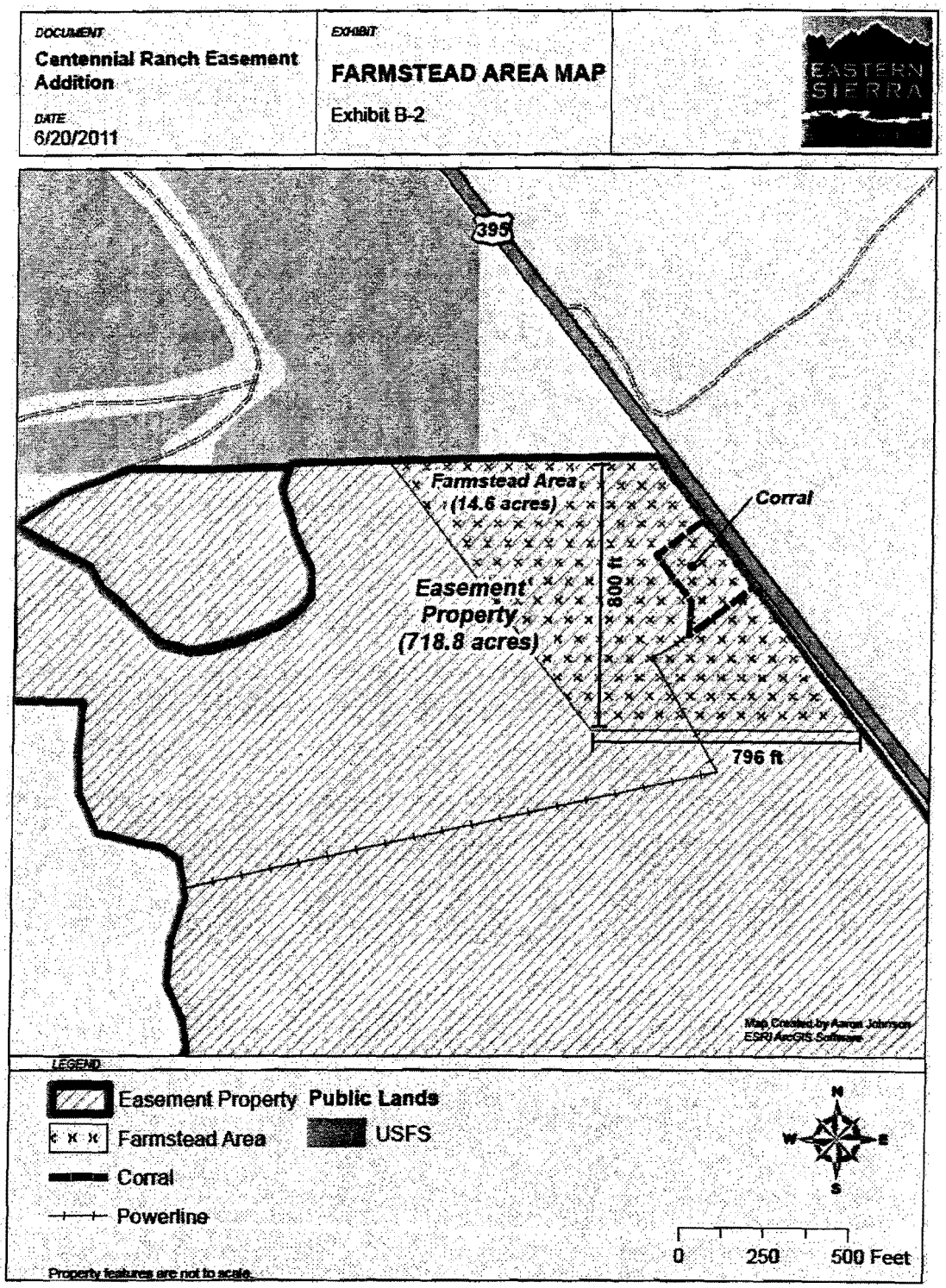

EXHIBIT C
Prior Encumbrances

1. PROPERTY TAXES AND ASSESSMENTS OF MONO COUNTY WHICH ARE LIENS NOT YET DUE AND PAYABLE.

2. THE RIGHT OF THE PEOPLE TO FISH UPON SAID LAND AS PROVIDED BY SECTION 25 OF ARTICLE 1 OF THE CONSTITUTION OF THE STATE OF CALIFORNIA.

3. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES.

IN FAVOR OF	:	BUREAU OF LAND MANAGEMENT
FOR	:	PUBLIC ROAD PURPOSES
RECORDED	:	FEBRUARY 14, 1961, IN BOOK 49, PAGE 566, OF OFFICIAL RECORDS
AFFECTS	:	THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER; NORTHWEST QUARTER OF THE NORTHEAST QUARTER; NORTHWEST QUARTER, NORTHEAST QUARTER OF THE SOUTHWEST QUARTER AND WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 26

4. A WAIVER IN FAVOR OF THE STATE OF CALIFORNIA OF ANY CLAIMS FOR DAMAGES TO SAID LAND BY REASON OF HIGHWAY CONTIGUOUS THERETO, CONTAINED IN THE DEED

FROM	:	LELAND S. DAY, ET AL
REASON	:	LOCATION ESTABLISHMENT AND CONSTRUCTION OF A HIGHWAY CONTIGUOUS THERETO
RECORDED	:	MARCH 3, 1931, IN BOOK 6, PAGE 88, OF OFFICIAL RECORDS

5. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES.

IN FAVOR OF	:	GREGORY J. MILLER AND LINDA A. MILLER, HUSBAND AND WIFE, AS JOINT TENANTS
FOR	:	ROADWAY PURPOSES
RECORDED	:	JANUARY 30, 1989, IN BOOK 523, PAGE 158, OF OFFICIAL RECORDS
AFFECTS	:	A STRIP OF LAND 50 FEET IN WIDTH AS DESCRIBED THEREIN

6. [INTENTIONALLY OMITTED]

7. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES.

IN FAVOR OF	:	MATTHEW LEE MCCULLOCH
FOR	:	ROADWAY PURPOSES
RECORDED	:	MAY 3, 1994, IN BOOK 0680, PAGE 348, OF OFFICIAL RECORDS
AFFECTS	:	A STRIP OF LAND 60 FEET IN WIDTH AS DESCRIBED THEREIN

8. A LAND USE CONTRACT (CALIFORNIA LAND CONSERVATION ACT OF 1965 AND OPEN SPACE LAND VALUATION LAW OF 1967) ENTERED INTO THE 16TH DAY OF DECEMBER 2003, BY AND BETWEEN THE COUNTY OF MONO, A POLITICAL SUBDIVISION OF THE STATE OF CALIFORNIA, AND JOSEPH SCEIRINE AND DAVID SCEIRINE, "OWNER"

RECORDED	:	DECEMBER 29, 2003 AS INSTRUMENT NO. 2003013849 OF OFFICIAL RECORDS

9. [INTENTIONALLY OMITTED]

10. MATTERS DISCLOSED BY A RECORD OF SURVEY FILED IN BOOK 4, PAGE 77, RECORD OF SURVEYS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY RELATING TO THE LOCATION AND DIMENSIONS OF A PORTION OF SAID LAND.

ACCEPTANCE OF CONSERVATION EASEMENT
BY THE NATURAL RESOURCES CONSERVATION SERVICE

The Natural Resources Conservation Service, an Agency of the United States government, hereby accepts and approves the foregoing conservation easement deed, and the rights conveyed therein, on behalf of the United States of America.

By: K. Pedersen Date: 11/30/2011
Name: Kim Pedersen
Title: Grants and Agreements Specialist

EXHIBIT “B”

Recording requested by and when recorded mail to:

AMERICAN LAND CONSERVANCY
Attn: Harriet Burgess
1388 Sutter Street, Suite 810
San Francisco, CA 94109

With conformed copy to:

Department of Transportation
Attn: TEA Program Coordinator
Office of Program Management
Division of Local Assistance
1120 N Street, MS 1
Sacramento, CA 95814

Space above for Recorder's use.

DEED OF CONSERVATION EASEMENT FOR AGRICULTURAL PROPERTY AND AGREEMENT CONCERNING EASEMENT RIGHTS

This Grant Deed of Conservation Easement for Agricultural Property is granted by Centennial Livestock, a California general partnership ("Grantor" or "Landowner"), to the American Land Conservancy, a California nonprofit public benefit corporation ("Grantee"), for the purpose of forever conserving agricultural productivity, maintaining open space and scenic qualities created by working landscapes, and maintaining the natural balance of the ranchland environment of the subject property.

Recitals

A. Landowner is the sole owner in fee simple of certain real property consisting of approximately 6,390 acres, located in Mono County, California, and described in Exhibit A attached hereto and incorporated herein by this reference (the "Property"). Landowner intends to grant a conservation easement (the "Conservation Easement") over all but approximately 40 acres of the Property, with two parcels, each consisting of approximately 20 acres, being withheld from the easement area. The two excluded parcels are described in Exhibit B attached hereto. The portion of the Property subject to this Conservation Easement, which consists of approximately 6,350 acres of land, together with any and all improvements thereon, is hereinafter referred to as the "Easement Area." The Easement Area and the two excluded parcels are illustrated on the map attached hereto as Exhibit C (the "Property Map").

B. Grantee is a "qualified organization" as defined in the Internal Revenue Code section 170(h) and is authorized to hold this Conservation Easement pursuant to Section 815.3 of the California Civil Code. Grantee accepts the responsibility of

monitoring and enforcing the terms of this Conservation Easement and upholding its conservation purposes forever.

C. The Property possesses native and improved pastures, associated ranching values, wildlife habitat values, including riparian habitat values, open-space values, scenic values, and the natural balance of the ranchland environment, all of which are of great importance to Grantor, Grantee and the people of the State of California (collectively, the "Conservation Values").

D. Grantee and Landowner agree that, under responsible ranch management practices, commercially viable livestock grazing, which is essential to the purposes of this Conservation Easement, will continue to be conducted on the Property in a manner which will sustain and promote not only the ranching values, but also the wildlife habitat, open space and scenic values of the Easement Area.

E. Landowner intends voluntarily to convey for valuable consideration, with a percentage of the value of the conveyance donated as a charitable gift, this Conservation Easement to Grantee, for the primary purpose of assuring that the agricultural productivity, open space and scenic qualities created by working landscapes, and the natural balance of the ranchland environment will be conserved, maintained, and protected forever, and that uses of the land that are inconsistent with the Conservation Values will be prevented or corrected. The parties agree that the current agricultural use of, and improvements to, the Easement Area are substantially consistent with the conservation purpose of this Conservation Easement.

F. Landowner has assured, and confirms by signing this Conservation Easement that, except as shown in the authorized liens and encumbrances listed in Exhibit D attached hereto and incorporated herein by this reference, all holders of liens or other encumbrances upon, and mineral rights on or beneath the Easement Area, have agreed to subordinate their interests in the Easement Area to this Conservation Easement and will refrain forever from any action that would be inconsistent with its conservation purposes.

G. The Conservation Values of the Easement Area, and its current uses and existing state of improvement, are described in a "Baseline Conditions Report" dated February 2003, prepared by Grantee with the cooperation of Landowner, consisting of maps, photographs, and other documents, and acknowledged by both to be complete and accurate as of the date of this Conservation Easement. Both Landowner and Grantee have copies of this report. It will be used by the Grantee to assure that any future changes in the use of the Easement Area will be consistent with the terms of this Conservation Easement. This report, however, is not intended to preclude the use of other evidence to establish the condition of the Easement Area as of the date of the conveyance of the Conservation Easement if there is a controversy over its then-existing condition.

H. The phrase "natural balance of the ranchland environment" as used herein means the balance between the agricultural uses of the Easement Area and the natural habitat that co-exists with, and in many instances is created and sustained by, those uses. Grantee recognizes that this environment exists because of the past stewardship of the landowner(s) and depends on the future good stewardship decisions of Landowner and its successors. Landowner is entrusted with those future management decisions to ensure that the Conservation Values are preserved and protected in perpetuity. Maintaining the natural balance of the ranchland environment shall not prevent changes in the agricultural uses of the land, including intensification and vegetation management, provided that such changes do not impair the Conservation Values. Grantee is entrusted with the right to determine and ensure that the Conservation Values are protected and preserved in perpetuity.

Deed and Agreement

For the reasons given, and for good and valuable consideration, including their mutual promises and covenants, the receipt and sufficiency of which is hereby acknowledged, Landowner hereby grants and conveys to Grantee, its successors and assigns, and Grantee hereby accepts, a perpetual "conservation easement," as defined in Section 815.1 of the Conservation Easement Act of 1979 (California Civil Code, Section 815 *et seq.*), of the nature and character described in this Conservation Easement.

1. **Use of Property.** It is the purpose of this Conservation Easement to preserve and protect the Conservation Values by encouraging commercially viable livestock grazing in accordance with responsible ranch management practices that will sustain and promote the ranching values, the wildlife habitat, open space values, scenic values, and the natural balance of the ranchland environment of the Easement Area (the "Conservation Purpose").

2. **Prohibited Acts.** Any activity on or use of the Easement Area that is inconsistent or interferes with the Conservation Purpose is prohibited. Though not an exhaustive list of prohibited uses, Sections 3 through 13 below set forth the prohibited uses that shall not be made by Landowner, Landowner's agents, its successors, assigns, or third parties unless otherwise indicated. Landowner, its successors or assigns, shall not perform, or knowingly allow others to perform, any act or use on or affecting the Easement Area described above in conflict with the covenants set out in this Conservation Easement. Grantee shall enforce all terms of this Conservation Easement. Unless otherwise specified below, nothing in this Conservation Easement shall require Landowner to take any action to restore the condition of the Easement Area after (i) any Act of God, which includes, without limitation, fire not caused by Landowner, flood, storm and earth movement, or any prudent action taken by Landowner under emergency conditions to prevent, abate, or mitigate significant injury to the Property resulting from such causes, or (ii) the non-permitted acts of unrelated third parties so long as Grantors have taken reasonable all reasonable steps to control

such acts. Landowner understands that nothing in this Conservation Easement relieves it of any obligation or restriction on the use of the Easement Area imposed by law.

3. **Construction of Buildings, Facilities and Other Structures.** The construction or reconstruction of any building, facility or structure of any type, except those existing on the date of this Conservation Easement is prohibited except in accordance with paragraphs 3 (a) through (e) and 11 below.

(a) Fences. Existing fences may be repaired and replaced, and new fences may be built anywhere on the Easement Area for purposes of reasonable and customary management of livestock and wildlife, without further permission of Grantee; provided, all repair, replacements and new fences shall be sited, designed and installed to protect, but not impair, the Conservation Values of the Easement Area, including but not limited to wildlife corridors.

(b) Ranching Structures and Improvements. New buildings or other structures and improvements to be used solely for ranching purposes, including the processing or sale of agricultural products predominantly grown or raised on the Easement Area, but not including a dwelling, may be built on the Easement Area within Headquarters Envelope 1 and Headquarters Envelope 2 (depicted on the Property Map) with the advance written permission of Grantee. Such permission shall be subject to Grantee's determination that, and granted only if, such proposed construction does not interfere with, impair or otherwise burden the Conservation Values of the Easement Area. Existing structures on the Easement Area may be repaired, reasonably enlarged and replaced at their current location without further permission of Grantee, provided that such repair, enlargement, or replacement does not impair the Conservation Values. Landowner will locate structures so as to not interfere with, impair, or otherwise burden the agricultural productivity and other Conservation Values of the Easement Area.

(c) Residential Dwellings. All existing residential dwellings and appurtenant structures located within Headquarters Envelope 1 and Headquarters Envelope 2 (depicted on the Property Map) may be repaired, reasonably enlarged and replaced at their current location without further permission of Grantee, provided that such repair, enlargement, or replacement does not impair the Conservation Values. One additional residential dwelling may be constructed within Headquarters Envelope 1, and one additional residential dwelling may be constructed within Headquarters Envelope 2, provided that each such dwelling is constructed so as not to impair the Conservation Values. No additional dwellings or appurtenances may be constructed on the Easement Area except to the extent specifically permitted in this Conservation Easement.

(d) Signs. No billboards shall be erected on the Easement Area. Signs denoting the names and addresses of residents on the Easement Area, denoting allowable business uses, or describing the easement partners or other permitted activities on the Easement Area, or to post the property to control unauthorized entry or use, are permitted, insofar as such signs do not impair the Conservation Values of the

Easement Area. Grantee may install and maintain, at Grantee's sole cost and expense, signage on the Easement Area in order to indicate the participation of Grantee and of any of Grantee's public or private funding sources in the acquisition and maintenance of the Conservation Easement; *provided*, however, that the size, location, number, text and design of the signage shall be subject to the approval of Landowner, and shall not impair the Conservation Values. Said approval shall not be unreasonably withheld, conditioned or delayed; *provided further*, however, that, if the State of California, acting by and through the Department of Fish and Game, Wildlife Conservation Board ("DFG-WCB") is one of Grantee's funding sources, Landowner hereby agrees that any logo requested by DFG-WCB to be part of such signage shall be acceptable to Landowner.

(e) Ranch Employee and Tenant Housing. All existing dwellings or structures used to house ranch tenants and employees may be repaired, reasonably enlarged and replaced at their current location without further permission of Grantee, provided that such repair, enlargement or replacement does not impair the Conservation Values. New dwellings or structures to be used solely to house ranch tenants, employees or others engaged in agricultural production of the Easement Area may be built on the Easement Area only with advance written permission by Grantee. Landowner shall locate and design such structures so as to not interfere with, impair or otherwise burden the agricultural productivity and other Conservation Values of the Easement Area.

4. **Subdivision.** The subdivision of the ranch into two separate ownerships, neither of which shall be comprised of less than 2,500 acres of the 6,350 acres identified as the Easement Area, is permitted with the advanced written permission of Grantee, and as permitted by law. Such permission shall not be unreasonably withheld. No additional subdivision shall be permitted.

5. **Development Rights.** Landowner hereby grants to Grantee all development rights, except as specifically reserved to Landowner herein, that are now or hereafter allocated to, implied, reserved or inherent in the Easement Area, and the parties agree that such development rights are terminated and extinguished, and may not be used on or transferred to any portion of the Property as it now or hereafter may be bounded and described, or to any other property adjacent or otherwise. The Easement Area may not be used for the purpose of calculating permissible development or lot yield of any other property.

6. **Resource Stewardship**. In order to protect the Conservation Values, Landowner shall conduct all ranching and farming operations in accordance with good management practices with respect to soil and water conservation, erosion control, pest management, nutrient management, and habitat protection. Landowner shall manage the riparian habitat areas along Buckeye Creek, Robinson Creek, and the east Walker River, within the Easement Area, to preserve, enhance and protect that habitat in support of the dependent fish and wildlife resources in accordance with good ranch management practices. Landowner shall, within five (5) years, establish riparian

pastures along these stream reaches. Within the riparian areas, the grazing of livestock shall be in accordance with management plans, which shall be developed to protect the riparian habitat. Landowner shall utilize fencing in connection with the riparian restoration areas; such fencing shall be of a design that allows reasonable wildlife movement (e.g., deer and sage grouse) through the riparian pastures. Landowner may, from time to time, retain the services of a Certified Rangeland Manager to assist in the evaluation of riparian habitat management on the Easement Area.

7. **Mining.**

(a) Surface Mining. The mining, extraction, or removal of soil, sand, gravel, oil, natural gas, fuel, or any other mineral substance, using any surface mining method, is prohibited. Notwithstanding the foregoing, soil, sand, gravel or rock may be extracted without further permission from Grantee provided that such extraction is: of material solely for use on the Property; is in conjunction with and in furtherance of activities permitted herein; is accomplished in a manner which is consistent with, does not interfere with, impair or otherwise burden the Conservation Values; and does not disturb more than one acre of the Property. Notwithstanding any other provision hereof, this section 7 shall be interpreted in a manner consistent with section 170(h) of the Internal Revenue Code, the Treasury regulations adopted pursuant thereto, and any other successor provisions addressing the same subject.

(b) Other Mining Methods. Mining using methods other than surface mining is allowed where consistent with the applicable restrictive provisions of paragraph 11 hereof, and where the mining and all activities therewith will not interfere with, impair or otherwise burden the Conservation Values and will at most have a limited localized impact on the Property.

8. **Timber Harvesting.** Commercial timber harvesting on the Easement Area is authorized to the extent allowed by law, on a Sustainable Yield Basis, as that term is defined by the California Department of Forestry, and pursuant to a plan approved as required by law. Other than as part of such authorized commercial timber harvesting, trees on the Easement Area may only be cut to control insects and disease, to prevent personal injury and property damage, and for on-site firewood and other domestic uses, including construction and repair of permitted buildings and fences on the Easement Area; *provided*, that these restrictions shall not apply to the removal of orchards and/or tree farming on the property for agricultural purposes; *provided, further,* that tree farming and orcharding operations are prohibited, except with the advance written permission of Grantee, and such permission shall be subject to Grantee's determination that such operations do not interfere with, impair or otherwise burden the Conservation Values of the Easement Area.

9. **Paving and Road Construction.** Existing paved roads may be maintained, repaved, and rebuilt on the original alignment at Landowner's discretion without permission of Grantee provided that all repairs, repaves, and rebuilds are

completed without impairing the Conservation Values. Other than the access road from State Highway 395 to Headquarters Envelope 1 described in Exhibit B-2, no portion of the Easement Area presently unpaved shall be paved, nor shall any road for access or other purposes be constructed without the permission of Grantee. Grantee shall not give such permission unless Landowner demonstrates to Grantee that the proposed paving, grading, or covering of the soil, or the location of any such road, will not substantially diminish or impair the Conservation Values. Unpaved roads that presently exist may be relocated as unpaved roads as required by agricultural operations, provided that abandoned roads will be returned to an agriculture use or a natural condition. For purposes of this paragraph, "pave," "paved," or "paving" shall include covering of the soil surface with concrete, asphalt, gravel, or other material other than soil. Furthermore, this paragraph shall not apply to or affect Hwy 395 or related right of way, which is in the control of the State of California, Department of Transportation.

10. **Trash.** The dumping or accumulation of any kind of trash, refuse or derelict equipment on the Easement Area is prohibited. However, this shall not be interpreted to prevent the storage or accumulation of agricultural products and byproducts on the Easement Area, provided that such storage or accumulation is done in accordance with all applicable laws and regulations and in a manner so as to avoid any impairment of the Conservation Values.

11. **Industrial, Recreational and Non Agricultural Commercial Uses.** Industrial, recreational, and non-agricultural commercial uses, including building and facilities associated therewith, are not permitted on the Easement Area without the advance written permission of Grantee. Grantee shall not give such permission unless Landowner demonstrates to Grantee that the proposed use, buildings or facilities will not interfere with, impair or otherwise burden the Conservation Values. Notwithstanding the foregoing, passive recreational uses not involving new facilities (such as wildlife viewing, hiking, horseback riding, fishing, hunting, and photography), as well as any other noncommercial recreational uses by residents of the Easement Area not involving new facilities, are permitted, without further permission, provided that they do not interfere with, impair or otherwise burden the Conservation Values and are undertaken in a manner consistent with all applicable laws. Grantee may, however, request information and review all such activities to assure that they do not interfere with the Conservation Values.

12. **Water Rights.** Landowner shall retain, maintain and preserve the right to use all water rights associated with the Easement Area (whether or not appurtenant to the Easement Area), including, without limitation, water storage rights historically associated with the Easement Area, which Landowner represents are sufficient to sustain present and future Conservation Values, including the agricultural values, on the Easement Area. Landowner shall have the right to make short-term (*i.e.,* completed within a single irrigation season) in-kind trades of water or water allocations arising under such water rights with neighboring ranchland owners from time to time for pasture irrigation purposes; *provided*, that no transfer that impairs any of the

Conservation Values is allowed. Landowner shall not otherwise trade, transfer, encumber, lease, sell, or otherwise separate such water rights from the Easement Area.

13. **Feedlot.** The establishment or maintenance of a commercial feedlot is prohibited. For purposes of this Conservation Easement, "commercial feedlot" is defined as a permanently constructed confined area or facility which is used and maintained for purposes of engaging in the business of feeding livestock and which is not grazed or cropped annually. For purposes of this Conservation Easement, a "commercial feedlot" shall not include the establishment, use or maintenance of corrals, holding pens or pastures. Nothing in this section shall prevent Landowner from confining livestock for discretionary seasonal feeding or from leasing grazing rights for livestock owned by others so long as the confinement of livestock or leasing of grazing rights does not interfere with, impair, or otherwise burden the Conservation Values of the Easement Area.

14. **Rights Retained by Landowner.** Landowner retains the right to perform any act not specifically prohibited or limited by this Conservation Easement. Landowner's present uses and compatible historic uses of the Easement Area for agriculture and ranching are deemed to be permitted activities consistent with the terms of this Conservation Easement. Landowner retains all ownership rights consistent with the preservation of the Conservation Values of the Easement Area, including, but not limited to, the right to exclude any member of the public from trespassing on the Easement Area (other than Grantee and its representatives) and the right to sell or otherwise transfer the Easement Area to anyone Landowner chooses. Without limiting the generality of the foregoing, and subject to the specified restrictions of this Conservation Easement, Landowner expressly reserves the right to hunt on the Easement Area, as permitted by law. Landowner also retains the right to intensify the agricultural use of the Easement Area; provided, that such intensification does not diminish or impair the other Conservation Values of the Easement Area.

15. **Responsibilities of Landowner and Grantee Not Affected.** Landowner retains all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep and maintenance of the Easement Area and agrees that Grantee shall have no duty or responsibility for the operation or maintenance of the Easement Area, the monitoring of hazardous conditions thereon, or the protection of Landowner, the public, or any third parties from risks relating to conditions on the Easement Area. Other than as specified herein, this Conservation Easement is not intended to impose any legal or other responsibility on Grantee, or in any way to affect any existing obligation of Landowner as owner of the Easement Area. Among other things, this shall apply to:

(a) Taxes. Landowner shall pay before delinquency all taxes, assessments, fees and charges of whatever description levied on or assessed against the Easement Area or the property underlying the Easement Area by competent authority. If Grantee is ever required to pay any taxes or assessments on the

Easement Area or underlying property, Landowner will promptly reimburse Grantee for the same.

(b) Upkeep and Maintenance. Landowner shall continue to be solely responsible for the upkeep and maintenance of the Easement Area. Grantee shall have no obligation for the upkeep or maintenance of the Easement Area.

(c) Liability and Indemnification.

(1) Landowner. Landowner shall hold harmless, indemnify and defend Grantee and its directors, officers, employees, agents and contractors and heirs, personal representatives, successors and assigns and each of them (collectively "Grantee Indemnified Parties") from and against all liabilities, penalties, costs, losses, damages, expenses, causes of action, claims, demands or judgments, including, without limitation, reasonable attorneys' and experts' fees and costs, arising from or in any way connected with: (a) injury to or the death of any person, or physical damage to any property, resulting from any act, omission, condition or other matter related to or occurring on or about the Property, regardless of cause, unless due to the negligence or willful misconduct of any of the Grantee Indemnified Parties; (b) a violation of, or other failure to comply with, any state, federal or local law, regulation or requirement, by Landowner, or any party other than an Indemnified Party acting upon permission from Landowner, in any way affecting, involving or relating to the Property, unless due to the negligence or willful misconduct of any of the Grantee Indemnified Parties; and (c) the breach by Landowner of any of its obligations set forth in this Conservation Easement.

(2) Grantee. Grantee shall hold harmless, indemnify, and defend Landowner and its directors, officers, employees, agents, and contractors, and heirs, personal representatives, successors and assigns, and each of them (collectively "Landowner Indemnified Parties") from and against all liabilities, penalties, costs, losses, damages, expenses, causes of action, claims demands, or judgments, including without limitation, reasonable attorneys' fees, arising from or in any way connected with any injury to or the death of any person, or physical damages to any property, resulting from any act, omission, condition, or other matter related to or occurring on or about the Property caused by the negligence or willful misconduct of Grantee, its agents, officers, employees, and/or directors.

(d) Insurance. Landowner shall maintain a comprehensive general liability policy insuring against bodily injury and property damage on the Easement Area in the amount of not less than one million dollars ($1,000,000), which amount shall be adjusted every five (5) years to reflect the percentage increase during the past five (5) years in the CPI. The "CPI" means the United States Department of Labor's Bureau of Labor Statistics' Consumer Price Index for all Urban Consumers (CPI-U, all items) (1982-84=100),or the successor of such index. Grantee shall be named an additional insured on the policy. The liability insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to Grantee. Landowner waives all rights of subrogation against Grantee and its agents,

representatives, officers, directors and employees for recovery of damages to the extent these damages are covered by insurance maintained pursuant to this Conservation Easement. Landowner shall furnish Grantee with certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth above. Such certificates shall provide for thirty (30) days written notice to Grantee prior to the cancellation or material change of any insurance referred to herein. Any failure of Grantee to demand such certificate or other evidence of full compliance with these insurance requirements or failure of Grantee to identify a deficiency from evidence that is provided shall not be construed as a waiver of Landowner's obligation to maintain such insurance. The foregoing insurance requirements do not replace, waive, alter or limit the hold harmless or indemnification provisions of this Agreement.

16. **Easement Area Management and Issue Resolution.**

(a) Right of Entry. Grantee, its agents and representatives shall have the right to enter twice per year with reasonable advance notice onto the Easement Area for purposes of monitoring compliance with the terms of this Conservation Easement. Additional entry shall be permissive and therefore require notice and permission by Landowner; *except*, that if Grantee has given notice to Landowner of a circumstance that Grantee considers to be a violation or a potential violation of any provision of the Conservation Easement, Grantee shall be allowed, upon reasonable advance notice but without further permission from Landowner, to enter onto the Easement Area as often as is reasonably necessary to monitor Landowner's action to remedy such circumstance. If the Easement Area is not accessible by public roads, Landowner hereby grants Grantee adequate access to the Easement Area for the limited purposes of monitoring and enforcement of the terms of this Conservation Easement. Grantee's monitoring and access activities shall not interfere with normal agricultural operations on the Property.

(b) Cooperative Resource Stewardship. The parties agree to take whenever possible a cooperative approach to monitoring and management of the Conservation Values. The parties will conduct joint qualitative monitoring to ensure that the Conservation Values are being protected. This monitoring will be supported through the Baseline Conditions Report and subsequent reviews, using photographs and narrative descriptions, among other evaluation tools. Monitoring will also consider issues such as site potential, weather conditions, unusual economic circumstances, vegetative variety and quality and trends in resource conditions. As a general matter, Grantee believes that a written management plan is a useful tool for guiding resource stewardship; however, Grantee will not require a written management plan except under the circumstances in the following Stage 1 and Stage 2 processes.

Stage 1: If the Baseline Conditions Report, or subsequent monitoring, has identified circumstances requiring improvement to protect the Conservation Values, Landowner, upon written notice from Grantee, shall develop a written management plan that addresses the particular resource management concern(s) identified by Grantee.

Landowner shall be encouraged but not required to engage the services of a Certified Rangeland Manager, District Conservationist, or other qualified professional to assist Landowner in the development of such a management plan. The required scope of the plan and the time allowed for its development shall depend on the nature and severity of the identified problems. The management plan shall be subject to Grantee's approval. Landowner shall implement an approved plan for so long as is necessary to resolve the particular resource management problem(s) addressed by the plan. Grantee shall monitor implementation of the plan, and results thereof, during its periodic monitoring, and may require modifications of the plan as the resource conditions warrant.

Stage 2: If Landowner does not diligently act to develop a management plan required under the preceding Stage 1 circumstances, or if Landowner and Grantee disagree regarding the resource management concern(s) identified by Grantee, then Grantee, at Landowner's expense, shall engage a Certified Rangeland Manager, District Conservationist, or other qualified professional to develop the management plan. The management plan shall be subject to Grantee's approval. Landowner shall implement an approved plan for so long as is necessary to resolve the particular resource management problem(s) addressed by the plan. Grantee shall monitor implementation of the plan, and results thereof, during its periodic monitoring, and may require modifications of the plan as the resource conditions warrant.

(c) Judicial Enforcement: If, in Grantee's judgment, a Conservation Value is threatened or damage is occurring, or if Grantee finds what it considers to be a violation or potential violation of any provision of the Conservation Easement that, in Grantee's judgment, cannot be satisfactorily addressed through the processes set forth in Subsection 16(b), Grantee has the right to bypass those processes and to instead pursue appropriate legal action; provided, that except when an ongoing or imminent violation could substantially diminish or impair the Conservation Values of the Easement Area, or the parties have already met and discussed the violation, Grantee shall give Landowner written notice of the violation and, not later than fourteen (14) days after the delivery of such written notice, the parties shall meet to discuss the circumstances of the violation and to attempt to agree on appropriate corrective action. If the parties are unable to agree to corrective action, Grantee shall deliver a further written notice to Landowner to demand particular corrective action to cure the Easement Area resulting from any use or activity inconsistent with the Conservation Values or any of them, or the Easement purpose, to restore the portion of the Easement Area so injured. Landowner shall cure the violation within thirty (30) days after receipt of such notice, or under circumstances where the violation cannot reasonably be cured within a thirty (30) day period, shall commence curing such violation as soon as possible within such thirty (30) day period and shall continue diligently to cure such violation until finally cured.

(d) Expert Assistance. The opinions of any Certified Rangeland Manager, District Conservationist or other appropriate consultant or expert engaged to assist the parties in the resolution of any claim of injury to any Conservation Value shall

be admissible in any judicial proceedings conducted with respect to that asserted violation.

(e) Immediate Relief. Notwithstanding any of the foregoing, if at any time Grantee determines that an ongoing or imminent violation could substantially diminish or impair any of the Conservation Values of the Easement Area, Grantee may proceed immediately to seek an injunction to stop it, temporarily or permanently. Grantee may also seek an injunction requiring the Landowner to restore, or pay for the restoration of, the Easement Area to its condition prior to the violation.

(f) Alternative and Cumulative Remedies. Grantee's remedies described in this Section 16 shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity. Furthermore, the provisions of California Civil Code Section 815, et seq., are incorporated herein by this reference and this Conservation Easement is made subject to all of the rights and remedies set forth therein. Grantee shall be entitled to recover its costs incurred in any such enforcement effort, including reasonable attorneys', consultants and experts fees and costs. Grantee retains the discretion to choose the appropriate method to enforce the provisions of this Easement, and shall not be required to exhaust the provisions of one subsection hereof in order to be entitled to the benefits of another.

17. **Forbearance No Waiver.** Forbearance by the Grantee to exercise its rights under this Conservation Easement in the event of any breach of any term of this Conservation Easement by Landowner shall not be construed to be a waiver by the Grantee of such term or of any subsequent breach of the same or any other term of this Conservation Easement. No delay or omission in the exercise of any right or remedy upon any breach by Landowner shall impair such right or remedy or be construed as a waiver.

18. **Grantee Transfer of Easement.** In the event that Grantee decides, or is required by the California Wildlife Conservation Board, to assign its interest under this Easement, Grantee shall provide Landowner with written notice of such intention or requirement and shall allow Landowner a period of not less than ninety (90) days within which to designate an assignee that must be: (a) qualified to hold a conservation easement under Section 815.3 of the California Civil Code; (b) a "qualified organization" as defined in Section 170(h)(3) of the U.S. Internal Revenue Code, 26 U.S.C. §170(h)(3); and (c) willing and financially able to assume all of the responsibilities imposed on Grantee under this Easement. Landowner's designation of an assignee shall be subject to the approval of the California Wildlife Conservation Board, which approval shall not be unreasonably withheld or delayed. In the event that Landowner is unable or chooses not to make such a designation, Grantee may proceed to assign all, but not less than all, of its rights under this Easement to any entity that meets all of the foregoing designation criteria. If Grantee ever ceases to exist or no longer qualifies to hold this Easement under Section 815.3 of the California Civil Code and Section 170(h)(3) of the U.S. Internal Revenue Code, Landowner shall petition a court of competent jurisdiction to transfer this Easement to another organization that meets all

of the foregoing designation criteria. The parties intend that, in the selection of a transferee entity, preference be given to a qualified agency or organization with an agricultural conservation purpose as well requisite experience in preserving and protecting all of the other Conservation Values. Said agency or organization should be comprised of a board, staff, or consultants with practical agricultural management experience.

19. **Landowner Transfer of the Easement Area.** Any time the Property or any interest in it is transferred by the Landowner to any third party, the Landowner shall notify the Grantee in writing prior to the transfer, and the deed of conveyance shall expressly refer to this Conservation Easement. Failure to notify Grantee or include the required reference to this Conservation Easement in the deed shall not affect the continuing validity and enforceability of this Conservation Easement.

A transfer of the Easement Area or any portion thereof may result in an additional burden on the monitoring and enforcement responsibilities of Grantee; therefore, each transfer (except for (a) transfers solely to change the method of holding title by the same party or parties, and (b) inter-generational transfers between members of the same family) shall require the payment of a transfer fee to the Grantee's monitoring fund in the amount of 0.40 percent (four tenths of one percent (.0040)) of the fair market value of that portion of the easement property transferred. Grantee may reduce or waive this fee at its sole discretion.

20. **Amendment of Easement.** This Conservation Easement may be amended in writing, signed by both Grantee and Landowner. Any such amendment shall be consistent with the purposes of this Conservation Easement and shall comply with Section 170(h) of the U.S. Internal Revenue Code, California Civil Code Section 815, et seq., or any regulations promulgated in accordance with that section. Any such amendment shall also be consistent with California law governing conservation easements. All amendments shall refer to this Conservation Easement and be subsequently recorded in the County in which the property is located.

21. **No Public Dedication or Public Access.** Nothing contained in this Conservation Easement shall be deemed to be a gift or dedication of any portion of the Easement Area for use by the general public. This instrument does not convey a general right of access to the public.

22. **Landowner's Title Warranty; No Prior Conservation Easements.** Landowner represents and warrants that Landowner has good fee simple title to the Easement Area, and that the lender has subordinated to this agreement, and Landowner will defend the same against all claims that may be made against it. Landowner represents and warrants that the Easement Area is not subject to any other conservation easement. Landowner may grant any subsequent conservation or other easements on the Easement Area provided that such easements do not interfere with, impair, burden or reduce the Conservation Values. Grantee shall be notified at least

ninety (90) days in advance, in writing, of any proposed conservation or other easement for the Easement Area, which notice shall include the proposed easement agreement.

23. **Environmental Provisions.**

(a) Landowner's Environmental Warranty. Landowner warrants that Landowner has no knowledge of a release or threatened release of hazardous substances or wastes on or that could affect the Easement Area and, as more generally set out in paragraph 15(c) above, agrees to indemnify, defend, protect and hold Grantee, its directors, officers, employees, agents, and contractors, and their heirs, successors, and assigns, harmless from and against all litigation costs, demands, penalties, damages, liabilities, claims or expenses (including reasonable attorney fees) arising from or connected with any release of hazardous waste or violation of federal, state, or local environmental laws as a result of or arising out of the activities of Landowner on the Property or any breach of this Conservation Easement.

(b) Grantee Not An Owner, Operator, Or Responsible Party.

(1) Notwithstanding any other provision herein to the contrary, the parties do not intend this Conservation Easement to be construed such that it creates in or gives the Grantee:

(i) the obligations or liability of an "owner" or "operator" as those words are defined and used in environmental laws, as defined below, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 USC § 9601 et seq. and hereinafter "CERCLA");

(ii) the obligations or liability of a person described in 42 USC ' 9607(a)(3) or (4);

(iii) the obligations of a responsible person under any applicable Environmental Laws, as defined below;

(iv) the right to investigate and remediate any Hazardous Materials, as defined below, associated with the Property; or

(v) any control over Landowner's ability to investigate, remove, remediate, or otherwise clean up any Hazardous Materials associated with the Property.

(c) Assumption of Environmental Liabilities and Indemnification. From and after acquisition of the Easement by Grantee or any of Grantee's successors or assigns (whether by operation of law or otherwise) Landowner and Landowner's successors in interest shall be solely responsible for and agree, jointly and severally: (A) to assume all past, present and future liabilities, whether known and unknown and

whether now existing or hereafter discovered, arising out of and related to environmental conditions of whatsoever kind or nature on, under or affecting the Property, including, without limitation, with respect to the presence or release of Hazardous Substances; and (B) to indemnify, protect and defend with counsel acceptable to Grantee, and hold Grantee and its directors, officers, employees, agents, attorneys, representatives, successors and assigns (the "Indemnified Parties") harmless from and against any claims (including, without limitation, third party claims for personal injury or death, damage to property, or diminution in the value of property), actions, administrative proceedings (including informal proceedings), judgments, damages, punitive damages, penalties, fines, costs, liabilities (including sums paid in settlements of claims), remedial action, compliance requirements, enforcement and clean-up actions of any kind, interest or losses, attorneys' fees (including any fees and expenses incurred in enforcing this indemnity), consultant fees, and expert fees that arise directly or indirectly from or in connection with: (i) the presence, suspected presence or Release of any Hazardous Substance whether into the air, soil, surface water or groundwater of or at the Property; (ii) any violation or alleged violation of Environmental Law affecting the Property, whether occurring prior to or during Landowner's ownership of the Property and whether caused or permitted by Landowner or any person other than Landowner; (iii) any claim or defense by Landowner or any third party that any Indemnified Party is liable as an "owner" or "operator" of the Property under any Environmental Law; or (iv) any breach of the representations and warranties set forth herein.

(d) Definitions.

(1) The term "Environmental Law" shall include, but shall not be limited to, each statute named or referred to below, and all rules and regulations there under, and any other local, state and/or federal laws, ordinances, rules, regulations, orders and decrees, whether currently in existence or hereafter enacted, which govern (i) the existence, cleanup and/or remedy of contamination or pollution on property; (ii) the protection of the environment from soil, air or water contamination or pollution, or from spilled, deposited or otherwise emplaced contamination or pollution; (iii) the emission or discharge of Hazardous Substances into the environment; (iv) the control of Hazardous Substances; or (v) the use, generation, transport, treatment, removal or recovery of Hazardous Substances.

(2) The term "Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of any Hazardous Substance into the environment (including, without limitation, the continuing migration of Hazardous Substances into, onto or through the soil, surface water, or groundwater, and the abandonment or discarding of barrels, containers, and other receptacles containing any Hazardous Substance), whether caused by, contributed to, permitted by, acquiesced to or known to Landowner or Landowner's predecessors or successors in interest.

(3) The term "Hazardous Substance" shall mean (a) any oil, flammable substance, explosives, radioactive materials, hazardous wastes or substances, toxic wastes or substances or any other wastes, materials or pollutants which (i) pose a hazard to the Property or to persons on or about the Property or (ii) cause the Property to be in violation of any Environmental Law; (b) asbestos in any form which is or could become friable, urea formaldehyde foam insulation, transformers or other equipment which contain dielectric fluid containing levels of polychlorinated biphenyls, or radon gas; (c) any chemical, material or substance defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "extremely hazardous waste," "restricted hazardous waste," or "toxic substances" or words of similar import under any applicable local, state or federal law or under the regulations adopted or publications promulgated pursuant thereto, including the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 USC section 9601, et seq.; the Resource Conservation and Recovery Act ("RCRA"), 42 USC section 6901, et seq.; the Hazardous Materials Transportation Act, 49 USC section 1801, et seq.; the Federal Water Pollution Control Act, 33 USC section 1251, et seq.; the California Hazardous Waste Control Law ("HWCL"), Cal. Health & Safety section 25100, et seq., Hazardous Substance Account Act ("HSAA"), Cal. Health & Safety Code section 25300, et seq., the Porter-Cologne Water Quality Control Act (the "Porter-Cologne Act"), Cal. Water Code section 13000, et seq., the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65); Title 22 of the California Code of Regulations, Division 4, Chapter 30; (d) any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any governmental authority or may or could pose a hazard to the health and safety of the occupants of the Property or the owners and/or occupants of property adjacent to or surrounding the Property, or any other person coming upon the Property or adjacent property; and (e) any other chemical, materials or substance which may or could pose a hazard to the environment.

24. **Interpretation.** This instrument shall be interpreted under the laws of the State of California, resolving any ambiguities and questions of the validity of specific provisions so as to give maximum effect to its conservation purposes. If any provision of this Conservation Easement, or the application thereof to any person or circumstances, is found by a court of competent jurisdiction to be void or invalid, the remainder of the provisions of this Conservation Easement, or the application of such provisions to persons or circumstances other than those as to which it is found to be void or invalid, as the case may be, shall not be affected thereby.

25. **Captions.** The captions in this Conservation Easement have been inserted solely for convenience of reference and are not a part of this Conservation Easement and shall have no effect upon construction or interpretation.

26. **Perpetual Duration.** The easement created by this instrument shall be a servitude running with the land in perpetuity. Every provision of this Conservation Easement that applies to Landowner and Grantee shall also apply to and be binding upon their respective agents, heirs, executors, administrators, successors and assigns.

27. **Notices.** Any notice, demand, request, consent, approval or communication that either party desires or is required to give to the other shall be in writing and either served personally, sent by United States certified mail (return receipt requested), sent by overnight mail, or sent to a currently valid facsimile number, addressed as follows or such other address as either party from time to time shall designate by written notice to the other.

To Grantor: CENTENNIAL LIVESTOCK
c/o David E. Wood
25366 W. Dorris
Coalinga, CA 93210
Phone: (559) 935-1557
Facsimile: (559) 233-4116

To Grantee: AMERICAN LAND CONSERVANCY
Attn: Harriet Burgess
1388 Sutter Street, Suite 810
San Francisco, CA 94109
Telephone: 916/749-3010
Facsimile: 916/749-3011

28. **Condemnation.**

(a) If all or any part of the Easement Area is taken by exercise of the power of eminent domain, or acquired by purchase in lieu of condemnation, so as to terminate this Easement in whole or in part, Landowner and Grantee shall act jointly to recover the full value of their respective interests in the Property so taken or purchased, and all direct or incidental damages resulting therefrom. All expenses reasonably incurred by Landowner and Grantee in connection with the taking or purchase shall be paid out of the amount recovered. If only a portion of the Easement Area is subject to such exercise of eminent domain, this Conservation Easement shall remain in effect as to all other portions of the Easement Area.

(b) The State of California Department of Transportation (Department) made a Transportation Enhancement Activities ("TEA") grant to Grantee for the purposes of acquiring this Conservation Easement in the amount of One Million and No/100 Dollars ($1,000,000.00). The TEA Grant represents 23.8% of the total cost of acquisition of the Conservation Easement. If the Easement Area is proposed to be taken, in whole or in part, by the exercise of the power of eminent domain or bankruptcy, the condemning authority shall notify Department of the proposed taking by sending written notification to: State of California, Department of Transportation, Attn: Legal Division, 1120 N Street, MS 57, Sacramento, CA 95814. Grantee shall pay Department 23.8% of the net proceeds received by Grantee from any taking or forced sale of the Conservation Easement (after Grantee deducts the costs necessarily incurred by Grantee from the gross proceeds received by Grantee in connection with the condemnation or forced sale) to reimburse Department for the TEA Grant. Grantee

shall not be obligated to pay Department if Department approves, in writing, Grantee's use of those proceeds for the protection of alternative equivalent environmental resources, protected by similar conditions, to the extent applicable.

(c) If 23.8% of the net proceeds received by Grantee is less than One Million and no/100 Dollars ($1,000,000.00), then Grantee shall pay Department, from the balance of the net proceeds received by Grantee (i.e., the remaining 76.2% of the net proceeds, which shall be referred to herein as the "Remainder Proceeds") an amount sufficient so that Department is reimbursed a total of One Million and No/100 Dollars ($1,000,000.00), or as close thereto as those Remainder Proceeds will allow. Grantee shall not be obligated to pay Department any portion of the Remainder Proceeds if the Remainder Proceeds are required to be paid to any other source who provided funds for the acquisition of the Conservation Easement, or if Department approves in writing Grantee's use of the Remainder Proceeds for the protection of alternative equivalent environmental resources, subject to the protection of Department's interest in those resources with similar conditions, to the extent applicable.

29. **Extinguishment.** If circumstances arise in the future that render the purpose of this easement impossible to accomplish, this easement can only be terminated or extinguished, whether in whole or in part, by judicial proceedings in a court of competent jurisdiction, except when said circumstance arises as a result of a threat of eminent domain action by a public agency, in which case a judicial proceeding shall not be required and the parties can enter into a negotiated transaction for any portion of the Easement Area to be acquired by the public agency in lieu of condemnation. The amount of the compensation to which Grantee shall be entitled from any sale, exchange, or involuntary conversion of all or any portion of the Property subsequent to such termination or extinguishment, shall be determined on the basis of the fair market value of the Conservation Easement at the time of its termination or extinguishment. Subject to the provisions of Sections 28(b) and 28(c) above, Grantee shall use any proceeds received under the circumstances described in this paragraph in a manner consistent with its conservation purposes, which are exemplified by this Conservation Easement.

30. **Laws Currently in Effect.** All references in this Conservation Easement to statutes, regulations and other laws shall be deemed to refer to those statutes, regulations and laws currently in effect, or as amended (or any successor provision then applicable).

31. **Present Conditions/Use.** The terms "present conditions" or "present uses" mean the conditions or uses as they exist on the effective date of this Conservation Easement.

32. **Recordation.** Grantee shall promptly record this instrument in the official records of Mono County, California, and promptly notify the Landowner through the mailing of a conformed copy of the recorded easement.

33. **Entire Agreement.** This instrument sets forth the entire agreement of the parties with respect to the Easement Area and supersedes all prior discussions, negotiations, understandings or agreements relating to the Easement Area, all of which are merged herein.

34. **Counterparts.** The parties may execute this instrument in two or more counterparts, which shall, in the aggregate, be signed by both parties; each counterpart shall be deemed an original instrument as against any party who has signed it.

35. **Attorneys' Fees.** Should proceedings be brought to enforce or interpret any of the terms of this instrument, the prevailing party in any such proceedings shall be entitled to recover from the non-prevailing party its costs, including reasonable attorneys' fees.

36. **Permission.** Whenever permission, consent or approval ("permission") is required pursuant to this Conservation Easement, such permission shall be obtained in advance and in writing signed by the party from whom permission is to be obtained. Whether permission should be granted or denied shall be determined based upon the purposes of this Conservation Easement, and shall not be unreasonably withheld.

37. **Exhibits.** The exhibits attached hereto are incorporated herein by this reference:

Exhibit A: Property Description
Exhibit B: Description of Excluded Areas
Exhibit C: Property Map
Exhibit D: Permitted Encumbrances

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This page to be replaced.

38. **Effective Date.** This Conservation Easement is effective upon recordation in the Official Records of Mono County, California.

Agreed to and executed by:

Grantor:

CENTENNIAL LIVESTOCK

By: David E Wood 2/14/03
David E. Wood Date
Partner

By: 2/17/03
John Lacey Date
Partner

Grantee:

AMERICAN LAND CONSERVANCY

By: _____
Harriet Burgess Date
President

PLEAS

PLEAS

STATE OF CALIFORNIA)
)
COUNTY OF Fresno)

On February 14, 2003, before me, Patsy R. Barber,
Notary Public, personally appeared David E. Wood,

☒ personally known to me - **OR** -

☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Patsy R. Barber
(Signature of Notary)

PATSY R. BARBER
Commission # 1294107
Notary Public - California
Fresno County
My Comm. Expires Mar 14, 2005

STATE OF CALIFORNIA)
)
COUNTY OF Fresno)

On February 17, 2003, before me, Patsy R. Barber,
Notary Public, personally appeared John Lacey,

☑ personally known to me - **OR** -

☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Patsy R. Barber
(Signature of Notary)

PATSY R. BARBER
Commission # 1294107
Notary Public - California
Fresno County
My Comm. Expires Mar 14, 2005

STATE OF CALIFORNIA)
)
COUNTY OF _____)

On _____, 2003, before me, _____,

Notary Public, personally appeared _____,

☐ personally known to me - **OR** -

☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

_____

(Signature of Notary)

Exhibit A to
Deed of Conservation Easement

LEGAL DESCRIPTION OF THE PROPERTY

The real property referred to in this Conservation Easement is located in Mono County, California, and is legally described as follows:

PARCEL 1

THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 5 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N. 7-190-05)

PARCEL 1A

ALL OF SECTION 36, TOWNSHIP 5 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N.'S 7-190-07 AND 7-190-08)

PARCEL 2

ALL OF SECTION 35, TOWNSHIP 5 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THEREFROM THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER.

(A.P.N. 7-190-06)

PARCEL 3

THE FRACTIONAL SOUTHWEST QUARTER OF SECTION 30, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N. 8-060-35)

PARCEL 4

THE FRACTIONAL NORTHWEST QUARTER OF SECTION 31; THE FRACTIONAL SOUTHWEST QUARTER OF SECTION 31; THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 31; THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 31, ALL IN TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N. 8-060-41)

PARCEL 5

THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 3; AND THE SOUTHEAST QUARTER OF SECTION 3, TOWNSHIP 4 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N. 10-060-01)

PARCEL 6

THE EAST HALF OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 4 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

PARCEL 6A

THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 4 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

PARCEL 6B

THE NORTHWEST QUARTER, THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 2; TOWNSHIP 4 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

PARCEL 6C

A PORTION OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 2, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF SECTION 2 AND RUNNING THENCE EASTERLY ALONG THE QUARTER SECTION LINE 1320 FEET; THENCE RUNNING DIAGONALLY ACROSS THE NORTHWEST QUARTER OF SOUTHWEST QUARTER OF SECTION 2, TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER; THENCE NORTH 1320 FEET TO THE BEGINNING, ALL IN TOWNSHIP 4 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N. 10-060-02 PARCELS, 6, 6A, 6B AND 6C)

PARCEL 7

A PARCEL OF LAND LOCATED WITHIN SECTION 1, AND THE NORTH ONE-HALF OF THE NORTHEAST ONE-QUARTER AND NORTHEAST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER OF SECTION 12, TOWNSHIP 4 NORTH, RANGE 24 EAST, MDM, MONO COUNTY, CALIFORNIA BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF SAID SECTION 1, AND BEING A BLM BRASS CAP; THENCE NORTH 00°51'13" WEST, ALONG THE WEST LINE OF SAID SECTION 1, 5284.24 FEET TO THE NORTHWEST CORNER OF SAID SECTION 1, AND BEING A FENCE POST AS SHOWN ON THE RECORD OF SURVEY NO. 32-44 RECORDED IN BOOK 2 AT PAGE 132 OF THE MONO COUNTY RECORDER'S OFFICE;

THENCE NORTH 89°03'01'' EAST, ALONG THE NORTH LINE OF SAID SECTION 1 AND AN EXISTING FENCE, 5296.50 FEET TO THE NORTHEAST CORNER OF SAID SECTION 1 AND BEING ALUMINUM CAP STAMPED LS 3848;

THENCE SOUTH 00°33'39'' EAST, ALONG THE EAST LINE OF SAID SECTION 1 AND AN EXISTING FENCE, 2639.13 FEET TO THE EAST ONE-QUARTER CORNER OF SAID SECTION 1;

THENCE SOUTH 00°36'47'' EAST, ALONG SAID EAST LINE AND AN EXISTING FENCE, 2654.10 FEET TO THE SOUTHEAST CORNER OF SAID SECTION 1 AND A FENCE CORNER;

THENCE SOUTH 00°55'29'' EAST, ALONG THE EAST LINE OF SAID SECTION 12, 1323.70 FEET TO THE NORTH ONE-SIXTEENTH CORNER OF THE EAST ONE-HALF OF SAID SECTION 12;

THENCE SOUTH 89°06'16'' WEST, ALONG THE SOUTH LINE OF THE NORTH ONE-HALF OF THE NORTH ONE-HALF OF SAID SECTION 12, 3957.31 FEET TO THE NORTHWEST ONE-SIXTEENTH CORNER THEREOF;

THENCE NORTH 00°46'39'' WEST, ALONG THE WEST LINE OF THE NORTHEAST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER OF SAID SECTION 12, 1326.63 FEET TO THE WEST ONE-SIXTEENTH CORNER OF THE NORTH ONE-HALF OF SAID SECTION 12;

THENCE SOUTH 89°08'49'' WEST, ALONG THE NORTH LINE OF SAID SECTION 12, 1317.97 FEET TO THE POINT OF BEGINNING.

(A.P.N. 10-060-25)

PARCEL 8

THAT PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 10; TOWNSHIP 4 NORTH, RANGE 24 EAST, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 10; THENCE NORTHEASTERLY TO THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 10; THENCE WEST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 10 TO THE WEST LINE THEREOF; THENCE SOUTH ALONG SAID WEST LINE TO THE POINT OF BEGINNING.

(A.P.N. 10-060-18)

PARCEL 9

THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 10; THE NORTH HALF OF THE SOUTHWEST QUARTER OF SECTION 10, TOWNSHIP 4 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

PARCEL 9A

THAT PORTION OF THE NORTHEAST QUARTER OF SECTION 10, DESCRIBED AS FOLLOWS:
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BEGINNING AT A POINT ON THE EAST LINE OF SAID SECTION 10, 1500 FEET NORTH OF THE SOUTHEAST CORNER OF THE NORTHEAST QUARTER OF SAID SECTION 10; THENCE SOUTHWESTERLY TO A POINT IN THE SOUTH LINE OF THE NORTHEAST QUARTER, WHICH POINT IS 1480 FEET WEST OF THE EAST QUARTER CORNER OF SECTION 10; THENCE WEST ALONG SAID SOUTH LINE TO THE CENTER OF SAID SECTION 10; THENCE NORTH ALONG THE CENTERLINE OF SAID SECTION 10, TO THE NORTH LINE OF SAID SECTION 10; THENCE EAST ALONG SAID NORTH LINE TO THE NORTHEAST CORNER OF SAID SECTION 10; THENCE SOUTH ALONG THE EAST LINE OF SAID SECTION 10, 1140 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

PARCEL 9B

THAT PORTION OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 10, TOWNSHIP 4 NORTH, RANGE 24 EAST, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SECTION 10, 1480 FEET WEST FROM THE SOUTHEAST CORNER OF THE NORTHEAST QUARTER OF SAID SECTION 10; THENCE WEST ALONG SAID SOUTH LINE 1160 FEET, MORE OR LESS, TO THE CENTER OF SAID SECTION 10; THENCE SOUTH ALONG THE WEST LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 10, 1320 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 10; THENCE NORTHEASTERLY TO THE POINT OF BEGINNING.

(A.P.N. 10-060-19 PARCELS, 9, 9A AND 9b)

PARCEL 10

THE NORTHEAST QUARTER OF NORTHEAST QUARTER OF SECTION 7, AND THE NORTH HALF OF SECTION 6; THE SOUTHEAST QUARTER OF SECTION 6; AND THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 6, ALL IN TOWNSHIP 4 NORTH, RANGE 25 EAST, M.D.B&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N. 11-020-01)

PARCEL 11

ALL OF SECTION 5, TOWNSHIP 4 NORTH, RANGE 25 EAST, M.D.B&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N.'S 11-020-03, 11-020-04)

PARCEL 12

THE WEST HALF OF THE WEST HALF OF SECTION 4; ALL THAT PORTION OF THE EAST HALF OF THE WEST HALF OF SECTION 4 LYING WEST OF U.S. 395 STATE HIGHWAY, AS SAID HIGHWAY IS DESCRIBED IN DEED RECORDED MAY 21, 1934 IN BOOK 9, PAGE 132 OFFICIAL RECORDS; AND IN DEED RECORDED JUNE 21, 1934 IN BOOK 9, PAGE 169 OFFICIAL RECORDS; ALL IN TOWNSHIP 4 NORTH, RANGE 25 EAST, M.D.B&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N.'S 11-030-01, 11-030-06)
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PARCEL 13

ALL THAT PORTION OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 4 LYING WEST OF U.S. 395- STATE HIGHWAY, AS SAID HIGHWAY IS DESCRIBED IN DEED RECORDED MAY 21, 1934 IN BOOK 9, PAGE 132 OFFICIAL RECORDS; ALL IN TOWNSHIP 4 NORTH, RANGE 25 EAST, M.D.B&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N. 11-040-02)

PARCEL 14

THE EASTERLY HALF OF THE EAST HALF OF SECTION 31, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B. & M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(PTN A.P.N. 8-060-49)

PARCEL 15

THE WEST HALF OF THE WEST HALF OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B. & M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

(A.P.N 8-060-24 AND PTN A.P.N. 8-060-49)

PARCEL 16:

A PARCEL OF LAND LOCATED WITHIN THE WEST ONE-HALF OF THE SOUTHWEST ONE-QUARTER OF SECTION 6, AND THE NORTH ONE-HALF OF THE NORTH ONE-HALF OF SECTION 7, TOWNSHIP 4 NORTH, RANGE 25 EAST, MDM, MONO COUNTY, CALIFORNIA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE WEST ONE-QUARTER CORNER OF SAID SECTION 6, AND BEING A FENCE CORNER AS SHOWN ON THE RECORD OF SURVEY NO. 32-44, RECORDED IN BOOK 2 AT PAGE 132 OF THE MONO COUNTY RECORDER'S OFFICE;

THENCE NORTH 89°08'10'' EAST, ALONG AN EXISTING FENCE, 1323.08 FEET TO A FENCE CORNER;

THENCE SOUTH 00°38'09'' EAST, ALONG AN EXISTING FENCE, 2647.35 FEET TO A FENCE CORNER;

THENCE NORTH 89°09'52'' EAST, ALONG AN EXISTING FENCE, 2634.05 FEET TO A FENCE CORNER;

THENCE SOUTH 00°52'01'' EAST, ALONG AN EXISTING FENCE, 1296.70 FEET TO A POINT ON THE NORTHERLY EASEMENT LINE OF TWIN LAKES ROAD AS SHOWN ON THE IMPROVEMENT PLANS FOR F.A.S. 1093, DATED MARCH 17, 1947, ON FILE AT THE MONO COUNTY SURVEYOR'S OFFICE;

THENCE SOUTH 88°59'14'' WEST, ALONG SAID NORTHERLY EASEMENT LINE 2391.63 FEET;

THENCE 163.36 FEET CONTINUING ALONG SAID NORTHERLY EASEMENT LINE AND THE ARC OF A CURVE TO THE LEFT HAVING A CENTRAL ANGLE OF 15°05'48'' AND A RADIUS OF 620.00 FEET, (CHORD BEARS SOUTH 81°26'20'' WEST, 162.89 FEET);

THENCE SOUTH 88°57'25" WEST, 1403.85 FEET TO THE NORTH ONE-SIXTEENTH CORNER OF THE WEST ONE-HALF OF SAID SECTION 7;

THENCE NORTH 00°55'29" WEST, ALONG THE WEST LINE OF SAID SECTION 7, 1323.70 FEET TO THE NORTHWEST CORNER THEREOF AND BEING A FENCE CORNER;

THENCE NORTH 00°36'47" WEST, ALONG THE WEST LINE OF SAID SECTION 6 AND AN EXISTING FENCE, 2654.10 FEET TO THE POINT OF BEGINNING.

(PTN A.P.N. 11-020-23)

PARCEL 17:

THE EAST HALF AND THE EAST HALF OF THE WEST HALF OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PARCELS.

(1) BEGINNING ON THE EAST LINE OF SAID SECTION 32 AT A POINT 1363.5 FEET NORTH OF THE EAST QUARTER CORNER OF SAID SECTION 32, AND RUNNING THENCE WEST A DISTANCE OF 180 FEET; THENCE SOUTH 50 FEET; THENCE EAST 180 FEET; THENCE NORTH ALONG THE EAST LINE OF SAID SECTION 32, 50 FEET, MORE OR LESS, TO THE POINT OF BEGINNING, CONVEYED BY C.M. KIRKWOOD, ET UX, BY DEED DATED OCTOBER 12, 1931 IN FAVOR OF THE SOUTHERN SIERRAS POWER COMPANY, RECORDED NOVEMBER 5, 1931 IN BOOK 6, PAGE 151 OF OFFICIAL RECORDS.

(2) THE INTEREST IN THOSE CERTAIN PARCELS OF LAND SITUATED, LYING AND BEING IN THE NORTH HALF OF THE NORTHEAST QUARTER AND THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., OF THE DIVISION OF HIGHWAYS SURVEY OFF STATE HIGHWAY IX-MNO-23-1, BETWEEN POINT RANCH AND DRESSLER'S CORNER, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PARCEL 1: COMMENCING AT A POINT ON THE EAST LINE OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 32, DESIGNATED AS ENGINEER'S STATION 717+38.60, SAID POINT BEING SOUTH 0°12'48" WEST 651.57 FEET FROM THE NORTHEAST CORNER OF SECTION 32; THENCE 50 FEET EACH SIDE OF THE CENTER LINE, CURVING RIGHT FROM A TANGENT WHICH BEARS NORTH 74°28'49" WEST, THROUGH AN ANGLE OF 6°55'49" A DISTANCE OF 120.95 FEET TO ENGINEER'S STATION 718+59.55; THENCE 40 FEET EACH SIDE OF THE CENTER LINE, NORTH 67°33' WEST 1122.17 FEET TO ENGINEER'S STATION 729+81.72; THENCE CURVING LEFT THROUGH AN ANGLE OF 17°24'56" HAVING A RADIUS OF 200 FEET A DISTANCE OF 607.92 FEET TO ENGINEER'S STATION 735+89.64.

PARCEL 2: COMMENCING AT A POINT OF THE NORTH LINE OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 32, SAID POINT BEING WEST 1738.59 FEET FROM THE NORTHEAST CORNER OF SECTION 32; THENCE WEST 1987.71 FEET; THENCE SOUTH 89°45' WEST 233.69 FEET; THENCE SOUTH 80 FEET; THENCE NORTH 89°45' EAST 2033.68 FEET; THENCE CURVING RIGHT FROM LAST DESCRIBED TANGENT THROUGH AN ANGLE OF 5°17'04" HAVING A RADIUS OF 1960 FEET, A DISTANT OF 180.77 FEET; THENCE NORTH 5°02'04" EAST ALONG THE RADIAL LINE OF LAST DESCRIBED CURVE, 80 FEET TO THE POINT OF BEGINNING, CONVEYED TO THE STATE OF CALIFORNIA FOR HIGHWAY PURPOSES, BY DEED DATED FEBRUARY 10, 1933, AND RECORDED MAY 21, 1934, IN BOOK 9, PAGE 130 OF OFFICIAL RECORDS.
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(3) FROM THE INTERSECTION OF THE CENTER LINES OF KIRKWOOD AND KINGSLEY STREETS IN THE TOWN OF BRIDGEPORT; THENCE SOUTH 0°15'26" EAST A DISTANCE OF 187.93 FEET; THENCE SOUTH 89°44'34" WEST A DISTANCE OF 30.00 FEET TO THE POINT OF BEGINNING, SAID POINT OF BEGINNING BEING ON THE WESTERLY PROPERTY LINE OF KIRKWOOD STREET; THENCE SOUTH 89°44'34" WEST A DISTANCE OF 100.00 FEET ALONG THE CALIFORNIA ELECTRIC POWER COMPANY FENCE; THENCE NORTH 0°15'26" EAST, A DISTANCE OF 30.00 FEET TO A 2 X 2 INCH HUB; THENCE NORTH 89°44'34" EAST, A DISTANCE OF 100.00 FEET TO A 2 X 2 INCH HUB; THENCE SOUTH 0°15'26" WEST A DISTANCE OF 30 FEET ALONG THE WESTERLY PROPERTY LINE OF KIRKWOOD STREET TO THE POINT OF BEGINNING, CONVEYED BY C. M. KIRKWOOD AND ELLEN PEARL KIRKWOOD, HIS WIFE, BY DEED DATED OCTOBER 13, 1948 IN FAVOR OF THE COUNTY OF MONO, RECORDED OCTOBER 13, 1948 IN BOOK 25, PAGE 189 OF OFFICIAL RECORDS.

(4) BEGINNING AT A POINt oN THE WEST SIDE LINE OF THE COUNTY ROAD THAT RUNS TO TWIN LAKES, AND SAID POINT OF BEGINNING IS 20 FEET SOUTH OF THE SOUTHEAST CORNER OF THE SOUTHERN SIERRAS POWER COMPANY'S LOT, THE DESCRIPTION OF THAT LOT APPEARS OF RECORD AT BOOK 6, PAGE 151 OF OFFICIAL RECORDS OF MONO COUNTY, CALIFORNIA; THENCE FROM SAID POINT OF BEGINNING RUNNING WEST AND ON A LINE PARALLEL TO BUT 20 FEET SOUTH OF THE SOUTH LINE OF SAID POWER COMPANY LOT 208.71 FEET; THENCE AT APPROXIMATELY RIGHT ANGLES RUNNING SOUTH, AND PARALLEL TO THE WEST SIDE LINE OF SAID ROAD, 208.71 FEET; THENCE AT APPROXIMATELY RIGHT ANGLES, AND RUNNING EAST 208.71 FEET TO A POINT ON THE WEST SIDE OF SAID ROAD; THENCE NORTH ALONG THE WEST SIDE LINES OF SAID ROAD 208.71 FEET TO THE POINT OF BEGINNING, AS CONVEYED BY ELLEN PEARL KIRKWOOD, A WIDOW, BY DEED DATED SEPTEMBER 21, 1956 IN FAVOR OF ARTHUR A DE CHAMBEAU AND ALICE E. DE CHAMBEAU, HUSBAND AND WIFE, RECORDED NOVEMBER 8, 1956 IN BOOK 36, PAGE 133 OF OFFICIAL RECORDS.

(5) BEGINNING AT THE SOUTHEAST CORNER OF THE SOUTHERN SIERRAS POWER COMPANY LOT, THE DESCRIPTION OF SAID POWER COMPANY LOT APPEARS OF RECORD AT PAGE 151, BOOK 6 OF OFFICIAL RECORDS, RECORDS OF MONO COUNTY, CALIFORNIA; THENCE RUNNING SOUTH 20 FEET TO THE NORTHEAST CORNER OF THE DE CHAMBEAU LOT, THE DEED TO WHICH APPEARS OF RECORD AT PAGE 133 BOOK 36, OFFICIAL RECORDS; THENCE RUNNING WEST AND ALONG THE NORTH SIDE OF SAID DE CHAMBEAU LOT 208.71 FEET TO THE NORTHWEST CORNER OF SAID DE CHAMBEAU LOT; THENCE AT RIGHT ANGLES, RUNNING NORTH 20 FEET; THENCE AT RIGHT ANGLES, AND RUNNING EAST AND PARALLEL TO THE NORTH SIDE LINE OF SAID DE CHAMBEAU LOT, 208.71 FEET TO THE SAID SOUTHEAST CORNER OF THE POWER COMPANY LOT, WHICH IS THE POINT OF BEGINNING; CONVEYED BY ELLEN PEARL KIRKWOOD, A WIDOW, BY DEED DATED OCTOBER 21, 1957 IN FAVOR OF ARTHUR A. DE CHAMBEAU AND ALICE E. DE CHAMBEAU, HUSBAND AND WIFE, RECORDED NOVEMBER 1, 1957 IN BOOK 38, PAGE 483 OF OFFICIAL RECORDS.

(6) BEGINNING AT THE SOUTHWEST CORNER OF THAT CERTAIN LOT OWNED BY THE SAID PARTIES OF THE SECOND PART IN THE DEED OF WHICH APPEARS OF RECORD IN BOOK 36, PAGE 133 OF OFFICIAL RECORDS; THENCE FROM SAID SOUTHWEST CORNER RUNNING AT APPROXIMATELY RIGHT ANGLES SOUTHERLY 100 FEET AND THIS COURSE IS PARALLEL WITH THE WEST SIDE LINE OF THE TOWN LAKES ROAD; THENCE AT APPROXIMATELY RIGHT ANGLES RUNNING EASTERLY TO A POINT ON THE WEST SIDE LINE OF THE TWIN LAKES ROAD, AND THIS COURSE IS PARALLEL TO THE SOUTH SIDE LINE OF THE SAID DE CHAMBER LOT; THENCE AT APPROXIMATELY RIGHT ANGLES, AND RUNNING NORTHERLY ALONG THE WEST SIDE LINE OF SAID TWIN LAKES ROAD, 100 FEET TO THE SOUTHEAST CORNER OF SAID DE CHAMBEAU LOT; THENCE RUNNING WESTERLY ALONG THE SOUTH SIDE LINE OF SAID DE CHAMBEAU LOT TO THE SOUTHWEST CORNER THEREOF, WHICH IS THE POINT OF BEGINNING; CONVEYED BY ELLEN PEARL KIRKWOOD, A WIDOW, BY DEED DATED OCTOBER 31, 1958 IN FAVOR OF ARTHUR A. DE CHAMBEAU AND ALICE E. DE CHAMBEAU, HUSBAND AND WIFE, OCTOBER 31, 1958 IN BOOK 42, PAGE 101 OF OFFICIAL RECORDS.

(7) A PARCEL OF LAND LOCATED IN THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.M. AT THE BRIDGEPORT, MONO COUNTY, CALIFORNIA, BOUNDED ON THE NORTH BY THE HIGHWAY 395 AND ON THE EAST BY THE EAST BY KIRKWOOD STREET (TWIN LAKES ROAD) AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE SOUTHERLY RIGHT OF WAY LINE OF SAID HIGHWAY U.S. 395 AND THE WEST RIGHT OF WAY LINE OF KIRKWOOD STREET FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 32, BEARS NORTH 2°12'37" EAST, 696.17 FEET; THENCE ALONG THE WEST SIDE OF KIRKWOOD STREET SOUTH 0°15'33' EAST, 200.00 FEET; THENCE SOUTH 89°44'27" WEST, 220.00 FEET; THENCE NORTH 0°15'33" WEST, 296.45 FEET; THENCE SOUTH 67°33'00" EAST, 128.25 FEET; THENCE SOUTH 22°27'00" WEST, 10.00 FEET; THENCE ON A CURVE TO THE LEFT FROM THE TANGENT BEARING OF SOUTH 67°33' EAST ON A RADIUS OF 1050 FEET; THROUGH AN ANGLE OF 6°07'09" FOR A DISTANCE OF 112.14 FEET TO THE POINT OF BEGINNING.

(8) A PARCEL OF LAND LOCATED IN THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.M. AT BRIDGEPORT, MONO COUNTY, CALIFORNIA, BOUNDED ON THE SOUTH BY HIGHWAY 395 AND ON THE EAST BY KIRKWOOD STREET, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THE PARCEL WHICH IS LOCATED ON THE WEST SIDE OF KIRKWOOD STREET AND FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 32, BEARS NORTH 4°15' EAST, 382.18 FEET; THENCE SOUTH 89°44'27" WEST, 220.00 FEET; THENCE SOUTH 0°15'33" EAST 131.74 FEET TO THE HIGHWAY; THENCE ALONG THE HIGHWAY SOUTH 67°33'00" EAST, 160.65 FEET; THENCE NORTH 22°27'00" EAST, 10.00 FEET; THENCE ON A CURVE TO THE LEFT WITH A RADIUS OF 950 FEET; THROUGH AN ANGLE OF 4°22'25" FOR A LENGTH OF 72.52 FEET; THENCE ALONG KIRKWOOD STREET NORTH 0°15'33" WEST 210.00 FEET TO THE POINT OF BEGINNING.

(9) A PARCEL OF LAND LOCATED IN THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., AT BRIDGEPORT, MONO COUNTY, CALIFORNIA, BOUNDED ON THE SOUTH BY HIGHWAY 395 AND ON THE EAST BY KIRKWOOD STREET, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THE PARCEL WHICH IS LOCATED ON THE WEST SIDE OF KIRKWOOD STREET AND FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 32, BEARS NORTH 26°18'19" EAST 67.09 FEET; THENCE SOUTH 89°44'27" WEST, 150.0 FEET; THENCE SOUTH 0°15'33" EAST 321.13 FEET; THENCE NORTH 89°44'27" EAST, 150 FEET; THENCE NORTH 0°15'33" WEST, 321.13 FEET TO THE POINT OF BEGINNING.

(10) A PARCEL OF LAND LOCATED IN THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., AT BRIDGEPORT, MONO COUNTY, CALIFORNIA, BOUNDED ON THE SOUTH BY U.S. HIGHWAY NO. 395, AND ON THE NORTH BY THE COUNTY ROAD, ON THE EAST BY PARCELS 3 AND 4 AND COMING TO A POINT ON THE WEST, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THE PARCEL ON THE SOUTH BOUNDARY OF THE COUNTY ROAD, FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 32 BEARS NORTH 71°18'16" EAST, 189.74 FEET; THENCE ALONG THE COUNTY ROAD NORTH 89°44'27" WEST 1232.41 FEET TO THE INTERSECTION WITH THE NORTHERLY BOUNDARY OF THE HIGHWAY 395; THENCE ALONG THE HIGHWAY ON A CURVE TO THE RIGHT WITH A RADIUS OF 2040 FEET, THROUGH AN ANGLE OF 8°10'10" FOR A LENGTH OF 290.87 FEET; THENCE SOUTH 67°33'00" EAST, 961.52 FEET; THENCE

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LEAVING THE HIGHWAY NORTH 0°15'33'' WEST, 131.74 FEET; THENCE NORTH 89°44'27'' EAST, 70.00 FEET; THENCE NORTH 0°15'33'' WEST, 321.13 FEET, TO THE POINT OF BEGINNING.

ALSO EXCEPT AN UNDIVIDED FIFTY PERCENT (50%) INTEREST IN ALL MINERALS, OIL, GAS, OTHER HYDROCARBONS AND GEOTHERMAL DEPOSITS OR RESERVOIRS (LIQUID OR GASEOUS), LYING IN AND UNDER SAID LAND OR PRODUCED AND SAVED THEREFROM, ALL SUBJECT, HOWEVER, TO THE CONDITION THAT IN THE ENJOYMENT OF SAID RESERVATION AND EXCEPTED RIGHTS AND INTEREST, GRANTOR SHALL NOT ENTER INTO OR UPON THE SURFACE OF SAID LAND OR INTO THE UPPER 100 FEET THEREOF MEASURED VERTICALLY FROM SAID SURFACE, AS RESERVED BY MARIA STARR, TRUSTEE IN DEED RECORDED NOVEMBER 18, 1981 IN BOOK 340 PAGE 313 OF OFFICIAL RECORDS.

(11) THAT PORTION OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHERLY RIGHT OF WAY LINE OF HIGHWAY 395 AND THE WEST RIGHT OF WAY LINE OF KIRKWOOD STREET, FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 32 BEARS NORTH 2°12'37'' EAST, 696.17 FEET; THENCE ALONG THE WEST SIDE OF KIRKWOOD STREET, SOUTH 00°15'33'' EAST, 200 FEET TO THE SOUTHEAST CORNER OF THAT CERTAIN PARCEL CONVEYED TO CHARLES W. BRUCKART, ET UX, BY DEED RECORDED JULY 1, 1968 IN BOOK 95, PAGE 10 OF OFFICIAL RECORDS, SAID POINT BEING THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID WEST LINE OF KIRKWOOD STREET SOUTH 00°15'33'' EAST, 345.00 FEET MORE OR LESS TO THE NORTHEAST CORNER OF THAT CERTAIN PARCEL CONVEYED TO THE BRIDGEPORT PUBLIC UTILITY DISTRICT BY DEED RECORDED SEPTEMBER 18, 1968 IN BOOK 96, PAGE 484 OF OFFICIAL RECORDS; THENCE LEAVING SAID WEST LINE OF KIRKWOOD STREET SOUTH 89°44'34'' WEST, A DISTANCE OF 150 FEET TO THE NORTHWEST CORNER OF SAID PARCEL CONVEYED TO THE BRIDGEPORT PUBLIC UTILITY DISTRICT; THENCE ALONG THE WESTERLY LINE OF SAID PARCEL CONVEYED TO THE BRIDGEPORT PUBLIC UTILITY DISTRICT SOUTH 00°15'26'' EAST, 50 FEET MORE OR LESS TO THE SOUTHWESTERLY CORNER OF SAID PARCEL CONVEYED TO THE BRIDGEPORT PUBLIC UTILITY DISTRICT; SAID CORNER ALSO BEING THE NORTHWESTERLY CORNER OF THE PROPERTY CONVEYED TO THE SOUTHERN SIERRAS POWER COMPANY BY DEED RECORDED IN VOLUME 6, PAGE 151 OF OFFICIAL RECORDS; THENCE ALONG THE WESTERLY LINE OF THE PROPERTY CONVEYED TO SAID SOUTHERN SIERRAS POWER COMPANY SOUTH, 50 FEET MORE OR LESS TO THE SOUTHWESTERLY CORNER OF SAID PROPERTY, SAID CORNER ALSO BEING ON THE NORTHERLY LINE OF PARCEL NO. 2 AS SHOWN ON PARCEL MAP NO. 32-15 BEING RECORDED IN VOLUME 1 OF PARCEL MAPS, PAGE 95; THENCE ALONG THE NORTHERLY LINE OF SAID PARCEL NO. 2 SOUTH 89°44'34'' WEST, 58.71 FEET MORE OR LESS TO THE NORTHWESTERLY CORNER OF SAID PARCEL NO. 2; THENCE ALONG THE EXTENSION OF SAID NORTHERLY LINE OF SAID PARCEL NO. 2 SOUTH 89°44'34'' WEST, 151.29 FEET MORE OR LESS TO A FENCE LINE AS IT EXISTED ON MARCH 3, 2001; THENCE ALONG SAID FENCE LINE NORTH 00°15'33'' WEST, 445 FEET MORE OR LESS TO THE WESTERLY EXTENSION OF THE NORTHERLY LINE OF THAT CERTAIN PARCEL 2 CONVEYED TO BUCAN PACKING CORP., A FLORIDA CORPORATION BY DEED RECORDED ON NOVEMBER 11, 1981 IN VOLUME 340, PAGE 313 OF OFFICIAL RECORDS; THENCE ALONG SAID WESTERLY EXTENSION NORTH 89°44'27'' EAST, 140 FEET MORE OR LESS TO THE NORTHWESTERLY CORNER OF SAID PARCEL 2 CONVEYED TO BUCAN PACKING CORP., SAID CORNER ALSO BEING THE SOUTHWEST CORNER OF SAID PARCEL CONVEYED TO CHARLES W. BRUCKHART, ET UX; THENCE NORTH 89°44'27'' EAST, 220 FEET MORE OR LESS ALONG THE SOUTHERLY LINE OF SAID BRUCKHART PARCEL TO THE TRUE POINT OF BEGINNING.

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EXCEPT THEREFROM ALL DAMS, DIVERSION WORKS AND ALL CANALS AND DITCHES WHICH MAY BE LOCATED ON SAID LAND AS GRANTED TO ANTELOPE VALLEY MUTUAL WATER COMPANY BY DEED RECORDED JANUARY 19, 1926 IN BOOK V PAGE 16 OF OFFICIAL RECORDS.

(A.P.N. A PORTION 8-060-48)

PARCEL 18:

THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 25, TOWNSHIP 5 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT ALL THAT PORTION OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 25 LYING NORTHEAST OF THE SONORA AND MONO WAGON ROAD.

(A.P.N. 7-190-22)

PARCEL 19:

THE SOUTH HALF OF SECTION 29, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.& M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION OF THE EAST HALF OF THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., AS WILL FALL WITHIN THE HIGH WATER CONTOUR LINE, ELEVATION 6435, OF BRIDGEPORT RESERVOIR, AS SHOWN ON THE MAP OF SAID RESERVOIR, DATED DECEMBER 1925, ON FILE IN THE OFFICE OF THE WALKER RIVER IRRIGATION DISTRICT AT YERINGTON, NEVADA.

ALSO EXCEPT THAT PORTION DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTH LINE OF SAID SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 29, WHICH IS SOUTH 89°30'20" WEST 25.00 FEET FROM THE SOUTHEAST CORNER OF SAID SECTION 29, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M.; THENCE RUNNING ALONG THE SOUTH LINE OF SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER SOUTH 89°30'20" EAST 105.00 FEET; THENCE NORTH 0°15'33" WEST, 158.00 FEET; THENCE NORTH 89°30'20" EAST 105.00 FEET; THENCE PARALLEL TO AND 25 FEET WEST OF THE EAST LINE OF SAID SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 29, SOUTH 0°15'30" EAST, 158.00 FEET TO THE POINT OF BEGINNING.

ALSO EXCEPTING THEREFROM ANY PORTION LYING WITHIN PARCELS 1 AND 2 OF PARCEL MAP NO. 32-33, RECORDED IN BOOK 2 PAGE 94 OF PARCEL MAPS.

ALSO EXCEPT THEREFROM PARCELS 1 AND 2 OF PARCEL MAP NO. 32-48, RECORDED IN BOOK 4 PAGE 92 OF PARCEL MAPS.

(A.P.N. 8-060-37, 38 AND 63)

EXCEPT THEREFROM ALL DAMS, DIVERSION WORKS AND ALL CANALS AND DITCHES WHICH MAY BE LOCATED ON SAID LAND AS GRANTED TO ANTELOPE VALLEY MUTUAL WATER COMPANY BY DEED RECORDED JANUARY 19, 1926 IN BOOK V PAGE 16 OF OFFICIAL RECORDS.

(A.P.N. A PORTION 8-060-48)

PARCEL 18:

THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 25, TOWNSHIP 5 NORTH, RANGE 24 EAST, M.D.B.&M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT ALL THAT PORTION OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 25 LYING NORTHEAST OF THE SONORA AND MONO WAGON ROAD.

(A.P.N. 7-190-22)

PARCEL 19:

THE SOUTH HALF OF SECTION 29, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.& M., IN THE COUNTY OF MONO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION OF THE EAST HALF OF THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., AS WILL FALL WITHIN THE HIGH WATER CONTOUR LINE, ELEVATION 6435, OF BRIDGEPORT RESERVOIR, AS SHOWN ON THE MAP OF SAID RESERVOIR, DATED DECEMBER 1925, ON FILE IN THE OFFICE OF THE WALKER RIVER IRRIGATION DISTRICT AT YERINGTON, NEVADA.

ALSO EXCEPT THAT PORTION DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTH LINE OF SAID SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 29, WHICH IS SOUTH 89°30'20" WEST 25.00 FEET FROM THE SOUTHEAST CORNER OF SAID SECTION 29, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M.; THENCE RUNNING ALONG THE SOUTH LINE OF SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER SOUTH 89°30'20" EAST 105.00 FEET; THENCE NORTH 0°15'33" WEST, 158.00 FEET; THENCE NORTH 89°30'20" EAST 105.00 FEET; THENCE PARALLEL TO AND 25 FEET WEST OF THE EAST LINE OF SAID SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 29, SOUTH 0°15'30" EAST, 158.00 FEET TO THE POINT OF BEGINNING.

ALSO EXCEPTING THEREFROM ANY PORTION LYING WITHIN PARCELS 1 AND 2 OF PARCEL MAP NO. 32-33, RECORDED IN BOOK 2 PAGE 94 OF PARCEL MAPS.

ALSO EXCEPT THEREFROM PARCELS 1 AND 2 OF PARCEL MAP NO. 32-48, RECORDED IN BOOK 4 PAGE 92 OF PARCEL MAPS.

(A.P.N. 8-060-37, 38 AND 63)

LEGAL DESCRIPTIONS OF EXCLUDED PARCELS

That certain real property located in Mono County, California, and legally described as follows and depicted on the attached map, is excluded from the area referred to in this Conservation Easement as the Easement Area:

THAT PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 10; TOWNSHIP 4 NORTH, RANGE 24 EAST, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 10; THENCE NORTHEASTERLY TO THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 10; THENCE WEST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 10 TO THE WEST LINE THEREOF; THENCE SOUTH ALONG SAID WEST LINE TO THE POINT OF BEGINNING.

(A.P.N. 10-060-18)

A PARCEL OF LAND LOCATED IN THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B&M, AT BRIDGEPORT, MONO COUNTY, CALIFORNIA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

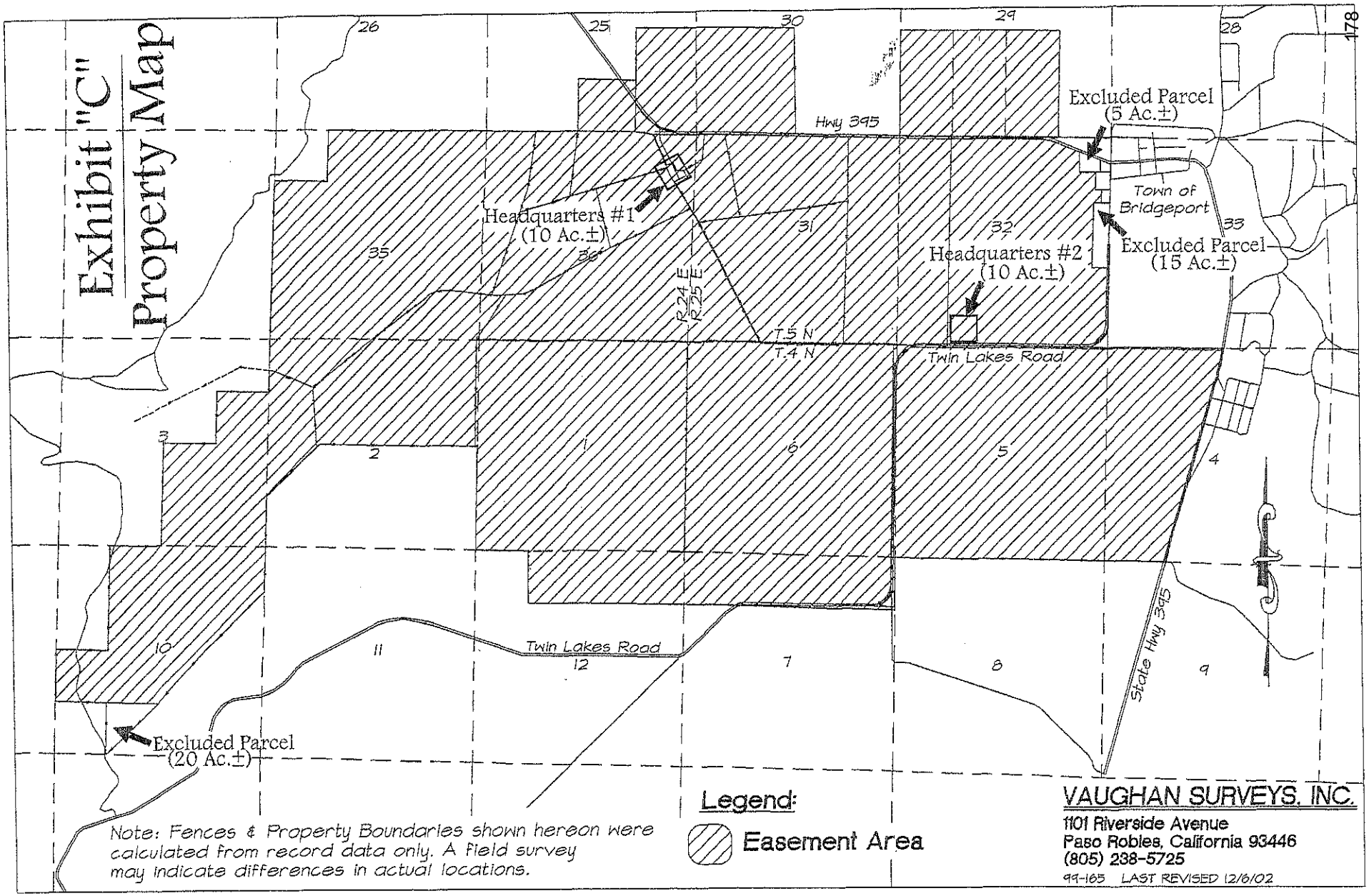
BEGINNING AT THE INTERSECTION OF THE SOUTHERLY RIGHT-OF-WA Y OF HIGHWAY 395 AND THE WEST RIGHT-OF-WAY LINE OF KIRKWOOD STREET FROM WHICH THE NORTHEAST CORNER OF SAID SECTION 32 BEARS N 2°12'37" E, 696.17 FEET; THENCE ALONG THE WEST SIDE OF KIRKWOOD STREET S 9°15'33" E, 200.00 FEET; THENCE ALONG THE SOUTHERLY LINE OF THE PROPERTY DESCRIBED IN DEED FROM REDLANDS SECURITY COMPANY TO CHARLES W. BRUCKART AND RUTH V. BRUCKART AS RECORDED IN VOLUME 95, PAGE 10, SAID LINE ALSO BEING THE NORTHERLY LINE OF PARCEL NO. 2 AS SHOWN ON LOT LINE ADJUSTMENT NO. 01-01 RECORDED IN DOCUMENT #2001006995, S 89°44'27" W, 220.00 FEET TO THE **TRUE POINT OF BEGINNING**; THENCE ALONG THE WESTERLY LINE OF SAID DEED N 0°15'33" W, 296.45 FEET MORE OR LESS TO THE SOUTHERLY RIGHT OF WAY LINE OF SAID HIGHWAY 395 AS SHOWN ON CALTRANS RIGHT-OF-WAY MAP IX-MNO-23-1, PM 77.0 ON FILE IN THE CAL TRANS DISTRICT OFFICE IN BISHOP, CALIFORNIA; THENCE ALONG SAID SOUTHERLY RIGHT OF WA Y LINE N 67°33'00" W, 579.00 FEET; THENCE ALONG A LINE THAT IS PARALLEL WITH SAID WESTERLY LINE OF THE PROPERTY DESCRIBED IN SAID DEED TO BRUCKART S 0°15'33" E, 519.98 FEET MORE OR LESS TO THE WESTERLY EXTENSION OF THE SOUTHERLY LINE OF THE PROPERTY DESCRIBED IN SAID DEED TO BRUCKART; THENCE ALONG SAID WESTERLY EXTENSION OF SAID SOUTHERLY LINE N 89°44'27" E, 543.11 FEET MORE OR LESS TO THE **TRUE POINT OF BEGINNING**, CONTAINING 5.00 ACRES.

A PARCEL OF LAND LOCATED IN THE NE 1/4 OF SECTION 32, T 5 N, R 25 E, M.DM., COUNTY OF MONO, STATE OF CALIFORNIA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEASTERLY CORNER OF THE PROPERTY DESCRIBED IN DEED FROM ELLEN PEARL KIRKWOOD TO ARTHUR A. DECHAMBEAU AND ALICE E. DECHAMBEAU AS RECORDED IN VOLUME 42, PAGE 101 OF OFFICIAL RECORDS, SAID POINT BEING ON THE WESTERLY LINE OF

KIRKWOOD STREET PER SAID DEED, SAID POINT BEING THE **TRUE POINT OF BEGINNING**; THENCE ALONG SAID WESTERL Y RIGHT OF W A Y LINE OF KIRKWOOD STREET, SAID STREET ALSO BEING KNOWN AS TWIN LAKES ROAD AS SHOWN ON MONO COUNTY MAP FOR FAS S-1093-(I), S 0°16' W, 972 FEET MORE OR LESS TO AN ANGLE POINT IN SAID ROAD; THENCE ALONG SAID WESTERLY RIGHT OF WAY LINE S 01°41' W, 662.00 FEET. THENCE ALONG A LINE THAT IS PARALLEL WITH SAID SOUTHERLY LINE OF THE PROPERTY DESCRIBED IN SAID DEED WESTERLY, 400.00 FEET; THENCE ALONG A LINE THAT IS PARALLEL WITH SAID WESTERLY LINE OF TWIN LAKES ROAD, N 01°41' E, 662.00 FEET TO A POINT WHICH IS PERPENDICULAR TO AND 400.00 FEET WESTERLY FROM SAID ANGLE POINT IN SAID TWIN LAKES ROAD; THENCE ALONG A LINE THAT IS PARALLEL WITH SAID WESTERLY LINE OF TWIN LAKES ROAD, N 0°16' E, 972 FEET MORE OR LESS TO THE WESTERLY EXTENSION OF THE SOUTHERLY LINE OF THE PROPERTY DESCRIBED IN SAID DEED; THENCE ALONG SAID SOUTHERLY LINE OF THE PROPERTY DESCRIBED IN SAID DEED EASTERLY, 400.00 FEET MORE OR LESS TO THE **TRUE POINT OF BEGINNING**, CONTAINING 15.00 ACRES MORE OR LESS.

Exhibit "C"
Property Map



Legend:

Easement Area

Note: Fences & Property Boundaries shown hereon were calculated from record data only. A field survey may indicate differences in actual locations.

VAUGHAN SURVEYS, INC.
1101 Riverside Avenue
Paso Robles, California 93446
(805) 238-5725

99-165 LAST REVISED 12/6/02

PERMITTED ENCUMBRANCES

The permitted encumbrances consist of a lien for non-delinquent real property taxes and the following listed exceptions taken from that certain Pro Forma Policy Number 115281, dated as of January 21, 2003, issued by Inyo-Mono Title Company.

2. SUCH RIGHTS AND EASEMENTS FOR NAVIGATION AND FISHERY WHICH MAY EXIST OVER THAT PORTION OF SAID LAND LYING BENEATH THE WATERS OF THE EAST WALKER RIVER AND ROBINSON CREEK.

3. ANY TITLE OR CLAIM OF INTEREST OF THE UNITED STATES OF AMERICA, THE STATE OF CALIFORNIA, OR CLAIMANTS THEREUNDER, BASED UPON THE ASSERTION THAT SAID LAND WAS KNOWN TO BE MINERAL IN CHARACTER ON THE DATE THE SURVEY THEREOF WAS APPROVED BY THE SURVEYOR GENERAL.

   SAID MATTER AFFECTS: PARCEL 1

4. ANY RIGHTS CLAIMS OR INTERESTS BY REASON OF AN "INDIAN TRAIL" AS DISCLOSED BY THE GOVERNMENT TOWNSHIP PLAT FILED FEBRUARY 23, 1870 FOR TOWNSHIP 4 NORTH RANGE 25 EAST, M.D.M.

   SAID MATTER AFFECTS: PARCEL 10

5. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	COUNTY OF MONO
FOR	:	CONVEYING WATER
RECORDED	:	MARCH 19, 1907, IN BOOK P, PAGE 170, OF DEEDS
AFFECTS	:	A PORTION OF SAID LAND AS DESCRIBED THEREIN

   SAID MATTER AFFECTS: PARCELS 14 AND 15

6. AN EASEMENT AFFECTING ALL OF SAID LAND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	UNITED STATES
FOR	:	DITCHES OR CANALS
RECORDED	:	JULY 7, 1917, IN BOOK S, PAGE 283, OF OFFICIAL RECORDS

   SAID MATTER AFFECTS: PARCEL: 10

7. AN EASEMENT AFFECTING ALL OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	UNITED STATES
FOR	:	DITCHES OR CANALS
RECORDED	:	MARCH 14, 1916, IN BOOK S, PAGE 104, OF DEEDS

   AND RECORDED: AUGUST 15, 1928, IN BOOK 2, PAGE 297, OF OFFICIAL RECORDS

   SAID MATTER AFFECTS: PARCEL 16

8. AN EASEMENT AFFECTING ALL OF SAID LAND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,
IN FAVOR OF : ANTELOPE VALLEY MUTUAL WATER COMPANY
FOR : THE DIVERSION, CONVEYANCE AND DISTRIBUTION OF WATER AND WATER RIGHTS
RECORDED : JANUARY 19, 1926, IN BOOK V, PAGE 16, OF OFFICIAL RECORDS

9. THE RIGHT OF THE PUBLIC TO USE THE NORTH 60 FEET (EMIGRANT ST.) AND THE EAST 30 FEET (KIRKWOOD ST.) FOR ROAD PURPOSES.

SAID MATTER AFFECTS: PARCEL 17

10. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,
IN FAVOR OF : THE STATE OF CALIFORNIA
FOR : STATE HIGHWAY
RECORDED : MARCH 3, 1931, IN BOOK 6, PAGE 90, OF OFFICIAL RECORDS
AFFECTS : A PORTION OF SAID LAND AS DESCRIBED THEREIN

SAID MATTER AFFECTS: THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 25

11. A WAIVER IN FAVOR OF THE STATE OF CALIFORNIA OF ANY CLAIMS FOR DAMAGES TO SAID LAND BY REASON OF HIGHWAY CONTIGUOUS THERETO, CONTAINED IN THE DEED
FROM : LELAND S. DAY
RECORDED : MARCH 3, 1931, IN BOOK 6, PAGE 90, OF OFFICIAL RECORDS

SAID MATTER AFFECTS: SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 25

12. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,
IN FAVOR OF : SOUTHERN SIERRA POWER COMPANY
FOR : POLES
RECORDED : APRIL 16, 1931, IN BOOK 7, PAGE 27, OF OFFICIAL RECORDS
AFFECTS : BEGINNING ON THE SOUTH LINE AT A POINT 93.81 FEET WEST OF THE SOUTHEAST CORNER OF SAID SECTION 32, AND RUNNING THENCE NORTH 0°34' EAST 2,733 FEET; THENCE NORTH 0°03' EAST A DISTANCE OF 1364 FEET TO A POINT ON SAID PROPERTY

13. A WAIVER IN FAVOR OF THE STATE OF CALIFORNIA OF ANY CLAIMS FOR DAMAGES TO SAID LAND BY REASON OF HIGHWAY CONTIGUOUS THERETO, CONTAINED IN THE DEED
FROM : LELAND S. DAY AND HELEN M. DAY, HUSBAND AND WIFE
RECORDED : SEPTEMBER 29, 1993, IN BOOK 8, PAGE 163, OF OFFICIAL RECORDS

SAID MATTER AFFECTS: SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 29

14. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	THE STATE OF CALIFORNIA
FOR	:	STATE HIGHWAY
RECORDED	:	SEPTEMBER 28, 1933, IN BOOK 8, PAGE 163, OF OFFICIAL RECORDS
AFFECTS	:	OVER AND ACROSS THAT CERTAIN STRIP OF LAND IN THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT ON THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SOUTHEAST QUARTER OF SECTION 29, SAID POINT BEING NORTH 5°02'04'' EAST 40 FEET FROM ENGINEER'S STATION 755+89.64 AND WEST 1738.59 FEET FROM THE SOUTHEAST CORNER OF SECTION 29; THENCE CURVING LEFT FROM A TANGENT WHICH BEARS NORTH 84°57'56'' WEST THROUGH AN ANGLE OF 5°17'04'' HAVING A RADIUS OF 2040 FEET, A DISTANCE OF 188.15 FEET; THENCE SOUTH 89°45' WEST 713.66 FEET; THENCE SOUTH 4.74 FEET; THENCE EAST 901.40 FEET TO THE POINT OF COMMENCEMENT.

15. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	THE STATE OF CALIFORNIA
FOR	:	STATE HIGHWAY
RECORDED	:	JANUARY 30, 1934, IN BOOK 8, PAGE 317, OF OFFICIAL RECORDS
AFFECTS	:	THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 29, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 31, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., AND THE WEST HALF OF THE WEST HALF OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M.

16. A WAIVER IN FAVOR OF THE STATE OF CALIFORNIA OF ANY CLAIMS FOR DAMAGES TO SAID LAND BY REASON OF HIGHWAY CONTIGUOUS THERETO, CONTAINED IN THE DEED

FROM	:	HEIRS OF HARRIET P. DAY, DECEASED
RECORDED	:	JANUARY 10, 1934, IN BOOK 8, PAGE 317, OF OFFICIAL RECORDS

17. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	THE STATE OF CALIFORNIA
FOR	:	STATE HIGHWAY
RECORDED	:	MAY 21, 1934, IN BOOK 9, PAGE 132, OF OFFICIAL RECORDS
AFFECTS	:	A PORTION OF SAID LAND AS FULLY DESCRIBED THEREIN

SAID MATTER AFFECTS: PARCELS 12 AND 13

18. A WAIVER IN FAVOR OF THE STATE OF CALIFORNIA OF ANY CLAIMS FOR DAMAGES TO SAID LAND BY REASON OF HIGHWAY CONTIGUOUS THERETO, CONTAINED IN THE DEED

FROM	:	CHARLES W. FULTON, A SINGLE MAN
RECORDED	:	MAY 21, 1934, IN BOOK 9, PAGE 132, OF OFFICIAL RECORDS

SAID MATTER AFFECTS: PARCELS 12 AND 13

19. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	THE STATE OF CALIFORNIA
FOR	:	STATE HIGHWAY
RECORDED	:	JUNE 21, 1934, IN BOOK 9, PAGE 169, OF OFFICIAL RECORDS
AFFECTS	:	A PORTION OF SAID LAND AS FULLY DESCRIBED THEREIN

SAID MATTER AFFECTS: PARCELS: 1, 4, AND 12

20. A WAIVER IN FAVOR OF THE STATE OF CALIFORNIA OF ANY CLAIMS FOR DAMAGES TO SAID LAND BY REASON OF HIGHWAY CONTIGUOUS THERETO, CONTAINED IN THE DEED

FROM	:	PLYMOUTH LAND AND STOCK COMPANY
RECORDED	:	JUNE 21, 1934, IN BOOK 9, PAGE 169, OF OFFICIAL RECORDS

SAID MATTER AFFECTS: PARCELS: 1, 4, AND 12

21. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	INTERSTATE TELEGRAPH COMPANY
FOR	:	TELEPHONE AND TELEGRAPH LINES
RECORDED	:	JUNE 1, 1946, IN BOOK 21, PAGE 434, OF OFFICIAL RECORDS
AFFECTS	:	THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., THE CENTERLINE BEING DESCRIBED AS FOLLOWS:

BEGINNING ON THE WEST LINE OF SECTION 32 AT A POINT 1 FOOT NORTH OF THE NORTH LINE OF THE CALIFORNIA STATE HIGHWAY AS NOW LOCATED AND EXISTING ACROSS THE NORTHWEST QUARTER OF SECTION 32, AND RUNNING THENCE EAST PARALLEL TO AND 1 FOOT NORTH OF THE NORTH LINE OF SAID STATE HIGHWAY, A DISTANCE OF 1320 FEET, MORE OR LESS, TO A POINT ON THE EAST LINE OF SAID NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 32.

22. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	INTERSTATE TELEGRAPH COMPANY, A CORPORATION
FOR	:	PUBLIC UTILITIES
RECORDED	:	JUNE 27, 1946, IN BOOK 21, PAGE 481, OF OFFICIAL RECORDS
AFFECTS	:	A PORTION OF SAID LAND AS FULLY DESCRIBED THEREIN

SAID MATTER AFFECTS: PARCELS 12 AND 13

23. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	INTERSTATE TELEGRAPH COMPANY, A CORPORATION
FOR	:	POLES
RECORDED	:	JUNE 28, 1946, IN BOOK 21, PAGE 482, OF OFFICIAL RECORDS
AFFECTS	:	A PORTION OF SAID LAND AS MORE FULLY DESCRIBED THEREIN

SAID MATTER AFFECTS: PARCELS 1 AND 4

24. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	CALIFORNIA ELECTRIC POWER COMPANY
FOR	:	POLE LINES
RECORDED	:	JANUARY 10, 1947, IN BOOK 22, PAGE 335, OF OFFICIAL RECORDS
AFFECTS	:	DESCRIBED AS FOLLOWS:

BEGINNING ON THE EAST LINE OF SAID SECTION 32, AT A POINT 591 FEET SOUTH OF THE NORTHEAST CORNER THEREOF AND RUNNING THENCE NORTH 81°45' WEST, A DISTANCE OF 141 FEET; THENCE NORTH 67°35' WEST PARALLEL TO AND ONE FOOT NORTHEASTERLY (MEASURED AT RIGHT ANGLES) OF THE NORTHEASTERLY LINE OF THE RIGHT OF WAY OF THE CALIFORNIA STATE HIGHWAY AS NOW LOCATED AND EXISTING ACROSS THE NORTHEAST QUARTER OF SAID SECTION 32, A DISTANCE OF 1,341.6 FEET; THENCE SOUTH 82°06' WEST, A DISTANCE OF 268.4 FEET; THENCE NORTH 85°36' WEST, A DISTANCE OF 318.6 FEET; THENCE SOUTH 89°43' WEST, PARALLEL TO AND ONE FOOT SOUTH (MEASURED AT RIGHT ANGLES) OF THE SOUTH LINE OF STATE HIGHWAY, A DISTANCE OF 2,030 FEET, MORE OR LESS, TO THE WEST LINE OF SAID NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 32.

25. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	THE COUNTY OF MONO
FOR	:	PUBLIC ROAD AND/OR HIGHWAY
RECORDED	:	MARCH 11, 2047, IN BOOK 22, PAGE 451, OF OFFICIAL RECORDS
AFFECTS	:	THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B. &M., OVER A STRIP OF LAND 60 FEET IN WIDTH, 30 FEET ON EACH SIDE OF THE FOLLOWING CENTER LINE OF TWIN LAKES ROADS, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT WHICH IS DESCRIBED AS BEING SURVEY STATION 50+01.23 WHICH POINT IS THE BEGINNING OF A CIRCULAR CURVE CONCAVE RIGHT HAVING A RADIUS OF 600 FEET; THENCE 917.17 FEET TO A POINT FURTHER DESCRIBED AS BEING SURVEY STATION 59+18.40. THIS STRIP OF LAND IS LOCATED IN SECTION 32, TOWNSHIP 5 NORTH, RANGE 25 EAST, M.D.B.&M., A PORTION OF WHICH LIES WITHIN RIGHT OF WAY OF EXISTING ROADWAY.

26. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	COUNTY OF MONO
FOR	:	PUBLIC ROAD OR HIGHWAY
RECORDED	:	JUNE 27, 1952, IN BOOK 29, PAGE 321, OF OFFICIAL RECORDS
AFFECTS	:	AS DESCRIBED THEREIN

SAID MATTER AFFECTS: A PORTION OF PARCEL 16

27. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	CALIFORNIA ELECTRIC POWER COMPANY
FOR	:	PUBLIC UTILITY
RECORDED	:	MAY 20, 1959, IN BOOK 44, PAGE 109, OF OFFICIAL RECORDS
AFFECTS	:	A PORTION OF SAID LAND AS FULLY DESCRIBED THEREIN

SAID MATTER AFFECTS: PARCEL 12

28. COVENANTS, CONDITIONS AND RESTRICTIONS IN THE DEED, BUT "OMITTING ANY COVENANT OR RESTRICTION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILIAL STATUS OR NATIONAL ORIGIN UNLESS AND ONLY TO THE EXTENT SAID COVENANT (A) IS EXEMPT UNDER CHAPTER 42, SECTION 3607 OF THE UNITED STATES CODE OR (B) RELATES TO HANDICAP BUT DOES NOT DISCRIMINATE AGAINST HANDICAPPED PERSONS."

EXECUTED BY	:	ELLEN PEARL KIRKWOOD, A WIDOW
RECORDED	:	OCTOBER 31, 1958, IN BOOK 42, PAGE 101, OF OFFICIAL RECORDS

NOTE: SECTION 12956.1 OF THE GOVERNMENT CODE PROVIDES THE FOLLOWING: IF THIS DOCUMENT CONTAINS ANY RESTRICTION BASED ON RACE, COLOR, RELIGION, SEX, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, NATIONAL ORIGIN, OR ANCESTRY, THAT RESTRICTION VIOLATES STATE AND FEDERAL FAIR HOUSING LAWS AND IS VOID. ANY PERSON HOLDING AN INTEREST IN THIS PROPERTY MAY REQUEST THAT THE COUNTY RECORDER REMOVE THE RESTRICTIVE LANGUAGE PURSUANT TO SUBDIVISION (C) OF SECTION 12956.1 OF THE GOVERNMENT CODE.

SAID MATTER AFFECTS: PARCELS 17, 18 AND 19

29. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	CALIFORNIA ELECTRIC POWER COMPANY
FOR	:	PUBLIC UTILITY
RECORDED	:	MAY 20, 1959, IN BOOK 44, PAGE 109, OF OFFICIAL RECORDS
AFFECTS	:	A PORTION OF SAID LAND AS FULLY DESCRIBED THEREIN

SAID MATTER AFFECTS: PARCEL 12

30. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	THE COUNTY OF MONO
FOR	:	A PUBLIC ROAD OR HIGHWAY
RECORDED	:	JULY 8, 1959, IN BOOK 44, PAGE 445, OF OFFICIAL RECORDS
AFFECTS	:	AS DESCRIBED THEREIN

SAID MATTER AFFECTS: A PORTION OF PARCEL 16

31. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	CALIFORNIA ELECTRIC POWER COMPANY
FOR	:	POLE LINES.
RECORDED	:	IN BOOK 58, PAGE 31, OF OFFICIAL RECORDS
AFFECTS	:	SAID DEED PROVIDES THAT THE CENTER LINE OF SAID EASEMENT SHALL BE LOCATED AS FOLLOWS:

BEGINNING ON THE EAST LINE OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 32, AT A POINT 1 FOOT SOUTH OF THE SOUTH LINE OF STATE HIGHWAY U.S. 395, AND RUNNING THENCE WEST, PARALLEL TO AND ONE FOOT SOUTH OF THE SOUTH LINE OF SAID STATE HIGHWAY, A DISTANCE OF 2640 FEET, MORE OR LESS, TO THE WEST LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 31.

32. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	CALIFORNIA ELECTRIC POWER COMPANY, A CORPORATION
FOR	:	POLES
RECORDED	:	AUGUST 12, 1963, IN BOOK 61, PAGE 33, OF OFFICIAL RECORDS
AFFECTS	:	A PORTION OF SAID LAND AS FULLY DESCRIBED THEREIN

SAID MATTER AFFECTS: PARCELS 1 AND 4

33. AN EASEMENT AFFECTING THE PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN, AND INCIDENTAL PURPOSES,

IN FAVOR OF	:	CONTEL OF CALIFORNIA, INC.
FOR	:	UNDERGROUND COMMUNICATION SYSTEMS
RECORDED	:	JUNE 12, 1989, IN BOOK 531, PAGE 471, OF OFFICIAL RECORDS
AFFECTS	:	A PORTION OF SAID LAND AS FULLY DESCRIBED THEREIN

SAID MATTER AFFECTS: PARCELS 12 AND 13

34. MATTERS DISCLOSED BY A RECORD OF SURVEY FILED IN BOOK 2, PAGE 132, RECORD OF SURVEYS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY RELATING TO THE LOCATION AND DIMENSIONS OF A PORTION OF SAID LAND.

35. THE EFFECT OF A CERTIFICATE OF COMPLIANCE

DATED	:	APRIL 17, 2000
EXECUTED BY	:	MONO COUNTY LAND DIVISION REVIEW COMMITTEE
COMPLIANCE NO.	:	LOT LINE ADJUSTMENT 00-03
RECORDED	:	JULY 7, 2000, AS INSTRUMENT NO 2000003877, OF OFFICIAL RECORDS
AFFECTS	:	PARCELS 7 AND 16

36. ANY RIGHTS, CLAIMS OR INTEREST WHICH MAY EXIST OR ARISE BY REASON OF THE FOLLOWING MATTERS DISCLOSED BY THE ABOVE MENTIONED EXCEPTION.

A. EXISTING FENCES
B. TWIN LAKES ROAD

37. MATTERS DISCLOSED BY A RECORD OF SURVEY FILED IN BOOK 3, PAGE 82, RECORD OF SURVEYS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY RELATING TO THE LOCATION AND DIMENSIONS OF A PORTION OF SAID LAND.

38. AN INSTRUMENT ENTITLED "LAND USE CONTRACT" (CALIFORNIA LAND CONSERVATION ACT OF 1965 AND OPEN SPACE LAND VALUATION LAW OF 1967) ENTERED INTO THE 28 DAY OF DECEMBER, 2000, BY AND BETWEEN THE COUNTY OF MONO, A POLITICAL SUBDIVISION OF THE STATE OF CALIFORNIA, REFERRED TO AS "COUNTY," AND CENTENNIAL LIVESTOCK REFERRED TO AS "OWNER" RECORDED DECEMBER 29, 2000 AS INSTRUMENT NO. 2000007775 OF OFFICIAL RECORDS.
AFFECTS: AS DESCRIBED THEREIN

REFERENCE IS MADE TO SAID DOCUMENT FOR FURTHER PARTICULARS.

40. THE EFFECT OF A CERTIFICATE OF COMPLIANCE

DATED	:	APRIL 16, 2001
EXECUTED BY	:	MONO COUNTY LAND DIVISION REVIEW COMMITTEE
COMPLIANCE NO.	:	LOT LINE ADJUSTMENT 01-01
RECORDED	:	OCTOBER 1, 2001, AS INSTRUMENT NO 2001006995, OF OFFICIAL RECORDS
AFFECTS	:	PARCEL 17

Wike, Amber@Waterboards

From: Smith, Doug@Waterboards
Sent: Tuesday, July 03, 2012 3:24 PM
To: Wike, Amber@Waterboards
Subject: FW: Agenda Item 6 (3 of 4)
Attachments: RCI Report.PDF

Please print the email and the attachment. This is the third of four email.

From: William Thomas [mailto:William.Thomas@BBKLAW.COM]
Sent: Thursday, June 28, 2012 2:37 PM
To: Warden, Bruce@Waterboards; Kouyoumdjian, Patty@Waterboards
Subject: Agenda Item 6

In order to fully inform the Board as to the historic importance of livestock grazing in the Bridgeport Valley, Centennial Ranches asked the Resource Concepts, Inc. to undertake an expert evaluation. Attached is a true and correct copy of such report.

You will find that history and their concluding analysis compelling in your decision as to either immediately amend this pathogen objective to align with other waters of the state or to place this historic and important economic grazing industry in jeopardy.

Please provide the Board Chair and the Board Members with a copy of this document.

Thank you,
William J. Thomas

William J. Thomas
BEST BEST & KRIEGER LLP
500 Capitol Mall, Suite 1700
Sacramento, CA 95814
Direct: (916) 551-2858
Cell: (916) 849-4488

Resource and Economic Values Derived from Irrigated Agriculture in the Bridgeport Valley, California

June 22, 2012

Prepared for:

Gary W. Sawyers, Esq. Sawyers & Holland, LLP 652 West Cromwell, Suite 101 Fresno, CA 93711

Prepared by:

Resource Concepts, Inc. 340 N. Minnesota Street Carson City, NV 89703-4152

Resource and Economic Values Derived from Irrigated Agriculture in the Bridgeport Valley, California

June 22, 2012

Prepared for:

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652 West Cromwell, Suite 101
Fresno, CA 93711

Prepared by:

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Carson City, NV 89703-4152
(775) 883-1600
www-rci-nv.com

Table of Contents

List of Tables

List of Figures

File doc: 2012-6-22 rpt fnl 12-605.1 Centennial Livestock L6-32 dh-jlm L6-32.doc
[June 22, 2012]

1. INTRODUCTION

1.1. Purpose and Scope

The intent of this report is to summarize and document the resource and economic values that result from the developed irrigated agriculture lands in the Bridgeport Valley, California. Where existing resource and economic values can be discerned for the Centennial Livestock and Point (i.e., Strosnider) Ranches, these individual values will be disclosed in this report. A second aspect of this report is to identify the expected ramifications if the existing irrigation and livestock production was restricted in the future.

1.2. Report Organization

This report is organized into five distinct topics, including: Section 2—environmental and regulatory setting; Section 3—early settlement and agricultural development; Section 4—current land uses and resource values; and Section 5—threats posed by restricting agricultural production. These report sections and subsections are numbered in ascending order.

Due to the amount of information compiled and summarized in this report, primary findings or important points are listed at the beginning of each section where the information is disclosed. Citations for the referenced information can be found in Section 6 at the conclusion of the report.

2. ENVIRONMENTAL & REGULATORY SETTING

2.1 Summary Section Findings

- Bridgeport Valley is located at an elevation of 6,500 to 6,760 feet and has a semi-arid climate with cold, snowy winters and warm, dry summers. Annual average precipitation in the valley approaches 10 inches with most occurring during the winter as snow.
- The frost-free period is 30 to 60 days long, which greatly limits the opportunity for economical production of alternative agricultural crops.
- Approximately one half of the existing pastureland in the Bridgeport Valley is supported by irrigation and would otherwise consist of upland species.
- Poorly drained, saturated soils and the shallow depth to ground water limit the functionality of water quality detention basins throughout much of the valley for water quality treatment.
- Based on site conditions and limitations, the use of vegetation filters and riparian pastures around waterways represent best management practices (BMPs) to control the primary water constituents of phosphorous and coliform. Installation of these BMPs is well underway at the Centennial Livestock and Point Ranches.

2.2 Project Location and General Conditions

The Bridgeport Valley is located in Mono County, California in the eastern Sierra Nevada and represents the headwaters of the East Fork of the Walker River that flows into western Nevada terminating at Walker Lake (Figure 1). This sub-basin watershed is located entirely in Mono County and its outfall is represented by the outflow from the Bridgeport Reservoir. The highest mountain in this sub-basin is Matterhorn Peak in the Sierra Nevada with an elevation over

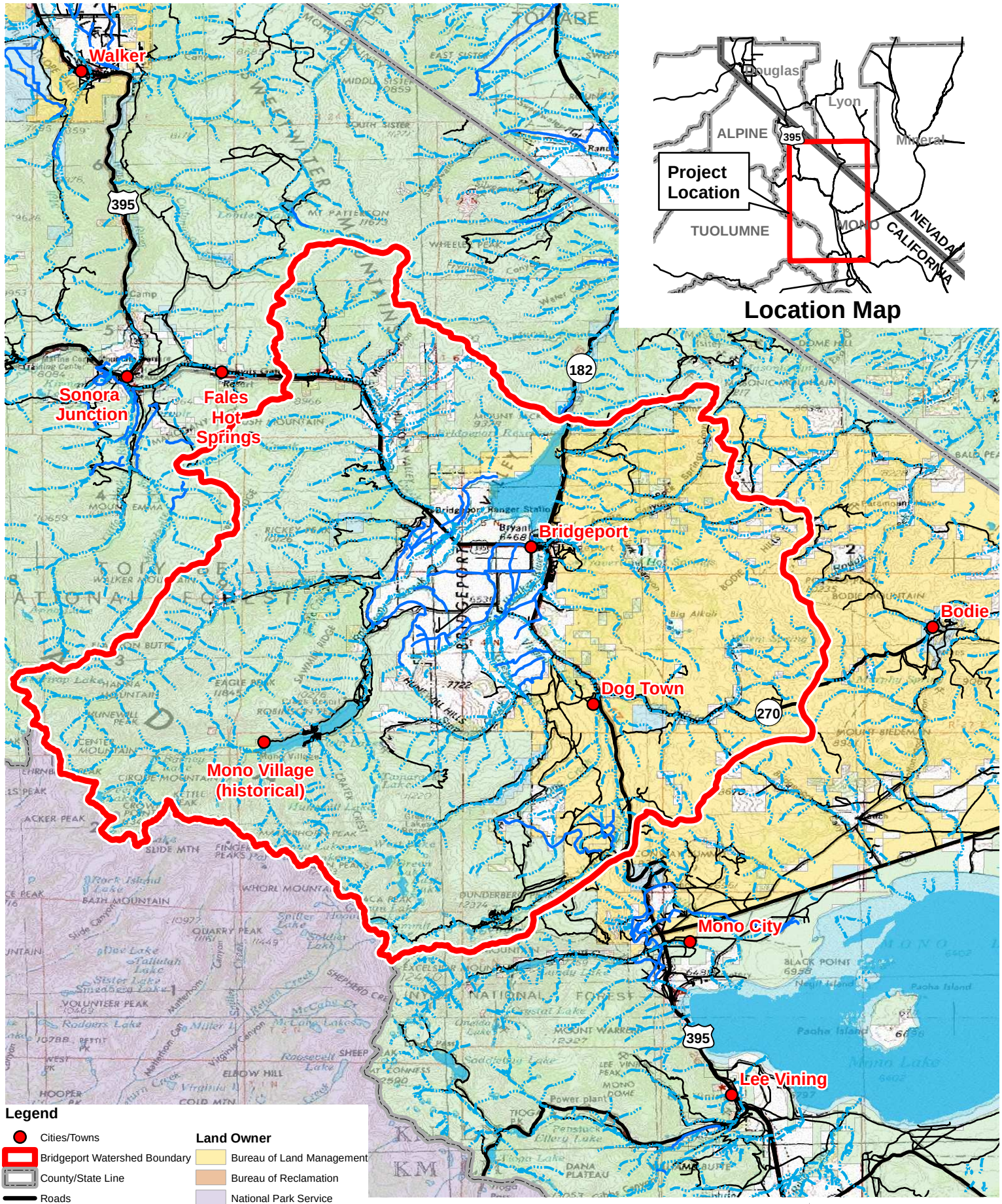
12,000 feet. The elevation for the Bridgeport Valley proper ranges from 6,500 to 6,760 feet. Located in the rain shadow of the Sierra Nevada, Bridgeport Valley has a semi-arid climate with cold, snowy winters and warm, dry summers with cool nights. The valley is transected by US Highway 395 and is located approximately 120 miles south of Reno, Nevada and 350 miles north of Los Angeles, California.

Average annual precipitation in the mountains is roughly 50 inches per year; however, within a 10-mile distance at Bridgeport, average annual precipitation is 10 inches. The mean annual precipitation in the valley is 10 to 16 inches. Most of the precipitation comes during the winter months in the form of snow. There is an average of 40 days per year with measurable precipitation.

Bridgeport Valley is filled with over 250 to 500 feet of glacial gravel locally (Sharp, 1972). The area was shaped by tectonic uplift to the west and northward tilting of the piedmont as well as several glacial episodes during the Sherwin time (roughly 820,000 years ago). Typically in valleys created by glacial outwash, the soil textures span from silts and clays to gravel. The lateral and vertical extent of these soils is highly variable. As a result, the silt and clay layers may act as local aquitards resulting in local areas of perched aquifers as well as confined aquifers, which can result in artesian wells.

Figure 2 illustrates the ecological site classifications for the area designated in the 2010 soil survey conducted by the USDA Natural Resources Conservation Service (NRCS 2012). An ecological site is defined as distinctive land with specific soil and physical characteristics that differ from other kinds of land in its ability to produce a distinctive kind and amount of vegetation and its ability to respond similarly to management actions and natural disturbances. Lands are classified considering discrete physical, biotic, and ecological factors.

The ecological sites in the Bridgeport Valley fall into two primary groups: the R022 and the R026 ecological sites. The R022 sites represent soil map units that developed under xeric (i.e., dry) soil moisture conditions. These xeric soils are dominated by native upland shrub species like sagebrush that cannot tolerate periods of soil saturation within the plant root zone. Understory species in these xeric sites include native bunchgrasses and forbs. Alternatively, R026 ecological sites represent mesic meadow sites that developed under regular intervals of soil saturation by water. These naturally occurring mesic sites are dominated by herbaceous plant species including rhizomatous meadow grass species and water tolerant forb species.


Walker
395
Sonora Junction
Fales Hot Springs
182
Bridgeport
Bodie
Dog Town
270
Mono Village (historical)
Mono City
395
Lee Vining
Douglas
Lyon
ALPINE
395
Mineral
Project Location
TUOLUMNE
MONO
NEVADA
CALIFORNIA
Location Map
Legend
Cities/Towns
Bridgeport Watershed Boundary
County/State Line
Roads
Flow Type
Stream/River
Canal/Ditch
Water Body Type
LakePond
Land Owner
Bureau of Land Management
Bureau of Reclamation
National Park Service
Private
State
US Forest Service
Project Area Vicinity Map
Centennial Livestock
N
0 1 2 4 Miles
This Map was Prepared by:
Resource Concepts, Inc.
194
Path: R:\projects\Centennial_Livestock\MXDs\Vicinity_Map.mxd

Ecological Site Map

Centennial Livestock

Legend

- Cities/Towns

Grazing Boundaries

- Grazing Boundaries
- Point Ranch (Strosnider) Property
- Centennial Livestock Property

- Upland Range Ecological Sites
- Meadow Range Ecological Sites
- Upland Forest Ecological Sites

Source:
USGS 100K Topo Basemap
NRCS Soil Data Surveys Mono County, #729 & #686

N

0 0.25 0.5 1 Miles

This Map was Prepared by:
Resource Concepts, Inc.

Date: 4/30/2012

Path: R:\projects\Centennial_Livestock\MXDs\Ecological_Map.mxd

If the R022 sites were not irrigated, upland shrubs would typically dominate these areas because the soils are too well drained (gravelly) and the depth to groundwater during the growing season is below the rooting depth of most meadow plant species. However, the R026 areas would likely still retain meadow type grasses without irrigation because the soils are not well drained (silts and clays) and the depth to groundwater during the growing season is shallow. Over the Bridgeport Valley 54 percent of the meadow area are classified as upland and 46 percent as meadow ecological site category (Figure 2).

This soil interpretation indicates that the distribution of surface water through irrigation development has substantially increased the area that supports herbaceous meadow habitats in the Bridgeport Valley. These irrigated pastures are a combination of naturally occurring, and irrigated complexes resulting from more than 150 years of water spreading and diversion practices. The extensive irrigated pastureland of the Bridgeport Valley includes 15,200 acres of private land that has been designated as wetland by the National Wetlands Inventory, a program of the U.S. Fish & Wildlife Service (ESLT 2012).

Aside from the economic importance of the valley as pastureland, the wetland areas also provide important ecosystem services such as wildlife habitat, water and flood attenuation, increased late season water flow, vegetation cover for reduced erosion, reduced summer water temperatures, open space, and scenic quality. Late summer flows are important for downstream water users and aquatic in-stream flow since this represents the period when water demands are highest in relation to supply (Male, 2010).

2.3 Agriculture Production

Due to site conditions associated with abundant surface water sources and a short growing season, agriculture in the Bridgeport Valley quickly evolved toward the development of irrigated pastures for increased forage production to support growing season grazing by livestock. Irrigation water is delivered through a series of drainages and ditches which have their source in the Sierra Nevada. Drainages identified from west to east include Buckeye Creek, Robinson Creek, Green Creek and East Walker River. There are also a number of springs at the south end of the valley that coalesce into drainages across the irrigated pasture.

All drainages flow north and east into Bridgeport Reservoir, which outlets into the East Walker River. Bridgeport Reservoir intercepts an average of 132,000 acre-feet of water per year. Few of the contributing streams are gauged so there is a limited record on the percentage of this annual flow that crosses Bridgeport Valley and is utilized for irrigation prior to reaching the reservoir. Although one-third of the contributing watershed area does not cross Bridgeport Valley prior to reaching the reservoir, these watersheds are located further east and are assumed to contribute less than one-third of the annual water yield to the reservoir.

According to records provided by the Federal Water Master, in 2012 there were 20,413 acres of assessed surface water rights located in the Bridgeport Valley proper, while the surrounding area included an added assessment of 6,442 acres (Shaw per. comm. 2012). Based on these recent estimates, there are 26,855 acres of assessed water rights in the Bridgeport watershed. According to ESLT (2012) these irrigated pasturelands represent almost 30 percent of the private working landscape and nearly 20 percent of the wetlands in Mono County. Economics

associated with this agricultural production are estimated and discussed in Section 4.5 of this report.

Conversion to alternative crops in the Bridgeport Valley would require a shift in the current cultural and agronomic practices, and reconstruction of the existing infrastructure (i.e., water diversion improvements) now in-place. In addition, identifying an economically viable crop species adapted to the short growing and erratic climatic changes would likely prove risky. The current successful practices have evolved over the past 150 years and the users have developed a complex, but effective system of irrigation practices and livestock rotation. A shift to crop production would require large capital expenditures for such things as installing a meadow drain system, changing the irrigation system for the entire valley, purchasing machinery for land leveling, tillage, seeding, and harvesting, and costs of transporting the crops to markets located outside of the area. Pest and weed control as well as fertilizer for nutrient balance would be required and could also contribute to added water quality concerns for Bridgeport Reservoir and downstream users.

The frost-free period is 30 to 60 days. There are an average of 255.7 days with lows of 32°F or lower (NRCS 2012; NOAA 2011). In addition, only half of the valley has well drained soils. The depth to groundwater varies across the meadow from more than six feet in the upland ecological site areas to less than one foot in the moist ecological sites areas and along the northern end of the valley near Highway 395. Most crops that could tolerate the cold climate, such as alfalfa, require deep and well-drained soils. Transportation costs to market or winter-feeding grounds located outside the valley would not be cost-competitive with similar crops being grown on a regional basis that do not incur this added production expense.

2.4 Water Quality

The agricultural system of the Bridgeport Valley has been developed to produce high quality and very productive forage during the summer to support livestock grazing during this period. The seasonal irrigation of water throughout much of the valley provides the opportunity to transport nutrients, primarily phosphate and coliform, to Bridgeport Reservoir. Through this process, vegetation and soil microbial populations utilize much of the nitrogen.

The transport of phosphorous in runoff can occur in dissolved and particulate forms. Particulate phosphorous encompasses all phase forms, including phosphorous absorbed by soil particles and organic matter eroded during runoff. Under stable conditions, water runoff from grass or forestland carries little sediment, and is, therefore, generally dominated by the dissolved form.

Fecal coliform transport through soil is affected by several factors, including: the presence or absence of livestock, the amount of soil water available to transport fecal bacteria to the conduit waters, the storage of fecal bacteria in the soil zone, and the rate of bacterial die-off in percolation and conduit waters. Coliform has greater survival in high organic soils than in sandy soils and relatively shorter lifespan during colder weather. Fecal bacteria have rapid die-off rates in natural waters, with a half-life typically on the order of one day or less.

Various studies have been conducted to determine the effectiveness of conservation practices to reduce fecal coliform from agriculture lands. Grass or vegetation buffers and detention basins

are the two most frequently cited practices to reduce coliform concentrations downstream. Controlled or managed grazing brought by establishing riparian pastures around primary waterways or streams can reduce the timing and occurrence of fecal deposition directly into the water column.

Both vegetation filter and detention basin practices function by reducing overland flow water velocity, capturing bacteria-laden sediment and allowing water to infiltrate into the soil. Both practices rely on water infiltration and provide the greatest benefits in well-drained soils located well above the water table. In Bridgeport Valley, the poorly drained soils and the shallow depth to groundwater renders detention basins largely nonfunctional across much of the valley. Vegetation filters, combined with grazing management practices afforded by riparian pastures, represent a viable approach for reducing coliform levels more broadly across the valley.

2.4.1 Water Quality Regulatory Status

The Lahontan RWQCB is responsible for implementation of the Federal Clean Water Act (P.L. 92-500) and the California Porter-Cologne Water Quality Control Act (Water Code 13000). In general the Federal and California Water Pollution Control laws require:

- The Water Board to identify Beneficial Uses for surface waters and Water Quality Standards or Objectives to protect the Beneficial Use;
- Regulate point source discharges of waste that may effect or degrade the water quality of the State;
- Regulate non-point sources of pollution that may effect or degrade water quality of the State; and,
- Prohibit Discharges that cause violation of the non-degradation objective.

On March 31, 1995 the Water Board adopted a Water Quality Control Plan for the Lahontan Region or Basin Plan. The Bridgeport Hydrologic Area, which includes East Walker River (above Bridgeport Reservoir), Bridgeport Reservoir, Bridgeport Valley wetlands, and minor surface waters, was included in the Basin Plan. A summary of the established Use and water quality objectives include:

- Listed Beneficial Uses included agricultural supply, wildlife habitat, contact and non-contact recreation, and Sport Fishing
- Narrative Water Quality Objectives for all surface water included ammonia, coliform bacteria, suspended sediment, pH, and toxicity.
- Specific water quality objectives for the East Walker River (above Bridgeport Reservoir) were established for Total Nitrogen and Phosphorus.

In May 2004, the State Water Resource Control Board established the "Policy for Implementation and Enforcement of the Nonpoint Source Pollution Program". Under this policy, agricultural grazing operations are identified as a source of nonpoint source pollution that could affect water quality and are therefore regulated through Waste Discharge Requirements (WDR), waiver of WDR, or prohibition. In January 2005 the Policy was amended to:

- Recognize the performance of individuals, groups and watershed-based monitoring;
- Monitoring requirements shall be designed to support the development and implementation of the waiver and the results must be available to the public;
- As a condition of the waiver the Water Board may require an annual fee; and,
- The waiver requires compliance with monitoring conditions consistent with the amendment of Section 13269 of the Water Code.

The Basin Plan adopted a narrative water quality objective for coliform bacteria for all waters in the region. The water quality objective for fecal coliform is 20 colonies/100ml, which is ten-times more restrictive than the USEPA standard of 200 colonies/100ml. The USEPA standard is recognized as protective of water contact recreational beneficial uses. At the October 11, 2006 Grazing Workshop and Triennial Review the Water Board heard the public request revising the fecal coliform objective consistent with the USEPA standards in areas like Bridgeport Valley where the development and historical beneficial use of the valley-wide surface water irrigation system primarily supports agricultural purposes.

The California Water Code authorizes the Lahontan Region Water Board to waive WDR requirements for a specific discharge or type of discharge if the following conditions are met:

- The waiver is in the public interest;
- The waiver is conditional;
- Waiver conditions include performance of individual group or watershed-based monitoring;
- Compliance with waiver conditions is required and,
- Public hearings have been held.

The term of the waiver cannot exceed five years but can be renewed after holding a public hearing. On June 13, 2007 the Water Board authorized WDR may be waived for grazing operation in the Bridgeport Valley and the East Walker Tributaries pursuant to select conditions. A summary of these conditions included:

1. Eligibility for Coverage—The grazing operations are in existence as of June 13, 2007 and submit a grazing waiver application and ranch water quality monitoring plan by December 15, 2007.
2. Inventory and Plan—The water quality monitoring plan must include a scaled facility map that includes buildings, roads, fences, irrigation system, feed lots and exclusions area permanent and temporary. The plan must describe water quality management practices, assess current facility conditions, proposed corrective management practices and include measures to reduce or improve fecal coliform concentrations in surface waters. The management plan should consider the use of buffer strips, manure management and changes in livestock management methods (i.e., herding/riparian rotation)
3. Implementation—The discharger must implement the water quality plan as accepted by the Water Board.

4. Compliance Reporting—Visual inspections and annual reports must be conducted.
5. General waiver conditions must be achieved.
6. Water quality monitoring must be performed.
7. Training incentive must be performed.
8. Termination procedures described.
9. Failure to comply with WDR Terms and Conditions maybe subject to enforcement action.
10. The WDR expires June 13, 2012.

2.4.2 Non Point Source Status at the Centennial Livestock and Point Ranches

Centennial Livestock, a partnership between David Wood and Lacey Livestock, and the Point Ranch, leased by Lacey Livestock, represent active participants in the Bridgeport Ranchers Organization (BRO). BRO representatives and Water Quality Board staff met on May 25, 2011 to discuss Water Quality monitoring data and management practices implemented by the Grazing Waiver enrollees. The water quality discussion focused on fecal coliform trend data provided by the enrollees. As a result of this meeting, on December 2, 2011, the Water Board issued individually to each member of the BRO an Order to provide additional information on actions taken since June 13, 2007 to reduce discharges to surface waters in the Bridgeport Valley.

Both the Centennial Livestock and Point Ranches have actively participated in implementation of the water quality monitoring plan, implemented grazing management practices, and scheduled reports as required by the June 13, 2007 Grazing Waiver. The water quality database provides fecal coliform bacteria concentrations that are specific for the waiver of the 20 colonies/100ml water quality objective. This water quality database was initiated in 2006 and continues today.

In addition to water quality monitoring, the approach for reducing fecal coliform levels utilized by the Centennial Livestock includes the use of vegetation filters combined with grazing management practices afforded by riparian pastures. Over 14 miles of fence has been constructed providing vegetative filters at strategic locations on the ranch. As a result, a 100 feet wide vegetation filter is provided along the south side of Highway 395 from the ranch headquarters to Bridgeport. This continuous vegetation filter includes controlled and harden livestock access to stockwater. Streams undergoing extensive development of riparian pastures at the Centennial Livestock include Robinson and Buckeye Creeks, the Rickey Ditch, and the East Walker River in the Walsh Field.

Similarly, temporary fencing is being utilized in the Home Field at the Point Ranch to improve livestock distribution and forage utilization. Temporary fencing is also being used in the Waltz, River, and the Lower Smith pastures to create riparian pastures and vegetation filters along the East Walker River. High-intensity, short duration grazing is being utilized by the Ranch in the spring to promote plant regrowth and limit the duration of livestock access near the primary waterways. Grazing rest periods are increased and pasture rotations are reduced in August as plant growth slows to encourage utilization of maturing grasses that are less palatable.

3. EARLY SETTLEMENT AND AGRICULTURAL DEVELOPMENT

3.1 Summary Section Findings

- The history of Bridgeport Valley agriculture began in the late 1850s when pioneers began looking for ways to market supplies to area mining camps.
- At 6,500 feet elevation, the valley represents a poor place to grow produce. However, early settlers soon recognized that the abundant water sources could yield rich, productive pasture for livestock grazing.
- Water diversion and land irrigation began in 1860. The vast majority of water right claims in the Bridgeport Valley were filed in the years 1860 through 1864.
- Settlers made full use of the Homestead Act of 1862 and by 1868 there were as many as 15 ranchers in the valley.
- Irrigation development and expansion in the valley ended around the turn of the 20th century as unclaimed surface water flows diminished and downstream users filed lawsuits.
- Vested rights for irrigation diversions, ditches, and storage were established on the National Forest due to being constructed prior to the creation of the Forest Reservation in 1906.
- The Walker River Basin represents an interstate system flowing from California to Nevada. Both states differ in the administration of water in both procedure and doctrine.
- Two Federal District Court judgments, Decree 731 in 1919 and C-125 in 1936 have adjudicated the water rights in the Basin, including the Bridgeport Valley.
- Both states have adopted a Water Compact that specifies the separate but unified administration of differing water rights procedures and doctrine. Congress has not ratified the Compact, but both states voluntarily abide by its provisions.
- The Bridgeport Valley irrigation system is unique in that neighbors repeatedly reuse the water. This makes water quality monitoring of constituents impossible to attribute to any one user.

3.2 Early Valley Settlement and Development1/

The history of agriculture in the Bridgeport Valley began over 150 years ago in the late 1850s when pioneers began to trickle into what was then known as "Big Meadows" looking for ways to make their fortunes by supplying meat, produce, milk, or lumber to the booming gold mining camps of Bodie, Aurora, and Lundy. Despite the name "Big Meadows," the valley that those early settlers viewed at that time had only about half of the meadowland that it does today. Several creeks meandered through the valley and lush meadows bordered those creeks; however, all of the higher land was covered in sagebrush much like the Bodie Hills to the east. The Bridgeport Valley is located at 6,500 feet above sea level, so it was a poor place to grow produce. However early day settlers soon recognized the great water sources of Buckeye Creek,

1/ This historical account was developed from notes by John Lacey that were subsequently supplemented and edited by Megan Hunewill and Bart Paul.

Robinson Creek, Virginia Creek, Green Creek, Summers Creek, By Day Creek, Swauger Creek and abundant springs around the perimeter of the valley. Grass was plentiful and could be made more so with the addition of developed irrigation. Thus livestock grazing for both dairy and beef cattle began in the Big Meadows during the latter part of the 1850s.

The first mining strike in the area was at Dogtown, seven miles south of the present day town of Bridgeport, in 1857. This led to the areas' first gold rush. Gold was subsequently discovered at Monoville and Bodie in 1859, and Aurora in 1860. Big Meadows was settled in the midst of this flurry by people who recognized its agricultural potential to feed the teeming hordes of miners.

In 1859 George Byron "By" Day was the first white man to spend the winter in Big Meadows, an area known even today for high winds, low temperatures and deep snow. Without permanent shelter, the more-than-mile-high Meadows could be deadly. Day's horse reportedly survived the winter by eating the bark off the trees. Also in 1859 the Whitney brothers, William and G.A., became the first to bring wagons into the valley by way of the West Walker River. They set up an extensive ranch on the west side of the Meadows. Napoleon B. Hunewill arrived in 1861 and first operated several lumber mills in Buckeye and Eagle Canyons, hauling the lumber overland to Bodie with oxen. Several years later he moved down into a homestead in the southwest corner of the valley and began raising beef that he sold at his butcher shop in Bodie.

In a quote from E.M. Cain's *The Story of Early Mono County*, 1961, she describes how cattle were brought over from the west side of the Sierra to graze during a drought in that part of California. "The year 1863 brought great drought to California and stockmen throughout the State began driving their cattle to the High Sierra country to save them from starvation. Big Meadows furnished abundant pasturage for many thousands of these cattle. Since that time, the custom of pasturing cattle in the Sierra for summer feeding is still in effect."

With both freight and livestock herds passing through to supply the mines, the valley became an important shipping point for the region. A small town grew up on either side of a ford across the East Walker River, but the heavy wagon and stock traffic made the ford impassable. With the community's construction of a bridge over the muddy river crossing, Big Meadows soon became known as Bridgeport.

By 1868 there were as many as 15 ranchers running operations in the Bridgeport Valley. The Homestead Act of 1862 had lowered the price of homesteaded land and all settlers had to pay was a $10.00 entry fee and five years of continuous residence. However the homestead could be fully acquired for $1.25 an acre after only six months of residence. What many ranchers discovered was that with the harsh and inhospitable winters, they needed more than 160 acres to make a living at this high altitude.

Because of these realities many of the early pioneers sold out, and land was consolidated into larger parcels. By Day acquired half of an 800 acre parcel of Whitney land in 1865 when the Whitneys left for Iowa. In 1868 he acquired another 320 acres north of the Elliott Ranch. (This land became part of the Dressler Ranch holdings and is now owned by Centennial Livestock and has been placed into a conservation easement for perpetuity.) N.B. Hunewill also consolidated several other parcels of land including the adjacent Chichester and Smith homesteads. Jesse

Summers and Co. owned 640 acres east of Luce's Ranch and 640 acres adjoining known as the Davis Ranch. This property included the old Valley View Ranch, which is now called the Point Ranch. These holdings were worked together with Barney Peeler and allowed them to capitalize like the Hunewills on the huge demand for beef during the Bodie boom years 1877-1883.

In September of 1861 much of the land in the Big Meadows was surveyed and mapped to protect settler claims. Some of the oldest water rights in what became the Bridgeport Valley are recorded as 1860, 1861, 1862, 1863, and 1864. The later water rights recorded are 1871, 1873, 1874, 1879, and 1894. The era of ditch building began around 1880 and proceeded through around 1897. The partnership of Kirman and Rickey, who had purchased the old Summers' Ranch above the Point Ranch in 1883, constructed the Rickey Ditch with a twenty horse ditching machine. During that same time period Frank Hunewill, son of Napoleon, had surveyed many of the ditches on the Hunewill Ranch and also on neighboring ranches. Frank had been educated at University of California Berkeley in Engineering and helped in the early layout of many of the irrigation ditches.

An interesting fact that relates to water rights in Bridgeport Valley is that although most of California has Riparian Rights, this is generally not the case in the Walker River drainage. In 1902 Thomas Rickey, who owned land in Bridgeport and Antelope Valleys, wanted to divert water from the West Walker in Antelope Valley (California) into Alkali Lake (later named Topaz Reservoir). He claimed riparian rights to all the water on the California side of the state line. Henry Miller of Miller and Lux, who owned The Walker River Ranch in Mason Valley, fought this in a famous court case. Miller claimed prior appropriation. This case was not settled for some years and was eventually found in favor of Miller's prior appropriation. This dispute, which outlasted both owners and in its last incarnation was referred to as the *Pacific Live Stock Company v. Antelope Valley Land and Cattle Company*, caused the formation of the Walker River Irrigation District (WRID) in 1919. WRID obtained the financing to create the Topaz Reservoir in Antelope Valley in 1922, and the Bridgeport Reservoir in Bridgeport Valley in 1923. This court case set a precedent along the Walker River that all water is appropriated by law, meaning that just because you own property along the banks you do not have the right to the water unless you have adjudicated water rights.

3.3 Development and Emergence of Agriculture

3.3.1 Development of Irrigation

Federal court records indicate that water diversion and land irrigation in the Bridgeport Valley began in 1860 (NDWR 1996). To protect their labor and investments, these early settlers immediately filed claims for the completed irrigation developments. In the first five years of water claim filings, 1860 through 1864, these pioneer ranchers filed for the vast majority of water rights recorded in Bridgeport Valley. In these five years filings and water claims were submitted on seven tributaries that flow into Bridgeport Valley, including: Robinson Creek, Buckeye Creek, Swager Creek, East Walker River, Clear Creek, Dogtown Creek, and Virginia Creek. Combined, these early water claims approached 220 cubic feet per second (cfs) of water flow, which later turned out to represent about 80 percent of the currently permitted water rights in the valley. Filings for the remaining 20 percent of currently appropriated water flows were spread over the next 57 years at a substantially reduced rate. The first five years of water filings

averaged 44 cfs per year, while the next 57 years averaged slightly over one cfs per year (Walker River Decree 1939).

3.3.2 Ditch Conveyance

The era of horse-powered mechanical ditch building in the Bridgeport Valley began around 1880 and continued through the late 1890s. The evolving irrigation system consisted of diverting water out of natural stream courses to larger distribution ditches for the purpose of expanding the area of water spreading or irrigation. From these distribution or connector ditches water flows were further diverted into a succession of smaller and smaller feeder ditches to spread the water over native pastureland.

The era of irrigation development and expansion in the Bridgeport Valley ended around the turn of the 20th century as unclaimed surface water flows diminished and lawsuits began to be filed between competing water users and interests for this increasingly scarce and valuable resource. As explained in greater detail in Section 3.4, the era of irrigation development in the Bridgeport Valley ended when the United States initiated an action in Federal District Court in July 1924 over the existing water right priority and appropriation assigned at the Walker River Indian Reservation. *U.S.A. vs. Walker River Irrigation District et. al.* resulted in the issuance on April 1936 of Decree C-125, commonly referred to as the Walker River Decree. This federal court degree allocated all surface water flows in the Walker River Basin to the existing landowner claimants and to the areas of use practiced at that time. This surface water allocation, which remains in effect today, effectively prevented further irrigation development in the Bridgeport Valley and much of the remaining portions of the Walker River Basin.

Figure 3 provides an illustration of the streams and larger ditches located in the Bridgeport Valley that resulted from this period of irrigation development. Requirements and duties associated with the Walker River Decree provide for maintenance but prevent substantial modifications or expansion to the existing irrigation system improvements that were present prior to 1924. While land ownership has changed over the subsequent decades in the Bridgeport Valley, the distribution system for irrigation water, water storage facilities, irrigation water use, and the footprint for irrigated agriculture production in the Bridgeport Valley have remained largely unchanged in the Bridgeport Valley since 1924.

In 1951, an inventory found 47 diversion points in the Bridgeport Valley proper, and many more were uncounted in the upper meadows lying above the main valley. These diversions ranged from concrete boxes to in-channel dams built from materials at hand including rocks, canvas, and sod. Most of the diversions required large boxes as the water was diverted in large heads (Bridgeport Irrigation Study 1951).

Resource & Economic Values Derived From Irrigated Agriculture Production in Bridgeport Valley, California

Legend

Bridgeport Land Ownership

- Point Ranch (Strosnider)
- Centennial Livestock
- F.I.M. Corp
- Fousekis/F.I.M. Corp
- Fulstone
- Gansberg
- Hunewill
- LPD Ranch
- Park Livestock Co.
- Sario Livestock Co.
- Sceirne
- Sierra Land & Sheep
- Ullman Livestock
- Walker River Irrigation District (WRID)

- Bridgeport Watershed Boundary
- Land Status Boundarys
- Right Of Way
- County/State Line

Road Type

- Highway
- State Route
- Road

Flow Type

- Stream/River
- Canal/Ditch
- Connector

Water Body Type

- LakePond

N

0 0.5 1 2 Miles

This Map was Prepared by:

Resource Concepts, Inc.

Date: 4/17/2012

Note:
Land ownerships represented in this figure are approximate and have not been verified. The source for the depicted land ownership was the Lahontan Water Quality Control Board (2011).

Path: R:\projects\Centennial_Livestock\MXDs\Land_ownership_blowup.mxd

Constructed irrigation ditches vary from excavated canals of twenty or more feet in width to smaller channels down to a width of three to two feet. The size of the delivery channel is largely determined by the volume and speed of the water to be conveyed. The closer a channel is located to its primary diversion source, the larger they need to be. As these channels progress farther away from the source of diversion, their width is gradually reduced to smaller and smaller feeder ditches for delivery to the pastures. In the last stage, ditches are reduced to shovel width or less for final water delivery.

3.3.3 Ditch Easements and Right of Ways

Most of the developed irrigation improvements in the Bridgeport Valley are located on private deeded property and represent a property improvement for the respective landowner. Irrigation improvements located on private property do not require a right-of-way. However in limited number of cases, existing components of the Bridgeport Valley irrigation system were historically located on National Forest System Lands (NFS) administered by the U.S. Forest Service. Most of these situations occurred where water was diverted and then conveyed downstream for use on lower elevation private property, or where higher elevation conveyance ditches followed the slope contours along the upper reaches of a given private property line.

Since these irrigation structures were constructed prior to the establishment of the NFS in 1906, and have been in continuous use since construction, these improvements represent a vested right of way under the Act of July 26, 1886, otherwise known as R.S 2339. The ditches and diversions that meet this criterion are displayed in Figure 3. Upper Twin Lake has a Colorado Ditch Bill Easement from the Forest Service, while Lower Twin Lake dam has a vested right for a right-of-way under R.S. 2339. Water storage improvements at East, West, and Green Lakes were also located on the NFS but their right of way status is unknown at this time.

3.4 Historic Water Appropriation

The Walker River Basin represents an interstate system, providing natural water for use within both Nevada and California. The administration of water rights differs significantly between the two states, both as to procedure and doctrine. However, since the Bridgeport Valley watershed is located entirely in one state, this summary will be limited only to water rights administration within California.

3.4.1 Walker River Decree

In 1902 the lawsuit *Pacific Livestock Co. vs. Antelope Valley Land & Cattle Company* was filed in the Federal District Court for Nevada seeking to adjudicate rights to waters of the Walker River system. Subsequent agreements between users provided the basis for a stipulated judgment entered in District Court on March 19, 1919, as Decree 731. This Decree defined river system water rights on the basis of priority (first in historic use is first in priority). Decree 731 included the source, amount, and place of use allowed for each claimant.

Due primarily to concerns over the allowance to the Walker River Indian Reservation in Decree 731 (22.93 cfs for 1,906 acres with priorities ranging from 1868 to 1886), the United States initiated an action in Federal District Court in July 1924. This action, called *U.S.A. vs. Walker River Irrigation District et. al.*, resulted in the issuance on April 14, 1936, of Decree C-125,

commonly referred to as the Walker River Decree (subsequently amended on April 24, 1940). Decree C-125, as supplemented by various rules and regulations subsequently ordered by the Federal District Court, represents the current operational adjudication of river system rights. Primary provisions of Decree C-125 include the following:

- Rights for the Walker River Indian Reservation are the most senior (1859 priority for 26.25 cfs on 2,100 acres).
- Diversion rates for each adjudicated claim are established, including priority, source, acreage and place of use. Though not specifically defined by Decree C-125, diversion rates were based on either 1.2 cfs or 1.6 cfs per 100 acres, dependent on factors such as location and type of soil.
- The irrigation season is March 1 through September 15 for irrigated acreage in Bridgeport Valley on the East Walker River and for all users above the Coleville Gauging Station on the West Walker River. The Walker River Paiute Tribe is entitled to delivery on 180 consecutive days. For all other users, the irrigation season is March 1 through October 31.
- Decree C-125 stipulates that "reasonable flows" be supplied to users for domestic and stock-watering purposes during the non-irrigation season.
- Decree C-125 defines storage rights on the Walker River system. Primary among these are storage rights for the Topaz and Bridgeport Reservoirs, owned by the Walker River Irrigation District (WRID). The Decree allows 42,000 acre-feet for storage in Bridgeport Reservoir to be diverted from the East Walker River during the non-irrigation season (November 1 through the last day of February). An additional 15,000 acre-feet is allowed to be stored at any time for Bridgeport Reservoir (refill rights) provided that there is sufficient water to serve all stockwater and domestic uses. The Decree allows 50,000 acre-feet of non-irrigation season storage for Topaz Reservoir from the West Walker River. An additional 35,000 acre-feet is allowed for Topaz Reservoir (refill rights).
- A Water Master appointed by the Court apportions and distributes water in both Nevada and California, in accordance with the provisions of Decree C-125.

While Decree C-125 was thorough as to the determination of relative rights on the Walker River system, several currently relevant water rights issues were not addressed. Those include:

- The apportionment of ground water rights.
- No provision was made for storage rights for Weber Reservoir located on the Walker River Indian Reservation.
- No operating flood control rules were provided for Topaz and Bridgeport Reservoirs.
- No provision was made for water rights for Walker Lake or surface water systems tributary to Walker Lake.

Decree C-125 provides that the Federal District Court retains jurisdiction over any changes or modifications to the Decree, including changes to the place of use of the water. Administrative Rules and Regulations, as amended through June 3, 1996, have been adopted for use by the U.S.

Board of Water Commissioners under Final Order of the Federal District Court as entered on June 3, 1996. Administrative Rules establish the procedure by which changes are made to the point of diversion, manner of use, or place of use of waters of the Walker River and its tributaries as allowed under Decree C-125, and specifically provide that:

- Applications for changes to rights located within California are made directly to the California State Water Resources Control Board. The Administrative Rules do not apply to changes to those rights of the Walker River Indian Reservation.
- All decisions on change applications made by the California State Water Resources Control Board are subject to judicial review by the Federal District Court.

Administrative Rules (as amended June 3, 1996) of the United States Board of Water Commissioners, adopted pursuant to Walker River Decree C-125, provide a procedure administered by the California Water Resources Control Board for changes to the Decree, and regarding compliance with California Fish and Game Code Section 5937. The Administrative Rules set down a specific application procedure, which includes provision for public notice and protest, agency decision and judicial review.

Based on information provided by the Federal Water Master, there were 20,413 acres of assessed surface water rights located in the Bridgeport Valley proper in 2012, while the surrounding area retained an added assessment of 6,442 acres (Shaw per comm. 2012). Based on these 2012 estimates, there was a total of 26,855 acres of assessed water rights located in the Bridgeport watershed.

3.4.2 Water Storage Rights

Decree C-125 provides for storage in a number of individual small reservoirs on the Walker River system tributary to the Bridgeport irrigated acreage. Table 1 provides a summary of storage rights and priorities for each.

TABLE 1. SMALL SIERRA RESERVOIRS LISTED IN DECREE C-125.

Reservoir Name	Water Source	Dam Height (ft)	Decreed Storage Rights (ac-ft)	Priority	Place of Use
Green Lakes	Green Creek	N/A	400	1895	Bridgeport Valley
Lower Twin Lake	Robinson Creek	16	4050	1888, 1905	Bridgeport Valley
Upper Twin Lake	Robinson Creek	14	2050	1905, 1906	Bridgeport Valley

1.) Green Lakes is a cluster of three small lakes.
2.) Subject to conditions in the decree, these reservoirs also have refill rights.

3.4.3 California-Nevada Water Compact

The individual states administer water rights within their own political boundaries. On an interstate system, such as the Walker River Basin, one means by which the water within that system can be allocated between the states is through an interstate compact. A compact represents an agreement negotiated between the states, which must then be adopted by the legislatures of each, and ratified by Congress.

In 1955 both states appointed a California-Nevada Interstate Compact Commission for the negotiation of an agreement over allocation of the waters of the Truckee River, Carson River, and Walker River Basins. Based on results of those negotiations, the legislatures of California and Nevada passed legislation in September 1970 and March 1971, respectively, adopting the Compact (California Chapter 1480, California Statutes 1970 and Nevada NRS 538.600). Compact Article VIII applies to the Walker River Basin. Provisions of the Compact relevant to water rights management issues related to Bridgeport Valley users included:

- Confirmation of those rights held under Walker River Decree C-125, as discussed under Section 3.4.1, subject to constraints on storage in Bridgeport and Topaz reservoirs.
- So-called "unused water" in the system (i.e., water in excess of that recognized specifically by the Compact) is to be divided 35% to California and 65% to Nevada, with all such unused water to be equal in priority.
- Return flow to the Walker River is deemed natural flow.

Subsequently, bills were introduced before Congress seeking ratification of the Compact. The last such effort was by Nevada Senator Laxalt in 1986. None were passed. The legislation adopted by the two states provides specifically that the Compact, and thus the negotiated allocations, would become effective only when consented to by an act of Congress. However both states recognize its provisions within their respective statutes.

3.5 Unique Aspects of Irrigation Development and Operation

Local environmental conditions, the era of irrigation development, and subsequent timing of legal proceedings for allocating water resources and priorities in the Walker River Basin, all combined to have an effect on how irrigation was developed in the Bridgeport Valley and the constraints that the existing irrigation system operates under today. For instance, the era of development and expansion of this irrigation system in the Bridgeport Valley at the end of the 19th century was slowed in 1902 with the filing of *Pacific Livestock Company vs. Antelope Valley Land & Cattle Company*. Shortly after a resolution was reached in this precedent setting case, *U.S.A. vs. Walker River Irrigation District et. al*. was filed in 1924. The resolution of this second case lead to the development of Walker River C-125 Decree in 1936 which eliminated further development of surface water irrigation in the Bridgeport Valley for the purpose of meeting downstream claims and priorities in the Walker River Basin as a whole.

This history indicates that the current irrigation system in the Bridgeport Valley was developed primarily by hand labor or horse-powered equipment rather than motorized machinery which did not become readily available until after the Second World War. Based on these circumstances, little opportunity was afforded in the development of the existing irrigation system for improvements relating to irrigation efficiencies and water use through land leveling. Therefore the irrigation footprint remains largely in its natural condition with topography of varying slopes, irregularities, and irrigated pastureland that is comprised of native meadow grass species.

To attempt to irrigate these natural, unimproved pasturelands with a small head of water would fail to irrigate the higher ground and create swamps in low-lying areas. The traditional practice of using a large head of water in the Bridgeport Valley for a short time wets the high ground and

allows the irrigation water to drain from the low areas in a timely manner (1951 Bridgeport Irrigation Study).

Special ditches have been constructed to augment the application of large irrigation heads by moving water from one stream to another to increase irrigation volume. For example, the water from Buckeye Creek may be diverted into Robinson or across Robinson to help irrigate the land lying to the southeast of Robinson Creek. Conversely, part of Robinson may be diverted to Buckeye Creek to supplement irrigation on the north side of Buckeye. Both the Hunewill and Centennial operations benefit from this example of trading and blending the two creek waters (1951 Bridgeport Irrigation Study).

Another situation exists that demonstrates the tight knit and co-dependent nature of this irrigation community. The waters of each stream are repeatedly used by successive landowners who pick up the tail waters from the prior users. As illustrated in Figure 3, the sequence of repeated use of irrigation water in the Bridgeport Valley includes:

Swager Creek. Some upstream tributaries are used by Fulstone followed by Ullman Livestock. Other tributaries are used by Park Livestock followed again by Ullman Livestock. Then water is reused by Gansberg in the valley just above Bridgeport Reservoir.

Buckeye Creek. The water is used by Centennial Livestock and then reused by Gansberg.

Robinson Creek. Centennial Livestock and Hunewill share the initial use of the stream. The Centennial water is reused by Gansberg. Some Hunewill water is reused by Centennial and Point Ranch followed by Park Livestock followed by LPD Ranch. Other Hunewill water is reused by Fulstone followed by Point Ranch, Centennial Livestock, Park Livestock, and then the LPD Ranch.

Summers and Green Creeks. Tributary water is utilized by Sierra Land & Sheep and Sceirine followed by the Point Ranch, Centennial Livestock, Park Livestock, and then by the LPD Ranch.

Virginia Creek. Is used by Chichester on Conway Summit and then by Sceirine in the valley followed by Point Ranch, Centennial Livestock, Park Livestock, and the LPD Ranch prior to entering the Bridgeport Reservoir.

In turn, each successive use of irrigation water has the tendency to accumulate water constituents en route to outflow into the Bridgeport Reservoir. Representing a requirement of the Walker River Decree, the unavoidable practice of repeated irrigation water reuse makes it impossible to attribute water constituents to any one user. Rather, water quality monitoring and analysis taken at any location in the valley will reflect collective results from multiple upstream users.

The Bridgeport Valley is irrigated by repeated rotation of the water between diversions, ditches, fields, and landowners. An informal system of rotation has evolved that is honored by all and serves the landowners well. The system is both efficient and effective due in part to the consideration and respect all users demonstrate in accommodating each other's needs. As pointed out by Benny Romero, a 48 year resident and Ranch Manager in the local area, "The

understanding between neighboring ranches was to make certain that your neighbor received their irrigation water" (Romero per. comm. 2012).

The Bridgeport Valley water users are located at the top of the watershed for the East Walker River system. This provides access to consistent and dependable volumes of water to attain relatively large and necessary irrigation heads. The plentiful water supplies undoubtedly make it easier for the users to be good neighbors. Nevertheless, it is interesting to note that less than 10 percent of the surface water in the Walker River Basin is estimated to be utilized in Bridgeport Valley. This estimate is derived from the difference between the surface water inflow and outflow with an estimated water consumptive rate of 25,000 acre-feet reported in the Walker River Chronology (NDWR 1996).

4. CURRENT LAND USES AND RESOURCE VALUES

4.1 Summary Section Findings

- Under Decree C-125, allocated water rights are tied permanently to the irrigated land. Water rights can now be acquired only by purchasing the land.
- Decree C-125 is specific to the rights of users to divert water during annual natural flow of the Walker River and tributaries, including the right to divert flow to storage.
- The Water Master administers Decree C-125 water rights through a system referred to as "water cards". As ownership changes, cards are continually updated.
- Centennial Livestock water cards for owned and leased water rights and storage are provided in detail.
- Centennial Livestock water right ownership came from three acquisitions – Plymouth Land and Stock Co., Day Family, and the Kirkwood Ranch.
- Lease holder water rights came with the Strosnider, Inc. Point Ranch.
- Centennial Livestock water sources are from Robinson and Buckeye Creeks. The leased Point Ranch sources are from Summers, Green, and Virginia Creeks.
- Livestock grazing practices have evolved over the past 150 years. Current livestock production levels in the valley have an estimated annual value of $6.8 million. The circulation of this economic activity in this sector was expected to result in a combined value of $9.8 million.
- The Bridgeport Valley supports a wide variety of both game and non-game fish, and is a popular fishing destination. The estimated direct annual expenditure from sport fishing in Mono County was estimated at $100 million in 2007 with a total economic activity approaching $140 million when a multiplier effect was considered.

4.2 Land Ownership

Under the 1936 Walker River Decree, allocated water rights are tied permanently with the land that was under irrigation at that time. Subsequently, the only method that is available to acquire additional water rights is to purchase and control the land that has been assigned with degree water.

While the irrigation application and practices have not changed significantly in the Bridgeport Valley since issuance of the Walker River Decree in 1936, land ownership of the irrigated properties has changed, and continues to do so today. Based on land ownership mapping contained in the December 12, 2011 orders issued by the Lahonton Water Quality Control Board, Table 2 provides an estimate of contemporary land ownership for the irrigated pastureland located in the Bridgeport Valley proper.

No attempt has been made here to verify the accuracy of these mapped land ownership patterns. As such, the land ownership mapping illustrated in Figure 3 and the following acreage estimates should be considered as approximations.

4.3 Ranch Water Rights

4.3.1 Surface Water

Water rights within the Walker River Basin system include several generalized categories, consisting primarily of Walker River Decree C-125 natural flow diversion rights, storage rights, flood water rights and ground water rights. However, water rights appurtenant to Bridgeport Valley owned or leased properties by Centennial or Lacey Livestock are found to consist only of natural flow rights allowed under Decree C-125. Therefore this summary includes no discussion of storage, flood or ground water rights.

TABLE 2. ESTIMATED LAND OWNERSHIP FOR IRRIGATED PASTURELAND LOCATED IN THE BRIDGEPORT VALLEY.

Current Owner of Record	Estimated Holdings (Acres)
Centennial Livestock	7,196
Strosnider Point Ranch	1,500
Hunewill	3,350
Sierra Land & Sheep Company	2,930
Sceirine	2,436
Gansberg	2,009
F.I.M. Corporation	1,522
R.N. Fulstone Company	690
Fousekis / F.I.M. Corporation	644
Ullman Livestock	203
Park Livestock Company	154
LPD Ranch	79
Total	**22,714**

Decree C-125 is specific as to the rights of those users allowed to divert water from the yearly natural flow of the Walker River and its tributaries during the irrigation season, including the right to divert flow to storage. Each right is described within the body of Decree C-125 by the following details:

- The ownership of the individual rights at the time of issuance of Decree C-125.
- Year of relative priority.

- Amount in cubic feet per second (cfs). Although not specifically stated within the Decree, the diversion rate is established on the basis of either 1.2 or 1.6 cfs per 100 acres, dependent on site conditions. The Decree rate is measured at the point of diversion from the natural channel.
- Number of acres irrigated.
- A legal description of the irrigated acreage, based on an aliquot 40-acre breakdown. The federal Water Master's office maintains maps of the specific location of Decree C-125 water rights, including subsequent changes.

The Water Master maintains an ongoing record of the individual Decree C-125 water rights through a system generally referenced as "water cards". These water cards, which are indexed on the basis of the specific ownership, provide a summary of all Decree C-125 rights, including the above-described elements of priority, diversion rate (cfs), duty (acre-feet per acre), storage allocation, and water right acreage. These water cards provide the primary reference for water right quantification and ownership, and are the basis for assessments charged for the cost of management of water rights by the Water Master.

Ownership of many (if not most) rights described under the Decree has changed over the years as properties have been subsequently sold and/or changes to the Decree (i.e. place of use) have been allowed. As ownership changes occur, the water cards are continually updated based on recorded conveyance documents submitted to the Water Master, typically by the new owner or an agent for the new owner. It is the responsibility of the owner to insure that such changes are made of record through the submittal of the recorded documents. The Water Master's office makes no attempt to independently monitor changes of property or water rights ownership.

Based on record copies provided by the Water Master's office, there are currently six (6) separate water cards on file under the ownership of Centennial Livestock, being Card Nos. 101051 through 101056. These six water cards cover Decree C-125 rights appurtenant to properties in Bridgeport Valley currently under ownership of Centennial Livestock (Table 3). In addition, Lacey Livestock currently leases a separate property under the ownership of Strosnider, Inc. Separate water card No. 105300 provides a record of Decree C-125 rights appurtenant to that leased property.

A review of the water cards for Centennial Livestock and the Strosnider Point Ranch provides the following summary information:

1. All land under the water cards is allowed an irrigation season duty (factor) of 4.2768 acre-feet per acre.
2. A diversion rate of 0.016 cfs per irrigated acre is allotted.

TABLE 3. IDENTIFIED LANDOWNER WATER RIGHTS UNDER C-125.

Owner	Card Number	CFS	Water Right Acres (Ac.)
Centennial Livestock	101051	5.120	320.00
Centennial Livestock	101052	83.990	5,199.50
Centennial Livestock	101053	5.080	317.00
Centennial Livestock	101054	7.360	460.35
Centennial Livestock	101055	10.610	663.00
Centennial Livestock	101056	0.300	18.50
Centennial Livestock Subtotal:			**6,978.35**
Strosnider, Inc.	105300	23.965	1,497.50

4.3.2 Water Storage

Supplemental storage water from upstream reservoirs allowed under Decree C-125 is allocated on water card nos. 101052 and 105300 for irrigated acreage with priorities later than 1873. Consistent with storage allocation standards, supplemental storage is based on a diversion rate of 0.016 cfs per irrigated acre over the specified days of storage. Such supplemental storage is intended to provide sufficient water, in addition to natural Decree flow, to reach the allowed duty (factor) of 4.2768 acre-feet per acre for late priority acreage.

4.3.3 Water Conveyance Facilities

Centennial Livestock represents consolidated ownership of the lands from three operations with perfected water rights established in Decree C-125. These previous holdings include:

- Plymouth Land and Stock Co. with irrigation water from Robinson and Buckeye Creeks;
- J.H., C.E. and Leland S. Day with irrigation water from Robinson and Buckeye Creeks; and,
- Phil Van Horn property (aka Kirkwood Ranch) with irrigation water from Robinson Creek and the East Walker River.

In 1988, Lacey Livestock also acquired a leaseholder interest in Strosnider, Inc., also known as the Point Ranch.

4.3.3.1 Centennial Livestock Ranch Water

Buckeye Creek. Water is diverted north out of Buckeye Creek in the High Ditch. This water irrigates lands down slope from the ditch to Buckeye Creek and on to Highway 395. Lower and parallel ditches pick up tail water and recycle it. Finally the tail water crosses beneath the highway and is reused on the Gansberg property en route to Bridgeport Reservoir. South of Buckeye Creek, other diversions and ditches perform a similar function.

Robinson Creek. Water is diverted into arterial ditches that irrigate down slope and northeast. A sequence of feeder ditches pick up and reapply the water until it reaches Highway 395 further

toward Bridgeport from the Buckeye water. This too is piped beneath Highway 395 and used on Centennial parcels as well as Gansberg land en route to the Bridgeport Reservoir. As the ditch system works to the south and east, succeeding arterial and feeder ditches convey the water further east where they intersect Highway 395 closer Bridgeport. This water is eventually picked up in a drainage ditch that parallels Highway 395 and conveys it through Bridgeport and into the Bridgeport Reservoir.

Buckeye/Robinson Connection. The Eagle Ditch enables water to be taken from either creek to the other to supplement and inter-change flows as desired.

4.3.3.2 Strosnider Point Ranch Water

Summers, Green, and Virginia Creeks and arterial ditches convey the water to the Strosnider Point Ranch where it is further distributed in feeder ditches, picked up and reused until it finally reaches the East Walker River and subsequently flows to downstream users and the Bridgeport Reservoir.

4.4 Livestock Grazing Practices

Livestock are typically brought into the Bridgeport Valley in the spring each year. First to arrive are the Hunewill horses, as they arrive anytime from mid April to the first of May (Romero per comm. 2012).

Other livestock comprised mostly of cattle, including cows, calves, steers, and bulls, start their grazing season in the valley between May 15 and June 1. This can vary, depending spring conditions, such as late winter storms. Classes or groups of cattle are kept separate during the grazing season, and are also rotated within the program such as registered cows, first calf heifers, or replacement heifers. Most of this is done due to age, breeding programs and specific classes. First calf heifers require prime grazing and nutrition including both mother cow as well as her calf. Supplemental nutrition is usually available by salt blocks with an added combination of trace minerals. Steers will graze separate from all other classes of cattle. Steers will also be classed into different age and weights and graze on separate pastures. Pasture rotation follows a schedule, depending on feed conditions throughout the summer.

Each ranch in the Bridgeport Valley usually has a pre-determined grazing rotation program, the first pastures used in the early season have been irrigated early or are naturally very productive due to soils and forage composition. Water dictates many management practices. The availability of irrigation water promotes vegetation growth and stockwater for livestock. Visual observations of forage condition and utilization levels, combined with livestock condition, help determine the timing and sequencing of pasture rotations.

Most of the pastures in the Bridgeport Valley are relatively large and are comprised of 150 acres or more. New techniques for pasture rotation are now being implemented. The subdivision of large to smaller sized pastures provides the landowner with the option for implementing high intensity-short duration grazing that reduces selective grazing and increases the frequency and duration of grazing rest periods during the growing season. On irrigated pastureland, this grazing practice promotes increased plant vigor and growth, and improved plant composition.

Representing a widespread practice in the past, the Hunewill Ranch represents one of the few remaining cattle operations in the Bridgeport Valley that access nearby public land grazing allotments. Cattle are moved from the Bridgeport meadows and on to USFS grazing permits in Buckeye Canyon and the Eagle Creek watershed. These grazing permits extend from July 15 to September 15. With the addition of the grazing allotments the Hunewill Ranch is able to reserve valley pasture feed for fall weaning of calves.

The grazing season in the valley can extend until November depending on the timing of winter snowstorms. Calves are usually weaned in September and shipped to feedlots. The meadow grass, after the first freeze in late August or early September, is generally not suitable for weaned calves. Cows remain in the Bridgeport Valley until fall and are then either hauled or trailed to lower elevation holdings for wintering.

4.4.1 Point (Strosnider) Ranch

The Point Ranch represents a 1,500 acre ranch of which 1,480 acres have water rights. Lacey Livestock has leased this ranch since 1988 from Strosnider, Inc. The irrigation season for this ranch runs from March 1 to September 15.

While adjusted based on the annual forage production and conditions, the grazing season for this leased property typically is initiated on June 1 and extends to November 15. Presently, the livestock production goal for this property is to maintain 400 to 700 cow-calf pairs for the duration of the grazing season or until the calves are ready for marketing in the fall. The ranch is currently configured with 15 fenced pastures. Pastures are managed using a rotational grazing system with rest periods of 9 to 14 days during peak plant growth in the spring. As forage plants mature and growth slows in late summer, pasture rest periods are lengthened to 20 to 30 days in August and September. Grazed pastures are irrigated during rest periods to stimulate new plant growth.

Cattle grazing the south pastures are managed as two separate herds in the spring to accommodate more frequent pasture rotations, shortened grazing intervals, and to promote more uniform forage utilization. In August these herds are combined to provide longer intervals of pasture rest to encourage cattle use on maturing plants that are less palatable. Around August 1, four of the smaller pastures are rested from grazing in order to reserve fall forage for weaned calves. Weaning occurs around October 1 to meet requirements of a long-term marketing agreement. Once the calves have been weaned for a 45 day period they are shipped offsite to market. Based on annual economic and forage conditions, calves are occasionally shipped offsite for the 45 day post-weaning period. The remaining mother cows are allowed to graze selected pastures on the ranch for the remaining fall period to maintain body condition and to graze excess dormant forages to prepare individual pastures for the following growing season. The current rotational grazing system, combined with improved irrigation practices and temporary fencing, is employed to more efficiently utilize the native pasture forage, prevent the occurrence of over-mature plants, and to maintain an optimal plant growth.

Adjustments to the ranch grazing system to begin addressing water quality issues include adding fencing in the Waltz, River Field, and the Lower Smith Pastures to create riparian pastures and buffer strips for the portions of the East Walker River that flow through the ranch. The ranch

continues to maintain and improve the existing irrigation structures for more effective water application and reduced irrigation water return.

4.4.2 Centennial Livestock Ranch

The Centennial Livestock Ranch represents nearly a 7,200 acre yearling steer operation. About 97 percent (or 6,978 acres) of this ranch has established irrigation water rights. Culminating in 2011, 98 percent (or 7,069 acres) of the ranch has been placed under requirements and protections afforded by permanent conservation easements. The ranch is exclusively managed for livestock production, wildlife habitat, water quality and open space.

As a working cattle ranch Centennial Livestock operates in a slightly different manner than other ranches in the valley with its practice of summering yearling steers as opposed to running a cow-calf operation. Yearling steers are trucked to the ranch in mid-May and are pastured for the summer to attain maximum animal production gain. In the fall, these steers are either sold as feeder steers or are leased for a period of time as rodeo stock. Under this current management all steers are removed from the ranch by October 15 each year.

Similar to the grazing management practiced at the Point Ranch, pasture rotation grazing is utilized at Centennial Livestock to promote livestock and forage production and condition. Centennial Livestock has invested in an ambitious improvement program to achieve pasture and forage conditions that more closely reflects the long-term ranch goals. Current ranch improvements include an aggressive iris control program to increase forage production for both livestock and wildlife species, and additional pasture fencing to better control and manage livestock access and use particularly along stream corridors. To date, the ranch has expended over $250,000 to construct 14 miles of new fencing to construct a 100 foot wide vegetation filter and hardened stockwater access points along a five mile stretch of Highway 395. The ranch has also begun constructing riparian pastures along the Robinson and Buckeye Creeks, and the East Walker River for improved grazing control.

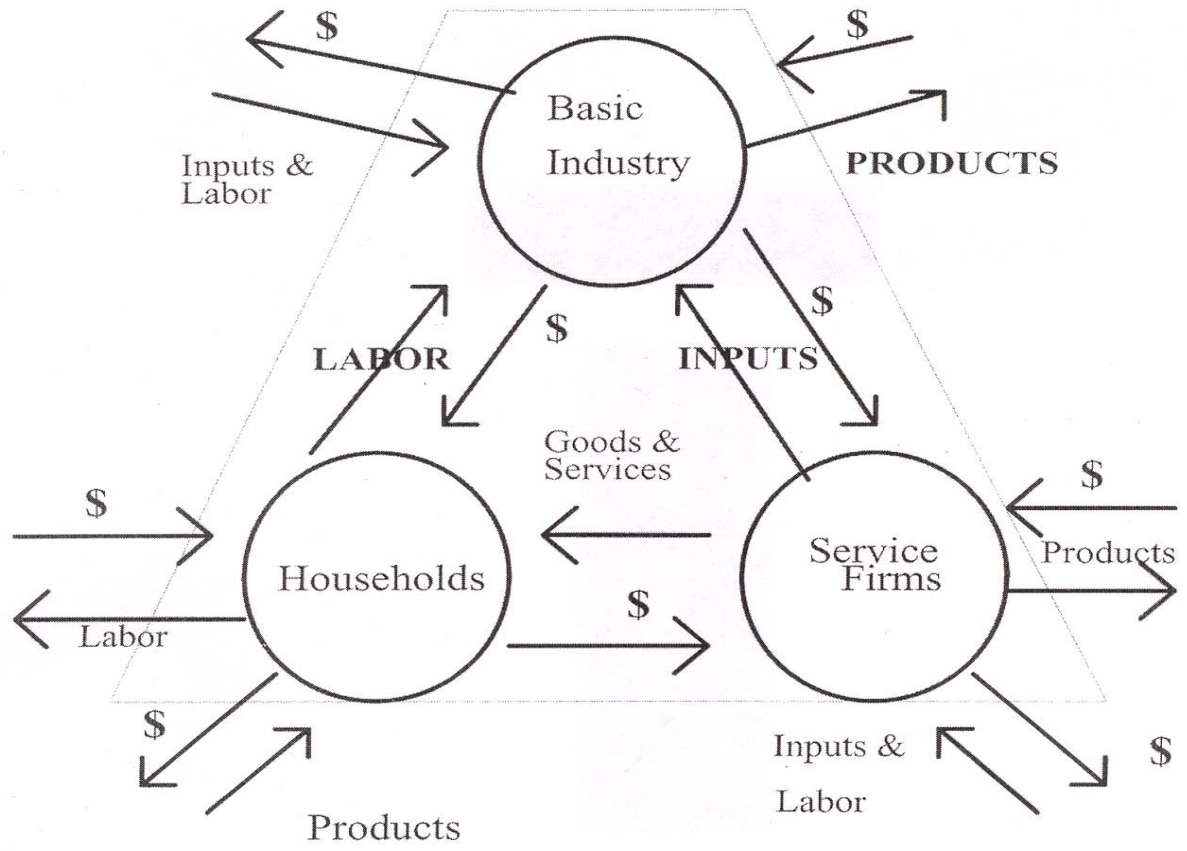
4.5 Current Values & Economic Contributions

4.5.1 Regional Economics[1/]

The foundation of a county's economy is those businesses that sell some or all of their goods and services to buyers outside of the county (Figure 4). Such a business is considered a basic industry. The two arrows in the upper right portion of Figure 4 represent the flow of products out of and dollars into a county. To produce these goods and services for "export" outside the county, the basic industry purchases inputs from outside of the county (upper left portion of Figure 4), labor from the residents or "households" of the county (left side of Figure 4), and inputs from service industries located within the county (right side of Figure 4), and inputs from service industries located within the county (right side of Figure 4). The flow of labor, goods and services in the county is completed by households using their earnings to purchase goods and services from the service industries (bottom of Figure 4). It is evident from the interrelationships that a change in any one segment of a county's economy will have reverberations throughout the entire economic system of the county.

[1/] This economic analysis was conducted by Dr. Thomas Harris at the University of Nevada Reno Center for Small Business Development.

FIGURE 4. OVERVIEW OF COMMUNITY ECONOMIC SYSTEM



For instance, consider the Cattle Ranching and Farming Sector and its impact on the local economy. The Cattle Ranching and Farming Sector's activities can be considered a basic industry as it draws dollars from outside the area. These dollars may hire a few people from the household sector such as laborers to manage the livestock or irrigate. However, most of the local economic linkages are from the Cattle Ranching and Farming Sector's purchasing goods from the local Service Sector. These include businesses such as restaurants, gas stations, hotels and other retail businesses. As earnings increase in these businesses, they will hire additional people and buy more inputs from other businesses. Thus the change in the economic base works its way throughout the entire local economy.

The total impact of a change in the economy consists of direct, indirect and induced impacts. Direct impacts are the changes in the activities of the impacting industry, such as the reduction of operations by the Cattle Ranching and Farming Sector. The impacting business, such as the Cattle Ranching and Farming Sector, changes their purchases of inputs as a result of the direct impact. This produces an indirect impact in the business sectors. Both the direct and indirect impacts change the flow of dollars to the community's households. The local households alter

their consumption accordingly. The effect of this change in local household consumption upon businesses in a county is referred to as an induced impact.

A measure is needed that yield the effects created by an increase or decrease in economic activity. In economics, this measure is called the multiplier effect.

4.5.1.1 Cattle Ranching and Farming Sector in Mono County

Table 4 provides information on population, numbers of housing units, and numbers of persons employed in Mono County in 2010. Of the 13,905 persons living in Mono County in 2010, approximately 7,022 or 50.5 percent of total county population lived in rural areas. Also from Table 1, only 85 persons lived on farms in Mono County or 0.6 percent of total Mono County population. Farm families occupied 46 of the 5,137 total housing units in the county. Of the 7,153 persons estimated to be employed in the county, 37 were employed either as farm operators and managers or as farm workers and related occupations.

Table 5 shows the income received and expenses paid by agricultural producers in Mono County from 2000 through 2010. Eleven year averages are calculated for cash receipts and other income, production expenses, realized net income, and farm labor and proprietor's income. From Table 5, cash receipts and other income for 2010 were estimated to be $17.125 million, $10.185 million for production expenses, $6.940 million for net income, and $6.155 million for labor and proprietor's income. The Inyo and Mono Counties agricultural report (Inyo and Mono Counties Agricultural Commissioner’s Office, 2011) estimated the value of livestock production in Mono County for 2010 was approximately $22 million. Value of production and cash receipts are two different statistics. Cash receipts are from sales and value of production is what is produced which sales are part of this output value. Realized net incomes ranged from a high of $6.940 million in 2010 to a low of $1.004 million in 2000. Table 5 shows the variability in the overall agricultural sector in Mono County.

Also from Table 5, estimates of standard deviation and coefficient of variation are derived. Standard deviation and coefficient of variation provide information of variability of economic variables. Coefficient of variation is the standard deviation divided by the average value of the economic variable. From Table 5, coefficient of variation measures variability. Of interest is that the category of the lowest coefficient of variation is production expenses (0.0486), while realized net returns had the highest coefficient of variation (0.4060). This shows the agricultural sector represents a vital sector to the Mono County economy. Agricultural producers will be faced with variability of output prices but their production expenses or purchase linkages with other sectors of the local economy are rather constant. Therefore, agricultural producers faced with variable output prices will maintain their local input purchase linkages while realizing lower net returns to their operation.

TABLE 4. POPULATION, NUMBER OF HOUSING UNITS AND NUMBER OF PERSONS EMPLOYED BY OCCUPATION IN MONO COUNTY IN 2010.

Mono County	Population All Persons	Housing Units Occupied	Occupations Employed Persons
Farm	85		
Total Rural Population	7,022		
Rural Farm		46	
Rural		2,832	
Total		5,137	
Farmer and Farm Managers			15
Farming, fishing, and forestry occupations			22
Total			7,153

Source: U.S. Department of Commerce. Bureau of the Census. 2010

TABLE 5. INCOME RECEIVED AND EXPENSES PAID BY FARMERS IN MONO COUNTY FROM 2000 THROUGH 2010.

Year	Reported in $1,000			
	Cash Receipts & Other Income	Production Expenses	Realized Net Income	Farm Labor & Proprietor Income
2000	11,547	10,543	1,004	1,045
2001	12,954	10,794	2,160	2,082
2002	13,748	10,115	3,633	3,424
2003	16,380	9,631	6,749	5,709
2004	15,228	9,143	6,085	5,520
2005	13,817	9,825	3,992	3,851
2006	14,882	10,111	4,771	4,794
2007	14,010	9,434	4,576	4,151
2008	16,810	10,410	6,400	4,821
2009	15,048	10,040	5,008	4,834
2010	17,125	10,185	6,940	6,155
Average	**14,686**	**10,021**	**4,665**	**4,217**
Standard Deviation	1,695	487	1,894	1,554
Coefficient of Variation	0.1154	0.0486	0.4060	0.3685

Source: United State Department of Commerce, "Local Area Personal Income and Employment: Farm Income and Expenses", Bureau of Economic Analysis: Washington, DC, 2012.

Using the Minnesota IMPLAN Group, Inc. input-output model database (IMPLAN 2010), the interaction of the Cattle Ranching and Farming Sector in Mono County to other sectors in the county economy can be estimated. According to the IMPLAN database, there were 128 economic sectors in Mono County in 2010. In this same year the Cattle Ranching and Farming Sector value of production was estimated to be $3,253,986 which ranked this sector as 54th highest among Mono County's 128 economic sectors.

Also, the Cattle Ranching and Farming Sector ranked 62nd among Mono County's 128 economic sectors in employment having employed 1.53% of the County's total employment. As for future economic growth, those sectors that bring dollars into Mono County through their export sales are very important for current and future county economic growth. For Mono County, the Cattle Ranching and Farming Sector had estimated export sales of $2.598 million that was 4.6 percent of total export sales of Mono County. This would rank the Cattle Ranching and Farming Sector as 36th highest among Mono County's 128 economic sectors in value of export sales. Therefore any change in production levels of the Cattle Ranching and Farming Sector in Mono County would have significant impacts on overall export sales and current and future economic growth in Mono County.

4.5.1.2 Inter-Industry Analysis

Within a county economy, there are numerous economic sectors performing different tasks. All sectors are dependent upon each other to some degree. A change in economic activity by one sector will impact either directly or indirectly the activity and viability of other sectors in the economy. In order to show these interdependencies and interventions between economic sectors, a countywide input–output model can be used.

Input-output models derive the linkages and multipliers for economic sectors in an economy. For this analysis, the microcomputer input-output model, IMPLAN (Minnesota IMPLAN Group, Inc., 2004), was used to derive economic linkages for Mono County. For this inter-industry analysis, this input-output model requires the estimation of the economic value of livestock production occurring in the Bridgeport Valley. As described below, this estimate was derived from two different sources.

Over the 150 year history of livestock grazing in the Bridgeport Valley a rule of thumb has evolved for stocking livestock on a sustainable basis in the developed irrigated pastureland. This generalized rule of thumb includes stocking pastures at the rates of two acres per cow-calf pair per year and yearling steers at one acre per year (Mark Lacey 2012). Utilizing this generalized stocking rate and subtracting the smaller acreage typically grazed by steers from the total irrigated acreage, an estimate of livestock production in the Bridgeport Valley can be derived. This analysis indicated that an estimated total of 13,805 head of livestock are grazed each year in the valley. Utilizing this stocking rate estimate, in combination with data from Annual Crop and Livestock Report for Mono County (Inyo and Mono Counties Agricultural Commissioner's Office, 2011), it was estimated that the annual value of livestock production in the Bridgeport Valley would approach $6,862,376.

From Table 6, it was estimated that the Bridgeport Valley had an annual livestock production value of $6.8 million and further resulted in the employment of 35 employees. Given the

multiplier impacts, this level of livestock production would have total economic impact of $9.8 million in 2010. This means that beyond the direct economic benefits of $6.8 million, the indirect and induced values from grazing 13,805 head of livestock in Bridgeport Valley Proper represented an added $2.9 million value to the Mono County economy. Indirect impacts are the additional expenditures between economic sectors after the initial direct expenditure is made. Induced impacts are the additional expenditures and economic activity attributable to household sector interactions.

TABLE 6. ECONOMIC AND EMPLOYMENT IMPACTS OF 13,805 HEAD OF LIVESTOCK ON THE MONO COUNTY ECONOMY, 2010.

Category of Impacts	Direct Effects	Indirect and Induced Effects	Total Effects
Economic	$6,862,376	$2,913,092	$9,775,468
Employment	35.0	15.7	50.7

4.5.2 Aquatic Resources

Due to its plentiful water resources and rural, scenic and remote nature, the Bridgeport Valley supports a wide diversity of both game and non-game fish, and is a popular fishing destination. Seasonal lake and reservoir fishing for trout is very popular at Bridgeport Reservoir, Twin Lakes, and various surrounding lakes. Stream and river fishing for trout is also very popular on the East Walker River, its tributaries, and the mountain streams above Bridgeport Reservoir.

Bridgeport Reservoir contains a variety of game fish including rainbow and brown trout, Sacramento perch, and green sunfish. The California Department of Fish and Game (Cal Fish and Game) stock rainbow trout, while the Bridgeport Chamber of Commerce stock brown trout in the reservoir and surrounding waters (East Walker River Trustee Council 2009). The reservoir also contains a variety of non-game fish including carp, tui chub, Lahontan speckled dace, and Tahoe and mountain suckers (East Walker River Trustee Council 2009). Twin Lakes supports game fish including rainbow and brown trout and Kokanee salmon.

The East Walker River and its tributaries above Bridgeport Reservoir contain stocked rainbow and brown trout. Native rainbow and mountain whitefish are also present but uncommon (East Walker River Trustee Council 2009). By-Day Creek contains Lahontan Cutthroat Trout in the meadow-like environment located above Bridgeport Reservoir (East Walker River Trustee Council 2009).

That portion of the East Walker River between Bridgeport Reservoir and the California / Nevada state line is managed as a Wild Trout Fishery by the California Department of Fish and Game (CDFG). The East Walker River below Bridgeport Reservoir contains stocked rainbow and brown trout, in addition to native rainbow trout, mountain whitefish, Lahontan redside, Lahontan speckled dace, Tahoe and mountain sucker, tui chub, carp, and Paiute sculpin (East Walker River Trustee Council 2009). In response to the high demand for recreational fishing CDFG, the Nevada Department of Wildlife (NDOW), and other partners have combined to develop a series

of recreational facilities and access points along the East Walker River (East Walker River Trustee Council 2009).

Fishing and tourism also represent an important source of economic activity and revenues in Mono County. A 2007 CDFG survey estimated that 517 surveyed anglers spend approximately 11,923 hours fishing along the East Fork Walker River below the Bridgeport Reservoir dam during a three month survey period (Morrison, no date). The estimated catch from the 517 surveyed anglers was nearly four trout per angler per day with approximately 67 percent of the catch represented by trout of 12 inches in length or greater.

In a more comprehensive visitor study conducted about this same time, it was estimated that over 1.5 million annual visitors spent an average of 3.1 days in Mono County for an estimated direct and indirect visitor expenditure of $517 million (Lauren Schlau Consulting 2009). From this total visitation, about 1.2 million visitor days was attributed to the activity of fishing. With an average estimated daily visitor expenditure of $78.58, the results from this study would derived an estimate of $100 million in direct annual visitor expenditures attributed to angling and a total economic activity of $140 million when a 1.4 multiplier effect was considered.

4.5.3 Wildlife Habitat

Wildlife habitat influenced by surface water flows in the Bridgeport Valley can be categorized into four general types: lacustrine (ponds, lakes and reservoirs), riverine, riparian and wetlands (East Walker River Trustee Council 2009). A fifth, category can also be identified as human influenced and recognized as irrigated pasture or meadow.

The largest lacustrine habitat type in the valley is Bridgeport Reservoir. In addition to the fish species listed in the above section, wildlife documented in and around the Reservoir includes: waterfowl, pelicans, gulls, egrets, herons and bald eagles (East Walker River Trustee Council 2009). Shoreline habitat around the reservoir is highly variable due to fluctuating water levels; however, adjacent meadows and irrigated pasture do provide additional habitat in close proximity (East Walker River Trustee Council 2009).

Riverine, and associated riparian and wetland habitat occurs throughout the Bridgeport Valley in association with the East Walker River and its tributaries. These habitats contain an assortment of plant, animal and fish species. Plant species range from Fremont cottonwood and willow, to cattail, hardstem bulrush, and grasses, sedges and rushes. Animal species include waterfowl, American mink, and mule deer.

4.5.4 Scenic Quality and Open Space

The pastoral setting offered by the extensive irrigated pastureland in the Bridgeport Valley and the dramatic backdrop of the towering and jagged Sierra Nevada and Yosemite National Park to the west represents a spectacular viewshed that is cherished and highly valued by both the local residents and tourists. The linkage between agricultural production, scenic quality, tourism, and economic contributions are identified and recognized as a priority in the conservation and open space element of Mono County Master Plan. All of the irrigated pastureland in the Bridgeport Valley is zoned as Agriculture in the county Master Plan (Mono County 2009). The identified policy under this zoning designation is to preserve and encourage agricultural uses, to protect

agricultural uses from encroachment from urban development, and to provide for the orderly growth of activities related to agriculture (ESLT 2012). Also linked to this zoning restriction is the county's Development Credit Program, which includes the voluntary transfer of development right provisions, to encourage clustering future development away from irrigated land.

A 24.5 mile segment of Highway 395, from the top of Conway Summit north to Devils Gate, is designated as a State Scenic Highway. This scenic highway segment transects the Bridgeport Valley and is managed by Cal Trans for protecting the associated viewshed.

Through the California Conservation Act of 1965, commonly referred to as the Williamson Act, the State of California also recognized the open space and economic values associated with agriculture production. This State Act enabled local governments to enter into contracts with private landowners for the purpose of restricting land uses to agriculture and open space. In return enrolled landowners receive lower property tax based on assessment of agriculture uses as opposed to the full market value. Local governments received an annual subvention of forgone property tax revenues from the state through the 1971 Open Space Subvention Act.

However due to current state funding limitations, Mono County is not currently receiving an annual subvention payment from the state. When this program was active, there were 11,500 acres of private agricultural land in the Bridgeport Valley under Williamson Act contracts (ESLT 2012). This level of program enrollment represented 87 percent of the total land in Mono County covered by the Act.

Voluntary land conservation agreements, known as conservation easements, present an effective tool for preserving important agricultural lands with high resource values. Funded either separately or in combination utilizing federal, state, or private funding sources, this process is based on the appraisal the property with full development rights and again with the diminished development rights controlled by the conservation easement. Easement terms specify how the property will be managed and can identify restrictions pertaining to future development including roadways, water export, subdivision, and disturbance of prime agriculture soils. These land use restrictions are recorded on the property deed and remain permanently with the land through future title transfers. The holder of the easement, a land trust or other qualified agency, is charged with monitoring the terms of the easement through periodic inspections. Most conservation easements contain language that specifies procedures for compensatory mitigation or damages in instances where the conditions of conservation easement are no longer met.

Centennial Livestock currently holds two conservation easements located in the Bridgeport Valley that combined total about 7,069 acres. One easement is held and monitored by the California Rangeland Trust while the Eastern Sierra Land Trust administers a more recent easement. Representing about 35 percent surface water rights assessed in the Bridgeport Valley in 2012, these conservation easements were designed to ensure the continued operation of an economical livestock operation while maintaining current resource conditions relating to surface and ground water hydrology, water quality, open space, and habitat quality.

5. THREATS POSED BY RESTRICTING AGRICULTURE PRODUCTION

The preceding analysis discloses the numerous economic and environmental benefits derived from the current irrigated livestock production in the Bridgeport Valley. However, this existing environment represents a man-made or developed biotic system that is dependent on regular maintenance and managerial inputs to maintain the current environmental conditions. This required function is made possible because livestock production in the area represents a viable business opportunity and the involved landowners have an economic incentive to maintain the system at a high production level to ensure continued economic viability of their ranching operations.

However, should the maintenance and production costs begin to escalate, for whatever reason, to a point where operational revenues are marginalized or even exceeded on a reoccurring basis, the economic incentives to maintain these properties and improvements will also be lost and landowners begin to look toward either reducing maintenance costs or property development to profitable land uses.

If irrigated livestock production is no longer considered a viable business enterprise in the Bridgeport Valley, the probable environmental effects can be readily identified. If maintenance of the existing irrigation system or water diversion for pasture irrigation were to cease, surface water flows would continue to flow in the historic stream tributaries to the Bridgeport Reservoir but at a greatly increased volume particularly during peak runoff events. As these historic waterways adjust to the increased water flows, the stream sediments that have accumulated over the past 150 years of water diversion will flush downstream to the reservoir. Also during this adjustment period streams will have the propensity to down cut and erode laterally until new equilibrium is realized. This process of stream adjustment will occur over several decades and generate a great deal of stream instability, soil erosion, and deposition downstream. The down cutting of the stream channels will lower the ground water levels and aquifer capacities. This likely outcome will substantially reduce flow attenuation and aquifer capacities in the watershed.

The loss of water spreading through irrigation will begin to dry out the higher gradient sites in the valley, which were reported in Section 2.2 as representing about 54 percent of the existing irrigated footprint. The channel down cutting and the lowering of the water table associated with the stream adjustment process will further exasperate this desertification process. As these sites dry out, mesic meadow plant species will be lost and xeric shrub species like sagebrush begin to move in to fill the void. Along with these native xeric plant species, invasive and noxious weed species that have been introduced to the valley over the past 150 years of human activity will also attempt to fill this ecologic void. Due to their aggressive and competitive nature it is very probable that these introduced weed species will dominant these upland sites before the native species have a chance to fully occupy these sites. Once dominated by weeds, these xeric sites will then provide an added vector for increased weed invasion into the remaining mesic sites that retain the hydrology to support meadow plant species.

Through these ecological processes existing wildlife and aquatic habitats will be degraded or lost along with the existing highly valued scenic quality. The short-lived nature of invasive and noxious weed species, and the cumulative flashy fuels that they produce, will substantially

increase the wildfire return intervals over the currently low levels. The increased wildfire return interval will further favor the competitive invasive weed species over the native plant species.

Should this scenario develop, these extreme environmental results can occur quickly, be dramatic, and will be viewed as unfavorable from any given perspective. There are numerous documented examples to show that these same environmental effects will occur if the existing landowners find it necessary to sell or develop their properties for a higher valued uses.

5.1 Regional Economics

As estimated in Section 4.5.1.2, the current livestock production occurring in the Bridgeport Valley has an annual value of $6.8 million and provides approximately 35 jobs to the local economy. As this income is circulated through the local economy through purchases of merchandise and living expenses, the added income is expected to generate another $2.9 million and generate about 16 additional jobs to the local area.

This economic activity could be lost in its entirety if livestock production costs were to approach or exceed income revenues and the debt and tax service levels. Due to the limiting plant growing conditions in the area, opportunities to supplement this potential economic loss with alternative options for agricultural production are also extremely limited in the Bridgeport Valley.

As pointed out in Section 4.5.1.1, the Cattle Ranching and Farming Sector is ranked 36th highest among Mono County's 128 economic sectors in value of export sales. On this basis any changes in production of the Cattle Ranching and Farming Sector would have a significant impact on overall export sales and current and future economic growth in Mono County. Due to the low number of jobs in Bridgeport, the loss of the nearly 51 jobs associated with livestock production in the Bridgeport Valley would represent a significant adverse effect in this small community (Table 4).

5.2 Aquatic Resources and Wildlife Habitat

As previously described, the loss of livestock production and pasture irrigation in the Bridgeport Valley would likely have a dramatic and adverse effect on the highly valued habitat conditions for both wildlife and aquatic species that are supported in the valley. Increased stream instability and erosion rates will at a minimum adversely affect fish populations located immediately upstream and also in the Bridgeport Reservoir. The likely increase in invasive weed species and propensity for increased wildfire frequency in the drier portions of the valley would in turn increase the probable introduction and spread of these same influences into the upland habitats that surround the current irrigated footprint.

These potential environmental changes could likely also affect the region's status as a destination location for outdoor recreation and tourism, which represents a keystone industry sector for the regional economy. While not quantified here, these environmental changes would likely have a significant adverse effect on the anticipated $140 million angling industry in Mono County (see Section 4.5.2 for further information).

5.3 Scenic Quality and Open Space

Open space and scenic quality are also tied closely with a region's status and reputation as a destination location for outdoor recreation and tourism. The environmental changes that are projected to occur if livestock production no longer represents a viable business enterprise in the Bridgeport Valley, would directly and adversely affect the region's highly valued open space and scenic quality by significantly altering the expansive pastoral setting and increasing interest toward new commercial or residential development.

All of the pastureland in the Bridgeport Valley is zoned as Agriculture in the Mono County Master Plan. The land use policies under this zoning designation in part include its preservation as open space and protection of agricultural uses from encroachment from urban development. Over reaching environmental regulation that unnecessarily increases agricultural operational costs and threatens the economic viability of this industry sector would not be consistent with existing county zoning designation or its governing policies.

Approximately 7,069 acres of permanent conservation easements, representing about 35 percent of the assessed surface water rights, have voluntarily been established in the Bridgeport Valley. All of these conservation easements are located on the Centennial Livestock Ranch. Their intended purpose was to ensure the continued operation of a viable livestock operation while maintaining current resource conditions relating to surface and ground water hydrology, water quality, open space, and habitat quality. The environmental effects that would result the loss of the current economic viability of livestock production in the Bridgeport Valley would not be consistent with the requirements associated with these existing conservation agreements and could place the landowner in the position of having to achieve the required easement conditions through an uneconomical business venture.

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Wike, Amber@Waterboards

From: Smith, Doug@Waterboards
Sent: Tuesday, July 03, 2012 3:24 PM
To: Wike, Amber@Waterboards
Subject: FW: Agenda Item 6 (4 of 4)
Attachments: Declaration of Ken Tate.PDF

Please print the email and the attachment. This is the last of four email.

From: William Thomas [mailto:William.Thomas@BBKLAW.COM]
Sent: Thursday, June 28, 2012 2:39 PM
To: Warden, Bruce@Waterboards; Kouyoumdjian, Patty@Waterboards
Subject: Agenda Item 6

Attached please find a copy of a declaration from Dr. Ken Tate regarding the need to amend the basin plan objective on pathogens. Please also provide a copy of this document to the Board Chair and the Board Members.

Thank you,
William J. Thomas

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CENTENNIAL RANCHES

BEFORE THE

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LAHONTAN REGION

IN THE MATTER REGARDING THE WORKSHOP ON LIVESTOCK GRAZING AND WATER QUALITY BASIN PLAN PATHOGEN OBJECTIVE, AGENDA ITEM 6	CRWQCB Agenda Item 6 DECLARATION OF KENNETH W. TATE IN SUPPORT OF TIMELY AMENDMENT OF BASIN PLAN PATHOGEN OBJECTIVE

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DECLARATION OF KENNETH W. TATE

I, Kenneth W. Tate, submit this statement/declaration regarding the Lahontan Regional Board Basin Plan pathogen objective and hereby declare as follows:

1. Each of the facts herein stated is within my personal knowledge, and I would so testify if called as a witness at hearing.

2. I currently hold the Russell L. Rustici Endowed Chair in Rangeland Watershed Sciences in the Department of Plant Sciences at the University of California Davis. I also serve as departmental Vice Chair for Outreach and Extension. In 2011, I received the Society for Range Management's Outstanding Achievement Award for my water quality research activities over the past 17 years. I am a California Certified Rangeland Manager (#79, CDF&FP). Please see my attached curriculum vitae for a complete listing of my professional experience and credentials.

3. With my many collaborators, I have conducted research and outreach on water quality across California since 1995. Much of this activity has focused on microbial pollutants such as fecal coliforms, indicator *E. coli*, and pathogens such as *C. parvum*. My experience includes coastal, valley, foothill and mountain watersheds with a focus on livestock production systems such as dairies, irrigated pasture, and rangeland. Overall, my research and outreach is designed to 1) identify risks to water quality from livestock production systems and other sources; 2) identify and evaluate the effectiveness and practicality of management practices to mitigate risks; and 3) extend this information to managers, policy makers, and stakeholders interested in microbial water quality. I have conducted a significant amount of research and outreach in Bridgeport Valley and throughout the Lahontan Region.

4. I am familiar with the fecal indicator bacteria water quality objectives currently in place across California, as well as current USEPA guidance for these objectives (i.e., fecal coliform, indicator *E. coli*). Fecal coliform concentration (colony forming units per 100ml – cfu/100ml) is a commonly used indicator and objective. In general, the assumption behind these objectives is that 1) fecal indicator bacteria concentration is correlated with pathogen (i.e., *E. coli* 0157:H7, *C. parvum*) occurrence or concentration, and 2) once the indicator concentration exceeds some threshold there is an unacceptable risk to human health due to one or more

pathogens. The assumed correlation between indicator bacteria and pathogens of human health concern has been broadly found to be in question by the scientific community (Field and Samadpour 2007). It is also widely known that these indicator bacteria are not limited to fecal sources, and thus do not always indicate a fecal source is connected to the waterbody of concern. USEPA is currently recommending states adopt an indicator *E. coli* objective, as an improvement over fecal coliform based objectives, based on studies showing *E. coli* to be a better predictor of gastro-intestinal illness (USEAP 2011).

5. Fecal coliform concentrations can certainly be increased when a fecal source(s) is connected to a waterbody – and at some threshold concentration (likely variable between watersheds/land uses) an unacceptable risk to human health exists. Identifying this threshold concentration is the challenge. The challenge is to set the threshold concentration at a level above background and below the point at which risk becomes unacceptable. Regional water quality boards across California use different fecal coliform thresholds in the calculation of their microbial water quality objectives. Following previous USEPA guidance for fecal coliform based objectives most boards use a threshold of 200 cfu/100ml, evaluated as an average of numerous samples at a site.

6. The Lahontan board uses a threshold of 20 cfu/100ml, which is an order of magnitude lower than virtually all other regional boards. This threshold creates an extremely conservative water quality objective, one which is likely to be widely unattainable across this inhabited landscape. Attainment of this objective is virtually unachievable for rangelands, and certainly for irrigated meadow cattle grazing operations. In support of this statement, I will share some results from a study I have recently completed examining fecal coliform and indicator *E. coli* concentrations at 155 stream sample locations across 5 national forests in central and northern California. Samples sites represented livestock grazing areas, recreation areas, confluences of tributaries, and natural areas with limited human activity. Samples were collected monthly from May through November 2011. A total of 743 samples were collected and analyzed. Mean and median fecal coliform concentrations (cfu/100ml) across these samples were 82 and 21, respectively. Ten percent of samples exceeded 200 cfu/100ml, while approximately 50%

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exceeded 20 cfu/100ml. Mean and median indicator *E. coli* concentrations (cfu/100ml) across these samples were 40 and 8, respectively. Three percent of samples exceeded 235 cfu/100ml (the applicable USEPA recommended threshold). [1]

7. There is substantial precedent to amend the current Lahontan board microbial water quality objective to be in line with other board, and USEPA recommended, objectives based on a fecal coliform threshold of 200 cfu/100ml. It is also reasonable for Lahontan, and all California regional boards, to adopt USEPA recommendations to implement an indictor *E. coli* concentration based water quality objective. Such objectives are achievable, with no demonstrated reduction in protection of water quality and human health.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed on June 28, 2012, at Davis, CA.

Kenneth W. Tate

Kenneth W. Tate

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Ph.D. Water Resources, Oklahoma State University, Stillwater, Oklahoma, 1995. "A Stochastic Framework for Evaluating Forest Management Impacts on Water Quality from Watersheds in the Ouachita Mountains."
M.S. Range Ecology and Management, Oklahoma State University, Stillwater, Oklahoma, 1991. "Effect of Defoliation Intensity on Regrowth of Tallgrass Prairie."
B.S. Range Ecology and Management, Oklahoma State University, Stillwater, Oklahoma, 1989.
A.S. Range Management, Northeastern Oklahoma A&M College, Miami, Oklahoma, 1987.

PROFESSIONAL EXPERIENCE

7-09 to present	Russell L. Rustici Endowed Chair of Rangeland Watershed Science, University of California, Davis.
1-09 to present	Vice Chair for Outreach and Extension, Department of Plant Sciences, University of California, Davis.
7-05 to present	Rangeland Watershed Specialist, Department of Plant Sciences (formerly Agronomy and Range Science), University of California, Davis.
11-11 to 3-12	Interim Department Chair, Department of Plant Sciences, University of California, Davis.
7-01 to 6-05	Associate Rangeland Watershed Specialist, Department of Agronomy and Range Science, University of California, Davis.
4-95 to 6-01	Assistant Rangeland Watershed Specialist, Department of Agronomy and Range Science, University of California, Davis.
12-91 to 12-94	USDA National Needs Fellow in Water Resources, Oklahoma State University, Forestry and Agricultural Engineering, Stillwater, Oklahoma.

CERTIFICATIONS

California Certified Rangeland Manager #79; CA Department of Forestry and Fire Protection. 1999+.
Certified Rangeland Professional #00-104; Society for Range Management. 1999+.

HONORS

Eric Bradford and Charlie Rominger Agricultural Sustainability Leadership Award. 2012.
Western Extension Directors' Award of Excellence, UCCE Rangeland Watershed Program. 2012.
Outstanding Achievement Award for Research. Society for Range Management. 2011.
Outstanding Young Range Professional. Society for Range Management. 2000.
Phoenix Award. Oklahoma State University. 1994.
USDA National Needs Fellowship for Water Resources Research. 1992-94
Outstanding M.S. Candidate. Oklahoma State University, Department of Agronomy. 1991.
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EDITORIAL POSITIONS

Associate Editor, *California Agriculture*, 2006-present.
Associate Editor, *Range Ecology and Management*, 2009-2011.

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6. Gillen, R.L., F.T. McCollum III, K.W. Tate, and M.E. Hodges. 1998. Tallgrass Prairie Response to Grazing System and Stocking Rate. J. Range Management. 51:139-146.

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4. Derner, J.D., R.L. Gillen, F.T. McCollum, and K.W. Tate. 1994. Little Bluestem Tiller Defoliation Patterns Under Continuous and Rotational Grazing. J. Range Management. 47:220-225.
3. Tate, K.W., R.L. Gillen, R.L. Mitchell, and R. Stevens. 1994. Effect of Defoliation Intensity on Regrowth of Tallgrass Prairie. J. Range Management. 47:38-42.
2. Gillen, R.L. and K.W. Tate. 1993. An Evaluation of the Constituent Differential Method for Determining Live and Dead Herbage Fractions. J. Range Management. 46:142-146.
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ACTIVE RESEARCH AND EXTENSION EDUCATION GRANTS

7. Atwill, E.R., and K.W. Tate. 2011-2013. Statewide Coordination of a Science-based Response to Waterborne Pathogen Concerns of Beef Cattle on CA Rangelands. UCD Rustici Range and Cattle Research Endowment. *$108,520*.
6. Tate, K.W., and E.R. Atwill. 2011-2012. Managing Microbial Water Quality on Rangeland Watersheds. USDA Renewable Resources Extension Act. *$11,800*.
5. E.R. Atwill and K.W. Tate 2012-2015. Bacteria Source Tracking, Grazing Management Practice Implementation, and Assessment for Watersheds in the Lahontan Region. *$470,000*. In partnership with Sierra Business Council, total grant amount *$1,000,000*. CA State Water Resources Control Board.
4. Tate, K.W., and E.R. Atwill. 2010-2014. Livestock Management and Waterborne Microbial Pollutants on US Forest Service Grazing Allotments. USDA Forest Service. *$530,000*.
3. Tate, K.W., L.M. Roche, J.D. Derner, M.N. Lubell, V. Eviner, A.T. O'Geen, and M.R. George. 2010-2012. Prescribed Grazing to Sustain Livestock Production, Soil Quality, and Diversity in Rangeland Ecosystems. USDA Western Sustainable Agriculture Research and Education Program. *$197,000*.
2. Tate, K.W., L.M. Roche, V. Eviner, A.T. O'Geen, J. Derner, M.N. Lubell, and M.R. George. 2009-2012. Prescribed Grazing to Restore Rangeland Soil Quality, Plant Diversity, Water Quality, and Agricultural Productivity. USDA Rangeland Research Program. *$483,000.*
1. Tate, K.W., E. Kolodziej, A.L. Craigmill, A.T. O'Geen, E.R. Atwill. 2009-2013. Transport and Mitigation of Beef Cattle Veterinary Pharmaceuticals and Hormones in Surface and Sub-Surface Transport from Grazed Watersheds. USDA-AFRI Water and Watersheds Program. *$398,000.*

SELECT COMPLETED RESEARCH AND EXTENSION EDUCATION GRANTS (45 TOTAL)

Tate, K.W. and B.E. Jones. 2003-2011. Evaluation of Environmental Effects of Conifer Removal to Achieve Aspen Release in Near-Stream Areas within the Northern Sierras. USDA Forest Service. *$398,700*.

Roche, L.M., K.W. Tate, A.T. O'Geen. 2009-2011. Integrating Spatially Dependent, Temporally Dynamic Soil and Vegetation Properties into Ecosystem Service-Based State and Transition Models to Guide Rangeland Management. Kearney Soil Science Foundation. *$89,643*.

Tate, K.W. 2009-2010. Comparison of *E. coli* and fecal coliform concentrations in natural waters of the Lahontan Regional Water Quality Control Board. CA State Water Resources Control Board. *$60,000*.

Allen-Diaz, B., A. Lind, and K.W. Tate. 2005-2011. Determining the Effects of Livestock Grazing on Yosemite Toads (*Bufo canorus*) and their Habitat: an Adaptive Management Study. USDA Forest Service. *$500,000*.

Tate, K.W., E.R. Atwill, C. van Kessel, J. Six, R.A. Dahlgren. 2004-2010. Implementation of Vegetative Buffer, Irrigation, and Grazing Best Management Practices to Reduce Pathogens, Organic Carbon, and Colloids in Runoff from Rangelands and Irrigated Pastures. CALFED Proposition 50 Drinking Water Quality Program. *$886,133*.

George, H.A., K.W. Tate, M.J. Singer, and D.F. Lile. 2005-2010. Upper Feather River Watershed Irrigation Discharge Management Program. CA State Water Resources Control Board, Irrigated Lands Program. *$512,000*.

Atwill, E.R., K.W. Tate, and M. Yates. 2006-2009. Efficacy of Grassland Buffers for Reducing *Salmonella*, *Cryptosporidium parvum*, and rotavirus in Rangeland Runoff. USDA CSREES. *$398,716*.

Tate, K.W., C. Battaglia, E.R. Atwill. 2003-2005. Confirmation of Riparian Friendly Grazing Project Results and Development of Achievable, Site Specific Reference Conditions for Grazed Riparian Areas. USDA Western Sustainable Agriculture Research and Extension Program. *$93,184*.

Atwill, E.R., K.W. Tate, T. Harter. 2002-2004. Efficacy of Vegetated Buffers for Simultaneous Removal of Waterborne Protozoa and Bacteria from Animal Agricultural Runoff. International Life Sciences Institute. *$108,947*.

Dahlgren, R.A., K.W. Tate., E.R. Atwill, B. Allen-Diaz, and M.J. Singer. 2001-2004. Range Management Effects on Water Quality in Oak Woodlands. USDA-CERES. *$570,000.*

George, M.R. and K.W. Tate. 2001-2004. Rangeland Water Quality Management; Planning, Implementation, and Effectiveness. CA State Water Resources Control Board. *$241,000*.

Tate, K.W., L.K. Vance, Z. Wan, P. Gong, G. Biging, and R. Gildersleeve. 1999-2003. Using Remote Sensing to Evaluate the Impacts of Flood Irrigation of Meadows in the East Walker River Basin of California. NASA NRA-98-OES-09. *$543,490.*

PROFESSIONAL CONFERENCE ABSTRACTS

90. Roche, L.M., A.T. O'Geen, V.T. Eviner, J.D. Derner, K.W. Tate. 2012. Rangeland Management for Multiple Outcomes: Explicitly Integrating Ecosystem Services into Management Models. 65th Annual Meeting of the Society for Range Management. Spokane, WA.
89. Eastburn, D. J., L.M. Roche, K.W. Tate. 2012. Herbaceous Plant Diversity and Productivity Relationships across Multiple States of an Oak Woodland-Annual Grassland System. 65th Annual Meeting of the Society for Range Management. Spokane, WA.
    Jones, B.E., D.F. Lile, K.W. Tate. 2012. Cattle Selection for Aspen and Meadow Forage: Implications for Restoration. 65th Annual Meeting of the Society for Range Management. Spokane, WA.
88. Robertson, A.V., L.M. Roche, J. Davy, D. Nay, K.W. Tate. 2012. Plant Community Response to Rotational Grazing in a Noxious Weed Dominated System 65th Annual Meeting of the Society for Range Management. Spokane, WA.
87. Roche, L.M., A.T. O'Geen, V.T. Eviner, J.D. Derner, K.W. Tate. 2011. Ecosystem Service-Based State and Transition Models to Guide Rangeland Management. 96th Ecological Society of America Annual Meeting. Austin, TX.
86. Tate, K.W., L.M. Roche, T. Becchetti, D. Lile, D. Lewis, A.T. O'Geen, R.A. Dahlgren, M.R. George, and E.R. Atwill. 2011. Healthy Rangeland Watersheds and Productive Livestock Enterprises: Why Not? 64th Annual Meeting of the Society for Range Management. Billings, MT.
85. Roche, L.M., A.M. Latimer, D.J. Eastburn, and K.W. Tate. 2011. Cattle Grazing and Sensitive Wildlife Species Conservation in Sierra Nevada Mountain Meadows. 64th Annual Meeting of the Society for Range Management. Billings, MT.
84. Roche, L.M., K.W. Tate, V.T. Eviner, A.T. O'Geen, M.N. Lubell, J.D. Derner, M.R. George, and B. Cutts. 2010. Integrating Dynamic Soil and Vegetation Properties into Ecosystem Service-Based State and Transition Models to Guide Rangeland Management. ASA, CSA, SSSA International Meeting. Long Beach, CA.
83. Chang, J.F., L.M. Roche, J.W. Six, A.T. O'Geen, and K.W. Tate. 2010. Stability of Soil Organic Carbon Pools Across a Rangeland Agricultural Management Gradient. ASA, CSA, SSSA International Meeting. Poster presentation. Long Beach, CA.
82. McCullough, S.A., D.A. Sarr, A.T. O'Geen, M.L. Whiting, and K.W. Tate. 2010. Changes in community condition associated with conifer encroachment in northern Californian aspen stands. San Diego Zoo's Institute for Conservation Research Lecture Series. Escondido, CA
81. Eastburn, D.J., L.M. Roche, and K.W. Tate. 2010. Investigation of relationships between livestock utilization and Yosemite toad (Bufo canorus) occupancy in montane meadows of the Sierra Nevada. Society for Range Management, 63rd Annual Meeting. Denver, CO.
80. Roche, L.M., A. Lind, D.J. Eastburn, R. Grasso, and K.W. Tate. 2010. Effects of cattle grazing, water quality attributes and hydrologic conditions on occupancy of Yosemite toad (*Bufo canorus*) breeding habitat in Sierra Nevada mountain meadows. Society for Range Management, 63rd Annual Meeting. Denver, CO.

79. S.A. McCullough, K.W. Tate, D.A. Sarr, A.T. O'Geen, and M.L. Whiting. 2009. Aspen forest dynamics associated with conifer encroachment at Lassen Volcanic National Park, California. Presentation: North American Forest Ecology Workshop, Logan, UT.
78. S.A. McCullough, K.W. Tate, D.A. Sarr, A.T. O'Geen, and M.L. Whiting. 2009. Recent trends and current conditions within aspen stands of Lassen Volcanic National Park, California. Poster: George Wright Society, Portland, OR.
77. Roche, L.M., K.W. Tate, A.T. O'Geen, and D.J. Eastburn. 2009. Identifying Relationships between Livestock Grazing, Plant Community Characteristics, and Soil Attributes in Central Sierra Nevada Meadows. Society for Range Management, 62nd Annual Meeting. Albuquerque, NM.
76. George, H., K.W. Tate, D.F. Lile, B.R. Hoar, E.R. Atwill. Indicator Bacteria: Sentinels of Safe Water, Or Maybe Not? Society for Range Management, 62nd Annual Meeting. Albuquerque, NM.
75. McCullough, S., K.W. Tate, M. Whiting, A.T. O'Geen. 2009. Plant and Soil Transitions due to Conifer Encroachment in Aspen Stands of Lassen Volcanic National Park, California. Society for Range Management, 62nd Annual Meeting. Albuquerque, NM.
74. Roche, L.M., K.W. Tate, A.T. O'Geen, and D.J. Eastburn. 2009. Denitrification as a Function of Moisture Gradients and Annual Livestock Utilization in Upper Montane Meadows of the Central Sierra Nevada. Society for Range Management, 62nd Annual Meeting. Albuquerque, NM.
73. Briske, D.D., J.D. Derner, D.G. Milchunas, and K.W. Tate. 2009. Assessment of Prescribed Grazing as a Conservation Practice. Society for Range Management, 62nd Annual Meeting. Albuquerque, NM.
72. George, M.R., C. Boyd, R. Jackson, and K.W. Tate. 2009. Evaluating the Influence of Riparian Management Practices on Ecosystem Services. Society for Range Management, 62nd Annual Meeting. Albuquerque, NM.
71. George, H., K.W. Tate, and K. Schmidt. 2009. Drivers of Dissolved Oxygen in Rangeland Streams within the Upper Feather River Watershed. Society for Range Management, 62nd Annual Meeting. Albuquerque, NM.
70. Lile, D.F, K.W. Tate, and D.L. Lancaster. 2009. Twenty Years of Cross-Section Monitoring on Cedar Creek: Implications for Restoration and Monitoring. Society for Range Management, 62nd Annual Meeting. Albuquerque, NM.
69. Jones, B.E., K.W. Tate, and D.F. Lile. 2009. Seasonal Forage Production, Quality, and Livestock Utilization Dynamics in Meadows and Adjacent Aspen Stands. Society for Range Management, 62nd Annual Meeting. Albuquerque, NM.
68. Derner, J.D., D.D. Briske, D.G. Milchunas, and K.W. Tate. 2009. Experimental Evidence for Grazing System Research: What Does it Tell Us? Society for Range Management, 62nd Annual Meeting. Albuquerque, NM.
67. O'Geen, A.T., L.M. Roche, and K.W. Tate. 2008. Relevant Spatial Scales for a National Inventory of Soil Change. Joint Annual Meeting Geological Society of America (GSA), Soil Science Society of America (SSSA), American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and the Gulf Coast Association of Geological Societies. Houston, TX.
66. Kuhn, T.J., K.W. Tate, M.R. George, and D. Cao. 2007. Ecohydrology of Western Juniper and Feasibility for Water Yield Augmentation in the Klamath River Basin, California. Society for Range Management, 60th Annual Meeting. Reno, NV.
65. Kuhn, T.J., K.W. Tate, M.G. Barbour, H. Safford, B.E. Jones. 2007. The Importance of Aspen Communities to Local and Landscape Diversity in the Sierra Nevada. Society for Range Management, 60th Annual Meeting. Reno, NV.
64. Tate, K.W., B.E. Jones. 2007. Water Resources Impacts Due to Conifer Removal to Restore Aspen Stands. Society for Range Management, 60th Annual Meeting. Reno, NV.
63. Jones, B.E., K.W. Tate, D.F. Lile, S.R. Cler. 2007. Browse Effects and the Influence of Forage Availability and Quality on Livestock Forage Selection in Aspen Communities. Society for Range Management, 60th Annual Meeting. Reno, NV.
62. Tate, K.W., T.A. Becchetii, C. Battaglia, N.K. McDougald, D.F. Lile, H.A. George, D.L. Lancaster. 2007. Macroinvertebrate Analysis Indicates Significant Improvement of Stream Health Due to Livestock Distribution Efforts. Society for Range Management, 60th Annual Meeting. Reno, NV.

61. Roche, L.M., K.W. Tate, A. Lind, B.H. Allen-Diaz, R. Grasso, and S.K. McIlroy. 2007. Livestock Utilization and Acute Impacts of Cattle Grazing in Meadows Providing Yosemite Toad Breeding Habitat in the southern Sierra Nevada. Society for Range Management, 60th Annual Meeting. Reno, NV.
60. Jones, B.E., K.W. Tate, F. Hall, and R.L. Callas. 2007. A 50-Year Trend Analysis of Sage Grouse (*Centrocerus urophasianus*) Numbers on Mating Leks in Northeastern California. Society for Range Management, 60th Annual Meeting. Reno, NV.
59. McIlroy, S., B. Allen-Diaz, W. Frost, N. McDougald, L. Roche, K.W. Tate. 2006. Identifying ecosystem impacts of different grazing regimes in the Sierra Nevada. Society for Range Management, 59th Annual Meeting. Vancouver, B.C.
58. Allen-Diaz, B., A. Huber, and K.W. Tate. 2006. Grazing and prescribed fire effects on plant communities in a California oak woodland rangeland. Society for Range Management, 59th Annual Meeting. Vancouver, B.C.
57. Knox, K., R.A. K.W. Tate, Dahlgren. 2006. Efficacy of wetlands to enhance water quality of tailwaters from irrigated pastures. Society for Range Management, 59th Annual Meeting. Vancouver, B.C.
56. Kuhn, T.J., K.W. Tate, M. Barbour, H. Safford. 2006. Restoration of aspen stands to enhance plant diversity in the Sierra Nevada. Society for Range Management, 59th Annual Meeting. Vancouver, B.C.
55. Jones, B.E., K.W. Tate, D.F. Lile, S.R. Cler. 2006. Consequences of grazing for aspen recruitment and stand sustainability in the Sierra Nevada. Society for Range Management, 59th Annual Meeting. Vancouver, B.C.
54. L.M. Roche, K.W. Tate, and K.J. Rice. 2006. Effect of oak canopy and cattle grazing on *Nassella pulchra* in Sierra Nevada foothill annual grasslands. Society for Range Management, 59th Annual Meeting. Vancouver, B.C.
53. Tate, K.W. 2006. Quantitative riparian monitoring: monitoring water quality. Society for Range Management, 59th Annual Meeting. Vancouver, B.C.
52. Tate, K.W., D.J. Lewis, J.M. Harper, D.F. Lile, D.L. Lancaster. 2006. Vegetation canopy, streamflow, and air temperature are important and interacting factors determining water temperature in inland and coastal rangeland streams. Society for Range Management, 59th Annual Meeting. Vancouver, B.C.
51. Tate, K.W., E.R. Atwill, J.W. Bartolome, and G. Nader. 2006. Grasslands filter a significant amount of the *Escherichia coli* transported from cattle fecal deposits during natural rainfall-runoff events. Society for Range Management, 59th Annual Meeting. Vancouver, B.C.
50. Tate, K.W., and E.R. Atwill. 2005. Integrating water quality protection from *Cryptosporidium parvum* into grazing management plans. Society for Range Management, 58th Annual Meeting. Ft. Worth, TX.
49. Bedard-Haughn, A., K.W. Tate, and C. van Kessel. 2004. Increasing the demand: The impact of regular cutting on vegetative buffer ^{15}N uptake. Soil Science Society of America and Canadian Society of Soil Science Joint Annual Meeting, Seattle, WA.
48. Tate, K.W., A. Bedard-Haughn, and C. van Kessel. 2004. Sink or source? Managing vegetative buffers to minimize N in runoff. Soil Science Society of America and Canadian Society of Soil Science Joint Annual Meeting, Seattle, WA.
47. Bedard-Haughn, A., K.W. Tate, and C. van Kessel. 2004. Using ^{15}N to quantify vegetative buffer efficiency for sequestering N in runoff. Ecological Society of America Annual Meeting, Portland, OR.
46. Bedard-Haughn, A., K.W. Tate, and C. van Kessel. 2004. Using ^{15}N to quantify vegetative buffer efficiency in an irrigated pasture system. Riparian Ecosystems and Buffers: Multi-scale Structure, Function, and Management. American Water Resource Association, Summer Specialty Conference, Olympic Valley, CA.
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