Flint Creek Dam Advisory Committee
Update: April 14, 2011

Current Conditions

Shown below is a list of March 31 lake elevations and outflow characteristics (cfs) for the past several years. Winter outflows were impressive this year at 27 cfs. The March 31 lake elevation was **6428.35 feet**. The median March 31 level since 1999 is 6428.93 feet, and the median since 1940 is 6427.42 feet. For reference, month-end elevations in 2010 were:

2010

April = 6429.46; May = 6429.32; June = 6429.43; July = 6429.50; August = 6429.15; Sept = 6428.68; Oct = 6428.32

		Average Monthly Outflow Patterns (cfs)			
March 31 Elevations		**April**	**May**	**June**	**July**
2010	**6429.14**	**17.5**	**58**	**115**	**48**
2009	6429.18	64	102	54	62
2008	6428.69	20	51	101	33
2007	6428.93	19	77	113	30
2006	6429.00	31	53	31	30
2005	6428.77	8	14	107	51
2004	6428.90	10	27	32	32
2003	6429.00	31	82	57	30

Lake Outflows and Area Stream Flows

Lake outflow has been held at 27 cfs all winter, but turned up to 64 cfs on April 11. Median winter outflow is 22 cfs.
Flint Creek at Maxville is running 124 cfs and the long-term median is 86 cfs.
Boulder Creek at Maxville is running 28 cfs, which is near the long-term median flow of 22 cfs.
Flint Creek near Drummond is running 196 cfs; the long-term median is 117 cfs.
Clark Fork River at Drummond is 946 cfs; the long-term median is 659 cfs.

Inputs

March lake inputs averaged 27 cfs, which is right at the long term norm, so the lake level was static through the month. March precipitation at Peterson Meadows was near normal at 2.9 inches. Water Year precipitation at Peterson Meadows is at 120% of normal, compared to only about 67% last year at this time. Warm Springs SNOTEL received 4.8 inches of moisture in March, about 114% of normal, and sits at 115% on the water year.

Weather

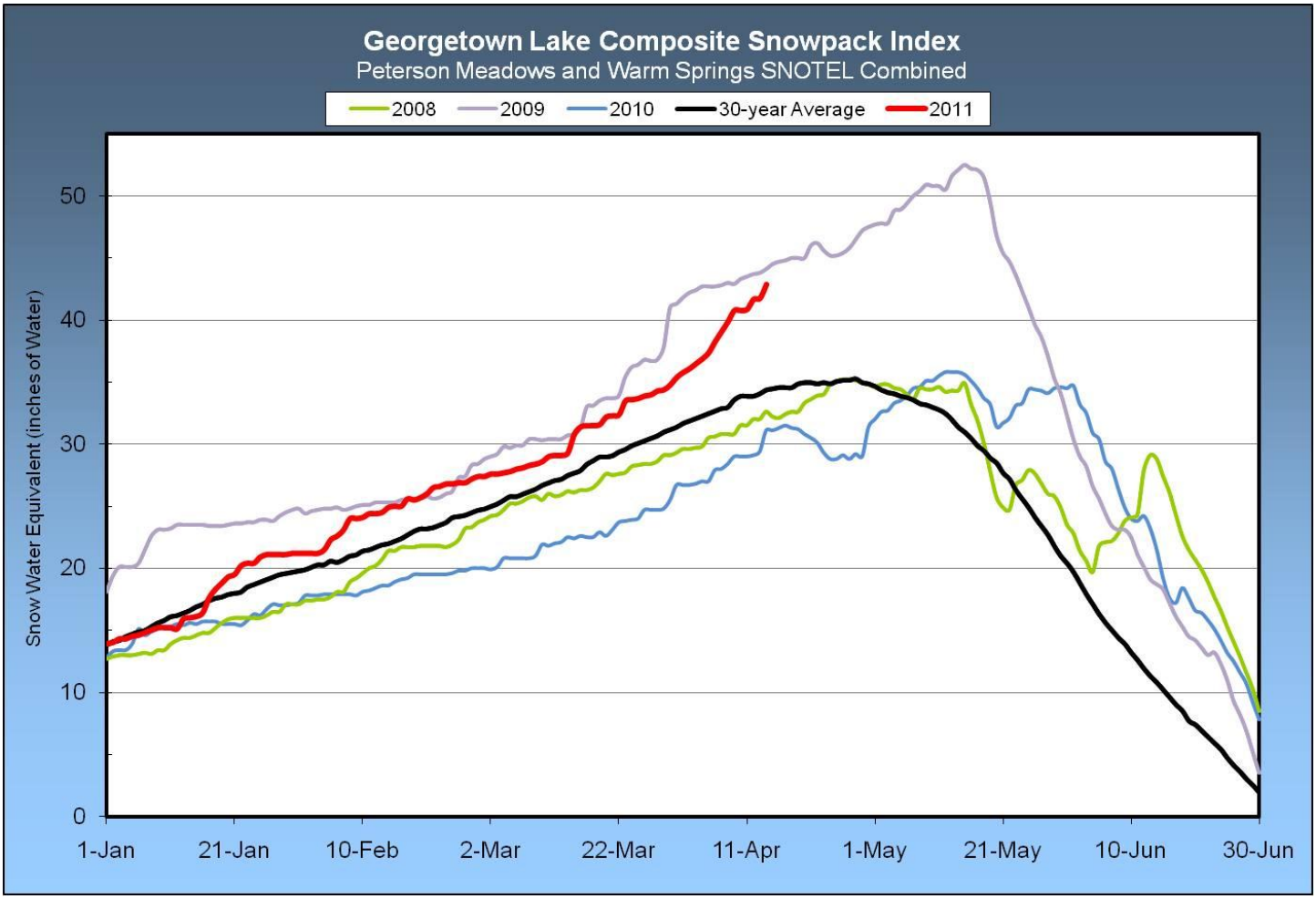
The March 17 Climate Prediction Center (CPC) forecast predicts above-normal air temperatures and below-normal precipitation for May through July for western Montana. The CPC forecast will be updated next week. The short term forecast calls for more snow.

Snow Pack

Today the snow pack for the lake sits at about **125% of normal snow water equivalent**. The graph on the following page shows the snow water accumulation for the past few seasons, in relation to the average accumulation curve.

Considering manual and automated data as of April 1, the Flint Creek Basin as a whole sits at 113% of normal snow water. That figure was calculated before several storm cycles, which have added significant moisture.

	Peterson Meadows =	**116% of normal** (Automated SNOTEL)
	Warm Springs =	**129% of normal** (Automated SNOTEL)
	Black Pine =	**132% of normal** (Automated SNOTEL)
	Combination =	**158% of normal** (Automated SNOTEL)
March 28	Discovery Basin =	**122% of normal** (Manual Snow Course)
March 26	Intergaard =	**105% of normal** (Manual Snow Course)
March 29	Storm Lake =	**111% of normal** (Manual Snow Course)



Peak Inflow Timing

Last year, the North Fork of Flint Creek peaked on June 17 at 97 cfs, which is lower than the average peak of 115 cfs, and a few weeks later than the average peak date of June 2. The peak occurred one day after the half-melt date of the combined Peterson Meadows and Warm Springs SNOTEL sites.

Peak flows on Boulder Creek and the North Fork of Flint Creek are highly correlated. Boulder Creek and the North Fork typically peak within one day of each other. Last year, both creeks peaked on June 17.

NRCS Stream flow Forecast, April 7	50% chance of exceeding	70% chance	30% chance
Flint Creek near Southern Cross	**109% of normal volume**	90%	130%
Flint Creek below Boulder Creek	104%	87%	121%
Lower Willow Creek Res Inflow	115%	97%	134%

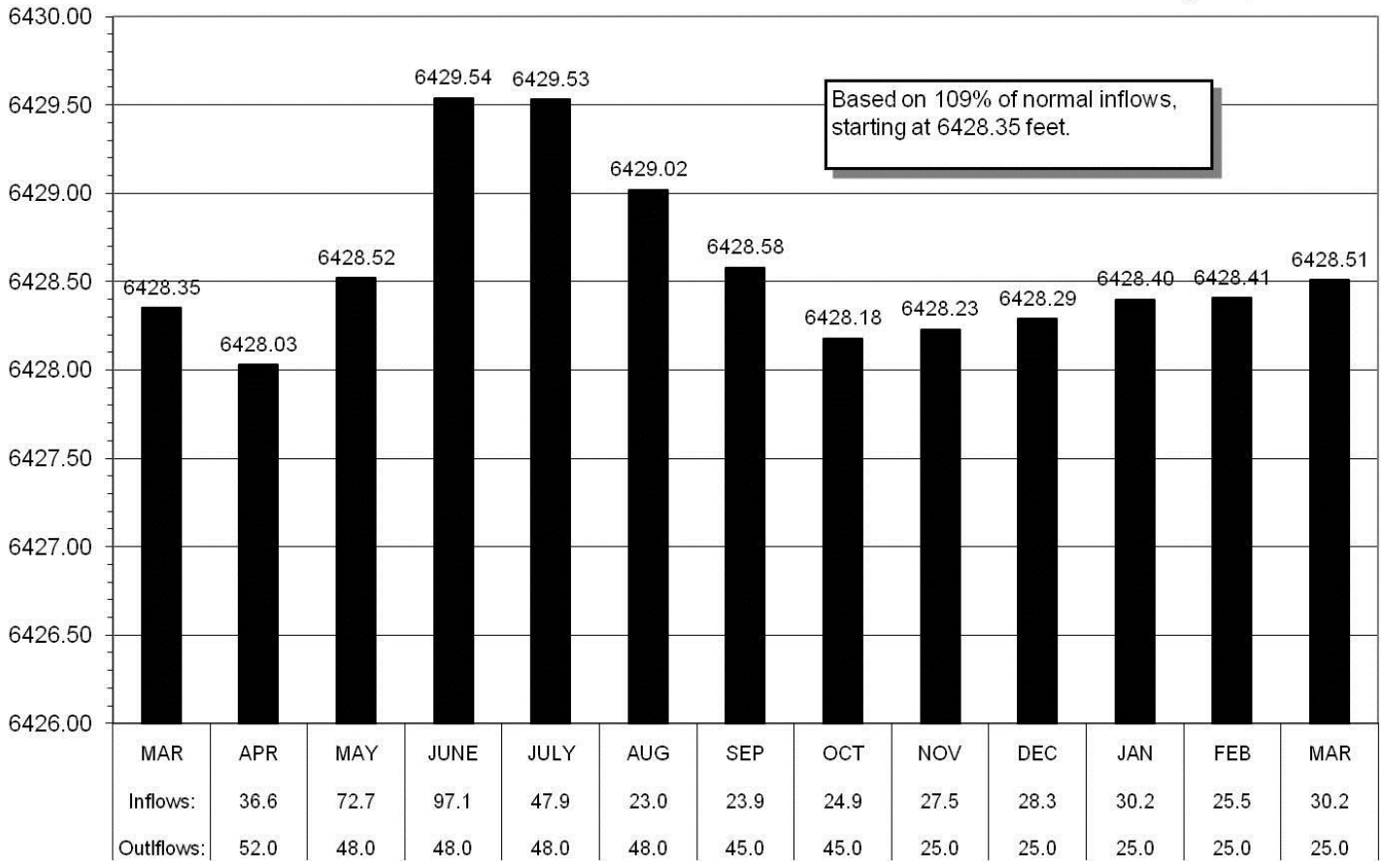
Model Predictions using **109% of normal flows**

The focus at this time should be on executing an effective inflow-outflow regime based upon the soon-to-be melting snow and short term weather. The goal, as always, is to fill the reservoir to the spillway crest by the end of July, while maintaining reasonable outflows and keeping an eye on safety at the dam and downstream. Springtime at the lake is always a time of flux, largely due to the vacillating air temperatures.

At 109% of normal, there is plenty of water to satisfy all interests, even if the summer proves to be warmer and drier than normal. The graph below shows one possible scenario for outflows. Currently Granite County has outflow set at 64 cfs in anticipation of high inflows due to the melt of the above-normal snow pack. If the outflow remains at 64 cfs, the average monthly outflow for April will calculate out to 52 cfs.

Georgetown Lake
End-of-Month Water Surface Elevations

April 14, 2011



	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
Inflows:		36.6	72.7	97.1	47.9	23.0	23.9	24.9	27.5	28.3	30.2	25.5	30.2
Outlflows:		52.0	48.0	48.0	48.0	48.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0

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