EXHIBIT 4

Water Availability Analysis
for Prosser Creek Reservoir
Application 31488

Introduction

The U.S. Bureau of Reclamation (Reclamation) filed water right Application 31488 with the California State Water Resources Control Board (SWRCB) on January 8, 2004. This application supplements License 10180 (Application 18006) and seeks, among other things, to increase the maximum annual withdrawal above 20,162 acre-feet from Prosser Creek Reservoir. In addition, the application seeks to extend the fill season for Prosser Creek Reservoir from the current April 10-August 10 under the existing license to October 1-August 10. SWRCB (May 2007) requested a Water Availability Analysis (WAA) in connection with water right Application 31488. Accordingly, this WAA is prepared by the applicant for Prosser Creek Reservoir.

Background

The Truckee River originates at the outlet of Lake Tahoe at Tahoe City, California, and flows about 120 miles to its terminus in Pyramid Lake on the Pyramid Lake Indian Reservation. Most of the runoff in the Truckee River basin originates in the Sierra Nevada in California. A portion of that runoff is stored in Lake Tahoe and Prosser Creek, Stampede, Boca, and Martis Creek Reservoirs[1], and Donner and Independence Lakes (Figure 1). Operation of these reservoirs regulates much of the flow in the Truckee River basin in most years. These reservoirs and lakes together can store about a million acre-feet of water. A number of court decrees, agreements, and regulations govern day-to-day operations of these reservoirs, and are administered by the Federal Water Master for the *Orr Ditch* court. The reservoirs are operated to capture runoff as available when flow in the Truckee River is greater than that needed to serve downstream water rights recognized by the *Orr Ditch* decree and met by streamflows in the Truckee River, known as Floriston Rates, measured at the Farad gauge near the California-Nevada State line. Floriston Rates provide water to serve hydropower generation, municipal and industrial (M&I) use in the Truckee Meadows, instream flows and agricultural water rights. Releases are made from the reservoirs as necessary to meet dam safety or flood control requirements. Releases are made

[1] Martis Creek Reservoir is used only for flood control purposes.

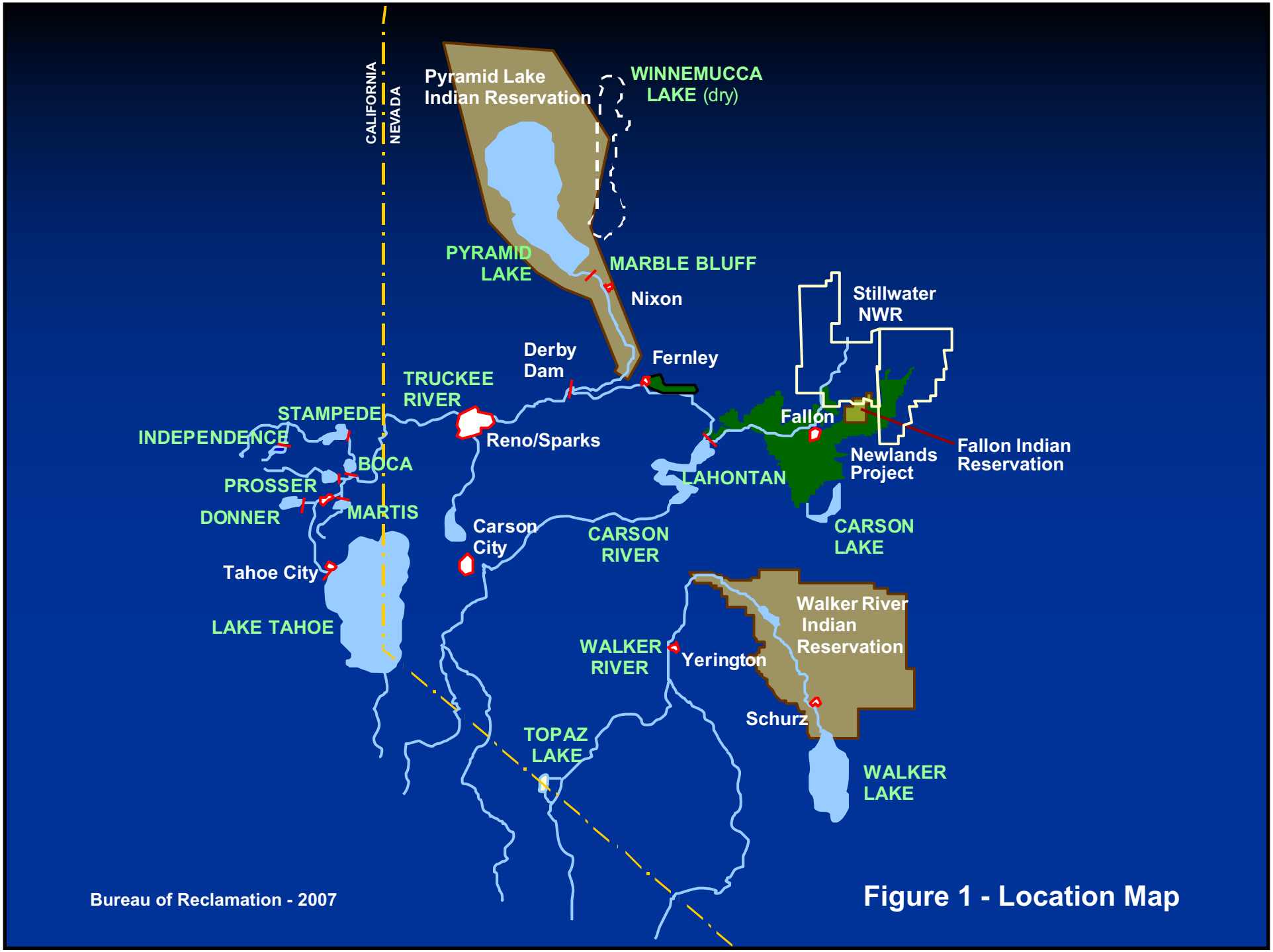


Figure 1 - Location Map

from Lake Tahoe and Boca Reservoir when unregulated flow cannot meet Floriston Rates. Minimum reservoir releases are maintained as specified in applicable agreements and reservoir permits or licenses (Reclamation and CDWR, August 2004).

Water is stored in Prosser Creek, Stampede and Boca Reservoirs, Lake Tahoe and Donner and Independence Lakes under a system of priorities. Prosser Creek Reservoir has the most junior priority for storage in the Truckee River basin. It stores water when water from Prosser Creek is not needed to meet senior downstream water rights and when storage in Prosser Creek Reservoir will not interfere with storage in other reservoirs in the Truckee River basin.

Truckee River water is diverted at Derby Diversion Dam (located about 36 miles upstream of Pyramid Lake) via the Truckee Canal, according to Claim No. 3 of the *Orr Ditch* decree and Operating Criteria and Procedures (OCAP) for the Bureau of Reclamation's Newlands Irrigation Project (Project). The Truckee Canal extends about 32 miles through the Truckee Division of the Project to Lahontan Reservoir, located in the Carson Division of the Project in the lower Carson River basin. Lahontan Reservoir also captures Carson River inflow (Reclamation, August 2004).

Truckee River Reservoirs

Information on Truckee River reservoirs is summarized in Table 1, below (CDWR, June 1991).

Table 1
Truckee River Reservoirs [1]

Reservoir Name	Dam Owner	Dam Operator	Usable Storage Capacity (*Acre-Feet*)	Dam Construction Date [2]	Dam Height (*feet*)	Drainage Area (*Square Miles*)
Lake Tahoe	U.S. Bureau of Reclamation	U.S. Bureau of Reclamation	744,600	1913	18	506
Donner Lake	Truckee Meadows Water Authority/Truckee-Carson Irrigation Dist.	Truckee Meadows Water Authority	9,500	1930's	14	14
Martis Creek	U.S. Army Corps of Engineers	U.S. Army Corps of Engineers	20400 [3]	1971	113	40
Prosser Creek	U.S. Bureau of Reclamation	U.S. Bureau of Reclamation	29,800	1962	163	50
Independence Lake	Truckee Meadows Water Authority	Truckee Meadows Water Authority	17,500	1939	31	8
Stampede Reservoir	U.S. Bureau of Reclamation	U.S. Bureau of Reclamation	226,500	1970	239	136
Boca Reservoir	U.S. Bureau of Reclamation	Washoe County Water Conservation Dist.	41,100	1937	116	172

[1] Based on Truckee River Atlas, 1991.

[2] Date existing dam was completed. With respect to Lake Tahoe and Donner and Independence Lakes, these dams replaced earlier structures.

[3] Flood control storage only.

Floriston Rates

The Truckee River is regulated to meet Floriston Rates at Farad (State line). Floriston Rates are set forth in the *Truckee River General Electric* decree (1915) and the Truckee River Agreement which is incorporated into the *Orr Ditch* decree.

Floriston Rates and Reduced Floriston Rates are shown in Figure 2. The *Truckee River General Electric* decree, *Orr-Ditch* decree, and Tahoe-Prosser Exchange Agreement provide the current operational framework and rules for the operation of Lake Tahoe, Boca Reservoir and Prosser Creek Reservoir. Prosser Creek Reservoir is also operated to release water not designated for the Tahoe-Prosser exchange for the benefit of Pyramid Lake fishes. These reservoirs may store water in accordance with their storage priorities when Floriston Rates are met from natural flow. Both Stampede and Prosser Creek Reservoirs are junior in priority to divert water in relation to other Truckee River reservoirs. Both Stampede and Prosser Creek Reservoirs are also junior in priority to divert in relation to the allowable diversions at Derby Dam under Claim No. 3 of the *Orr Ditch* decree and OCAP.

Prosser Creek

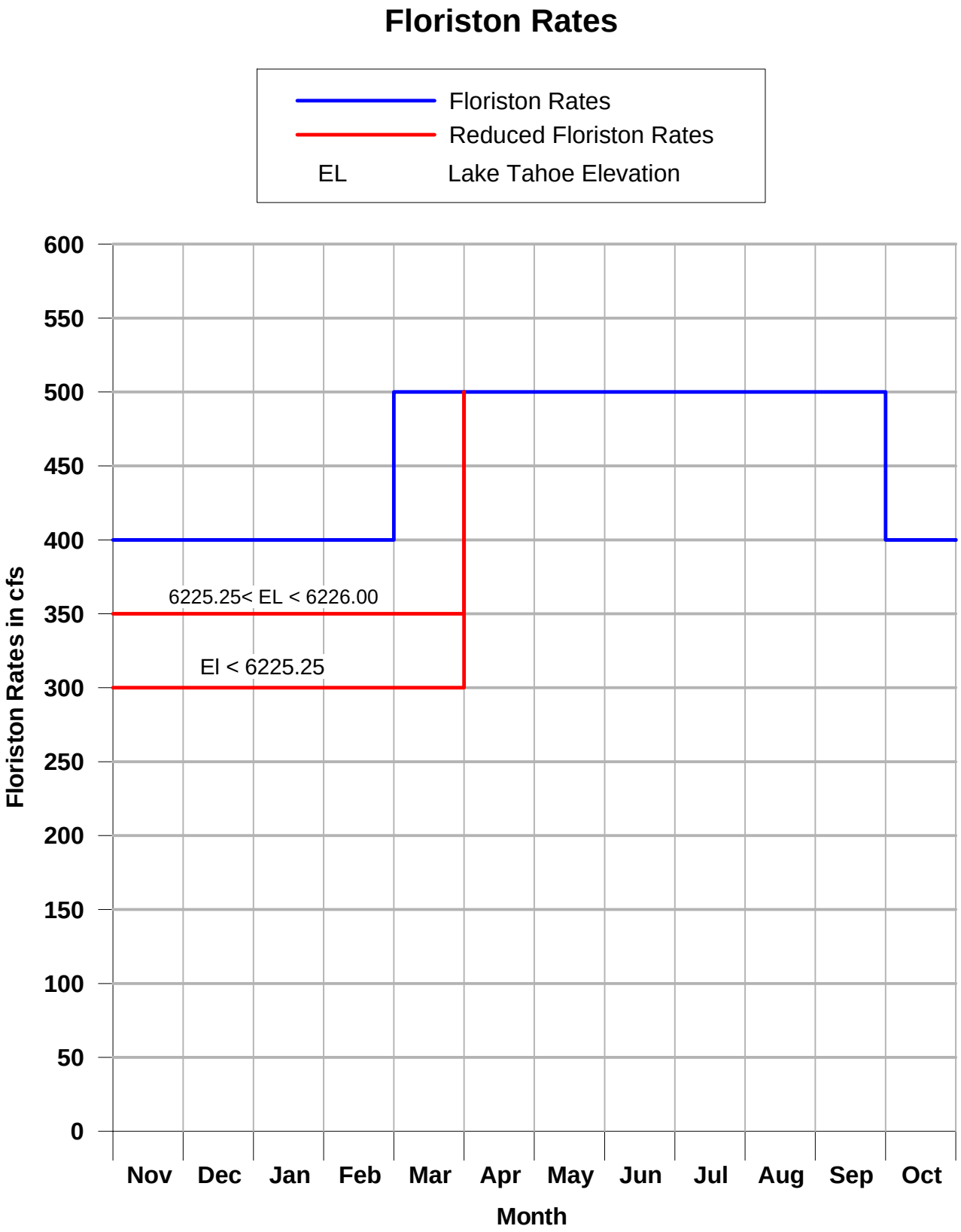
Prosser Creek Dam and Reservoir are located on Prosser Creek. The drainage area of Prosser Creek at the dam site is about 50 square miles. Prosser Creek is not regulated by a dam or reservoir upstream of Prosser Creek Reservoir.

Prosser Creek Reservoir

Prosser Creek Reservoir was completed in 1962 (storage began in January 1963) by Reclamation as part of the Washoe Project. The zoned earthfill dam is 163 feet high and impounds about 29,800 acre-feet of water. Reservoir storage is lowered to 9,800 acre-feet to provide 20,000 acre-feet of space for flood control by November 1. The flood control reservation is maintained at 20,000 acre-feet through April 10 (USACOE, 1985).

The reservoir was authorized for irrigation, flood control, municipal, fish and wildlife, recreation and other beneficial purposes. The primary use to date has been flood control, storage of water

Figure 2


Floriston Rates
Floriston Rates
Reduced Floriston Rates
EL
Lake Tahoe Elevation
600
550
500
450
400
350
300
250
200
150
100
50
0
Floriston Rates in cfs
6225.25< EL < 6226.00
El < 6225.25
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Month

for the Tahoe-Prosser exchange and for threatened and endangered fishes of Pyramid Lake. Incidental uses of water include recreation and hydroelectric power generation by run-of-river plants along the Truckee River.

Tahoe-Prosser exchange is implemented under the Agreement for Water Exchange Operations of Lake Tahoe and Prosser Creek Reservoir dated June 15, 1959. The agreement provides for releases from Lake Tahoe for streamflow maintenance downstream from Tahoe Dam when releases are unnecessary to meet Floriston Rates. Minimum releases of 70 cfs from April through September and 50 cfs the remainder of the year are maintained at the lake outlet when an equivalent amount of water is available for exchange in Prosser Creek Reservoir. If there is no available storage and inflow to Prosser Creek Reservoir is less than these releases, minimum release from Lake Tahoe is reduced to that of Prosser Creek inflow. The equivalent amount of water credited in Prosser Creek Reservoir for these releases from Lake Tahoe is referred to as "Tahoe-Prosser Exchange Water". Exchange water stored in Prosser Creek Reservoir is released when necessary in amounts required to maintain Floriston Rates or Reduced Floriston Rates. Exchange water stored in Prosser Creek Reservoir does not incur reservoir evaporation losses.

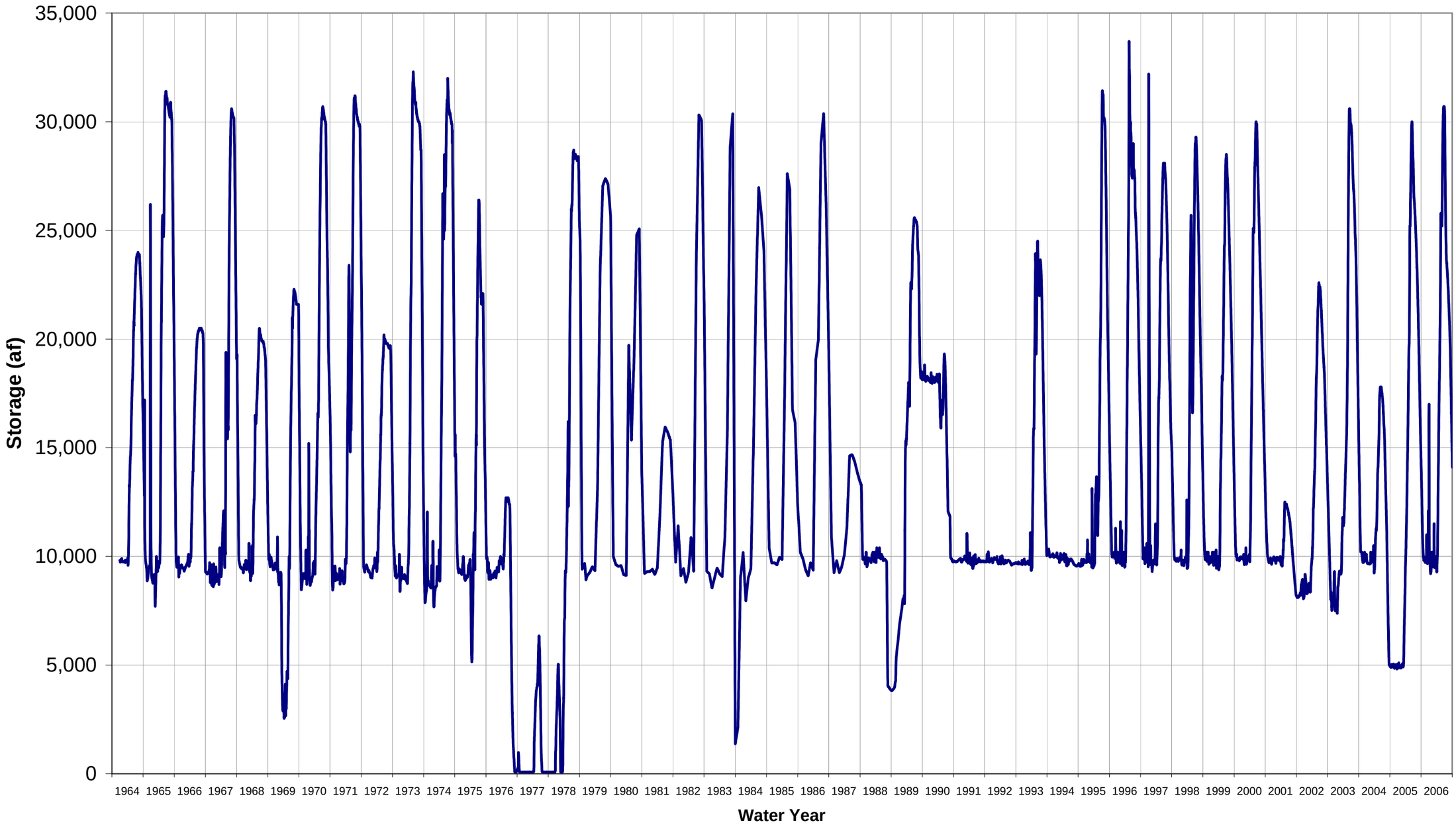
Application 18006 was filed by Reclamation on February 18, 1958. License 10180 provides for maximum diversion of 30,000 acre-feet to storage from April 10 to August 10 of each year. The license limits the withdrawal from storage in Prosser Creek Reservoir to a maximum amount of 20,162 acre-feet in any one year. Figure 3 shows the storage hydrograph of Prosser Creek Reservoir for water years 1964 through 2006. Figure 3 shows that Prosser Creek Reservoir nearly filled to its full capacity of about 30,000 acre-feet in 17 years over the 43 years of record.

Reclamation filed water right Application 31488 on January 8, 2004 for the purpose of increasing the existing maximum withdrawal from storage in Prosser Creek Reservoir above 20,162 acre-feet in any one year and to extend the fill season from the current April 10- August 10 to October 1- August 10. This application supplements License 10180. The total quantity of water diverted to storage under Application 31488 and License 10180 will remain at 30,000 acre-feet per year (SWRCB, January 2007).

Figure 3

Storage in Prosser Creek Reservoir

Water Years 1964 - 2006
USGS Gage (ID #10340300)



* Only monthly data available for period January 1979 through September 1987.

Unappropriated Water

Section 210(a)(2)(B) of the Settlement Act (PL 101-618) states:

> Section 204 [interstate allocation] of this title, the Preliminary Settlement Agreement as modified by the Ratification Agreement, and the Operating Agreement, shall not take effect until the Pyramid Lake Tribe's claim to the remaining waters of the Truckee River which are not subject to vested or perfected rights has been finally resolved in a manner satisfactory to the State of Nevada and the Pyramid Lake Tribe.

In 1993, the Pyramid Tribe and Nevada signed a Memorandum of Understanding (MOU) to implement Section 210(a)(2)(B) of the Settlement Act (MOU, July 1993). The Nevada State Engineer's 1998 unappropriated water decisions, Ruling 4659 and 4683, approved Pyramid Tribe's Applications 48061 and 48494 (Nevada State Engineer, August and November 1998)[2]. Approval of these applications to appropriate the remaining waters of the Truckee River is consistent with the principle underlying Section 210(a)(2)(B) of the Settlement Act and 1993 MOU. Appeals are pending from the Nevada State Engineer's decisions approving Pyramid Tribe's applications and from the denial of Truckee-Carson Irrigation District's competing application.

OCAP – Newlands Project

Truckee River water is diverted at Derby Diversion Dam via the Truckee Canal to the Project as provided in Claim No. 3 of the *Orr Ditch* decree and OCAP. The Truckee Canal extends about 32 miles through the Truckee Division of the Project to Lahontan Reservoir, located in the Carson Division of the Project in the lower Carson River basin. Lahontan Reservoir also captures Carson River inflow (Reclamation, August 2004). Water supply for the Truckee Division is provided solely from the Truckee River through the Truckee Canal. Water supply for the Carson Division is provided from the Carson and Truckee Rivers. Diversion of water from the Truckee River to Lahontan Reservoir and for the Carson Division of the Project is limited by

[2] Tribe gives its consent to store water from Prosser Creek in Prosser Creek Reservoir that would otherwise flow to Pyramid Lake.

the *Orr Ditch* decree and OCAP to what is needed to supplement the supply provided by the Carson River.

OCAP were first instituted in 1967 and reinstituted annually through 1972. In 1973, the Federal District Court in Washington D.C. ordered implementation of more restrictive OCAP to maximize the use of Carson River water and to minimize the use of Truckee River water within the Project. OCAP were modified in 1988 and adjusted most recently in 1997 in response to changes in irrigated acreage in the Project (Reclamation, December 1987 and August 2004).

Instream Flows – Lower Truckee River

Water is released from Stampede and Prosser Creek Reservoirs for maintaining instream flows for cui-ui and Lahontan cutthroat trout (LCT) in the lower Truckee River. Cui-ui and LCT are listed as endangered and threatened, respectively, under the Endangered Species Act of 1973, as amended. The goal of the U.S. Fish and Wildlife Service (FWS) and Pyramid Tribe is to conserve cui-ui and LCT in the lower Truckee River. To this end, Stampede Project water and Prosser Project water not needed for Tahoe-Prosser exchange have been managed for the benefit of both species. Recently, FWS and the Pyramid Tribe expanded cui-ui/LCT conservation management to restore the lower Truckee River ecosystem, which includes establishment and maintenance of willows and cottonwoods in the river reach. Currently, project water stored in Stampede and Prosser Creek Reservoirs for the benefit of Pyramid Lake fishes is managed using flow regime criteria based on six hydrologic year types and the amount of project water stored in Stampede Reservoir on March 1. Table 2 shows the six flow regimes as inflow targets to Pyramid Lake (Reclamation, August 2004). For the purpose of this water availability analysis, Flow Regime No. 1 (highest target flow rates) is assumed as the target flow in the lower Truckee River.

Table 2
Pyramid Lake Inflow Targets (cfs) for Flow Regime Nos. 1-6

Month	1	2	3	4	5	6
January	160	150	120	110	100	90
February	160	150	120	110	100	90
March	290	220	200	160	160	140
April	590	490	420	350	300	200
May	1,000	800	600	530	400	300
June	800	600	500	400	270	170
July	300	300	300	200	150	120
August	200	200	200	200	150	110
September	170	170	120	110	100	100
October	160	150	120	110	100	100
November	160	150	120	110	100	90
December	160	150	120	110	100	90

Source: Revised Draft Environmental Impact Statement/Environmental Impact Report
Truckee River Operating Agreement, August 2004

Water Availability Analysis

License 10180 allows for a total quantity of water up to 30,000 acre-feet to be diverted to storage in Prosser Creek Reservoir and limits the maximum withdrawal to 20,162 acre-feet in any one year, leaving approximately 9,800 acre-feet in the reservoir in most years. Application 31488 is requesting to remove the withdrawal limitation of 20,162 acre-feet in any one year and to extend the fill season from the current April 10-August 10 to October 1- August 10. With the removal of the withdrawal limitation, the reservoir may be lowered below 9,800 acre-feet more often. This analysis examines the availability of water to fill an empty reservoir in any one year. In addition, this analysis also addresses the potential availability of water to be diverted to storage in Prosser Creek Reservoir during the additional fill period October-March in any one year.

A water availability analysis for the diversion of water to storage in Prosser Creek Reservoir is presented in the spreadsheet in Table 3. The analysis is based on the historical operation of Prosser Creek Reservoir for the period when Stampede Reservoir was in operation (August 1969 through September 2006). The amount of available water is calculated for those periods with higher Truckee River flows. In addition, the amounts of water available are calculated for the periods when the storage of such water would not interfere with any downstream water rights

Table 3
Estimates of Available Water for Storage in Prosser Creek Reservoir

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
Month-Year	EOM Prosser Storage af	Prosser Change in Storage af	Prosser Ck below Prosser (afm)	Adjusted Prosser Ck below Prosser (afm)	Truckee River at Farad (afm)	Floriston Rates (afm)	Flow at Farad in Excess of Floriston Rates (afm)	Truckee Canal at Wadsworth (afm)	Truckee River near Nixon (afm)	Pyramid Lake inflow targets under Flow Regime No. 1 (afm)	Inflow to Pyramid Lake above Flow Regime No. 1 (afm)	Prosser Stored Water Adverse to Floriston Rates?	Prosser Stored Water Within Flow Regime No. 1?	Available Water in addition to Stored Amount in Prosser (afm)	Available Water for Storage in Prosser Creek Reservoir (afm)
	9,830														
Apr-71	18,900	9,070	5,677		61,222	29,752	31,470	23,901	45,800	35,107	10,693	no	no	5,677	14,747
May-71	15,900	-3,000	25,234	22,234	114,641	30,744	83,897	45,304	75,884	61,488	14,396	no	no	14,396	14,396
Jun-71	29,167	13,267	5,482		137,157	29,752	107,405	30,432	103,775	47,603	56,172	no	no	5,482	18,749
Jul-71	30,600	1,433	6,147		59,512	30,744	28,768	28,183	27,711	18,446	9,265	no	no	6,147	7,580
														TOTAL	55,472
	9,073														
Mar-73	9,547	473	3,535		31,688	30,744	944	861	39,685	17,831	21,854	no	no	944	1,417
Apr-73	20,567	11,020	4,296		53,115	29,752	23,363	5,875	50,815	35,107	15,707	no	no	4,296	15,316
May-73	32,267	11,700	9,584		79,565	30,744	48,821	12,720	60,924	61,488	-563	no	yes (563 af)	0	11,137
														TOTAL	27,870
	8,380														
Nov-73	8,687	307	7,737		40,693	23,802	16,891	31,595	19,513	9,521	9,993	no	no	7,737	8,044
Dec-73	9,460	773	3,721		26,918	24,595	2,323	3,731	32,289	9,838	22,451	no	no	2,323	3,096
Jan-74	7,873	-1,587	13,726	12,139	62,846	24,595	38,251	835	79,702	9,838	69,864	no	no	12,139	12,139
Feb-74	8,660	787	3,174		38,402	22,215	16,187	852	44,729	8,886	35,843	no	no	3,174	3,960
Mar-74	10,020	1,360	8,951		83,082	30,744	52,338	2,454	93,342	17,831	75,511	no	no	8,951	10,311
Apr-74	18,033	8,013	5,611		122,221	29,752	92,469	6,163	121,012	35,107	85,904	no	no	5,611	13,625
May-74	27,600	9,567	12,774		135,451	30,744	104,707	11,585	115,299	61,488	53,812	no	no	12,774	22,340
Jun-74	30,867	3,267	8,533		92,749	29,752	62,997	12,875	74,202	47,603	26,598	no	no	8,533	11,800
														TOTAL	85,315
	8,053														
May-75	13,000	4,947	22,264		172,324	30,744	141,580	10,278	158,335	61,488	96,847	no	no	22,264	27,211
Jun-75	24,700	11,700	8,541		120,603	29,752	90,851	12,797	109,922	47,603	62,319	no	no	8,541	20,241
														TOTAL	47,452
	9,123														
Apr-80	19,716	10,593	5,034		56,985	29,752	27,233	8,791	46,695	35,107	11,587	no	no	5,034	15,627
May-80	15,348	-4,368	23,260	18,892	125,117	30,744	94,374	11,808	103,835	61,488	42,347	no	no	18,892	18,892
														TOTAL	34,519
	9,730														
Nov-81	11,410	1,680	12,730		58,038	17,851	40,187	28,122	37,551	9,521	28,030	no	no	12,730	14,410
Dec-81	9,107	-2,303	18,555	16,252	79,571	24,595	54,976	34,181	62,640	9,838	52,802	no	no	16,252	16,252
Jan-82	9,448	341	5,086		33,402	24,595	8,807	9,306	38,579	9,838	28,740	no	no	5,086	5,427
Feb-82	8,808	-640	15,943	15,303	78,819	22,215	56,604	689	94,207	8,886	85,321	no	no	15,303	15,303
Mar-82	9,267	459	9,275		54,938	30,744	24,194	341	68,545	17,831	50,713	no	no	9,275	9,734
Apr-82	10,870	1,603	18,530		141,116	29,752	111,364	7,813	147,586	35,107	112,479	no	no	18,530	20,133
May-82	9,316	-1,554	30,107	28,553	264,476	30,744	233,732	13,648	248,985	61,488	187,498	no	no	28,553	28,553
Jun-82	23,759	14,443	3,051		147,669	29,752	117,917	10,852	152,628	47,603	105,025	no	no	3,051	17,494
Jul-82	30,318	6,559	1,490		47,038	30,744	16,294	13,722	36,889	18,446	18,442	no	no	1,490	8,049
														TOTAL	135,354
	9,464														
Mar-83	9,203	-261	12,668	12,407	190,691	30,744	159,947	2,122	223,775	17,831	205,944	no	no	12,407	12,407
Apr-83	9,075	-128	13,111	12,983	185,891	29,752	156,139	4,683	201,124	35,107	166,017	no	no	12,983	12,983
May-83	10,906	1,831	33,517		242,936	30,744	212,192	9,866	249,997	61,488	188,509	no	no	33,517	35,348
Jun-83	15,881	4,975	29,377		310,235	29,752	280,483	10,366	321,183	47,603	273,580	no	no	29,377	34,352
Jul-83	28,804	12,923	885		179,583	30,744	148,840	15,560	171,295	18,446	152,848	no	no	885	13,808
														TOTAL	108,898
	1,378														
Oct-83	2,140	762	1,480		27,128	24,595	2,533	4,014	26,041	9,838	16,203	no	no	1,480	2,242
Nov-83	9,011	6,871	5,971		146,916	23,802	123,114	2,364	158,221	9,521	148,701	no	no	5,971	12,842

Table 3
Estimates of Available Water for Storage in Prosser Creek Reservoir

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
Month-Year	EOM Prosser Storage af	Prosser Change in Storage af	Prosser Ck below Prosser (afm)	Adjusted Prosser Ck below Prosser (afm)	Truckee River at Farad (afm)	Floriston Rates (afm)	Flow at Farad in Excess of Floriston Rates (afm)	Truckee Canal at Wadsworth (afm)	Truckee River near Nixon (afm)	Pyramid Lake inflow targets under Flow Regime No. 1 (afm)	Inflow to Pyramid Lake above Flow Regime No. 1 (afm)	Prosser Stored Water Adverse to Floriston Rates?	Prosser Stored Water Within Flow Regime No. 1?	Available Water in addition to Stored Amount in Prosser (afm)	Available Water for Storage in Prosser Creek Reservoir (afm)
Dec-83	10,184	1,173	10,147		221,117	24,595	196,522	1,379	240,139	9,838	230,301	no	no	10,147	11,320
Jan-84	7,958	-2,226	9,287	7,061	187,716	24,595	163,121	724	210,883	9,838	201,045	no	no	7,061	7,061
Feb-84	9,005	1,047	3,642		100,145	23,008	77,137	1,638	118,909	9,203	109,706	no	no	3,642	4,689
Mar-84	9,448	443	8,977		81,055	30,744	50,311	4,762	95,861	17,831	78,030	no	no	8,977	9,420
Apr-84	15,112	5,664	5,776		62,787	29,752	33,035	6,728	65,798	35,107	30,690	no	no	5,776	11,440
May-84	22,406	7,294	12,895		102,587	30,744	71,843	12,391	94,651	61,488	33,164	no	no	12,895	20,189
Jun-84	26,972	4,566	6,718		84,861	29,752	55,109	12,347	76,715	47,603	29,111	no	no	6,718	11,284
														TOTAL	**90,486**
	9,107														
Feb-86	9,706	599	22,030		132,936	22,215	110,721	18,091	183,874	8,886	174,988	no	no	22,030	22,629
Mar-86	9,365	-341	22,822	22,481	250,413	30,744	219,669	3,110	292,899	17,831	275,068	no	no	22,481	22,481
Apr-86	19,062	9,697	6,827		151,993	29,752	122,241	7,444	172,602	35,107	137,494	no	no	6,827	16,524
May-86	19,977	915	17,228		147,808	30,744	117,064	9,646	149,038	61,488	87,550	no	no	17,228	18,143
Jun-86	29,008	9,031	3,963		77,419	29,752	47,667	11,990	73,543	47,603	25,940	no	no	3,963	12,994
Jul-86	30,375	1,367	2,221		31,914	30,744	1,170	12,188	15,852	18,446	-2,594	no	yes (1,367 af)	0	0
														TOTAL	**92,772**
	16,233														
May-93	20,849	4,616	22,015		98,777	30,744	68,033	8,505	78,440	61,488	16,953	no	no	16,953	21,569
Jun-93	22,145	1,295	12,397		75,927	29,752	46,175	6,311	63,959	47,603	16,356	no	no	12,397	13,692
														TOTAL	**35,261**
	9,875														
Mar-95	9,613	-262	18,155	17,892	67,537	18,446	49,091	27,463	72,960	17,831	55,129	no	no	17,892	17,892
Apr-95	13,615	4,002	11,520		56,987	29,752	27,235	2,910	61,892	35,107	26,785	no	no	11,520	15,522
May-95	13,026	-588	29,578	28,989	138,744	30,744	108,000	4,272	150,426	61,488	88,939	no	no	28,989	28,989
Jun-95	27,410	14,383	9,330		124,403	29,752	94,651	5,893	138,783	47,603	91,180	no	no	9,330	23,714
Jul-95	30,160	2,750	9,677		93,977	30,744	63,233	7,105	94,437	18,446	75,991	no	no	9,677	12,427
														TOTAL	**98,544**
	9,687														
Feb-96	9,597	-90	12,738	12,648	74,269	23,008	51,261	772	99,245	9,203	90,042	no	no	12,648	12,648
Mar-96	9,547	-50	9,727	9,677	91,039	30,744	60,296	1,049	113,752	17,831	95,921	no	no	9,677	9,677
Apr-96	19,600	10,053	7,817		118,155	29,752	88,403	3,015	127,220	35,107	92,112	no	no	7,817	17,870
May-96	29,800	10,200	16,528		207,868	30,744	177,124	4,933	223,934	61,488	162,446	no	no	16,528	26,728
Jun-96	28,133	-1,667	12,127	10,460	113,157	29,752	83,405	5,958	106,473	47,603	58,869	no	no	10,460	10,460
														TOTAL	**77,384**
	9,937														
Nov-96	9,797	-140	3,608	3,468	31,014	23,802	7,212	4,982	32,747	9,521	23,226	no	no	3,468	3,468
Dec-96	13,367	3,570	7,781		126,377	24,595	101,782	20,144	125,871	9,838	116,033	no	no	7,781	11,351
Jan-97	9,767	-3,600	34,709	31,109	376,007	24,595	351,412	1,981	453,640	9,838	443,802	no	no	31,109	31,109
Feb-97	9,800	33	4,998		180,694	22,215	158,479	1,071	215,861	8,886	206,975	no	no	4,998	5,032
Mar-97	9,960	160	11,907		136,411	30,744	105,667	928	161,117	17,831	143,286	no	no	11,907	12,067
Apr-97	17,267	7,307	9,132		95,008	29,752	65,256	2,945	106,235	35,107	71,127	no	no	9,132	16,439
May-97	24,233	6,967	8,957		99,352	30,744	68,608	6,081	102,407	61,488	40,919	no	no	8,957	15,924
Jun-97	28,000	3,767	4,161		74,112	29,752	44,360	4,005	77,631	47,603	30,028	no	no	4,161	7,928
														TOTAL	**103,317**
	9,600														
Feb-98	9,767	167	2,620		24,956	22,215	2,741	608	34,495	8,886	25,609	no	no	2,620	2,787
Mar-98	9,527	-240	10,159	9,919	86,208	30,744	55,464	756	106,637	17,831	88,806	no	no	9,919	9,919
Apr-98	18,900	9,373	4,483		119,980	29,752	90,228	1,408	133,448	35,107	98,340	no	no	4,483	13,856
May-98	16,667	-2,233	22,140	19,906	162,347	30,744	131,603	3,656	167,385	61,488	105,898	no	no	19,906	19,906
Jun-98	28,900	12,233	9,162		179,821	29,752	150,069	4,641	191,683	47,603	144,079	no	no	9,162	21,395
Jul-98	26,767	-2,133	10,223	8,089	86,446	30,744	55,702	6,821	81,971	18,446	63,525	no	no	8,089	8,089
														TOTAL	**75,953**

Table 3
Estimates of Available Water for Storage in Prosser Creek Reservoir

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
Month-Year	EOM Prosser Storage af	Prosser Change in Storage af	Prosser Ck below Prosser (afm)	Adjusted Prosser Ck below Prosser (afm)	Truckee River at Farad (afm)	Floriston Rates (afm)	Flow at Farad in Excess of Floriston Rates (afm)	Truckee Canal at Wadsworth (afm)	Truckee River near Nixon (afm)	Pyramid Lake inflow targets under Flow Regime No. 1 (afm)	Inflow to Pyramid Lake above Flow Regime No. 1 (afm)	Prosser Stored Water Adverse to Floriston Rates?	Prosser Stored Water Within Flow Regime No. 1?	Available Water in addition to Stored Amount in Prosser (afm)	Available Water for Storage in Prosser Creek Reservoir (afm)
	9,753														
Jan-99	9,653	-100	3,832	3,732	41,316	24,595	16,721	413	53,619	9,838	43,781	no	no	3,732	3,732
Feb-99	9,927	273	4,340		109,474	22,215	87,259	346	128,943	8,886	120,058	no	no	4,340	4,613
Mar-99	9,723	-203	9,275	9,071	113,098	30,744	82,354	937	131,286	17,831	113,455	no	no	9,071	9,071
Apr-99	14,700	4,977	10,082		103,615	29,752	73,862	1,897	117,302	35,107	82,195	no	no	10,082	15,059
May-99	21,533	6,833	21,380		182,340	30,744	151,597	4,931	188,588	61,488	127,101	no	no	21,380	28,213
Jun-99	28,367	6,833	10,062		127,240	29,752	97,488	4,253	127,716	47,603	80,112	no	no	10,062	16,895
														TOTAL	**77,584**
	9,863														
Mar-00	9,767	-97	6,653	6,556	42,167	30,744	11,423	42	47,445	17,831	29,613	no	no	6,556	6,556
Apr-00	20,067	10,300	4,145		62,047	29,752	32,295	1,885	61,811	35,107	26,703	no	no	4,145	14,445
May-00	28,067	8,000	5,919		75,213	30,744	44,469	4,850	63,533	61,488	2,045	no	no	2,045	10,045
Jun-00	28,367	300	5,702		38,811	29,752	9,059	4,550	25,214	47,603	-22,389	no	yes (300 af)	0	0
														TOTAL	**31,046**
	11,400														
Apr-03	14,167	2,767	5,103		44,156	29,752	14,404	31,333	15,840	35,107	-19,267	no	yes (2,767 af)	0	0
May-03	26,133	11,967	3,021		59,472	30,744	28,729	7,422	47,714	61,488	-13,773	no	yes (11,967 af)	0	0
Jun-03	29,900	3,767	6,988		44,257	29,752	14,505	5,129	33,616	47,603	-13,987	no	yes (3,767 af)	0	0
														TOTAL	**0**
	16,300														
May-05	27,000	10,700	14,461		99,685	30,744	68,941	3,535	96,091	61,488	34,604	no	no	14,461	25,161
Jun-05	27,833	833	10,885		60,555	29,752	30,803	4,489	56,356	47,603	8,753	no	no	8,753	9,586
														TOTAL	**34,748**
	9,993														
Dec-05	14,967	4,973	10,485		60,934	21,521	39,414	135	63,418	9,838	53,580	no	no	10,485	15,458
Jan-06	9,863	-5,103	17,209	12,105	89,236	21,521	67,716	0	124,905	9,838	115,067	no	no	12,105	12,105
Feb-06	11,367	1,503	6,198		47,288	22,215	25,073	0	51,481	8,886	42,595	no	no	6,198	7,702
Mar-06	9,490	-1,877	10,312	8,435	83,211	30,744	52,467	476	92,356	17,831	74,525	no	no	8,435	8,435
Apr-06	17,600	8,110	10,840		120,417	29,752	90,664	1,042	122,479	35,107	87,372	no	no	10,840	18,950
May-06	25,200	7,600	19,041		175,260	30,744	144,516	4,199	166,433	61,488	104,945	no	no	19,041	26,641
Jun-06	30,633	5,433	7,799		96,575	29,752	66,823	4,742	85,864	47,603	38,261	no	no	7,799	13,232
														TOTAL	**102,524**

Column	Explanation
[1]	Month within water year (Oct. 1 - Sept 30.)
[2]	USGS Gage (ID# 10340300) Prossser Creek Reservoir near Truckee. End-of-month 8:00am reading was prorated to end-of-month midnight reading. (8am reading from current day * 8 + 8am reading from next day * 16 / 24 = 12 am storage of current day). This procedure was not applied to January 1979 through September 1987 because only monthly data was available for this period.
[3]	Difference in Prosser storage between end of current month and end of preceding month. Positive or negative signs represent gain or reduction in storage, respectively.
[4]	USGS Gage (ID# 10340500) Prosser Creek below Prosser Creek Reservoir.
[5]	USGS Gage (ID# 10340500) flow adjusted for stored water releases from Prosser Creek Reservoir [4] + [3] if value in [3] is negative.
[6]	USGS Gage (ID# 10346000) Truckee River at Farad
[7]	See Figure 1. Months with reduced Floriston Rates include: Feb-1980, Mar-1980, Mar-1993, Feb-1995, and Mar-1995. During all of these months, Lake Tahoe elevation was below 6225.25 feet, except for February 1980 in which Lake Tahoe elevation ranged from 6224.8 to 6225.51 feet.
[8]	[6] - [7]
[9]	USGS Gage (ID# 10351300) Truckee Canal near Wadsworth. Diversions to Truckee Canal are implemented by U.S. Bureau of Reclamation under OCAP.
[10]	USGS Gage (ID# 10351700) Truckee River near Nixon
[11]	See Table 2. Flow Regime No. 1 used for water availability analysis.
[12]	[10] - [11]
[13]	No: if value in [8] is positive. Yes: if value in [8] is negative.
[14]	No: if value in [12] is positive. Yes: if value in [12] is negative and Prosser is storing water; value shown in parentheses.
[15]	Smaller of [4], [8], or [12] but greater than zero. Value in [4] is substituted by [5], if flow is adjusted.
[16]	[3] + [15] - [14] but greater than zero. Negative value in [3] is treated as zero.

and would be water which would have otherwise flowed to Pyramid Lake or been stored under the Tahoe-Prosser Exchange Agreement. Storing this water will not interfere with any California water rights including any new water that may be appropriated in California, because the interstate allocation in section 204 of the Settlement Act provides that water for use in Nevada is junior to California appropriations. It will not interfere with Nevada water rights because it will only be stored in priority after all other Nevada water rights have been satisfied or stored under the Tahoe-Prosser Exchange Agreement. The underpinnings for the analysis are summarized below:

1. Water flowing to Prosser Creek Reservoir occurs after the satisfaction of any upstream rights in Prosser Creek.

2. Storage priority in Prosser Creek Reservoir is junior to Stampede and Boca Reservoirs.

3. Water is not stored in Prosser Creek Reservoir adverse to Floriston Rates or Reduced Floriston Rates.

4. Water is not stored in Prosser Creek Reservoir unless allowable OCAP diversions at Derby Dam are satisfied.

5. *Orr Ditch* water rights are satisfied by meeting Floriston Rates or Reduced Floriston Rates (whichever is in effect) at Farad and allowable *Orr Ditch* decree and OCAP diversions at Derby Dam.

6. Diversion requirements at Derby Dam are assumed to be the same as historical diversions for the purpose of this analysis[3].

7. Water would not be diverted to storage in Prosser Creek Reservoir unless target flows under Flow Regime No. 1 are met in the lower Truckee River.

The spreadsheet analysis is aimed at periods of full or nearly full storage in Boca Reservoir when Stampede Reservoir is in priority to store water[4]. In addition, flows at Farad exceed the

[3] It should be noted that the allowable OCAP diversions at Derby Dam changed several times during the period from August 1969 through September 2006 and that there were times when the historical diversions substantially exceeded the allowable OCAP diversions.

[4] See Water Availability Analysis for Stampede Reservoir, Application 31487.

applicable Floriston Rates and flows in the lower Truckee River exceed the target flows under Flow Regime No. 1.

Generally, during wet periods all downstream water rights in the basin can be served by unregulated runoff into the mainstem of the Truckee River, leaving sufficient additional runoff in Prosser Creek and the Little Truckee River to fill Prosser Creek Reservoir, and Stampede and Boca Reservoirs, respectively.

Summary of Results

The estimates of water available for diversion to storage in Prosser Creek Reservoir for the specified years during the period extending from water years 1970 through 2006 (37 years) are summarized in Table 4.

Table 4
Water Available for Storage in
Prosser Creek Reservoir
WY 1970-2006

Water Year	Acre-Feet
1971	55,470
1973	27,870
1974	85,310
1975	47,450
1980	34,520
1982	135,350
1983	108,900
1984	90,490
1986	92,770
1993	35,260
1995	98,540
1996	77,380
1997	103,320
1998	75,950
1999	77,580
2000	31,050
2005	34,750
2006	102,520

Table 4 indicates that the amounts of water available for diversion to storage in Prosser Creek Reservoir ranged from 27,870 to 135,350 acre-feet per year during the period 1970 through 2006 (37 years). There were 17 out of 37 years of record when in excess of 30,000 acre-feet of water was available in each of those years for diversion to storage in Prosser Creek Reservoir. The result of this analysis indicates that potentially as much as 135,350 acre-feet could be available for diversion to storage in Prosser Creek Reservoir in a single year.

Water is carried over in Prosser Creek Reservoir depending on hydrologic conditions, Tahoe-Prosser exchange, and releases made for Pyramid Lake fishes in prior years. Prosser Creek Reservoir was, however, emptied in the drought years of 1976 and 1977 (Figure 3).

Table 5 provides the estimate of water available for diversion to storage in Prosser Creek Reservoir during October-March for the period of analysis extending from water years 1970 through 2006 (37 years). It shows that the amounts of water available for diversion to storage in Prosser Creek Reservoir during October-March ranged from 1,420 to 63,030 acre-feet per year for the period 1970 through 2006 (37 years). There were 13 out of 37 years of record when there was water available for diversion to storage in October-March. However, the amount that can be diverted to storage in Prosser Creek Reservoir is limited by the inviolate flood control space from November 1 through April 10. That means storage in Prosser Creek Reservoir is limited to 9,800 acre-feet during this period.

Table 5
Water Available for Storage in
Prosser Creek Reservoir
During October - March
WY 1970-2006

Water Year	Acre-Feet
1973	1,420
1974	37,550
1982	61,130
1983	12,410
1984	47,570
1986	45,110
1995	17,890
1996	22,330
1997	63,030
1998	12,710
1999	17,420
2000	6,560
2006	43,700

Hydrologic Year Type Classification

The result of hydrologic analysis conducted for the Little Truckee River is used to classify year types for Prosser Creek. The hydrologic year type analysis for the Little Truckee River is presented in the Water Availability Analysis for Stampede Reservoir, Application 31487.

Table 6 shows the hydrologic year types for the years with water available for diversion to storage in Prosser Creek Reservoir for the period 1970-2006 (Table 4). Table 6 indicates that water availability for diversion to storage in Prosser Creek Reservoir primarily occurs in wet and above average years.

Table 6
Hydrologic Year Types for Years with
Water Available for Storage in
Prosser Creek Reservoir
WY 1970-2006

Water Year	Water Available for Storage (acre-feet)	Hydrologic Year Type
1971	55,470	Wet
1973	27,870	Above Average
1974	85,310	Above Average
1975	47,450	Above Average
1980	34,520	Above Average
1982	135,350	Wet
1983	108,900	Wet
1984	90,490	Above Average
1986	92,770	Wet
1993	35,260	Above Average
1995	98,540	Wet
1996	77,380	Above Average
1997	103,320	Average
1998	75,950	Above Average
1999	77,580	Above Average
2000	31,050	Below Average
2005	34,750	Above Average
2006	102,520	Above Average

Conclusions

Results of this water availability analysis show that water which would otherwise flow to Pyramid Lake is available in Prosser Creek to be diverted to storage in Prosser Creek Reservoir from October 1 through August 10. Results of the analysis show that the removal of the existing withdrawal limitation and extending the fill season in Prosser Creek Reservoir will not cause any impairment to downstream water rights or affect the achievement of flow targets in the lower Truckee River. This water availability analysis demonstrates that water is available in Prosser Creek to extend the fill season from the current April 10-August 10 to October 1-August 10 and increase the existing maximum withdrawal in any one year above 20,162 acre-feet for Prosser Creek Reservoir as requested in Application 31488.

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