

Section 2

Mono Basin Operations

Chapter 2

Mono Basin Operations

**Compliance with State Water Resources Control Board
Decision 1631 and Order Nos. 98-05 and 98-07**

May, 2007

Los Angeles Department of Water and Power

Table of Contents	Page No.
INTRODUCTION	1
MONO BASIN FORECAST FOR RY 2007-08	1
MONO BASIN OPERATIONS	1
Planned Operations for the Mono Basin for RY 2007-08	1
Review of Operations for the Mono Basin for RY 2006-07	2
MONO BASIN EXPORTS	3
Planned Exports from the Mono Basin for RY 2007-08	3
Review of Exports from the Mono Basin during RY 2006-07	4
MONO LAKE ELEVATION	4
Expected Mono Lake Elevations during RY 2007-08	4
Review of Mono Lake Elevations during RY 2006-07	4

Introduction

Pursuant to State Water Resources Control Board (SWRCB) Decision 1631 and Order Nos. 98-05 and 98-07 (Orders), the Los Angeles Department of Water and Power (LADWP) is to undertake certain activities in the Mono Basin to be in compliance with the terms and conditions of its water right licenses 10191 and 10192. In addition to the restoration and monitoring activities covered in chapter 1 of this report, LADWP has certain required operational activities.

Mono Basin Forecast for RY 2007-08

The 2007 Mono Basin forecast for the April to March period is 63,900 acre-feet, or 52% of normal using the 1951-2000 average of 122,557 acre-feet (AF). This value puts the year type solidly within the “dry” category. According to the Grant Lake Operations Management Plan approved under SWRCB Order 98-05, LADWP will follow Guideline A (attached) for the operating requirements during RY 2007-08, with several variations described below.

Mono Basin Operations

Planned Operations for the Mono Basin for RY 2007-08

These planned operations are forecast based on the 1990 hydrology which is a representative year. Operations are subject to change with variations in actual hydrology during the upcoming runoff year.

Rush Creek

Base flows will follow Guideline A of 31 cubic feet per second (cfs) from April 1 to September 30, 2007 and 36 cfs from October 1 to March 31, 2008, or Rush Creek at Damsite, whichever is less, down to a low of 31 cfs. There are no peak flow requirements during a dry year.

Rush Creek Augmentation

To meet flow targets for Lower Rush Creek, LADWP at times must employ facilities in addition to the Mono Gate One Return Ditch (MGORD). During the wetter year types, LADWP must release flows in excess of the MGORD capacity of 380 cfs. During these wetter years, LADWP employs one or both of its additional facilities to release higher peak flows. These facilities include the 5-Siphon Bypass, which can release up to 150 cfs from Lee Vining Creek, and the Grant Reservoir Spillway, which can release large reservoir spills, into Lower Rush Creek and during the wetter year types.

5-Siphon Bypass

The 5-Siphon Bypass will not be utilized during RY 2007-08.

Grant Reservoir Spill

Grant Reservoir will most likely not spill during RY 2007-08.

Lee Vining Creek

Base flows will follow Guideline A of 37 cfs, or Lee Vining Creek Above, whichever is less, from April 1 to September 30, and 25 cfs, or Lee Vining Creek Above, whichever is less, from October 1 to March 31, 2008. All flows in excess of these requirements will be diverted to Grant Lake Reservoir with approximately 3000 AF of water forecast to be delivered to the Reservoir through the Lee Vining Conduit. There are no peak flow requirements during this dry year.

Parker and Walker Creeks

According to Guideline A, the base flow requirement for Parker Creek is 9 cfs, or Parker Creek Above, whichever is less, from April 1 to September 30, 2007. From October 1 through March 31, 2008 base flow requirements change to 6 cfs, or Parker Creek Above, whichever is less.

According to Guideline A, the base flow requirement for Walker Creek is 6 cfs, or Walker Creek Above, whichever is less, from April 1 to September 30, 2007. From October 1 through March 31, 2008 base flow requirements change to 4.5 cfs, or Walker Creek Above, whichever is less.

However, until the Parker and Walker Creek facilities are upgraded for more precise metering of flows, LADWP will operate both the Parker and Walker Creek facilities as pass through.

Grant Lake Reservoir

Grant Lake Reservoir storage volume was 35,000 AF, translating into a surface elevation of 7118' above mean sea level (AMSL) at the start of the runoff year. According to LADWP models, and using representative data from 1990 (a 50% of normal year) and Guideline A, Grant Reservoir is expected to peak at approximately 38,000 AF (7121' AMSL) in late June or early July and steadily decline to a final storage volume of approximately 28,000 AF (7111' AMSL) on March 31, 2008.

Review of Operations for the Mono Basin for RY 2006-07

Rush Creek

Rush Creek at Damsite peaked twice during the RY, first on June 7 at 487 cfs and again on July 1, 2006 at 433 cfs. A total of 93,909 AF of water was delivered to Grant Reservoir from Rush Creek this year.

During RY 2006-07, Rush Creek releases included the flow at the Return Ditch and spill from Grant Reservoir. Peaks were recorded on June 8, June 27 and July 26, 2006 with flows of 477 cfs, 474 cfs and 329 cfs respectively. A total of 90,041 AF of water was released this year. Base flows were met for the year including terms of two variances granted by the SWRCB to alter base flows August 31 – September 19, 2006 and during the month of March 2007. The first variance was for the temporary reduction of base flow to facilitate safe conditions for required fishery monitoring. The second variance also allowed a temporary reduction in base flow to protect Grant Lake Reservoir levels in anticipation of the upcoming dry runoff conditions.

Rush Creek flows below “the Narrows”, which consist of Rush Creek releases (Return Ditch, Spill, Augmentation) combined with Parker and Walker Creek flows, peaked on June 9, and July 1, 2006 at 583 cfs and 579 cfs, respectively.

Rush Creek Augmentation

To meet flow targets for Lower Rush Creek, LADWP at times must employ facilities in addition to the Mono Gate One Return Ditch (MGORD). During the wetter year types, LADWP must release flows in excess of the MGORD capacity of 380 cfs. During these wetter years, LADWP employs one or both of its additional facilities to release higher peak flows. These facilities include the 5-Siphon Bypass, which can release up to 150 cfs from Lee Vining Creek, and the Grant Reservoir Spillway, which can release large reservoir spills, into Lower Rush Creek and during the wetter year types.

5-Siphon Bypass

The 5-Siphon Bypass was not utilized during RY 2006-07.

Grant Reservoir Spill

Grant Reservoir spilled three times: May 22-July 23 (including two days with no spill), October 14-22 and October 27-November 6, 2006.

Lee Vining Creek

Lee Vining Creek peaked on June 7, 20 and 24 with flows of 457 cfs, 422 cfs and 427 cfs respectively. Total runoff for the year was 74,490 AF.

Parker and Walker Creeks

Parker Creek peaked on; May 20 at 56 cfs, June 7 at 60 cfs and on June 29 at 63 cfs. Later peaks of 62 cfs, 59cfs and 57 cfs occurred on July 10, July 20 and August 3 respectively. Total runoff for the year was 12,456 AF.

Walker Creek peaked several times during the year starting with peaks at 55 cfs on May 21 and 60 cfs on June 7 up to a high of 64 cfs on June 29. Total runoff for the year was 8,086 AF.

Grant Lake Reservoir

Grant Lake began the runoff year at approximately 42,000 AF (7125' AMSL). The Reservoir spilled on three occasions, from May 22 – May 30, June 2 – July 23, October 14 – 22, and October 26-November 6 of 2006 and March 2-3, 2007. Final storage volume on March 31, 2007 was approximately 35,000 AF (7118' AMSL)

Mono Basin Exports

Planned Exports from the Mono Basin for RY 2007-08

LADWP will export 16,000 AF this year in accordance with SWRCB Decision 1631 and Guideline A, with a modified export regime. This modification was designed to maximize exports during the summer months in order to accommodate peak water use while limiting effects on Grant Lake Reservoir levels to late in the recreational season. The increased exports during the summer may also facilitate water temperature protection on the upper Owens River as requested by CalTrout.

According to Guideline A, under current conditions LADWP normally exports water from Grant Lake Reservoir to the Upper Owens River at a constant rate of 22 cfs. However, because of the issues discussed above, LADWP plans to export 33 cfs through August 2007, ramping down to 22 cfs through September, 2007, and then to 17 cfs in October, 2007 through the remainder of the year. On-going minor modifications will be made as necessary to ultimately export 16,000 AF by March 31, 2008.

Review of Exports from the Mono Basin during RY 2006-07

During RY 2006-07, LADWP exported 15,934 AF from the Mono Basin, which falls within the volume allowed according to the State Water Resources Control Board Decision 1631.

Mono Lake Elevation

Expected Mono Lake Elevations during RY 2007-08

Mono Lake began the runoff year at 6,384.4' AMSL where it will peak and end the runoff year at 6383.9 on March 31, 2008 (see attached chart).

Review of Mono Lake Elevations during RY 2006-07

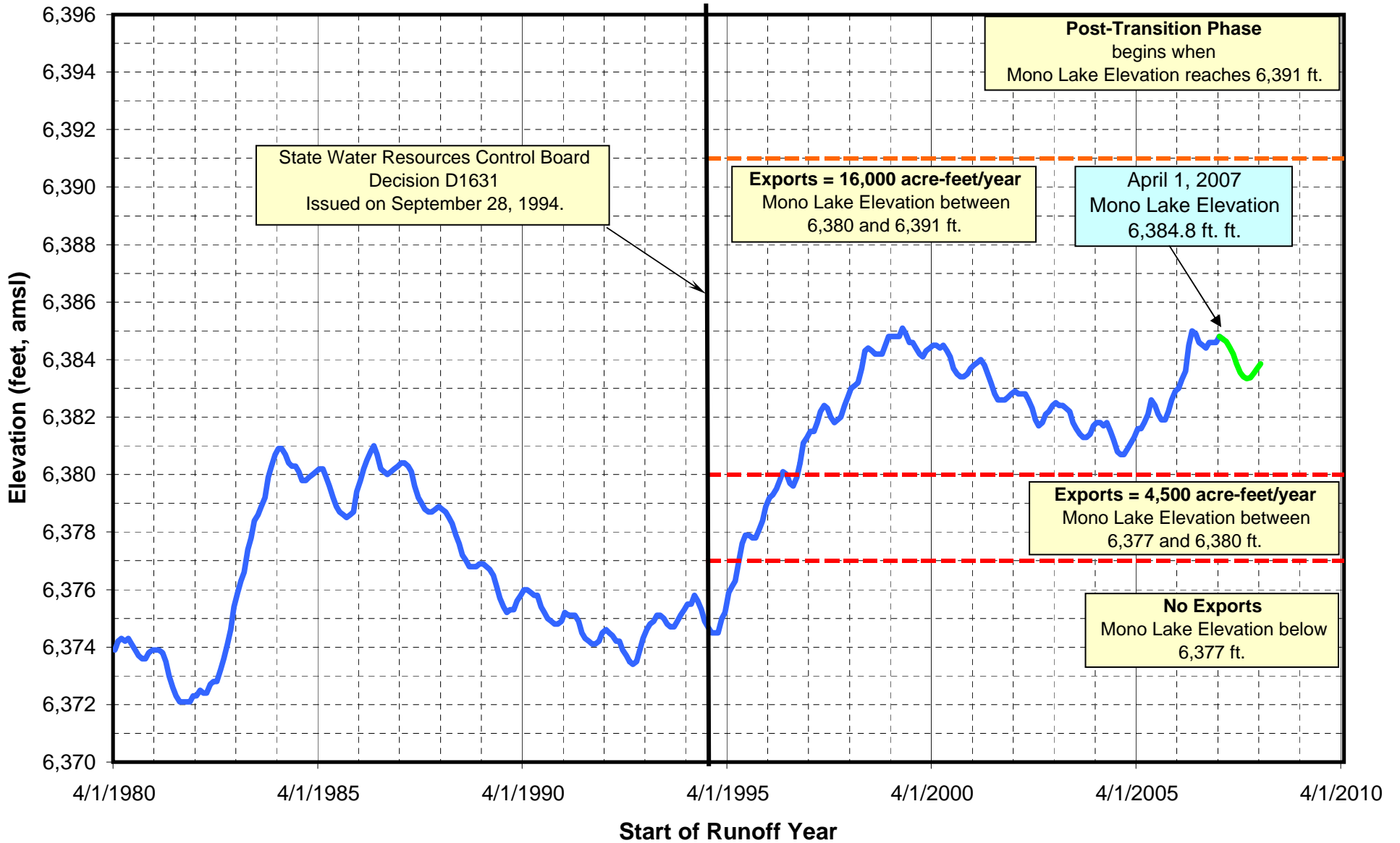
Mono Lake elevations were monitored 39 times during RY 2006-07. The following table shows these readings and includes additional readings taken between January 1 and March 31, 2006. The Lake elevation at the beginning of the runoff year was 6382.6' AMSL, peaked on July 28, 2006 at 6,384.6' AMSL and ended the season at 6384.4' AMSL

Mono Basin Elevation Readings*

DATE	ELEVATION
2/15/2006	6382.4
3/9/2006	6382.6
3/16/2006	6382.6
3/23/2006	6382.6
3/30/2006	6382.6
4/6/2006	6382.8
4/19/2006	6382.8
4/27/2006	6382.8
5/4/2006	6382.9
5/11/2006	6382.9
5/18/2006	6383
5/25/2006	6383.1
6/1/2006	6383.2
6/8/2006	6383.4
6/15/2006	6383.6
6/21/2006	6383.8
6/29/2006	6384
7/6/2006	6384.2
7/13/2006	6384.4
7/20/2006	6384.5
7/28/2006	6384.6
8/16/2006	6384.6
8/24/2006	6384.5
8/31/2006	6384.5
9/8/2006	6384.4
9/14/2006	6384.4
9/20/2006	6384.2
9/28/2006	6384.2
10/5/2006	6384.1
10/11/2006	6384.4
10/19/2006	6384.1
10/26/2006	6384.1
11/2/2006	6384.1
11/9/2006	6384
11/16/2006	6384.1
12/1/2006	6384
12/6/2006	6384
12/14/2006	6384.1
1/5/2007	6384.2
1/18/2007	6384.2
2/7/2007	6384.2
2/15/2007	6384.3
3/8/2007	6384.2
3/14/2007	6384.3

* includes all readings taken from January 1, 06 through March 31, 2007

Mono Lake Elevation



Note: The time until the Mono Lake elevation reaches 6,391 ft is called the "Transition Period". Export rules change at the end of that interval.
USGS Datum

5/10/2007 by Paul Scantlin
Copy of Mono Lake Elev, data-chart

Mono Basin Operations, Guideline A

Year Type.....DRY
 Forecasted Runoff in acre-feet.....≤ 83,655

Lower Rush Creek

Base Flows:

	Apr-Sep	Oct-Mar
Flow (cfs)	31	36

Minimum base flows are those specified above unless Grant Lake storage drops below 11,500 acre-feet (7,089.4' elevation), in which case base flows should equal the lesser of Grant Lake inflow or the minimum requirements listed above (D-1631, p 197-198).

Peak Flows: - None.

Ramping: - None.

Lee Vining Creek

Base Flows:

	Apr-Sep	Oct-Mar
Flow (cfs)	37	25

Minimum base flows are those specified above or the stream flow at the point of diversion, whichever is less.

Peak Flows: - None.

Ramping: - None.

Diversions: - Divert flows in excess of base flows.

Augmentation: - None.

Parker and Walker Creeks

Base Flows:

	Apr-Sep	Oct-Mar
Parker (cfs)	9	6
Walker (cfs)	6	4.5

Minimum base flows are those specified above or the stream flow at the point of diversion, whichever is less.

Peak Flows: - None.

Ramping: - None.

Diversions: - Divert flows in excess of base flows.

Exports

- 4,500 acre-feet scenario – Maintain 6 cfs export throughout the year.
- 16,000 acre-feet scenario – Maintain 22 cfs export throughout the year.