TESTIMONY OF TOM TAYLOR

I, Tom Taylor, declare:

Introduction

1. I am a Senior Consultant, Aquatic Ecologist and the Sacramento Office Manager for the Environmental Practice of Entrix, Inc. (Entrix). I have over 30 years of professional experience in fisheries science, aquatic habitat assessments, population assessments, water resources, environmental documentation, permitting and river restoration and have been employed by Entrix since 1997. COA & LAWC Exhibit K contains an accurate statement of my qualifications and experience.

2. I am providing this expert testimony on the issues pertaining to the County of Alpine and Lake Alpine Water Company (the "Applicants") Petition for Partial Assignment of State-Filed Application 5648, Petitions to Change State-Filed Application, and Application 31523 (the "Project"), that will be discussed during the July 14, 2008, State Water Resources Control Board (SWRCB) hearing to consider the Applicants petitions and application.

Analysis of the Project and its Potential to Impact Fishery Resources

3. As part of the California Environmental Quality Act (CEQA) and the County of Alpine's and Lake Alpine Water Company's investigation of the Project and its potential impact on the environment, Entrix was asked to review the Project for its potential to affect and/or impact instream fishery resources.

4. As part of this review Entrix reviewed topographic maps of the water courses associated with the project area including those of the Bear and Blood creek watersheds. Entrix described the known fishery resources of the project area and reviewed the hydrology report that included a Water Availability Analysis conducted by Wagner & Bonsignore (Attachment #1 to this testimony). In addition Entrix reviewed the Protest Letter filed by the California Department of Fish and Game (Attachment #2 to this testimony) and the dismissal letter filed by the same agency (County & LAWC Exhibit O) after the WAA was completed and provided to the Department. Entrix also reviewed the Project Description, Biological Resources and Significance sections of the Final Environmental Impact Report (County & LAWC Exhibit C) for this project and the Notice of Public Hearing issued by the State Water Resources Control Board for this hearing.

5. As a result of this review Entrix finds that the fishery resource of the project area is a recreational fishery supported by three species of salmonids (trouts) composed of brook, brown and rainbow trout. No listed or sensitive aquatic species of animals are known to occur in the area. Additionally, the streams

tributary to Bear Lake, and Bear Creek downstream of Bear Lake, and Corral Gulch Creek are headwater streams and snowmelt driven only sustaining surface flow for part of the year – meaning that these streams are not capable of supporting year round fishery resources. Year-round flow that can support a fishery is found downstream in Blood Creek and downstream of the confluence of Blood and Bear creeks. The Water Availability Analysis indicates some flow impairment during early snowmelt periods at the confluence to Blood Creek and that diversion to Bear Lake storage may result in the creek ceasing to flow about 4 days earlier than would otherwise occur under unimpaired conditions. Bear Creek is a seasonal stream under unimpaired conditions, the combined maximum rate of withdrawal from Bear Creek for direct diversion and diversion to storage would be 0.8 cfs and the total impairment of all water withdrawals in the Blood/Bear Creek watershed amount to only 2.8 percent of the average annual discharge of the system. Therefore, the affect of the project on Bear Creek and Blood Creek is considered inconsequential to the recreational fishery found in this watershed. Approval of this application would not be expected to result in harm to the recreational fishery or the public trust aquatic resources found in this watershed

Tom Taylor

Wagner&Bonsignore
Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
Robert C. Wagner, P.E.
Paula J. Whealen
Andrew T. Bamhauer, P.E.
David M. Houston, P.E.
Ryan E. Stolfus

August 10, 2005

Mr. Gary Hobgood
Department of Fish and Game
Sacramento Valley Central Sierra Region
701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

Re: Lake Alpine Water Company – Field Visit for Protest Resolution

Dear Mr. Hobgood:

This letter will serve to follow up on our field visit on July 5, 2005 regarding the Department of Fish and Game's (DFG) protest against State Filed Application 5648-7 and companion Water Right Application 31523 of Lake Alpine Water Company (LAWC), filed with the State Water Resources Control Board (State Water Board). The purpose of the field visit was to review the project facilities to develop information for protest resolution.

The meeting was attended by:

Bruce Orvis III, Lake Alpine Water Company
Bill Verigin, Engineer for Lake Alpine
Gary Hobgood, Department of Fish and Game
Jesse Barton, Law Office of Daniel F. Gallery
Robert Wagner, Wagner & Bonsignore Engineers
Ryan Stolfus, Wagner & Bonsignore Engineers

LAWC owns and operates Bear Lake, which was constructed in 1965 and impounds 360 acre-feet of water. LAWC diverts water from Bear Creek which is tributary to Bloods Creek thence the North Fork Stanislaus. Bloods Creek is unimpaired. The Bear Creek dam is located at an elevation of approximately 7,000-foot. The LAWC holds Water Right License 11007 for 240 acre-feet of storage in Bear Lake with a maximum allowable use of 140 acre-feet. Lake Alpine Water Company is seeking a new water right to put the remainder of water that is stored in Bear Lake to beneficial use (approximately 220 acre-feet of storage and 175 acre-feet by direct diversion for a total proposed new diversion of 395 acre-feet annually).

As part of the review we inspected the following (see attached map):

- all points of stream inflow into Bear Lake;
- the Bear Lake Dam and spillway;
- the reach of Bear Creek between the dam and the Lake Alpine community store culvert (a possible migration barrier);
- the Bear Creek Culvert under Highway 4 (a migration barrier);
- the confluence of Bear Creek and Corral Gulch;
- the confluence of Bear Creek/Corral Gulch and Bloods Creek;
- and Bloods Creek at the Forest Route 7N01 culvert (a migration barrier).

You expressed your concerns that LAWC's diversions would cause a diminished flow in Bear Creek. We do not believe the proposed diversions will have any meaningful impact on the hydrology of Bear Creek, or more importantly Bloods Creek. As demonstrated by the attached hydrographs the project will have an insignificant temporal effect on the flow of Bear Creek and an unnoticeable effect on flow of Bloods Creek below its confluence with Bear Creek. Bear Creek would typically be dry at the point of diversion under unimpaired conditions in early June corresponding to the end of the snowmelt. The winter of 2004-05, which was unusually wet, was producing inflow as of July 5, due to the remaining snow pack. We believe the inflow has since ceased. The only effect the project would have on Bear Creek below the dam would be a drying of the creek a few days earlier than would naturally occur. The project has no effect on the watershed above the dam.

Shown on Figure 1 is the estimated long term average daily discharge of Bear Creek. The data for Bear Creek was developed from stream flow measurements taken on Bloods Creek. The Bear Creek hydrograph compares unimpaired and impaired conditions. The impaired conditions assume that Bear Lake is completely empty at the beginning of each water year. It is also assumed that LAWC takes water at the maximum rate of direct diversion all the time. These are very conservative assumptions. Our analysis shows that the impaired hydrograph is not significantly different than the unimpaired hydrograph.

Along Bear Creek and Bloods Creek, there are potential barriers to fish passage. Image 1 is a three barrel culvert under the road near the Lake Alpine store that is approximately 0.6 miles downstream of the dam (map point #6). During certain flow conditions this culvert may not present a significant barrier to fish passage, however as demonstrated Bear Creek would normally dry up after snowmelt despite the presence of the LAWC's diversions. Therefore, we would not expect to find fish beyond this after the cessation of flow.

During our field inspection we found some fish in the reach of Bear Creek below the dam and above the three barrel culvert. The fish probably came from Bear Lake by way of the spillway. You suggested to us that under most flow conditions there isn't any attraction in Bear Creek to cause fish to move from downstream into the upper reach of Bear Creek. Further it was suggested that when flow began to subside any fish found in this reach would find their way downstream with the receding water. Image 2 is the Bear Creek culvert under highway 4,

approximately 1.0 miles downstream of the dam (map point #7). This culvert would prevent fish from passing to Bear Creek in any event during most flow conditions of the year.

Further downstream, on Bloods Creek, before its confluence with the North Fork Stanislaus River is another significant barrier to fish passage (Image 3), approximately 3.7 miles downstream of the Bear Lake dam (map point #10). This barrier further decreases the likelihood of passage to Bear Creek. You were also concerned with the effect that a drying Bear Creek could have on other aquatic species that may inhabit the reach of Bear Creek below the dam and upstream of the three significant fish barriers. Any other species dependent on the water resources in Bear Creek below the dam, would be expected to experience the same hydrologic conditions in the future that they have seen in the past whether or not LAWC diverts water pursuant to this project. As shown the only expected change is the cessation of flow at the point of diversion a few days earlier than under unimpaired conditions.

Figure 2 shows the estimated long term mean daily discharge of Bloods Creek below its confluence with Bear Creek under the impaired and unimpaired conditions of Bear Creek. The hydrograph represents the discharge of Bloods Creek approximately 0.5 miles downstream of the fish passage barrier on Bear Creek at the culvert under Highway 4 (Image 2). As shown, the effects of the proposed and existing maximum diversions on Bear Creek have very little effect on the flow of Bloods Creek.

Data for Figure 2 was developed by correlating the unimpaired discharge on the Merced River, USGS Gaging Station 11266500, Merced River at Pohono Bridge near Yosemite. Figure 3 shows a very close relationship between the flows of the Merced River and Bloods Creek for 2003, an average run off year for the Merced River at Pohono Bridge.

Table 1 shows the estimated annual discharge at various points in the Bloods Creek watershed and the face value of water rights on file with the State Water Board. The total estimated discharge of Bloods Creek at its confluence with the North Fork Stanislaus River is 23,315 acre-feet per year. The total face value of all water rights within the Bloods Creek watershed including the LAWC's existing and proposed diversions is 650 acre-feet. This represents about 2.8% of the discharge of Bloods Creek. The face value of diversions of 650 acre-feet is very likely overstated because it assumes the total amount will be diverted every year at the maximum allowable rate. Even considering these conservative assumptions the analysis shows that the effect on Bloods Creek is not meaningful.

You proposed dismissal terms for your protest dated January 12, 2005 are reprinted as follows:

> "For the protection of fisheries, wildlife, and other instream uses in Bear Creek and Blood Creek, diversions under this permit shall be subject to maintenance of minimum bypass flow. A measure of flow shall be bypassed around the point of diversion during the allowable diversion season that will be of sufficient quantity and quality to maintain in good condition, any fisheries and wildlife resources that would exist in downstream reached under unimpaired flows. Determination of the bypass flow must be based on site-specific biological investigations conducted by the Permittee in consultation with FDG staff. No diversion shall occur under this permit until DFG and the Permittee have agreed on the minimum bypass flow, no water shall be diverted if the stream flow at the point of diversion is 2 cfs or less."

The site specific analysis of data as requested by the DFG, discussed herein, shows that diversions from Bear Creek will not impact Bloods Creek in any meaningful way. Bear Creek ceases to flow at the point of diversion after snow melt under unimpaired conditions. Under the impaired conditions of the proposed project Bear Creek will cease flow on average four days sooner. This is not a meaningful impact.

We believe that we have demonstrated there is no benefit to Bear Creek from a requirement for bypass or release and that we have satisfied the Department's protest. We respectfully request that your protest be withdrawn. Please contact me or Mr. Ryan Stolfus from my office if you have any questions.

Very truly yours,

WAGNER & BONSIGNORE
CONSULTING CIVIL ENGINEERS

Robert C. Wagner, P.E.

Encls. √
cc: Kathy Mrowka (via email & US Mail)
Lake Alpine Water Company, Board of Directors (via email)
Dan Gallery (via email)
Jesse Barton (via email)
Bill Verigin (via email)
Bruce Orvis, III (via email)

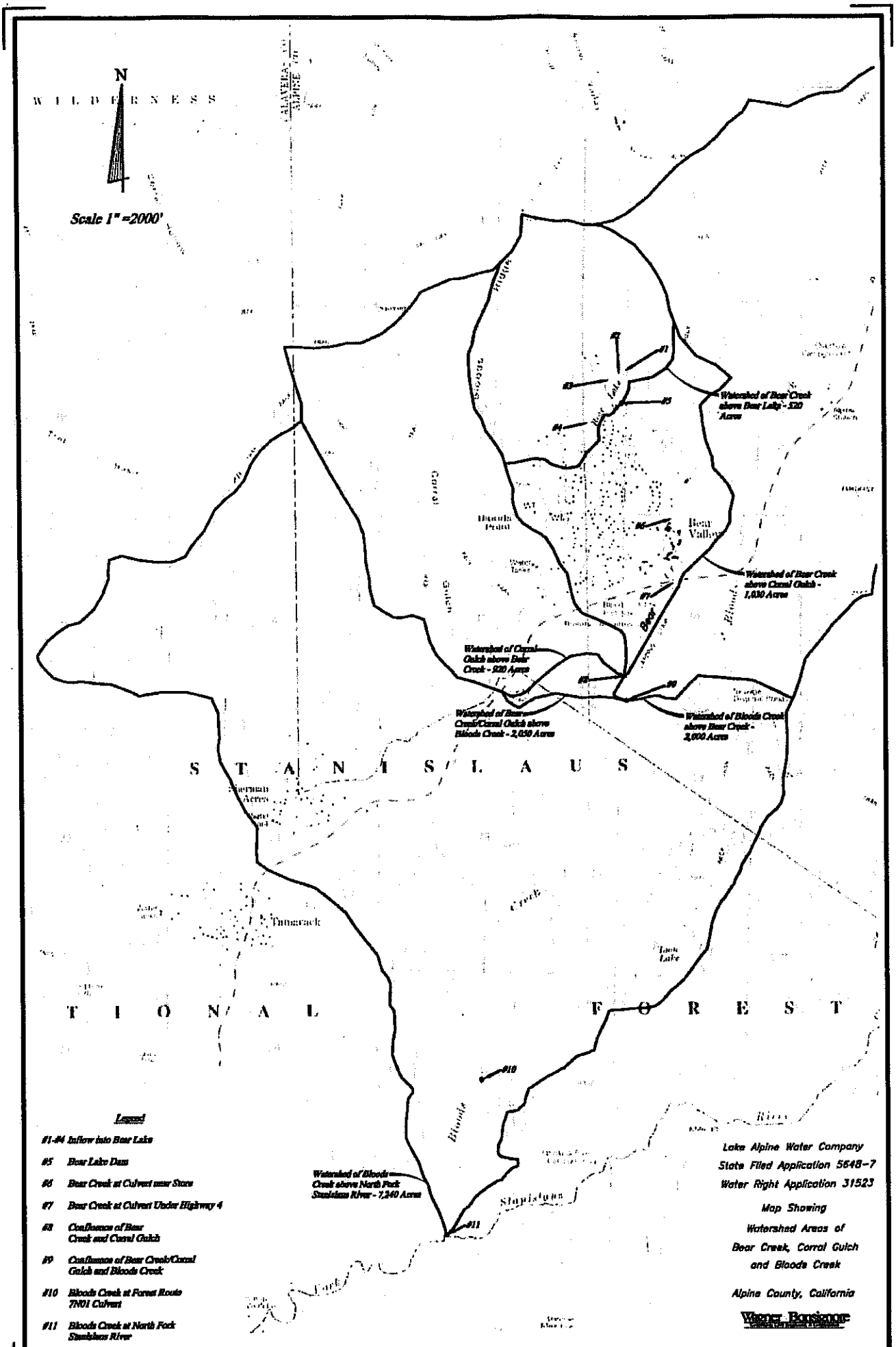

N
WILDERNESS
Scale 1" =2000'
Watershed of Bear Creek above Bear Lake - 520 Acres
Watershed of Bear Creek above Corral Gulch - 1,030 Acres
Watershed of Corral Gulch above Bear Creek - 920 Acres
Watershed of Bear Creek/Corral Gulch above Bloods Creek - 2,650 Acres
Watershed of Bloods Creek above Bear Creek - 2,600 Acres
Watershed of Bloods Creek above North Fork Stanislaus River - 7,240 Acres
STANISLAUS
TIONAL FOREST
Tamarack
Bear Valley
Bloods Peak
Sherman Acres
Legend
#1-#4 Inflow into Bear Lake
#5 Bear Lake Dam
#6 Bear Creek at Culvert near Store
#7 Bear Creek at Culvert Under Highway 4
#8 Confluence of Bear Creek and Corral Gulch
#9 Confluence of Bear Creek/Corral Gulch and Bloods Creek
#10 Bloods Creek at Forest Route 7N01 Culvert
#11 Bloods Creek at North Fork Stanislaus River
Base Map Per USGS 7.5 Minute Quadrangle for Tamarack
Lake Alpine Water Company
State Filed Application 5648-7
Water Right Application 31523
Map Showing
Watershed Areas of
Bear Creek, Corral Gulch
and Bloods Creek
Alpine County, California
Wagner Bonsignor
August 2005

FIGURE 1
Bear Creek Above Corral Gulch
Estimated Long Term Mean Daily Discharge

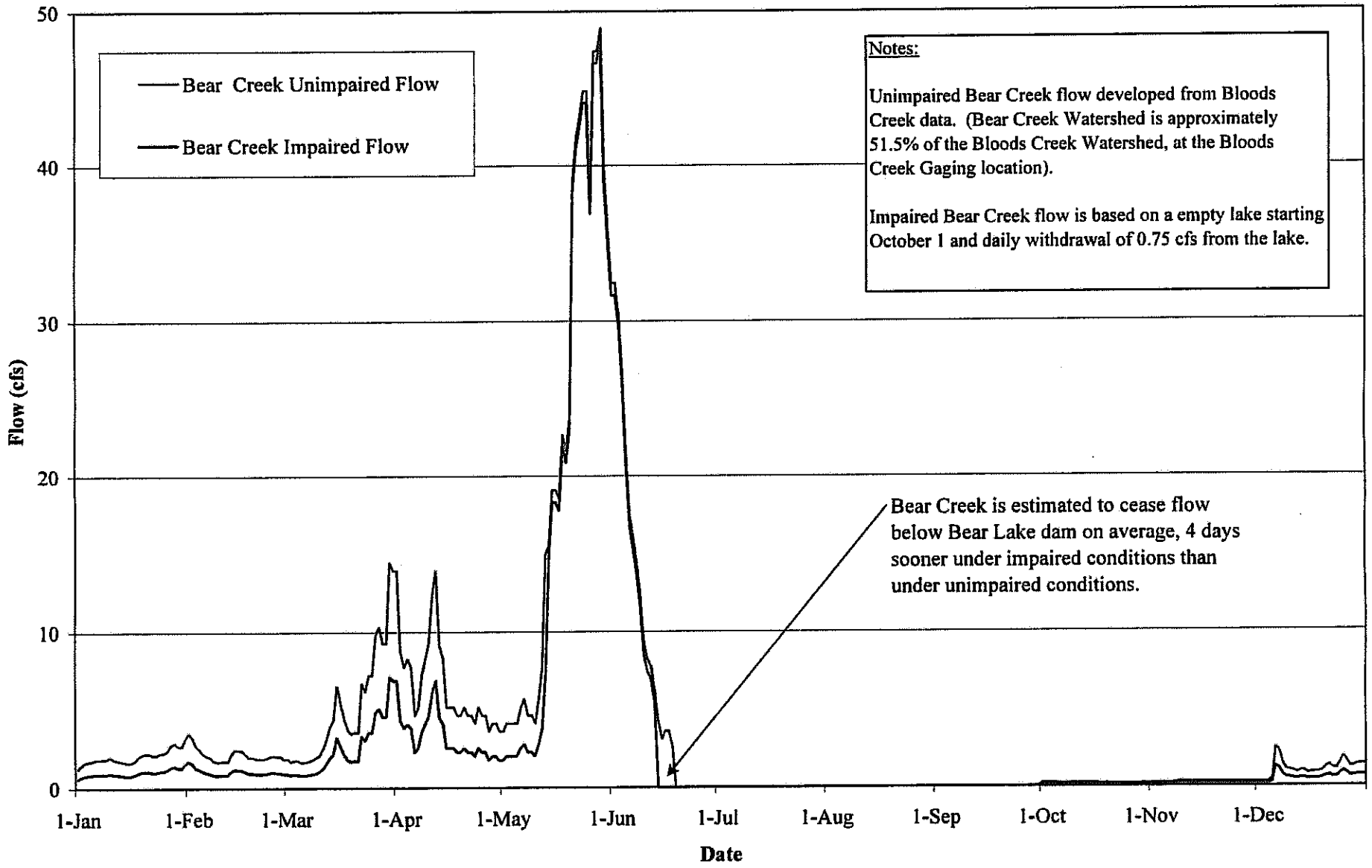


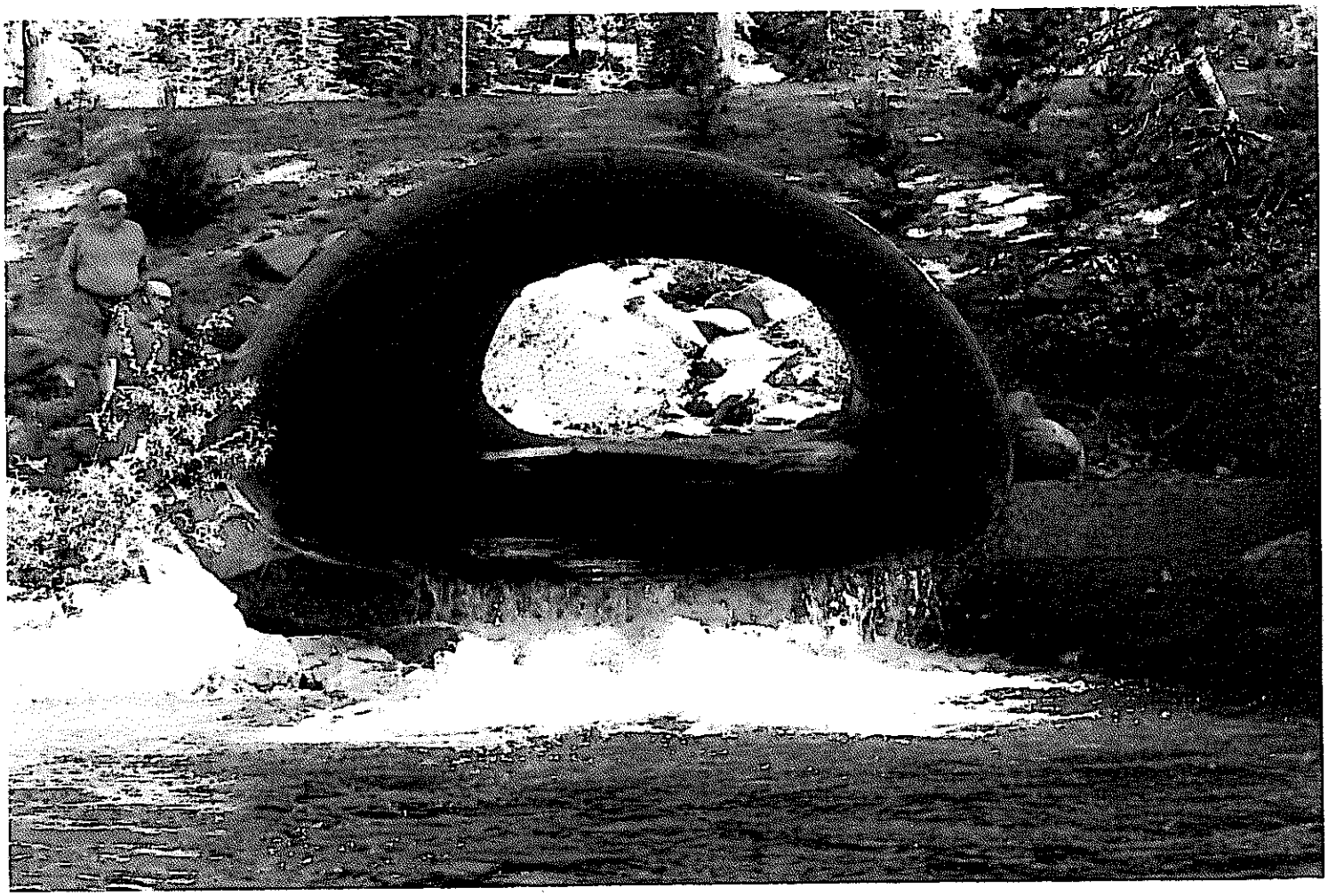
IMAGE 1

Bear Creek Culvert Under Road Near Store (Map Point #6)

IMAGE 2

Bear Creek Culvert Under Highway 4 (Map Point #7)

IMAGE 3



Bloods Creek Culvert Under Forest Route 7N01 (Map Point #10)

FIGURE 2
Bloods Creek Below Bear Creek
Estimated Long Term Mean Daily Discharge

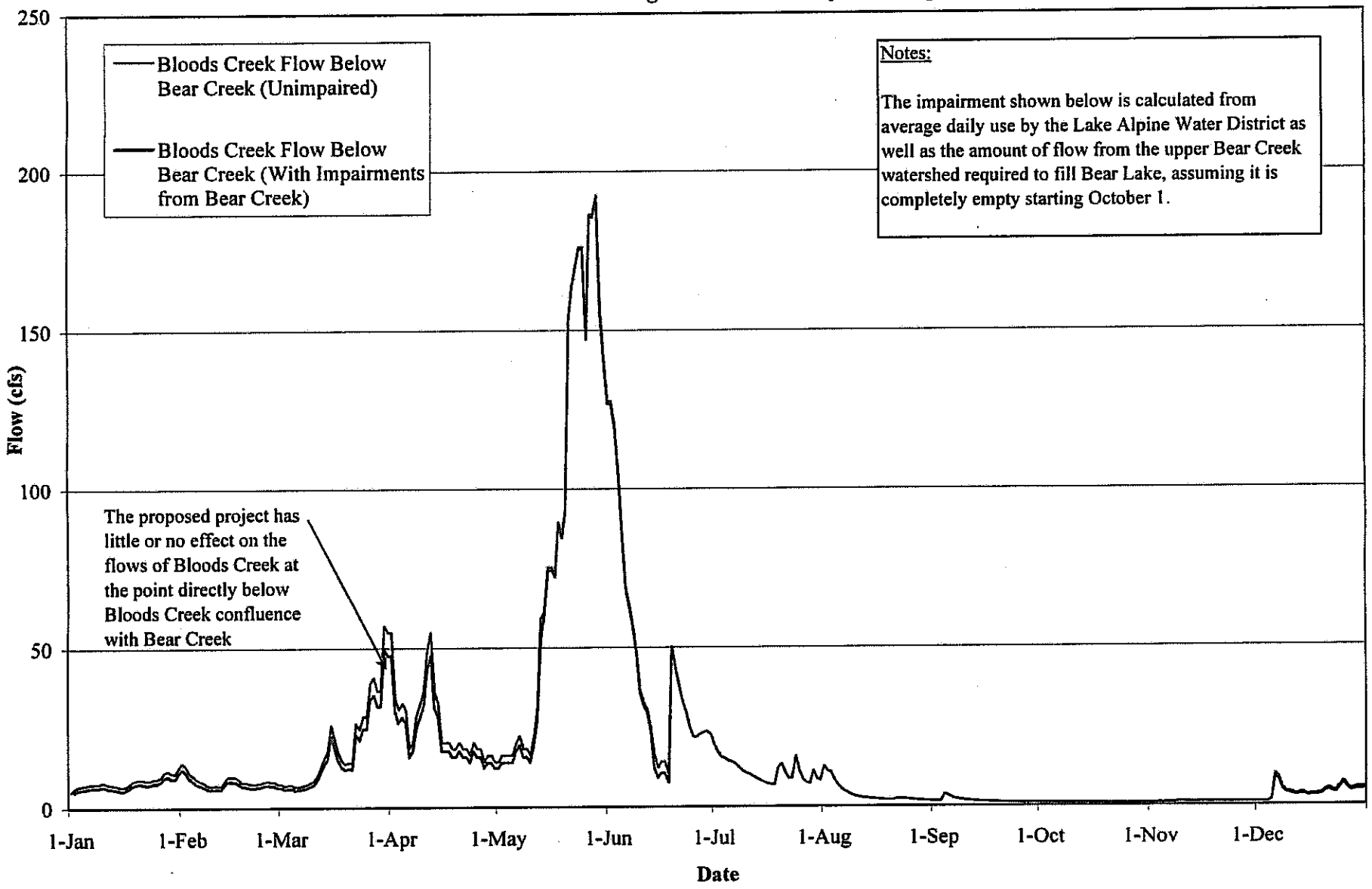


FIGURE 3
Merced River and Bloods Creek Discharge
Average Daily Flow for 2003

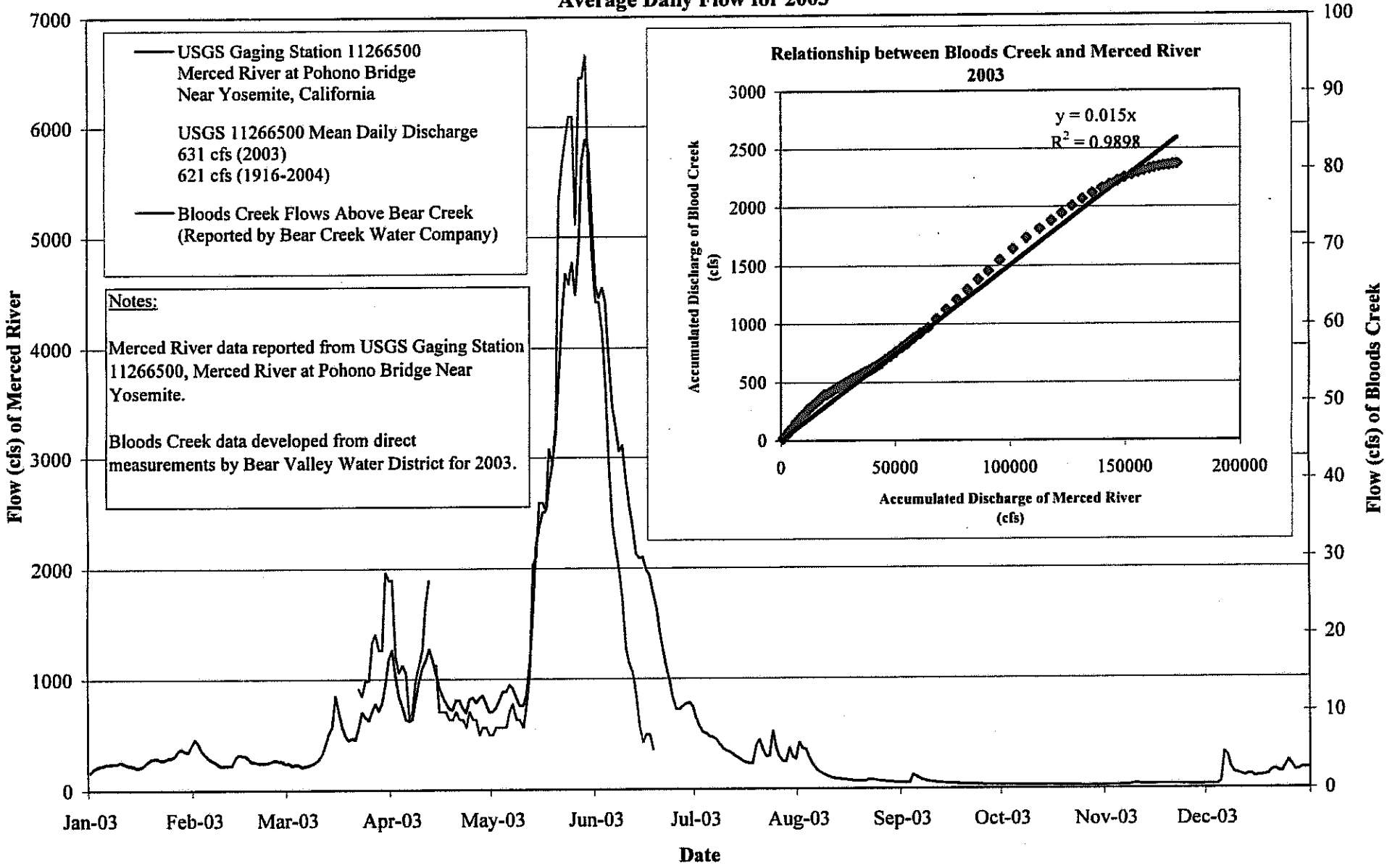


TABLE 1

Estimated Average Annual Discharge within Bloods Creek Watershed

Point	Discharge (af)
Bear Creek Above Bear Lake Dam	1,440
Bear Creek Above Corral Gulch	2,890
Corral Gulch above Bear Creek	2,579
Bloods Creek Below Bear Creek/Corral Gulch	13,045
Bloods Creek at North Fork Stanislaus	23,315

Water Rights Located Within the Bloods Creek Watershed as Shown on State Water Resources Control Board Spot Maps

Right	Owner	Source	Diversion Season	Use	Maximum Annual Use (af)
A13353	Sherman Acres Mutual Water Association	Unnamed tributary to Bloods Creek	6/1 to 9/1	4000 gallons/day	1.4
A20312	Lake Alpine Water Company	Bear Creek tributary to Bloods Creek	1/1 to 12/31	.075 cfs	54.3
A21485	Lake Alpine Water Company	Bear Creek tributary to Bloods Creek	10/1 to 6/1 1/1 to 12/31	Storage 240 af DD of .05 cfs	140.0
A22291	Bear Valley Homeowners Association	Unnamed tributary to Corral Gulch thence Bloods Creek	1/1 to 12/31		3.2
A29813	Bear Valley Homeowners Association	Unnamed tributary to Corral Gulch thence Bloods Creek	1/1 to 12/32	7000 gallons/day	8.0
A31523	Lake Alpine Water Company	Bear Creek tributary to Bloods Creek	10/1 to 7/1	Storage 220 af DD of .78 cfs	395.0
S13730	James L Orvis & Bruce Orvis	Unnamed tributary to Bloods Creek	1/1 to 12/31	.067 cfs	48.5
S14798	Scott C. Parker	Unnamed tributary to Bloods Creek	3/1 to 10/1	150 gallons/day	0.1
				Total	**650.5**

State of California

The Resources Agency

Memorandum

To: Ms. Vicky Whitney, Chief
Division of Water Rights
State Water Resources Control Board
Post Office Box 2000
Sacramento, CA 95812-2000

Fax (916) 341-5400
Attention Ms. Yoko Mooring

Date: January 14, 2005

From: Mr. Banky E. Curtis, Regional Manager
Department of Fish and Game
Sacramento Valley Central Sierra Region
1701 Nimbus Road, Suite A
Rancho Cordova,CA 95670

Subject: Protest of Water Application 5648X07 (Partial Assignment) and Application 31523 of Lake Alpine Water Company and the County of Alpine to Divert Water From Bear Creek, Tributary to Bloods Creek, thence the North Fork Stanislaus River in Alpine County.

The Department of Fish and Game's (DFG) interest in this petition is based on its status as trustee agency for California's fish and wildlife resources. The DFG's right to protest is based on State Water Code § 1330, Title 23 California Code of Regulations (CCR) § 843 and other provisions of law.

Basis of Protest

The DFG is protesting this application because appropriation of the proposed quantity of water will result in reduced streamflow, thus potentially impacting water quality, and both aquatic and riparian resources during the periods of low flow in Bear Creek. Downstream of the point of diversion, Bear Creek, Bloods Creek and the North Fork Stanislaus River support populations of rainbow trout (*Oncorhynchus mykiss);* brown trout *(Salmo Trutto);* brook trout (*Salvelinus fontinalis*); and potentially mountain yellow-legged frog (Rana muscosa).

Project Description

Lake Alpine Water Company and the County of Alpine have filed the following actions with the State Water Resources Control Board (SWRCB): (1) a petition for partial assignment of State-filed Application 5648 held by the SWRCB and accompanying application. This has been assigned Application 5648X07. (2) A petition to change the place and purpose of use and add a point of diversion on State-filed Application 5648; and (3) Application 31523 to appropriate water by permit as a backup in the event the petition for partial assignment of State-filed Application 5648X07 and petition for change of State filed Application 5648 are not approved.

Lake Alpine Water Company and the County of Alpine propose a direct diversion from Bear Creek at the existing Bear Lake in Bear Valley of 0.78 cubic feet per second (cfs) (not to

exceed a total of 175 acre feet (af) per year) and 220 af of storage. The total combined amount taken by direct diversion and storage during any one year will be 395 af. The proposed season of diversion is October 1 of each year to July 31 of the succeeding year.

Protest Dismissal Terms:

The Department will be in a postion to withdraw our protest of these applications should the following conditions be met:

1. No diversion shall occur under these applications until the applicant or the State Water Resources Control Board (as required under Water Code Sections 1243.5 and 1375D) determines that water is available during all water year types for the diversion under Application 5648X07 (Partial Assignment) and Application 31523.

2. For the protection of fisheries, wildlife, and other instream uses in Bear Creek and Blood Creek, diversions under this permit shall be subject to maintenance of minimum bypass flow. A measure of flow shall be bypassed around the point of diversion during the allowable diversion season that will be of sufficient quantity and quality to maintain in good condition, any fisheries and wildlife resources that would exist in downstream reaches under unimpaired flows. Determination of the bypass flow must be based on site-specific biological investigations conducted by the permittee in consultation with DFG staff. No diversion shall occur under this permit until DFG and the permittee have agreed on the minimum bypass flow. In the absence of site-specific data or a DFG approved minimum bypass flow, no water shall be diverted if the stream flow at the point of diversion is 2 cfs or less.

3. No water shall be diverted under this permit until permittee has installed a device, satisfactory to the State Water Resources Control Board, which is capable of measuring the bypass flow required by the conditions of this permit. Said measuring device shall be properly maintained.

NOTE TO APPLICANT: Prior to any construction work within or adjacent to Bear Creek, notify the Department pursuant to Section 1602 of the Fish and Game Code and obtain a Lake or Streambed Alteration Agreement (LSAA) from the Department. Visit the Department's Web Site at http://www.dfg.ca.gov/1600 or call (916) 358-2929 to obtain the notification forms for LSAA.

If you have questions regarding this matter, please contact Mr. Gary Hobgood, Environmental Scientist, at (916) 983-6920 or Mr. Kent Smith, Habitat Conservation Planning Supervisor, at (916) 358-2382.

cc: Lake Alpine Water Company and
The County of Alpine
c/o Daniel F. Gallery
926 J Street, Suite 505
Sacramento, CA 95814

Mr. Harllee Branch
Office of General Counsel
1416 Ninth Street
Sacramento, CA 95814

Mr. Kent Smith
Mr. Gary Hobgood
Mr. Stafford Lehr
Department of Fish and Game
Sacramento Valley-Central Sierra Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670