

TO: Jessie Maxfield, State Water Resources Control Board – Division of
Water Quality

FROM: Anne Holden, Lahontan Regional Water Quality Control Board

DATE: July 19, 2005

SUBJECT: Recommendation to Remove Bear Creek from the CWA Section 303(d)
list

After reviewing the State Board's Fact Sheets prepared to support development of the 2004/2006 Clean Water Act Section 303(d) list update, it appears that previously submitted data recommending de-listing of Bear Creek was not considered in your analysis. Lahontan Regional Board staff had provided information on the creek to the USEPA in 2002 to support delisting, but apparently it was not transferred to your office after the State Board decided to undertake the list update process. This memo provides our recommendation to remove Bear Creek from the 303(d) list, and the rationale and supporting information to justify the removal. The data on which our recommendation is based is enclosed as well. Please call me with any questions at 530-542-5450, or email at aholden@waterboards.ca.gov.

Summary

Water Segment: Bear Creek, Truckee River Hydrologic Unit (635.20), Placer
County

Pollutant: Sedimentation/Siltation

Recommendation: Delist

Rationale for

Recommendation: Based on current data and information, there is sufficient evidence that water quality standards for the listed pollutant are not exceeded.

Supporting Information

Waterbody Description

Bear Creek, a tributary to the Truckee River below Lake Tahoe, is located in Placer County, 6 miles northwest of Tahoe City. The creek flows southeast from its headwaters to the confluence with the Truckee River approximately three miles downstream, and drains the Alpine Meadows Ski Area.

Listing Basis

The creek was listed for impacts from sedimentation and siltation due to a 1988 snowmaking pond failure and past snow removal operations at Alpine Meadows Ski Area. Snow removal at the time involved storing snow either near the stream banks, or directly in Bear Creek.

Current Data/Information

Water Chemistry

Waste Discharge Requirements (WDRs) were adopted in 1976 (Board Order No. 6-76-32) and revised in 2000, requiring Alpine Meadows Ski Area to comply with the Basin Plan water quality standards, including those related to sediment. Surface water data had been collected from the upper reaches of Bear Creek between 1986-2001. Most data were collected from sampling locations downstream of the Alpine Meadows Ski Lodge and parking area at Ginzton Road. The data indicates that the Lahontan Basin Plan water quality standards for turbidity are met.

Bioassessment

Two different bioassessment studies took place in Bear Creek during 2000 and 2001. Dr. David Herbst with the Sierra Aquatic Research Laboratory (SNARL) performed an assessment in both the 2000 and 2001 seasons, in the lower portion of Bear Creek above the confluence with the Truckee River, and downstream of the ski area parking lot. The biologic data were assessed using an Index of Biologic Integrity (IBI) developed specifically for streams in the Truckee River watershed. The IBI analysis results in a numeric value called a biologic condition score, which can be used to compare streams of similar types to a desired "reference" condition. For the Truckee River watershed, the range of biologic condition scores exhibited by reference streams is 25 to 35 (a higher score indicates better biologic integrity). Bear Creek's scores were 33 (2000) and 29 (2001), indicating that the biologic health in the creek below the ski area (where any impacts would most likely be manifested) is well within the desired conditions exhibited by regional reference streams.

A private aquatic ecologist from Tahoe City was contracted by Alpine Meadows Ski Corporation to sample the upper, middle and lower reaches of Bear Creek. Field sampling was conducted in July 2001 following the Department of Fish and Game's *California Stream Bioassessment Procedure* (CSBP). The sampling results showed that a robust benthic community exists in Bear Creek, and no evidence of acute impairment from ski resort operations was detectable.

Both bioassessment studies are included as attachment to this memo. Based on our review of the data outlined above, Regional Board staff recommend Bear Creek be removed from the 303(d) list for sedimentation/siltation because applicable water quality standards for the pollutant are not exceeded.

Alpine Meadows M&R

Date	Turbidity
07/03/85	
07/08/85	
07/12/85	
04/04/86	
04/09/86	
04/17/86	
04/21/86	
04/24/86	
04/28/86	
05/01/86	
05/05/86	
05/08/86	
05/12/86	
05/15/86	
05/19/86	
05/22/86	
05/28/86	
06/02/86	
06/06/86	
06/09/86	
06/16/86	
06/23/86	
06/30/86	
07/07/86	
07/14/86	
07/21/86	
04/11/87	0.4
04/16/87	0.5
04/23/87	0.5
04/30/87	0.7
05/15/87	0.5
05/22/87	0.3
03/18/88	
03/20/88	
03/30/88	
04/05/88	0.3
04/09/88	0.2
04/23/88	0.6
05/01/88	0.6
05/08/88	0.6
05/16/88	
05/20/88	0.8
05/31/88	0.4
06/06/88	0.31
06/10/88	0.7
06/17/88	0.3
04/02/90	0.5
04/09/90	0.4

04/16/90	1.8
04/23/90	0.7
04/30/90	0.5
05/07/90	1.3
05/14/90	0.5
05/21/90	2.5
04/20/98	
04/27/98	
05/04/98	
05/11/98	
05/18/98	
05/25/98	
06/08/98	
06/22/98	
04/02/00	0.45
04/09/00	0.3
04/18/00	0.25
04/25/00	0.3
05/02/00	0.35
05/09/00	0.45
05/16/00	0.45
05/23/00	0.7
05/30/00	0.4
06/06/00	0.15
04/04/01	0.3
04/17/01	0.25
04/24/01	0.15
05/01/01	0.25
05/08/01	0.15
05/15/01	0.2
05/22/01	0.15
04/29/03	0.2
05/06/03	0.3
05/13/03	0.2
05/20/03	0.2
05/27/03	0.3
06/17/03	0.2
4/13/2004	0.15
5/4/2004	0.35
5/11/2004	0.2

Mean of Monthly Mean

0.47

*Bear Creek
RB*

Alpine Meadows M&R

Date	Turbidity
07/03/85	
07/08/85	
07/12/85	
04/04/86	1.2
04/09/86	1.1
04/17/86	5.9
04/21/86	1.1
04/24/86	
04/28/86	0.8
05/01/86	
05/05/86	0.7
05/08/86	
05/12/86	0.34
05/15/86	
05/19/86	0.8
05/22/86	
05/28/86	1.2
06/02/86	1.9
06/06/86	
06/09/86	1
06/16/86	0.6
06/23/86	1.2
06/30/86	0.4
07/07/86	0.4
07/14/86	0.4
07/21/86	0.6
04/11/87	
04/16/87	
04/23/87	
04/30/87	
05/15/87	
05/22/87	
03/18/88	0.4
03/20/88	0.4
03/30/88	0.4
04/05/88	0.6
04/09/88	0.4
04/23/88	2
05/01/88	0.6
05/08/88	1
05/16/88	2.4
05/20/88	0.4
05/31/88	1.1
06/06/88	0.35
06/10/88	0.8
06/17/88	0.3
04/02/90	0.6
04/09/90	1

04/16/90	1
04/23/90	1.2
04/30/90	1.1
05/07/90	1
05/14/90	0.6
05/21/90	0.6
04/20/98	1
04/27/98	1.5
05/04/98	0.7
05/11/98	0.6
05/18/98	0.6
05/25/98	0.6
06/08/98	2.5
06/22/98	1.8
04/02/00	0.5
04/09/00	0.35
04/18/00	0.4
04/25/00	0.3
05/02/00	0.3
05/09/00	0.45
05/16/00	0.25
05/23/00	0.6
05/30/00	0.4
06/06/00	0.25
04/04/01	0.45
04/17/01	0.5
04/24/01	0.45
05/01/01	0.45
05/08/01	0.4
05/15/01	0.25
05/22/01	0.4
04/29/03	0.15
05/06/03	0.3
05/13/03	0.3
05/20/03	0.15
05/27/03	
06/17/03	0.2
4/13/2004	0.25
5/4/2004	0.3
5/11/2004	0.4

Mean of Monthly Means

0.78