

# Memo

To: Bob Brueggeman, PE, Newman Lake Flood Control Zone District Administrator  
Via: Marianne Barrentine, PE, Environmental Programs Manager  
From: Jane Anderson, Environmental Programs

Date: April 8, 2010

Subject: Newman Lake Snow Pack/Lake Level Update

We completed the third snow course monitoring of the year April 1<sup>st</sup> in the Newman Lake watershed. The Quartz Peak snow pack is only at about 76% of normal. Of even more concern is the extremely low lower elevation snow pack. Here is the comparison of Snow Water Equivalent readings (in inches) with previous year's data as of April 1:

	<b>Thompson Creek</b>	<b>Ragged Ridge</b>	<b>Round Top</b>	<b>Quartz Peak</b>
Date	Elev. 2500'	Elev. 3250'	Elev. 4020'	Elev. 4700'
1997	7.9	13.5	20.5	36.1
1998	0.0	2.3	9.9	19.6
1999	2.3	11.2	16.7	30.8
2000	2.4	9.4	18.8	28.1
2001	0.2	1.0	5.6	10.8
2002	6.5	13.2	19.1	28.0
2003	0.0	0.0	0.5	13.5
2004	0.0	1.0	9.7	18.8
2005	0.0	0.0	0.8	1.7
2006	0.0	6.0	14.4	25.1
2007	0.0	0.0	6.5	15.7
2008	12.0	20.4	26.5	33.1
2009	7.8	13.0	16.8	22.2
<b>2010</b>	<b>0.0</b>	<b>0.0</b>	<b>5.8</b>	<b>15.4</b>
Average	3.0*	5.1	12.8*	20.3
<b>2010 % of Average</b>	<b>0.0</b>	<b>0.0</b>	<b>45.5</b>	<b>75.8</b>

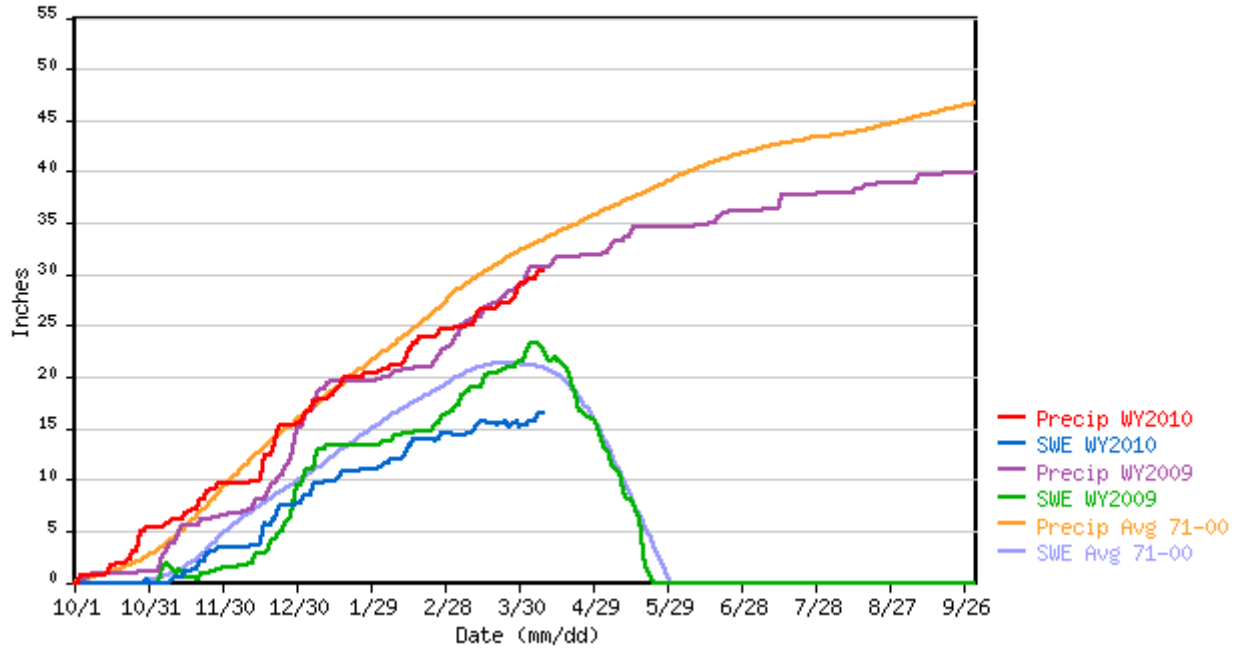
\*Avg. of previous years since 1997 (only available data)

Per the HSPF model, we have an estimated 2,200 ac-ft of runoff based on an average precipitation the rest of the season. This is based on the snow depth at Quartz peak on April 1. This is about 1.8 ft of water spread out over the lake surface. It is important to note the HSPF model is based on upper snow pack levels while some of our heaviest runoff can come from the lower level snow. Long term weather forecasts still indicate a high chance of above average temperatures over the next few months with average to above average precipitation levels in April and May.

This winter season has been quite warm. The lake level has been increasing the past month and the lake is ice free. As of April 7th the lake elevation is 2125.42 ft with the gates closed, therefore we only need about 2/10ths of a foot of water to bring it up to the Memorial Day elevation of 2125.6 ft. With rain today and more anticipated on the way, I will be opening the gates and holding the lake at about this level until approximately mid-May while watching the forecasts and snowpack levels very closely.

QUARTZ PEAK SNOTEL as of 04/08/2010

\*\*\* Provisional Data, Subject to Change \*\*\*



SWE = Snow Water Equivalent, Precip = Precipitation



Round Top snow course (elev. 4020') with snow on 4/1/2010.



A view of Newman Lake on the way back from Round Top snow course on 4/1/2010.