

## Streamwatch

### Highest Peak Flows Since 1998

by Greg Reis

This year's spring runoff began in mid-May with a warm storm that rained on the snowpack and triggered rises in all the creeks. Warm weather in late May, mid June, and early July caused several major snowmelt peaks on the creeks. Most reservoirs were spilling by July, and all of the Mono Basin streams experienced their highest flows since at least 1998. The Parker Creek flow was the highest of the last decade with the exception of the January 1997 rain-on-snow flood, and lower Mill Creek received its biggest flow since at least 1986.

The main tool being used to restore the streams damaged by diversions is the release of peak flows that mimic the pattern of natural flows. While Walker and Parker creeks are flow-through and experience flows close to natural magnitude and duration, the

magnitude and duration of Lee Vining and Rush Creek flows are restricted by Southern California Edison reservoirs and capacity limitations in the Los Angeles Department of Water and Power (DWP) system.

In wetter years, the Grant Lake Reservoir outlet cannot release flows high enough to comply with the conditions of DWP's water rights licenses, so a temporary solution that DWP is trying is to augment Rush Creek's peak flow with water diverted from Lee Vining Creek following its peak flow. This year was the first time the augmentation was successfully tested and operated, allowing 400 cubic feet per second (cfs) to flow down Rush Creek for eight days without Grant Lake Reservoir spilling.

Creek	2005 Peak Flow (preliminary)		Highest Flow Since
Walker	May 28	52+ cfs	Jan 1, 1997 (54 cfs)
Lee Vining	Jun 15	403 cfs	Jul 9, 1998 (451 cfs)
Rush above Grant	Jun 16	449+ cfs	Jul 22, 1998 (519 cfs)
Rush at Mono Lake	Jun 30	473+ cfs	Jul 23, 1998 (635+ cfs)
Parker	Jul 8	79+ cfs	Jan 2, 1997 (94 cfs)
Mill at Mono Lake	Jul 2-8	160+ cfs	Jun-Jul 1986 (136-200 cfs)

One of the bigger changes made by this year's peak flows was on the A-4 Channel of Lee Vining Creek which was re-watered as part of the interim restoration work in 1994. This year's high flows pushed a gravel plug into the entrance, causing it to dry up at low flows. Luckily, two more entrances were created by the January 1997 flood, and one of these kept flowing longer into the fall. It remains to be seen whether the stream monitoring team will decide to keep this channel open—which it may want to do until the former riparian forest has recovered in this area. ❖

## Lakewatch

### Mono Lake Rises Another Foot!

by Greg Reis

High runoff to Mono Lake occurred in June and July, peaking the first week in July, when the lake was rising one fifth of a foot per week. Between April 1<sup>st</sup> and July 28<sup>th</sup>, Mono Lake rose one foot to a high point of 6382.6 feet above sea level. This is a 2-foot rise since November 2004. Aside from a period between 1997 and 2002, the lake hasn't been this high since 1973.

Everyone seems to be talking about this coming winter: Is it going to be another big one? Right now the long term outlook for this region shows warmer-than-average weather for the next 12 months. The precipitation outlook is average.

If you believe that recent climate patterns are a predictor of the

future, we can speak in probabilities. 15 years since 1940 (23%) were at least as wet as last winter. Seven of those 15 years were followed by a dry year and eight were wet, so by that measure there is about a 50/50 chance of a wet year. But ten of the 15 wettest years were followed by a wet year during the next two years, so there is a 67% chance of a wet year in the next two years.

Wet and dry years do tend to come in cycles, however, and this was the first wet year in seven years. Of the 29 wet years since 1940, only eight of them had a dry year before and after. If you trust that pattern to continue, this means there is a 72% chance of a wet winter.

Of course, wishful thinking plays into which statistics one chooses to look at, and it is also true that the first wet year after a string of at least three dry years is often followed by a dry year. This happened three times at the end of the five dry periods since 1940.

So the bottom line is that anything

could happen!

According to the lake level models that were based on the climate of the 1940-89 period, Mono Lake could reach its target elevation of 6,391' in 18-29 years from the 1994 decision (18 using a rolling average and 29 using identical hydrology). With seven to 18 years more to go from 2005, we should expect to see an average rise of about 0.5 to 1.25 feet per year. Of course, if the lake hasn't reached its target in nine years from now, the State Water Resources Control Board will hold a hearing on the matter. In addition, the impact of global warming on evaporation and precipitation rates has not yet been determined; however increases in evaporation are likely, and could already be affecting Mono Lake's level. ❖

*Greg Reis is the Committee's Information Specialist. This fall he is touring the West's great natural water attractions.*

6417'

6392'

6382'

6372'

Prediversion lake level, 1941

Target lake level

Current lake level

Historic low, 1982