

BLACK BEAR LAKE HYDROELECTRIC PROJECT

NO. 10440

**CORRESPONDENCE RELATIVE TO
LOW LAKE LEVEL**



A subsidiary of Alaska Power & Telephone Company.



April 21, 2011

Monte D. Miller
Statewide Hydropower Coordinator
Alaska Department of Fish and Game
Division of Sport Fish / RTS
333 Raspberry Road
Anchorage, Alaska 99518-1565

Re: Black Bear Lake Hydroelectric Project
FERC No. 10440
ADF&G Letter of April 13, 2011

Dear Mr. Miller:

This letter is in response to your letter of April 13, 2011, sent to us with your concerns about the operation of the Black Bear Lake Hydroelectric Project. We were disappointed with ADF&G that they would send a letter with inaccuracies and innuendo that we are “gaming” the environment.

It is true that just before spring we have often had to either reduce hydro operations to the minimum instream flow requirement (MIFR), or drop below the minimum if inflow to the lake continues to be less than the MIFR and the lake is also low. While the MIFR is a license article and is meant to enhance the anadromous reach of Black Bear Creek by moderating peak flows and providing more flow at low flow periods, it must be remembered that the MIFR is based on averages and there are going to be periods when natural inflow is below this target. An example is below where we looked for the lowest recorded daily average for the month of March, based on the hydrologic record of Black Bear Lake:

	Lowest Daily Avg	Monthly Avg
March 3, 1984	13.0 cfs	27.4 cfs
March 28, 1985	4.0	13.3
March 18, 1986	11.0	32.7
March 10, 1987	3.3	7.5
March 16, 1988	7.0	17.4
March 2, 1989	1.7	3.98
March 26, 1990	7.9	15.8
March 27, 1991	2.4	5.2

The above shows that there are huge variations between daily and monthly averages. The point being that the average of 8 years for the month of March was 15.4 cfs while there were 4 years below this average and many days that were way below the 8 year average. As with any average, by definition, half will be above and half will be below. Therefore, to expect that this project will always meet the average flow, or be near the average flow, would not be realistic.

However, if all that the project is providing is what nature is providing, i.e. run-of-river mode, the water available is what would be available if the project did not exist. This isn't to say we don't have a responsibility to meet the licensed MIFR, because we do, but due to the variability of this lake at this time of year, meeting the MIFR can be difficult to do. We don't intentionally or contrive to make this situation happen, as you imply, but we cannot forecast the weather to predict when conditions will improve if the historical record has a high degree of variability, which in this case it does. The "*Impacts of Climate Change and Variability on Hydropower in Southeast Alaska*" report forwarded by Sue Walker/NMFS which also referenced the NOAA website for the "Climate Prediction Center" can be a useful tool to see what projections there are for Southeast Alaska in the future, but we will have to evaluate this information with comparisons of what happens in the future. Noting when negative Pacific Decadal Oscillation (PDO) are projected to occur may be particularly useful, but how these will relate to this particular watershed remains to be seen.

The "*Impacts of Climate Change and Variability on Hydropower in Southeast Alaska*" report predicting La Nina and PDO effects on hydro production does appear to show a slow trend. However, the following needs to be understood:

- Between January 1st of 2010 and April 20th of 2010, the project released 4911 acre-ft of water while utilizing about 100 acre-ft of storage. That is, the inflow to the lake during that time period was 4811 acre-ft.
- Between January 1st of 2011 and April 20th of 2011, the project released 3076 acre-ft of water while utilizing about 812 acre-ft of storage. That is, the inflow to the lake during that time period was 2264 acre-ft.
- Inflow to the lake during this period in 2011 is 47% of the inflow to the lake during the same period in 2010. This has nothing to do with global trends; it shows the tremendous variability of the lake.

AP&T would be interested in knowing who could predict the above; that there would be a 47% difference between two consecutive years?

In addition, on January 1, 2010, the lake was 18-inches higher than it was on January 1, 2011. On April 1, 2010, the lake was 7 feet higher in elevation than it was on April 1, 2011. In January, the lake level was 7 feet lower than 2009 in spite of using 13 times as much diesel generation in 2011.

As for South Fork Hydro, that project is not figured into the flow the BBL Hydro license states we are to provide. The BBL Hydro flow requirements stand alone, but South Fork

Hydro is mentioned because at times when we have had low BBL Hydro flows, South Fork Hydro has been providing decent flow, due to its lower elevation, to help keep Black Bear Creek flows higher. We have been providing South Fork information only to use as a comparison for what is happening, but is not meant to replace BBL Hydro's instream flow requirement and never has been by us. Anecdotally, Black Lake below Black Bear Creek is the lowest that one of our staff has ever seen it. Other streams on POW are also low or dry. The Black Bear Lake Hydroelectric Projects water difficulties are not isolated to just the lake, but to the whole island.

You are correct that flow from Black Bear Lake goes through the project penstock to the powerhouse and is discharged through the tailrace into Black Bear Creek. There is also a bypass flow valve at the valve-house below the project siphon-house that will discharge water into the lake outlet stream if the project has to shut down. Your statement that, "*The natural creek outflow from the lake was filled with shot rock,*" is not accurate. The contractor was advised during construction to remove some shot rock from the outlet stream, which he did, but as the enclosed photos show the original outlet stream channel is still in existence from which the lake spills most summers. Again, South Fork Hydro flows are not counted toward the environmental flow listed in the BBL Hydro license.

Taking your bullet points one by one we offer the following comments:

- *"The BBL notification letter to the agencies (attachment to the March 14, 2011 e-mail) has not been included in the communication list in the notification to FERC of non-compliance and request for variance; therefore, it is included at the end of this letter. This letter and attachment will be filed with FERC."*
Thank you for sending the letter to the Commission, this was our oversight.
- *"Notification to the agencies was only made after Alaska Power and Telephone (APT) and BBL had run the lake down to critically low lake levels. The graphs supplied with the notification letter attached to the e-mail show an indication as early as mid February that the lake level could not sustain the continued rate of water withdrawal. What is missing from this information is a comparison of the daily flow through the powerhouse / turbine with lake levels preceding the crisis. This additional information would help to evaluate how project operation affects lake level or relates to decline in lake level. If, during the weeks prior to declaring a crisis, the project was operating and releasing flows above environmental flows, resulting in a decline in the lake level, then this non-compliance event is the result of exploitation of the system in the hope that the lake would refill before the method of operation became a problem. This is a choice of power production before environmental flows."*

We agree it may have been helpful for the agencies to be notified of conditions in February of what we were doing regarding operations and the use of diesel, whether conditions got worse or not; although we would not do so on a daily basis unless we had to go below the minimum, such as we are doing now. We do, however, strongly object to your rationalization that we are operating this project to the "exploitation" of the system (environment). Nothing could be further from the truth. This time of year, due to the history of the project, we are constantly working to balance

operations with the variable inflow to the lake. We began using significant amounts of diesel on January 11, 2011, while reducing hydro operations to just above the minimum flow requirement. This lasted for nine days, or until January 20, when the lake began rising and because of the unpredictability of the lake we increased the hydro operations and reduced our use of diesel. On February 22, we again reduced hydro operations and increased the use of diesel to address the lake drawdown. The normal levels of precipitation we experience at this time did not occur; there are many years when inflow in January, February, March, and April were much more significant than this year.

- *"The BBL determination of current flow levels was dictated to the agencies. A statement of "we will assume you are in agreement" is nothing more than saying that this is what it is. The result of BBL dictating what the flows will be is that there was no place for agencies to comment. There needs to be an evaluation of lake level vs. flows to determine proper trigger points to identify when diesel generation should replace hydroelectric generation to prevent extreme drawdown of the lake, which then reduces environmental flows below FERC license levels. For example, if in January the environmental flow is set by license at 9 cfs, the generation is using 12 cfs, and the lake level is declining, it would be prudent to ramp up diesel generation and reduce hydroelectric generation back to the production that 9 cfs will provide. This will assist in meeting compliance in the spring and reduce the gamble that the lake will refill. This is just an example but demonstrates the need for revisiting current operational methods. The same logic would apply during any operational period for BBL."*

In regards to your comment, "*The BBL determination of current flow levels was dictated to the agencies.*" We believe that our record for this year shows that we have taken appropriate measures to reduce the use of water from the lake while maintaining the MIFR. We could have voluntarily kept the resource agencies appraised, even though at the time we did not know what the eventually outcome would be, i.e. the present low water. The potential for rains to provide several feet of inflow that historically can occur January through April did not occur at the usual levels this year. Therefore, in hindsight, February may have been an appropriate time to notify the resource agencies. For those who have worked with us on this project for many years, we believe they understand we do not take this lightly, and on reflection, we note that there are several new agency representatives who know little about this project, hence the potential to see us as dictating to them. It is unfortunate there is this misunderstanding.

In response to your suggestion, "*There needs to be an evaluation of lake level vs. flows to determine proper trigger points to identify when diesel generation should replace hydroelectric generation...*" please see the enclosed flow data for January 2011 which illustrates that we do evaluate when diesel generation should replace hydroelectric generation to reduce the use of water and avoid any extreme drawdown of the lake, because we did go down to just above the minimum instream flow requirement for nine days before the lake began to rise again. We do rely on the historical record to help us operate the project, but with less precipitation in November/December 2010 and less than typical in

January/February, we started using diesel generation by January 11. Since we are licensed to go down to -15 feet, what is your definition of “extreme drawdown?”

- *“A reduction from 9 cfs to 7.65 cfs was identified by BBL on March 14, 2011, yet on March 15 flows were identified in the update e-mail as 7.30 to 7.65 cfs. March 16 is listed as 7.6 cfs and on March 17 flows were as low as 6.8 cfs between 2 PM and 3 PM. This low flow does not appear in the graph provided in the variance request filing (Page 7 of 13).”*

The reason the low flow of 6.8 cfs does not show on March 17 is that it occurred on March 15, as the flow chart shows. It is important to have facts straight when reporting to FERC and your implying that our information is inaccurate, or something else... is not appropriate. The flows initially varied to find something close to the inflow to the lake. We had one blip on March 15 in making adjustments but were able to stay fairly close to 7.65 cfs. Flows fluctuate within a small range, hence despite the setting for flow, it will fluctuate a tenth of a cfs here, a twentieth of a cfs there, etc. up and down to average our setting. When we say we are going to a specific flow we will have minor fluctuations, which is why when we are meeting the MIFR we set the target above the MIFR so that it doesn't drop below, keeping us in compliance. Having gone to 7.65 cfs at that time, the lake initially rose slightly, indicating this was a good estimate of inflow to the lake. Since we are already below the MIFR that the flow fluctuates around, our setting is of little consequence since it averages out.

Since we have not been able to meet the minimum instream flow requirement starting March 15, the project has been basically operating in run-of-river mode to match the inflows to the lake. Although this is not the licensed flow we are to provide, which are also meant to provide enhancement of flow to Black Bear Creek, the flow we are providing is at minimum what nature would be providing if the project did not exist and should not be construed as harming the environment (any more than nature would), just not enhancing environmental flows as these flows were intended to do. During this experience we are still often enhancing flow to the creek since we are providing more than nature much of the time.

- *“Between March 18 and 21, over a period of approximately 55 hours, BBL increased flows to greater than 1cfs over environmental licensed flows. This caused a further reduction in the lake level of nearly ½ foot to a level lower than -14.2 feet. This was over a weekend and we question why the flows through the generation plant exceeded licensed flows when clearly inflow to the lake was critically low and operation in this manner would only increase problems with the declining lake level.”*

Increasing flow to Black Bear Creek did enhance the flow from what nature was providing as well as meet the MIFR, but the extra 1 cfs per hour over 55 hours hardly represents much in the big picture. [1 cfs for 55hrs is 4.5 ac-ft or about .03 ft on a 150 surface-acre lake; estimated acreage at that lake level]

- “*By March 25th the lake level had declined to -14.45 feet while the project ran at 7.5 cfs. The 7.5 cfs is an additional reduction of flow from what was listed in the BBL notification to agencies.*”

A 1/10 of a cfs is small and obviously if the lake was still going down this was an enhanced flow for Black Bear Creek. We probably should have gone lower and as you've stated, under these conditions all we can do is respond to conditions and notify the resource agencies as to what we are doing.

- *The March 25, 2011 e-mail states, ”If you remove a few anomalous years, i.e. 1996, 1998, 2004, & 2005, you can see that inflow to the lake declines, as expected, each winter. This brings up the instream flow requirement during the winter months. The instream flow is based on a monthly pre-project average.”*

When BBL cites 4 of the 16 years presented as being anomalous, we question how 25% of the past 16 years can meet the definition of anomalous. A new definition of normal for this system needs to be developed and used in making operational decisions. What BBL calls anomalous would probably factor greatly in developing new normal conditions and may actually show a trend in general reduction of inflow which in turn could impact how this project is operated.

You are correct in that close to half the time inflow is better than this year, so 25% wouldn't be accurate. Statistically, there is about an equal chance that inflow to the lake will be less than the pre-project average flows, but you never know when these are going to occur and to what degree, because the stats show that the lake inflow moves above and below the average throughout its recorded history. We acknowledge that weather is changing around the globe and that changes may also be occurring in Southeast Alaska. Our recent water use data doesn't provide enough information to see a clear trend that there is less water coming into Black Bear Lake, although we did use significantly more water in 2007 than in the last three years. However, since a low in 2008 we have increased our use as follows (which does not include spilled water):

<u>Annual Water Use Data</u>
2002 = 16,951 acre-feet
2003 = 18,165 acre-feet
2004 = 18,488 acre-feet
2005 = 18,731 acre-feet
2006 = 17,554 acre-feet
2007 = 18,249 acre-feet
2008 = 13,466 acre-feet
2009 = 15,795 acre-feet
2010 = 16,353 acre-feet

This year however will be another low water year in comparison to 2007.

- *The March 25, 2011 e-mail states, ” When inflow is this low, all we can do is run in run-of-river mode. Perhaps the license should have said we could operate in run-of-river mode when inflow was lower than the minimum instream flow requirement and the lake is below a certain level.”*

It is obvious that the level of the lake is controlled both by inflow as well as hydropower operations. The statement cited would only excuse hydropower operations conducted at the expense of lake levels during times prior to these emergency situations and would do nothing to correct or slow reduction of lake levels. This language would only facilitate a continued game of chance regarding potential lake refill. The trigger point for run of river operations needs to be re-evaluated to reduce potential lake drawdown. This may mean that diesel generation will need to be utilized sooner so that the lake is in better shape to sustain hydropower operations. The lake would also recover faster and environmental flows could be met.

This point-of-view that we are playing “*games of chance*” with the environment is disappointing, inflammatory, and unnecessary for our discussions.

The National Weather Service has reported conditions in Southeast Alaska as being dryer and colder than normal this winter. The Black Bear Lake Hydroelectric Project can attest to that as well. Previous data on Page 3 illustrates the unpredictability of this system, not necessarily that the weather for the area is changing. Nor does this show that we are operating the project inappropriately. Even though we began using diesel to off-set hydropower as early as January, we still have to operate below the MIFR at this time.

“BBL has attempted to provide daily information to the agencies as stated in the FERC filing. There were missed days in those notifications as referenced in the correspondence e-mail dated March 18, 2011. The initial e-mail notification dated March 14, 2011 stated:” We will be submitting daily reports to keep you posted.” Only weekday reports have been developed and submitted to the agencies, with a small summary for what may have happened over weekends since this situation was presented by BBL. Operations during the 55 hours between March 18 and 21, 2011, indicates that there may be limited oversight of this project during weekends.”

You are correct, we should have stated we would only report during weekdays, as little changes over the weekend and as long as we are at least mimicking natures flow, the anadromous habitat in Black Bear Creek is receiving the same flow as nature would provide. Your opinion that we have limited oversight of the project on weekends has no basis. Does ADF&G have someone available during the weekends to review our reports if submitted? [This is a rhetorical question]

“On March 24, 2011, the U.S. Forest Service notified BBL that they did not necessarily agree to the temporary variance request. ADF&G also has concerns with continued allowance of variance requests without re-evaluation of operations. As such, we also do not necessarily agree with the request of BBL. Agency silence should not be taken as acceptance by BBL. Since BBL made and implemented decisions without any agency consultation, there was nothing to agree to. The BBL operation scenario currently in place is the only scenario that the lake and stream system is left with. In this case, perhaps operational changes could have been implemented much earlier, reducing the intensity of this crisis.”

Considering the historic inflow to this lake, we believe we have handled the operations of the project appropriately. Since none of us can forecast when and what type of precipitation will occur, starting diesel generation in January of this year seems like an appropriate and timely step. Hindsight is not even always 20/20 as not only are we to

protect the environment, but we have the responsibility of using the water wisely, which includes using it to offset diesel generation which adds CO² (a Green House Gas), NOx and particulate matter to the air. We attempt to balance these two apposing needs all the time. Add to this the difference in water in the lake between January 2010 and 2011 and April 2010 and 2011, it is easy to see that nature is unpredictable and we have adjusted our operations as best we can to meet these variable circumstances.

"BBL requested a temporary variance for the instream flow requirements for March citing conditions beyond their control. Were the conditions "beyond their control" or did they use an operational plan which gambles on precipitation events? Clearly an evaluation of operational plans and how the lake is managed will be necessary due to repeated non-compliance issues with this project. BBL also requested a variance in lowest lake level allowed. This is confusing since in the past lake elevations below -15 feet have caused problems with the siphon intake. Has something changed with the lake siphon? It would seem that drawing down the lake further would only deepen the current crisis by affecting the siphon, perhaps cutting off all environmental flows, as has happened in the past."

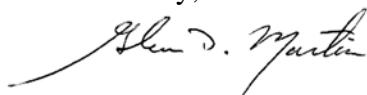
Again, the use of inflammatory language, such as we are "gambling" with the environment is neither accurate nor appropriate. The request to FERC for a temporary variance of possibly going below -15 feet was to ensure we had that covered, but it turned out this wasn't necessary. However, the project has operated below -15 feet, but we prefer not to. We have not had problems with the siphon at those few times, but it does place more stress on the siphon, and hence raises our concern. However, with current conditions we may need to request from FERC a variance for the April lake drawdown assuming we end up below -15 feet.

"This issue has now been ongoing for a month, with just 55 hours of environmental flow compliance between March 18 and March 21, 2011, compliance which adversely affected lake level. There have been no further variance requests generated by BBL for April, but our concerns and our comments are valid for as long as the current crisis exists and until an evaluation is conducted."

We do not believe that the 55 hours of environmental flow compliance adversely affected the lake level as the 1cfs flow difference per hour did not significantly change conditions. We do agree that thoughtful concerns and comments are valid as long as the current crisis exists.

We look forward to further discussions. We are working on making the 16 year table you requested.

Sincerely,



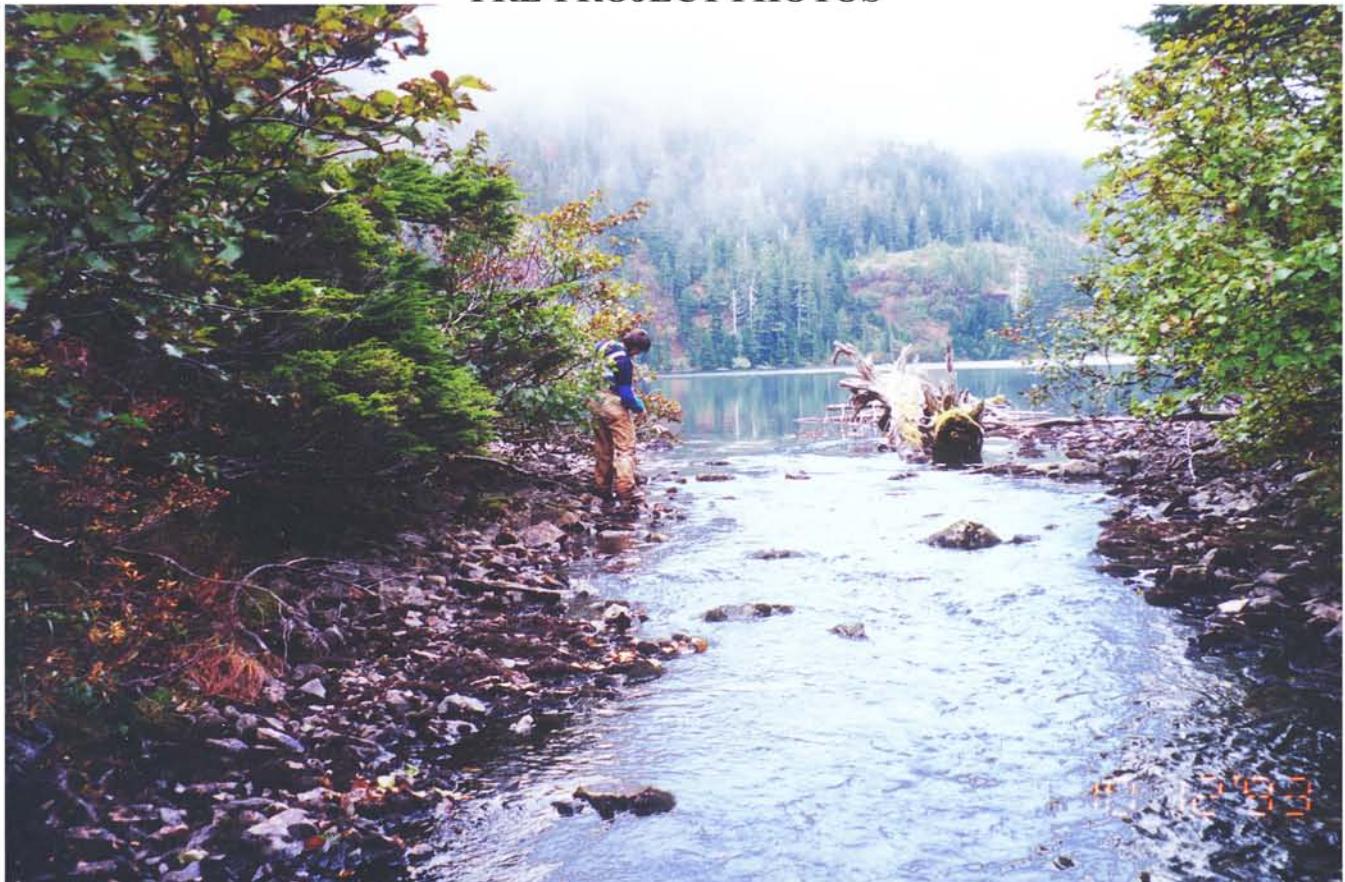
Glen D. Martin
Compliance Manager

Enc. (as stated)

Cc: Kimberly D. Bose, Secretary-FERC
Joe Klein, ADF&G
Shawn Johnson, ADF&G
Mark Minnillo, ADF&G
Theodore Deats, DNR
Patrick Regan, FERC
Barbara Stanley, USDA, USFS
Sue Walker, NMFS
Eric Rothwell, NOAA
Steve Brockman, USFWS
Peter Olmstead, USACOE

PHOTOS OF LAKE OUTLET CHANNEL

**BLACK BEAR LAKE HYDRO
PRE-PROJECT PHOTOS**



Above is Black Bear Lake and outlet stream; below is a little farther downstream.



At right is the beginning of the lake outlet channel with the buried penstock on its right bank. The siphon-house is located at right of middle of photo.

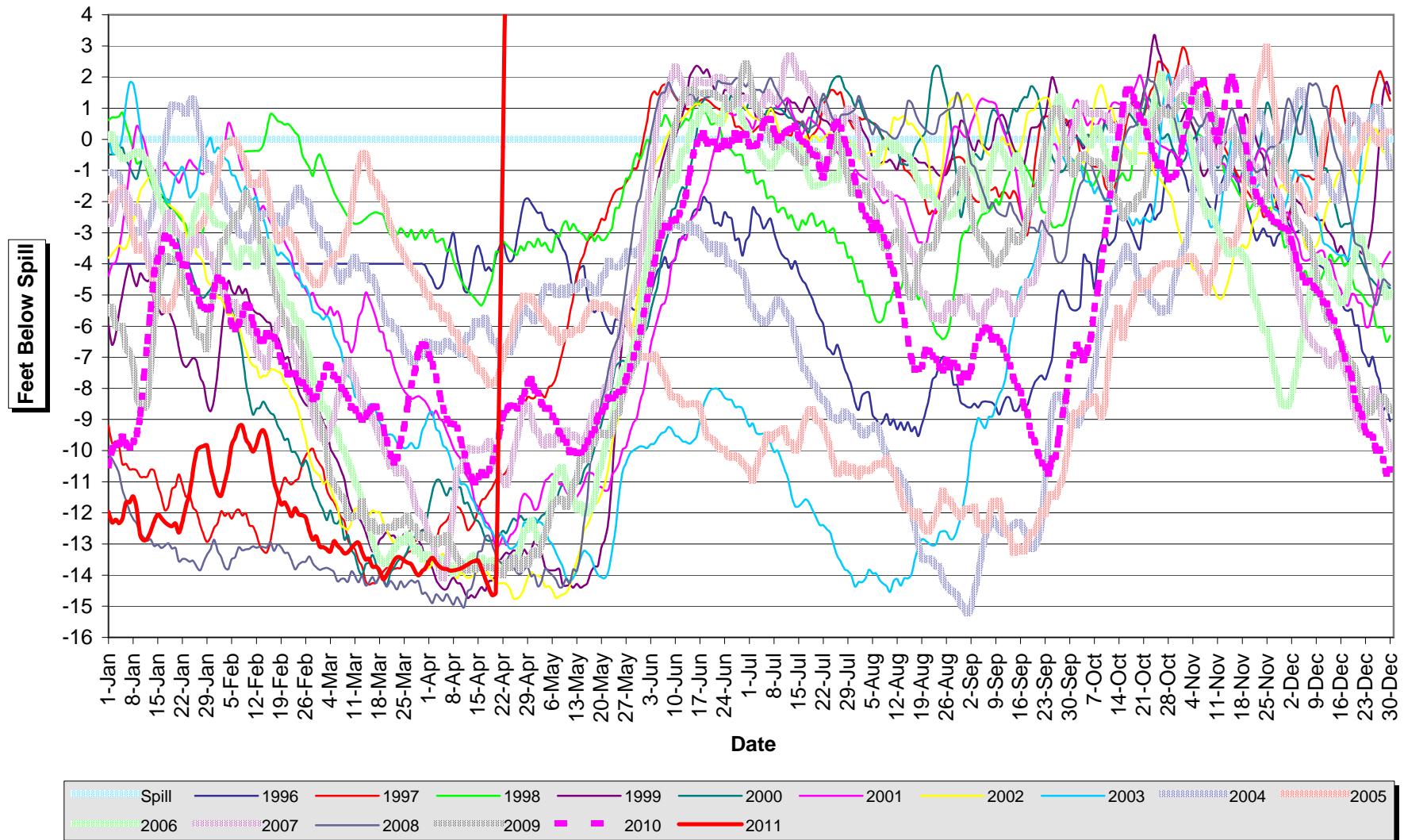


At left is a photo of the lake outlet channel with the same log crossing the channel as in the above photo.



The photo at right is of the lake outlet channel from just down stream of the log crossing in the other photos.

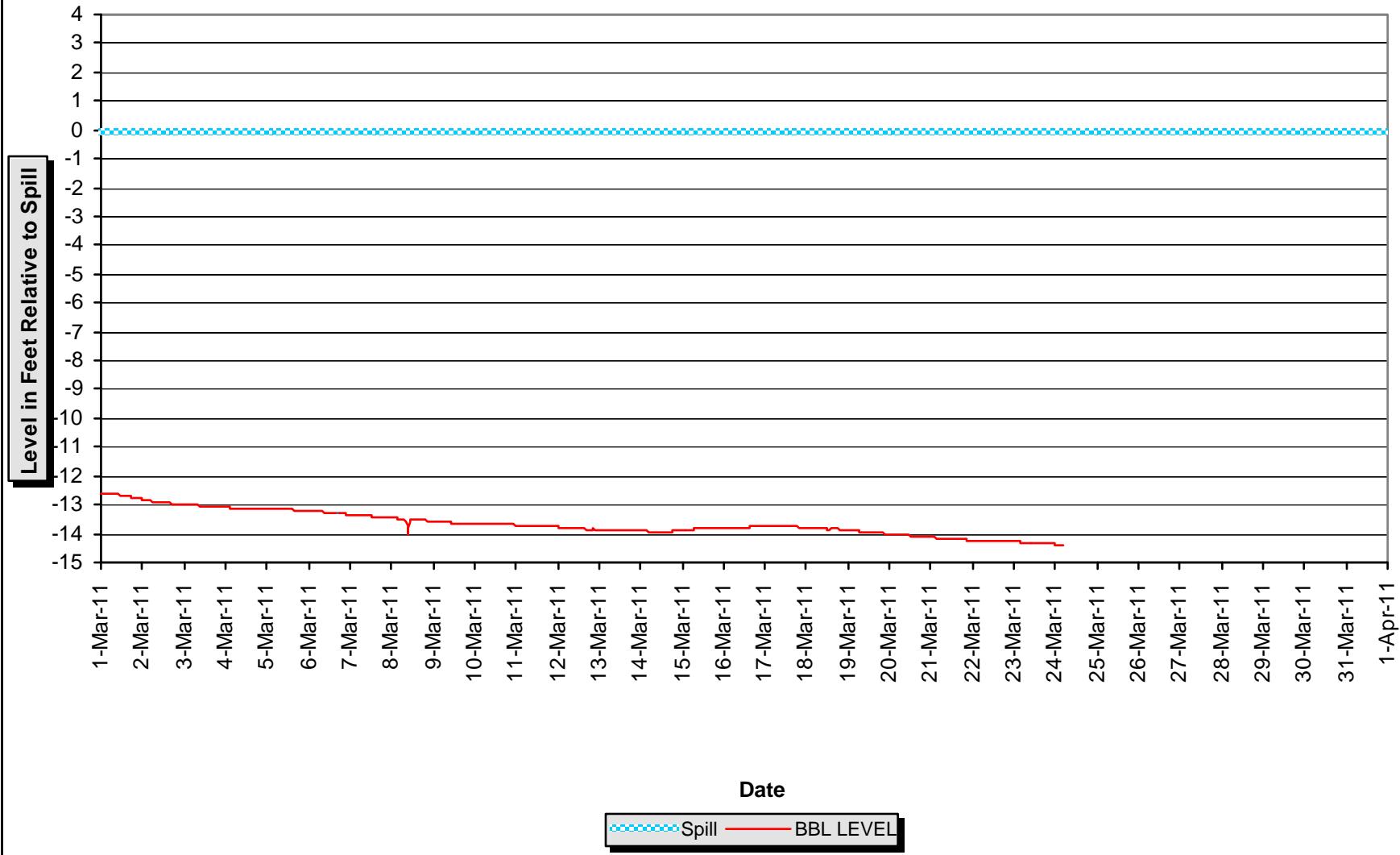
Black Bear Lake Level-Synthesized



BBL HYDRO

MARCH FLOW DATA

Black Bear Lake Level-March 2011



Black Bear Lake Project - FERC #10440
Flow Data - Article 406
Mar-11

Flow in Cubic Feet per Second
 Totals in Acre-Feet

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
1-Mar-11	0:00	14.25		
1-Mar-11	1:00	14.18		
1-Mar-11	2:00	14.13		
1-Mar-11	3:00	14.12		
1-Mar-11	4:00	14.18		
1-Mar-11	5:00	14.10		
1-Mar-11	6:00	14.22		
1-Mar-11	7:00	14.14		
1-Mar-11	8:00	15.00		
1-Mar-11	9:00	15.26		
1-Mar-11	10:00	15.17		
1-Mar-11	11:00	15.24		
1-Mar-11	12:00	15.22		
1-Mar-11	13:00	15.19		
1-Mar-11	14:00	16.33		
1-Mar-11	15:00	15.72		
1-Mar-11	16:00	15.62		
1-Mar-11	17:00	21.01		
1-Mar-11	18:00	19.32		
1-Mar-11	19:00	21.38		
1-Mar-11	20:00	20.83		
1-Mar-11	21:00	20.74		
1-Mar-11	22:00	20.94		
1-Mar-11	23:00	20.85	32.821	32.821
2-Mar-11	0:00	20.94		
2-Mar-11	1:00	20.77		
2-Mar-11	2:00	21.00		
2-Mar-11	3:00	20.79		
2-Mar-11	4:00	20.84		
2-Mar-11	5:00	20.73		
2-Mar-11	6:00	20.12		
2-Mar-11	7:00	11.43		
2-Mar-11	8:00	9.51		
2-Mar-11	9:00	9.50		
2-Mar-11	10:00	9.46		
2-Mar-11	11:00	9.46		
2-Mar-11	12:00	9.47		
2-Mar-11	13:00	9.44		
2-Mar-11	14:00	9.44		
2-Mar-11	15:00	9.61		
2-Mar-11	16:00	12.12		
2-Mar-11	17:00	12.14		
2-Mar-11	18:00	12.96		
2-Mar-11	19:00	13.05		
2-Mar-11	20:00	13.04		
2-Mar-11	21:00	13.07		
2-Mar-11	22:00	13.08		
2-Mar-11	23:00	10.85	27.506	60.327
3-Mar-11	0:00	10.54		
3-Mar-11	1:00	10.53		
3-Mar-11	2:00	10.50		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
3-Mar-11	3:00	10.53		
3-Mar-11	4:00	10.49		
3-Mar-11	5:00	10.49		
3-Mar-11	6:00	10.50		
3-Mar-11	7:00	10.55		
3-Mar-11	8:00	10.54		
3-Mar-11	9:00	10.47		
3-Mar-11	10:00	10.47		
3-Mar-11	11:00	10.51		
3-Mar-11	12:00	10.51		
3-Mar-11	13:00	10.50		
3-Mar-11	14:00	10.51		
3-Mar-11	15:00	10.54		
3-Mar-11	16:00	10.50		
3-Mar-11	17:00	10.52		
3-Mar-11	18:00	11.61		
3-Mar-11	19:00	12.09		
3-Mar-11	20:00	12.11		
3-Mar-11	21:00	12.10		
3-Mar-11	22:00	12.06		
3-Mar-11	23:00	12.08	21.591	81.918
4-Mar-11	0:00	12.02		
4-Mar-11	1:00	12.05		
4-Mar-11	2:00	12.02		
4-Mar-11	3:00	12.04		
4-Mar-11	4:00	11.99		
4-Mar-11	5:00	12.04		
4-Mar-11	6:00	12.09		
4-Mar-11	7:00	13.56		
4-Mar-11	8:00	12.21		
4-Mar-11	9:00	11.97		
4-Mar-11	10:00	11.05		
4-Mar-11	11:00	11.07		
4-Mar-11	12:00	10.70		
4-Mar-11	13:00	10.09		
4-Mar-11	14:00	10.58		
4-Mar-11	15:00	10.25		
4-Mar-11	16:00	9.74		
4-Mar-11	17:00	9.70		
4-Mar-11	18:00	9.74		
4-Mar-11	19:00	9.74		
4-Mar-11	20:00	9.70		
4-Mar-11	21:00	9.73		
4-Mar-11	22:00	9.71		
4-Mar-11	23:00	9.71	21.777	103.695
5-Mar-11	0:00	9.70		
5-Mar-11	1:00	9.65		
5-Mar-11	2:00	9.68		
5-Mar-11	3:00	9.71		
5-Mar-11	4:00	9.65		
5-Mar-11	5:00	9.70		
5-Mar-11	6:00	9.70		
5-Mar-11	7:00	9.73		
5-Mar-11	8:00	9.71		
5-Mar-11	9:00	9.72		
5-Mar-11	10:00	9.65		
5-Mar-11	11:00	9.65		
5-Mar-11	12:00	9.69		
5-Mar-11	13:00	9.66		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
5-Mar-11	14:00	9.72		
5-Mar-11	15:00	9.71		
5-Mar-11	16:00	9.67		
5-Mar-11	17:00	9.71		
5-Mar-11	18:00	9.70		
5-Mar-11	19:00	9.72		
5-Mar-11	20:00	9.68		
5-Mar-11	21:00	9.71		
5-Mar-11	22:00	9.70		
5-Mar-11	23:00	9.69	19.224	122.919
6-Mar-11	0:00	9.70		
6-Mar-11	1:00	9.69		
6-Mar-11	2:00	9.70		
6-Mar-11	3:00	9.67		
6-Mar-11	4:00	9.68		
6-Mar-11	5:00	9.68		
6-Mar-11	6:00	9.67		
6-Mar-11	7:00	9.69		
6-Mar-11	8:00	9.67		
6-Mar-11	9:00	9.68		
6-Mar-11	10:00	9.71		
6-Mar-11	11:00	9.66		
6-Mar-11	12:00	9.69		
6-Mar-11	13:00	9.65		
6-Mar-11	14:00	9.67		
6-Mar-11	15:00	9.71		
6-Mar-11	16:00	9.71		
6-Mar-11	17:00	9.73		
6-Mar-11	18:00	9.69		
6-Mar-11	19:00	9.69		
6-Mar-11	20:00	9.65		
6-Mar-11	21:00	9.68		
6-Mar-11	22:00	9.68		
6-Mar-11	23:00	9.68	19.209	142.128
7-Mar-11	0:00	9.67		
7-Mar-11	1:00	9.63		
7-Mar-11	2:00	9.67		
7-Mar-11	3:00	9.68		
7-Mar-11	4:00	9.65		
7-Mar-11	5:00	9.65		
7-Mar-11	6:00	9.65		
7-Mar-11	7:00	10.15		
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7-Mar-11	10:00	9.63		
7-Mar-11	11:00	9.98		
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7-Mar-11	13:00	9.96		
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7-Mar-11	17:00	10.00		
7-Mar-11	18:00	10.90		
7-Mar-11	19:00	11.59		
7-Mar-11	20:00	11.54		
7-Mar-11	21:00	11.56		
7-Mar-11	22:00	10.70		
7-Mar-11	23:00	10.06	20.038	162.166
8-Mar-11	0:00	10.26		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
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8-Mar-11	2:00	9.45		
8-Mar-11	3:00	9.46		
8-Mar-11	4:00	9.44		
8-Mar-11	5:00	9.43		
8-Mar-11	6:00	9.41		
8-Mar-11	7:00	10.73		
8-Mar-11	8:00	9.36		
8-Mar-11	9:00	9.52		
8-Mar-11	10:00	9.56		
8-Mar-11	11:00	10.18		
8-Mar-11	12:00	10.07		
8-Mar-11	13:00	10.04		
8-Mar-11	14:00	9.99		
8-Mar-11	15:00	10.01		
8-Mar-11	16:00	10.01		
8-Mar-11	17:00	10.01		
8-Mar-11	18:00	11.49		
8-Mar-11	19:00	13.70		
8-Mar-11	20:00	13.63		
8-Mar-11	21:00	13.61		
8-Mar-11	22:00	12.74		
8-Mar-11	23:00	9.88	20.805	182.971
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9-Mar-11	2:00	10.52		
9-Mar-11	3:00	10.52		
9-Mar-11	4:00	10.51		
9-Mar-11	5:00	10.54		
9-Mar-11	6:00	10.21		
9-Mar-11	7:00	9.45		
9-Mar-11	8:00	9.42		
9-Mar-11	9:00	9.42		
9-Mar-11	10:00	9.45		
9-Mar-11	11:00	9.45		
9-Mar-11	12:00	9.43		
9-Mar-11	13:00	9.43		
9-Mar-11	14:00	9.45		
9-Mar-11	15:00	9.45		
9-Mar-11	16:00	9.42		
9-Mar-11	17:00	9.48		
9-Mar-11	18:00	10.75		
9-Mar-11	19:00	12.09		
9-Mar-11	20:00	10.62		
9-Mar-11	21:00	9.98		
9-Mar-11	22:00	9.97		
9-Mar-11	23:00	9.94	19.880	202.851
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10-Mar-11	1:00	9.41		
10-Mar-11	2:00	9.43		
10-Mar-11	3:00	9.43		
10-Mar-11	4:00	9.40		
10-Mar-11	5:00	9.40		
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10-Mar-11	7:00	9.46		
10-Mar-11	8:00	9.43		
10-Mar-11	9:00	9.46		
10-Mar-11	10:00	9.48		
10-Mar-11	11:00	9.41		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
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10-Mar-11	13:00	9.46		
10-Mar-11	14:00	9.45		
10-Mar-11	15:00	9.48		
10-Mar-11	16:00	9.67		
10-Mar-11	17:00	9.67		
10-Mar-11	18:00	10.20		
10-Mar-11	19:00	10.23		
10-Mar-11	20:00	9.55		
10-Mar-11	21:00	9.43		
10-Mar-11	22:00	9.43		
10-Mar-11	23:00	9.44	18.908	221.760
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11-Mar-11	1:00	9.42		
11-Mar-11	2:00	9.44		
11-Mar-11	3:00	9.45		
11-Mar-11	4:00	9.40		
11-Mar-11	5:00	9.44		
11-Mar-11	6:00	9.46		
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11-Mar-11	9:00	9.68		
11-Mar-11	10:00	9.72		
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11-Mar-11	12:00	9.68		
11-Mar-11	13:00	9.72		
11-Mar-11	14:00	9.73		
11-Mar-11	15:00	9.72		
11-Mar-11	16:00	9.74		
11-Mar-11	17:00	9.71		
11-Mar-11	18:00	9.71		
11-Mar-11	19:00	9.72		
11-Mar-11	20:00	9.70		
11-Mar-11	21:00	9.70		
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11-Mar-11	23:00	9.52	19.078	240.837
12-Mar-11	0:00	9.44		
12-Mar-11	1:00	9.40		
12-Mar-11	2:00	9.41		
12-Mar-11	3:00	9.41		
12-Mar-11	4:00	9.41		
12-Mar-11	5:00	9.45		
12-Mar-11	6:00	9.44		
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12-Mar-11	8:00	9.42		
12-Mar-11	9:00	9.45		
12-Mar-11	10:00	9.45		
12-Mar-11	11:00	9.43		
12-Mar-11	12:00	9.45		
12-Mar-11	13:00	9.42		
12-Mar-11	14:00	9.47		
12-Mar-11	15:00	9.45		
12-Mar-11	16:00	9.45		
12-Mar-11	17:00	9.44		
12-Mar-11	18:00	9.49		
12-Mar-11	19:00	9.44		
12-Mar-11	20:00	9.44		
12-Mar-11	21:00	9.37		
12-Mar-11	22:00	9.43		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
12-Mar-11	23:00	9.42	18.712	259.549
13-Mar-11	0:00	9.42		
13-Mar-11	1:00	9.38		
13-Mar-11	2:00	9.40		
13-Mar-11	3:00	9.41		
13-Mar-11	4:00	9.43		
13-Mar-11	5:00	9.42		
13-Mar-11	6:00	9.43		
13-Mar-11	7:00	9.40		
13-Mar-11	8:00	9.61		
13-Mar-11	9:00	9.65		
13-Mar-11	10:00	9.63		
13-Mar-11	11:00	9.51		
13-Mar-11	12:00	9.44		
13-Mar-11	13:00	9.46		
13-Mar-11	14:00	9.48		
13-Mar-11	15:00	9.48		
13-Mar-11	16:00	9.44		
13-Mar-11	17:00	9.46		
13-Mar-11	18:00	9.47		
13-Mar-11	19:00	9.42		
13-Mar-11	20:00	9.41		
13-Mar-11	21:00	9.47		
13-Mar-11	22:00	9.47		
13-Mar-11	23:00	9.47	18.774	278.322
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14-Mar-11	1:00	9.46		
14-Mar-11	2:00	9.44		
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14-Mar-11	4:00	9.48		
14-Mar-11	5:00	9.55		
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14-Mar-11	7:00	9.70		
14-Mar-11	8:00	9.69		
14-Mar-11	9:00	9.71		
14-Mar-11	10:00	9.70		
14-Mar-11	11:00	9.67		
14-Mar-11	12:00	9.70		
14-Mar-11	13:00	10.24		
14-Mar-11	14:00	10.46		
14-Mar-11	15:00	10.46		
14-Mar-11	16:00	9.75		
14-Mar-11	17:00	9.67		
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14-Mar-11	23:00	9.67	19.285	297.607
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15-Mar-11	5:00	9.22		
15-Mar-11	6:00	8.59		
15-Mar-11	7:00	7.74		
15-Mar-11	8:00	8.38		
15-Mar-11	9:00	9.68		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
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15-Mar-11	11:00	7.14		
15-Mar-11	12:00	7.70		
15-Mar-11	13:00	7.23		
15-Mar-11	14:00	6.79		
15-Mar-11	15:00	7.73		
15-Mar-11	16:00	8.29		
15-Mar-11	17:00	7.95		
15-Mar-11	18:00	8.64		
15-Mar-11	19:00	8.02		
15-Mar-11	20:00	7.86		
15-Mar-11	21:00	7.92		
15-Mar-11	22:00	7.61		
15-Mar-11	23:00	7.59	16.535	314.143
16-Mar-11	0:00	7.58		
16-Mar-11	1:00	7.59		
16-Mar-11	2:00	7.56		
16-Mar-11	3:00	7.56		
16-Mar-11	4:00	7.58		
16-Mar-11	5:00	7.55		
16-Mar-11	6:00	7.56		
16-Mar-11	7:00	7.57		
16-Mar-11	8:00	7.56		
16-Mar-11	9:00	7.56		
16-Mar-11	10:00	7.59		
16-Mar-11	11:00	7.58		
16-Mar-11	12:00	7.58		
16-Mar-11	13:00	7.63		
16-Mar-11	14:00	7.58		
16-Mar-11	15:00	7.60		
16-Mar-11	16:00	7.89		
16-Mar-11	17:00	8.22		
16-Mar-11	18:00	7.89		
16-Mar-11	19:00	7.87		
16-Mar-11	20:00	7.88		
16-Mar-11	21:00	7.91		
16-Mar-11	22:00	7.87		
16-Mar-11	23:00	7.88	15.260	329.402
17-Mar-11	0:00	7.87		
17-Mar-11	1:00	7.88		
17-Mar-11	2:00	7.89		
17-Mar-11	3:00	7.88		
17-Mar-11	4:00	7.86		
17-Mar-11	5:00	7.90		
17-Mar-11	6:00	7.84		
17-Mar-11	7:00	7.89		
17-Mar-11	8:00	7.88		
17-Mar-11	9:00	7.89		
17-Mar-11	10:00	7.91		
17-Mar-11	11:00	7.90		
17-Mar-11	12:00	7.85		
17-Mar-11	13:00	7.89		
17-Mar-11	14:00	7.87		
17-Mar-11	15:00	7.87		
17-Mar-11	16:00	7.91		
17-Mar-11	17:00	8.07		
17-Mar-11	18:00	7.90		
17-Mar-11	19:00	7.90		
17-Mar-11	20:00	7.89		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
17-Mar-11	21:00	7.90		
17-Mar-11	22:00	8.48		
17-Mar-11	23:00	8.47	15.751	345.153
18-Mar-11	0:00	8.46		
18-Mar-11	1:00	8.44		
18-Mar-11	2:00	8.44		
18-Mar-11	3:00	8.46		
18-Mar-11	4:00	8.49		
18-Mar-11	5:00	8.49		
18-Mar-11	6:00	8.02		
18-Mar-11	7:00	7.86		
18-Mar-11	8:00	7.88		
18-Mar-11	9:00	7.88		
18-Mar-11	10:00	7.87		
18-Mar-11	11:00	10.08		
18-Mar-11	12:00	8.53		
18-Mar-11	13:00	8.45		
18-Mar-11	14:00	8.46		
18-Mar-11	15:00	8.47		
18-Mar-11	16:00	8.48		
18-Mar-11	17:00	8.47		
18-Mar-11	18:00	8.45		
18-Mar-11	19:00	8.49		
18-Mar-11	20:00	9.69		
18-Mar-11	21:00	10.11		
18-Mar-11	22:00	10.09		
18-Mar-11	23:00	10.10	17.203	362.357
19-Mar-11	0:00	10.07		
19-Mar-11	1:00	10.06		
19-Mar-11	2:00	10.07		
19-Mar-11	3:00	10.09		
19-Mar-11	4:00	10.11		
19-Mar-11	5:00	10.11		
19-Mar-11	6:00	10.10		
19-Mar-11	7:00	10.08		
19-Mar-11	8:00	10.11		
19-Mar-11	9:00	10.08		
19-Mar-11	10:00	10.11		
19-Mar-11	11:00	10.08		
19-Mar-11	12:00	10.10		
19-Mar-11	13:00	10.10		
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19-Mar-11	15:00	10.07		
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19-Mar-11	19:00	10.06		
19-Mar-11	20:00	10.08		
19-Mar-11	21:00	10.08		
19-Mar-11	22:00	10.10		
19-Mar-11	23:00	10.10	20.015	382.372
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20-Mar-11	4:00	10.09		
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20-Mar-11	6:00	10.09		
20-Mar-11	7:00	10.09		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
20-Mar-11	8:00	10.10		
20-Mar-11	9:00	10.31		
20-Mar-11	10:00	10.63		
20-Mar-11	11:00	10.59		
20-Mar-11	12:00	10.58		
20-Mar-11	13:00	10.61		
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20-Mar-11	15:00	10.66		
20-Mar-11	16:00	10.40		
20-Mar-11	17:00	10.05		
20-Mar-11	18:00	10.12		
20-Mar-11	19:00	10.10		
20-Mar-11	20:00	10.09		
20-Mar-11	21:00	10.09		
20-Mar-11	22:00	10.08		
20-Mar-11	23:00	10.05	20.307	402.679
21-Mar-11	0:00	10.06		
21-Mar-11	1:00	10.06		
21-Mar-11	2:00	10.09		
21-Mar-11	3:00	10.08		
21-Mar-11	4:00	10.06		
21-Mar-11	5:00	9.77		
21-Mar-11	6:00	8.02		
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21-Mar-11	9:00	7.53		
21-Mar-11	10:00	7.50		
21-Mar-11	11:00	7.51		
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21-Mar-11	14:00	7.55		
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21-Mar-11	16:00	7.55		
21-Mar-11	17:00	7.51		
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21-Mar-11	22:00	7.55		
21-Mar-11	23:00	7.57	16.213	418.892
22-Mar-11	0:00	7.53		
22-Mar-11	1:00	7.54		
22-Mar-11	2:00	7.52		
22-Mar-11	3:00	7.57		
22-Mar-11	4:00	7.56		
22-Mar-11	5:00	7.53		
22-Mar-11	6:00	7.53		
22-Mar-11	7:00	7.55		
22-Mar-11	8:00	7.54		
22-Mar-11	9:00	7.53		
22-Mar-11	10:00	7.52		
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22-Mar-11	12:00	7.52		
22-Mar-11	13:00	7.53		
22-Mar-11	14:00	7.52		
22-Mar-11	15:00	7.54		
22-Mar-11	16:00	7.54		
22-Mar-11	17:00	7.69		
22-Mar-11	18:00	7.79		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
22-Mar-11	19:00	7.54		
22-Mar-11	20:00	7.53		
22-Mar-11	21:00	7.54		
22-Mar-11	22:00	7.52		
22-Mar-11	23:00	7.52	14.976	433.868
23-Mar-11	0:00	7.54		
23-Mar-11	1:00	7.55		
23-Mar-11	2:00	7.53		
23-Mar-11	3:00	7.55		
23-Mar-11	4:00	7.55		
23-Mar-11	5:00	7.57		
23-Mar-11	6:00	7.56		
23-Mar-11	7:00	7.56		
23-Mar-11	8:00	7.54		
23-Mar-11	9:00	7.55		
23-Mar-11	10:00	7.55		
23-Mar-11	11:00	7.52		
23-Mar-11	12:00	7.54		
23-Mar-11	13:00	7.54		
23-Mar-11	14:00	7.53		
23-Mar-11	15:00	7.54		
23-Mar-11	16:00	7.56		
23-Mar-11	17:00	7.54		
23-Mar-11	18:00	7.55		
23-Mar-11	19:00	7.56		
23-Mar-11	20:00	7.55		
23-Mar-11	21:00	7.55		
23-Mar-11	22:00	7.53		
23-Mar-11	23:00	7.53	14.966	448.834
24-Mar-11	0:00	7.54		
24-Mar-11	1:00	7.54		
24-Mar-11	2:00	7.54		
24-Mar-11	3:00	7.53		
24-Mar-11	4:00	7.54		
24-Mar-11	5:00	7.53		
24-Mar-11	6:00	7.55		
24-Mar-11	7:00	7.51		
24-Mar-11	8:00	7.53		
24-Mar-11	9:00	7.52		
24-Mar-11	10:00	7.55		
24-Mar-11	11:00	7.53		
24-Mar-11	12:00	7.53		
24-Mar-11	13:00	7.53		
24-Mar-11	14:00	7.54		
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24-Mar-11	19:00	7.53		
24-Mar-11	20:00	7.53		
24-Mar-11	21:00	7.52		
24-Mar-11	22:00	7.52		
24-Mar-11	23:00	7.53	14.938	463.772
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25-Mar-11	1:00	7.52		
25-Mar-11	2:00	7.51		
25-Mar-11	3:00	7.53		
25-Mar-11	4:00	7.53		
25-Mar-11	5:00	7.51		

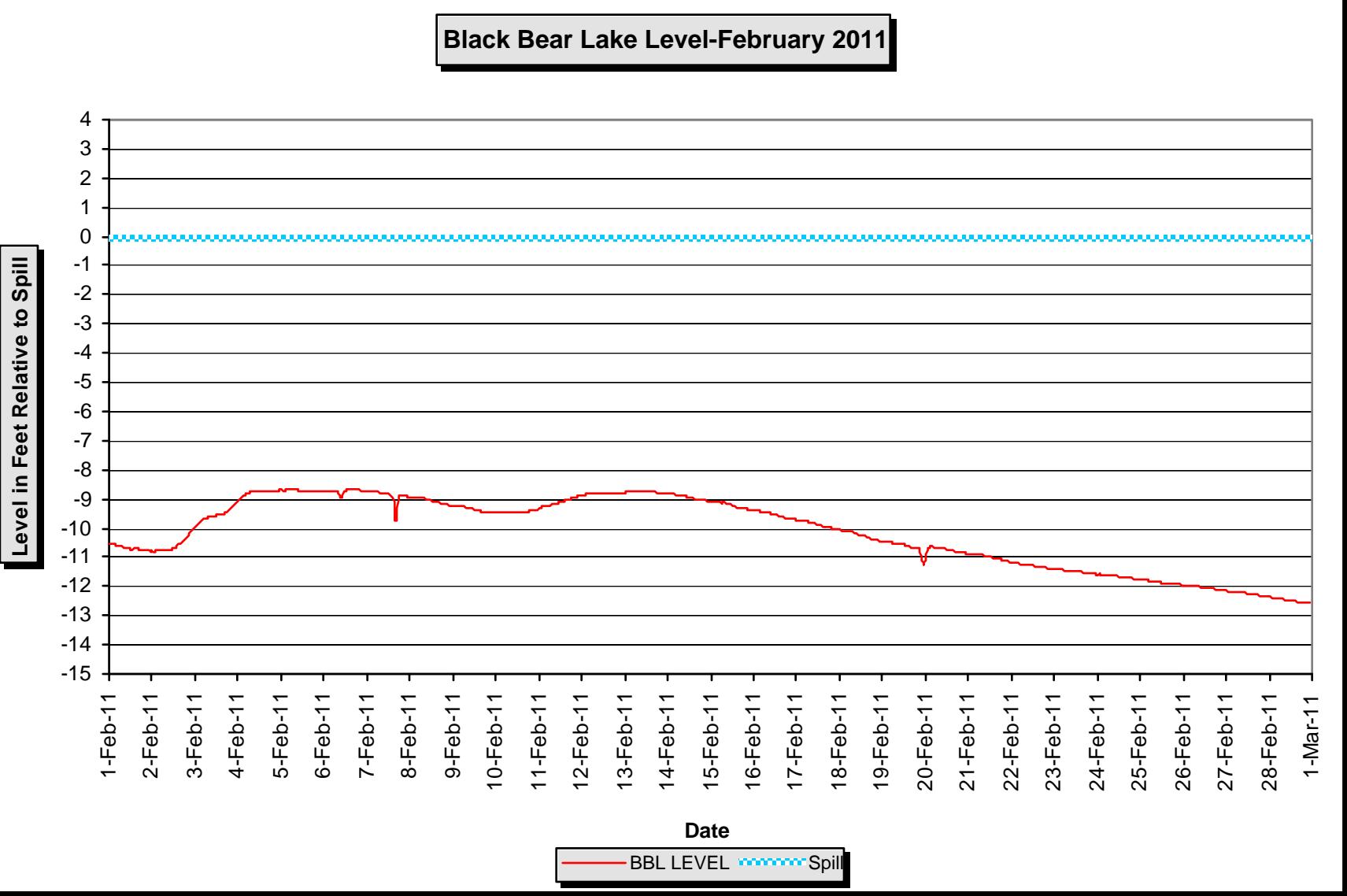
DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
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25-Mar-11	8:00	7.51		
25-Mar-11	9:00	7.55		
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25-Mar-11	11:00	7.51		
25-Mar-11	12:00	7.51		
25-Mar-11	13:00	7.50		
25-Mar-11	14:00	7.54		
25-Mar-11	15:00	7.51		
25-Mar-11	16:00	7.50		
25-Mar-11	17:00	7.54		
25-Mar-11	18:00	7.53		
25-Mar-11	19:00	7.51		
25-Mar-11	20:00	7.52		
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25-Mar-11	22:00	7.51		
25-Mar-11	23:00	7.51	14.912	478.684
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26-Mar-11	6:00	7.52		
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26-Mar-11	8:00	7.51		
26-Mar-11	9:00	7.51		
26-Mar-11	10:00	7.55		
26-Mar-11	11:00	7.54		
26-Mar-11	12:00	7.50		
26-Mar-11	13:00	7.51		
26-Mar-11	14:00	7.53		
26-Mar-11	15:00	7.53		
26-Mar-11	16:00	7.53		
26-Mar-11	17:00	7.51		
26-Mar-11	18:00	7.53		
26-Mar-11	19:00	7.51		
26-Mar-11	20:00	7.52		
26-Mar-11	21:00	7.54		
26-Mar-11	22:00	7.53		
26-Mar-11	23:00	7.53	14.926	493.610
27-Mar-11	0:00	7.52		
27-Mar-11	1:00	7.53		
27-Mar-11	2:00	7.52		
27-Mar-11	3:00	7.54		
27-Mar-11	4:00	7.53		
27-Mar-11	5:00	7.55		
27-Mar-11	6:00	7.52		
27-Mar-11	7:00	7.53		
27-Mar-11	8:00	7.54		
27-Mar-11	9:00	7.52		
27-Mar-11	10:00	7.54		
27-Mar-11	11:00	7.54		
27-Mar-11	12:00	7.49		
27-Mar-11	13:00	7.50		
27-Mar-11	14:00	7.48		
27-Mar-11	15:00	7.52		
27-Mar-11	16:00	7.50		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
27-Mar-11	17:00	7.53		
27-Mar-11	18:00	7.55		
27-Mar-11	19:00	7.53		
27-Mar-11	20:00	7.52		
27-Mar-11	21:00	7.51		
27-Mar-11	22:00	7.57		
27-Mar-11	23:00	7.53	14.926	508.536
28-Mar-11	0:00	7.53		
28-Mar-11	1:00	7.53		
28-Mar-11	2:00	7.51		
28-Mar-11	3:00	7.53		
28-Mar-11	4:00	7.53		
28-Mar-11	5:00	7.51		
28-Mar-11	6:00	7.51		
28-Mar-11	7:00	7.53		
28-Mar-11	8:00	7.53		
28-Mar-11	9:00	7.51		
28-Mar-11	10:00	7.52		
28-Mar-11	11:00	7.54		
28-Mar-11	12:00	7.55		
28-Mar-11	13:00	7.51		
28-Mar-11	14:00	7.54		
28-Mar-11	15:00	7.53		
28-Mar-11	16:00	7.52		
28-Mar-11	17:00	7.54		
28-Mar-11	18:00	7.54		
28-Mar-11	19:00	7.53		
28-Mar-11	20:00	7.53		
28-Mar-11	21:00	7.54		
28-Mar-11	22:00	7.51		
28-Mar-11	23:00	7.54	14.931	523.467
29-Mar-11	0:00	7.53		
29-Mar-11	1:00	7.53		
29-Mar-11	2:00	7.53		
29-Mar-11	3:00	7.55		
29-Mar-11	4:00	7.54		
29-Mar-11	5:00	7.54		
29-Mar-11	6:00	7.53		
29-Mar-11	7:00	7.53		
29-Mar-11	8:00	7.54		
29-Mar-11	9:00	7.56		
29-Mar-11	10:00	7.56		
29-Mar-11	11:00	7.55		
29-Mar-11	12:00	7.56		
29-Mar-11	13:00	7.55		
29-Mar-11	14:00	7.53		
29-Mar-11	15:00	7.55		
29-Mar-11	16:00	7.56		
29-Mar-11	17:00	7.53		
29-Mar-11	18:00	7.55		
29-Mar-11	19:00	7.55		
29-Mar-11	20:00	8.54		
29-Mar-11	21:00	7.55		
29-Mar-11	22:00	7.55		
29-Mar-11	23:00	7.54	15.045	538.512
30-Mar-11	0:00	7.56		
30-Mar-11	1:00	7.55		
30-Mar-11	2:00	7.56		
30-Mar-11	3:00	7.57		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
30-Mar-11	4:00	7.54		
30-Mar-11	5:00	7.55		
30-Mar-11	6:00	7.54		
30-Mar-11	7:00	7.55		
30-Mar-11	8:00	7.88		
30-Mar-11	9:00	7.59		
30-Mar-11	10:00	7.67		
30-Mar-11	11:00	7.59		
30-Mar-11	12:00	7.58		
30-Mar-11	13:00	7.57		
30-Mar-11	14:00	7.57		
30-Mar-11	15:00	7.57		
30-Mar-11	16:00	7.57		
30-Mar-11	17:00	7.59		
30-Mar-11	18:00	7.57		
30-Mar-11	19:00	7.56		
30-Mar-11	20:00	7.54		
30-Mar-11	21:00	7.57		
30-Mar-11	22:00	7.59		
30-Mar-11	23:00	7.57	15.041	553.553
31-Mar-11	0:00	7.55		
31-Mar-11	1:00	7.56		
31-Mar-11	2:00	7.56		
31-Mar-11	3:00	7.57		
31-Mar-11	4:00	7.57		
31-Mar-11	5:00	7.56		
31-Mar-11	6:00	7.54		
31-Mar-11	7:00	7.53		
31-Mar-11	8:00	7.54		
31-Mar-11	9:00	7.54		
31-Mar-11	10:00	7.56		
31-Mar-11	11:00	8.10		
31-Mar-11	12:00	8.12		
31-Mar-11	13:00	7.89		
31-Mar-11	14:00	7.50		
31-Mar-11	15:00	7.49		
31-Mar-11	16:00	7.50		
31-Mar-11	17:00	7.89		
31-Mar-11	18:00	8.07		
31-Mar-11	19:00	8.08		
31-Mar-11	20:00	8.06		
31-Mar-11	21:00	8.08		
31-Mar-11	22:00	8.08		
31-Mar-11	23:00	8.06	15.372	568.925

BBL HYDRO

FEBRUARY FLOW DATA



Black Bear Lake Project - FERC #10440
Flow Data - Article 406
Feb-11

Flow in Cubic Feet per Second
 Totals in Acre-Feet

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
1-Feb-11	0:00	20.32		
1-Feb-11	1:00	19.55		
1-Feb-11	2:00	19.06		
1-Feb-11	3:00	18.94		
1-Feb-11	4:00	18.98		
1-Feb-11	5:00	19.46		
1-Feb-11	6:00	20.55		
1-Feb-11	7:00	25.27		
1-Feb-11	8:00	33.00		
1-Feb-11	9:00	27.60		
1-Feb-11	10:00	26.12		
1-Feb-11	11:00	25.99		
1-Feb-11	12:00	26.72		
1-Feb-11	13:00	22.81		
1-Feb-11	14:00	24.86		
1-Feb-11	15:00	24.63		
1-Feb-11	16:00	22.80		
1-Feb-11	17:00	27.11		
1-Feb-11	18:00	28.50		
1-Feb-11	19:00	25.52		
1-Feb-11	20:00	24.32		
1-Feb-11	21:00	23.04		
1-Feb-11	22:00	20.78		
1-Feb-11	23:00	18.70	46.664	46.664
2-Feb-11	0:00	16.89		
2-Feb-11	1:00	15.24		
2-Feb-11	2:00	14.47		
2-Feb-11	3:00	14.03		
2-Feb-11	4:00	13.58		
2-Feb-11	5:00	13.65		
2-Feb-11	6:00	14.34		
2-Feb-11	7:00	18.70		
2-Feb-11	8:00	25.12		
2-Feb-11	9:00	25.36		
2-Feb-11	10:00	25.53		
2-Feb-11	11:00	22.51		
2-Feb-11	12:00	21.55		
2-Feb-11	13:00	17.25		
2-Feb-11	14:00	19.41		
2-Feb-11	15:00	19.12		
2-Feb-11	16:00	19.06		
2-Feb-11	17:00	19.72		
2-Feb-11	18:00	16.18		
2-Feb-11	19:00	13.65		
2-Feb-11	20:00	13.04		
2-Feb-11	21:00	12.42		
2-Feb-11	22:00	12.42		
2-Feb-11	23:00	12.45	34.355	81.018
3-Feb-11	0:00	12.59		
3-Feb-11	1:00	12.43		
3-Feb-11	2:00	12.47		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
3-Feb-11	3:00	12.50		
3-Feb-11	4:00	12.55		
3-Feb-11	5:00	12.60		
3-Feb-11	6:00	12.48		
3-Feb-11	7:00	13.17		
3-Feb-11	8:00	18.43		
3-Feb-11	9:00	18.73		
3-Feb-11	10:00	19.98		
3-Feb-11	11:00	19.59		
3-Feb-11	12:00	20.21		
3-Feb-11	13:00	17.62		
3-Feb-11	14:00	20.69		
3-Feb-11	15:00	19.83		
3-Feb-11	16:00	20.29		
3-Feb-11	17:00	21.86		
3-Feb-11	18:00	17.45		
3-Feb-11	19:00	14.42		
3-Feb-11	20:00	13.15		
3-Feb-11	21:00	12.47		
3-Feb-11	22:00	12.39		
3-Feb-11	23:00	12.49	31.437	112.455
4-Feb-11	0:00	12.54		
4-Feb-11	1:00	12.47		
4-Feb-11	2:00	12.53		
4-Feb-11	3:00	12.50		
4-Feb-11	4:00	12.52		
4-Feb-11	5:00	12.47		
4-Feb-11	6:00	12.50		
4-Feb-11	7:00	13.26		
4-Feb-11	8:00	17.87		
4-Feb-11	9:00	18.44		
4-Feb-11	10:00	19.20		
4-Feb-11	11:00	19.03		
4-Feb-11	12:00	19.62		
4-Feb-11	13:00	17.10		
4-Feb-11	14:00	20.08		
4-Feb-11	15:00	20.19		
4-Feb-11	16:00	17.99		
4-Feb-11	17:00	17.13		
4-Feb-11	18:00	17.63		
4-Feb-11	19:00	16.99		
4-Feb-11	20:00	16.63		
4-Feb-11	21:00	16.12		
4-Feb-11	22:00	16.04		
4-Feb-11	23:00	14.70	31.864	144.319
5-Feb-11	0:00	13.61		
5-Feb-11	1:00	12.66		
5-Feb-11	2:00	12.64		
5-Feb-11	3:00	12.58		
5-Feb-11	4:00	12.92		
5-Feb-11	5:00	13.12		
5-Feb-11	6:00	14.12		
5-Feb-11	7:00	15.62		
5-Feb-11	8:00	16.72		
5-Feb-11	9:00	18.05		
5-Feb-11	10:00	19.50		
5-Feb-11	11:00	19.88		
5-Feb-11	12:00	20.26		
5-Feb-11	13:00	20.04		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
5-Feb-11	14:00	20.51		
5-Feb-11	15:00	20.37		
5-Feb-11	16:00	20.44		
5-Feb-11	17:00	21.50		
5-Feb-11	18:00	22.41		
5-Feb-11	19:00	21.88		
5-Feb-11	20:00	21.10		
5-Feb-11	21:00	20.34		
5-Feb-11	22:00	19.48		
5-Feb-11	23:00	18.48	35.391	179.710
6-Feb-11	0:00	17.31		
6-Feb-11	1:00	16.69		
6-Feb-11	2:00	15.98		
6-Feb-11	3:00	15.80		
6-Feb-11	4:00	15.70		
6-Feb-11	5:00	15.98		
6-Feb-11	6:00	16.68		
6-Feb-11	7:00	17.52		
6-Feb-11	8:00	18.63		
6-Feb-11	9:00	13.52		
6-Feb-11	10:00	12.62		
6-Feb-11	11:00	16.61		
6-Feb-11	12:00	17.94		
6-Feb-11	13:00	18.96		
6-Feb-11	14:00	18.96		
6-Feb-11	15:00	18.71		
6-Feb-11	16:00	18.56		
6-Feb-11	17:00	19.04		
6-Feb-11	18:00	19.62		
6-Feb-11	19:00	19.90		
6-Feb-11	20:00	19.29		
6-Feb-11	21:00	18.77		
6-Feb-11	22:00	17.68		
6-Feb-11	23:00	16.75	34.481	214.191
7-Feb-11	0:00	15.69		
7-Feb-11	1:00	15.14		
7-Feb-11	2:00	14.69		
7-Feb-11	3:00	14.75		
7-Feb-11	4:00	14.79		
7-Feb-11	5:00	15.33		
7-Feb-11	6:00	16.23		
7-Feb-11	7:00	20.36		
7-Feb-11	8:00	23.19		
7-Feb-11	9:00	23.12		
7-Feb-11	10:00	26.28		
7-Feb-11	11:00	23.53		
7-Feb-11	12:00	22.38		
7-Feb-11	13:00	17.18		
7-Feb-11	14:00	12.47		
7-Feb-11	15:00	12.51		
7-Feb-11	16:00	12.46		
7-Feb-11	17:00	12.54		
7-Feb-11	18:00	13.61		
7-Feb-11	19:00	19.63		
7-Feb-11	20:00	21.67		
7-Feb-11	21:00	20.72		
7-Feb-11	22:00	19.33		
7-Feb-11	23:00	18.12	35.183	249.374
8-Feb-11	0:00	16.85		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
8-Feb-11	1:00	16.02		
8-Feb-11	2:00	15.74		
8-Feb-11	3:00	15.44		
8-Feb-11	4:00	15.86		
8-Feb-11	5:00	16.40		
8-Feb-11	6:00	17.69		
8-Feb-11	7:00	22.13		
8-Feb-11	8:00	28.45		
8-Feb-11	9:00	28.87		
8-Feb-11	10:00	29.73		
8-Feb-11	11:00	30.47		
8-Feb-11	12:00	34.76		
8-Feb-11	13:00	30.20		
8-Feb-11	14:00	33.06		
8-Feb-11	15:00	32.03		
8-Feb-11	16:00	32.98		
8-Feb-11	17:00	34.91		
8-Feb-11	18:00	30.87		
8-Feb-11	19:00	27.02		
8-Feb-11	20:00	25.90		
8-Feb-11	21:00	24.59		
8-Feb-11	22:00	23.16		
8-Feb-11	23:00	21.10	49.936	299.311
9-Feb-11	0:00	19.78		
9-Feb-11	1:00	18.90		
9-Feb-11	2:00	18.34		
9-Feb-11	3:00	18.41		
9-Feb-11	4:00	18.31		
9-Feb-11	5:00	18.82		
9-Feb-11	6:00	19.96		
9-Feb-11	7:00	23.91		
9-Feb-11	8:00	32.46		
9-Feb-11	9:00	32.52		
9-Feb-11	10:00	32.93		
9-Feb-11	11:00	32.32		
9-Feb-11	12:00	33.94		
9-Feb-11	13:00	29.77		
9-Feb-11	14:00	33.37		
9-Feb-11	15:00	32.27		
9-Feb-11	16:00	31.26		
9-Feb-11	17:00	33.53		
9-Feb-11	18:00	29.31		
9-Feb-11	19:00	27.03		
9-Feb-11	20:00	25.81		
9-Feb-11	21:00	24.19		
9-Feb-11	22:00	22.64		
9-Feb-11	23:00	20.77	52.112	351.422
10-Feb-11	0:00	18.71		
10-Feb-11	1:00	17.78		
10-Feb-11	2:00	17.07		
10-Feb-11	3:00	16.89		
10-Feb-11	4:00	16.74		
10-Feb-11	5:00	17.03		
10-Feb-11	6:00	17.97		
10-Feb-11	7:00	22.11		
10-Feb-11	8:00	27.96		
10-Feb-11	9:00	28.87		
10-Feb-11	10:00	29.59		
10-Feb-11	11:00	29.21		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
10-Feb-11	12:00	29.09		
10-Feb-11	13:00	26.12		
10-Feb-11	14:00	28.48		
10-Feb-11	15:00	27.36		
10-Feb-11	16:00	26.65		
10-Feb-11	17:00	28.93		
10-Feb-11	18:00	25.15		
10-Feb-11	19:00	21.67		
10-Feb-11	20:00	19.65		
10-Feb-11	21:00	17.29		
10-Feb-11	22:00	15.29		
10-Feb-11	23:00	13.31	44.539	395.961
11-Feb-11	0:00	12.38		
11-Feb-11	1:00	12.51		
11-Feb-11	2:00	12.40		
11-Feb-11	3:00	12.47		
11-Feb-11	4:00	12.48		
11-Feb-11	5:00	12.53		
11-Feb-11	6:00	12.53		
11-Feb-11	7:00	13.11		
11-Feb-11	8:00	17.48		
11-Feb-11	9:00	18.60		
11-Feb-11	10:00	20.35		
11-Feb-11	11:00	20.67		
11-Feb-11	12:00	21.41		
11-Feb-11	13:00	18.81		
11-Feb-11	14:00	20.58		
11-Feb-11	15:00	19.08		
11-Feb-11	16:00	18.92		
11-Feb-11	17:00	19.76		
11-Feb-11	18:00	16.32		
11-Feb-11	19:00	13.07		
11-Feb-11	20:00	12.43		
11-Feb-11	21:00	12.49		
11-Feb-11	22:00	12.40		
11-Feb-11	23:00	12.48	31.013	426.974
12-Feb-11	0:00	12.50		
12-Feb-11	1:00	12.47		
12-Feb-11	2:00	12.47		
12-Feb-11	3:00	12.45		
12-Feb-11	4:00	12.48		
12-Feb-11	5:00	12.57		
12-Feb-11	6:00	12.57		
12-Feb-11	7:00	12.51		
12-Feb-11	8:00	12.54		
12-Feb-11	9:00	12.97		
12-Feb-11	10:00	14.16		
12-Feb-11	11:00	15.46		
12-Feb-11	12:00	16.21		
12-Feb-11	13:00	17.21		
12-Feb-11	14:00	16.88		
12-Feb-11	15:00	17.16		
12-Feb-11	16:00	17.52		
12-Feb-11	17:00	18.26		
12-Feb-11	18:00	19.55		
12-Feb-11	19:00	19.53		
12-Feb-11	20:00	19.01		
12-Feb-11	21:00	18.27		
12-Feb-11	22:00	17.86		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
12-Feb-11	23:00	16.90	30.538	457.512
13-Feb-11	0:00	15.96		
13-Feb-11	1:00	15.20		
13-Feb-11	2:00	15.19		
13-Feb-11	3:00	14.94		
13-Feb-11	4:00	14.90		
13-Feb-11	5:00	15.11		
13-Feb-11	6:00	15.24		
13-Feb-11	7:00	16.17		
13-Feb-11	8:00	17.13		
13-Feb-11	9:00	18.28		
13-Feb-11	10:00	19.20		
13-Feb-11	11:00	19.29		
13-Feb-11	12:00	19.55		
13-Feb-11	13:00	19.92		
13-Feb-11	14:00	19.93		
13-Feb-11	15:00	20.13		
13-Feb-11	16:00	21.13		
13-Feb-11	17:00	22.59		
13-Feb-11	18:00	23.91		
13-Feb-11	19:00	24.23		
13-Feb-11	20:00	23.41		
13-Feb-11	21:00	22.58		
13-Feb-11	22:00	21.29		
13-Feb-11	23:00	19.44	37.580	495.093
14-Feb-11	0:00	18.07		
14-Feb-11	1:00	17.37		
14-Feb-11	2:00	17.17		
14-Feb-11	3:00	16.86		
14-Feb-11	4:00	17.06		
14-Feb-11	5:00	17.65		
14-Feb-11	6:00	19.10		
14-Feb-11	7:00	23.14		
14-Feb-11	8:00	29.54		
14-Feb-11	9:00	30.16		
14-Feb-11	10:00	30.44		
14-Feb-11	11:00	30.53		
14-Feb-11	12:00	30.64		
14-Feb-11	13:00	27.97		
14-Feb-11	14:00	30.00		
14-Feb-11	15:00	29.80		
14-Feb-11	16:00	29.70		
14-Feb-11	17:00	28.48		
14-Feb-11	18:00	26.22		
14-Feb-11	19:00	26.44		
14-Feb-11	20:00	25.15		
14-Feb-11	21:00	24.08		
14-Feb-11	22:00	22.51		
14-Feb-11	23:00	20.45	48.639	543.731
15-Feb-11	0:00	19.41		
15-Feb-11	1:00	18.77		
15-Feb-11	2:00	18.48		
15-Feb-11	3:00	18.11		
15-Feb-11	4:00	18.32		
15-Feb-11	5:00	18.98		
15-Feb-11	6:00	20.29		
15-Feb-11	7:00	24.54		
15-Feb-11	8:00	31.06		
15-Feb-11	9:00	31.82		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
15-Feb-11	10:00	31.43		
15-Feb-11	11:00	32.63		
15-Feb-11	12:00	33.43		
15-Feb-11	13:00	30.29		
15-Feb-11	14:00	32.86		
15-Feb-11	15:00	32.32		
15-Feb-11	16:00	31.40		
15-Feb-11	17:00	32.82		
15-Feb-11	18:00	30.37		
15-Feb-11	19:00	27.58		
15-Feb-11	20:00	26.59		
15-Feb-11	21:00	24.99		
15-Feb-11	22:00	23.24		
15-Feb-11	23:00	21.83	52.195	595.926
16-Feb-11	0:00	20.05		
16-Feb-11	1:00	19.64		
16-Feb-11	2:00	19.05		
16-Feb-11	3:00	19.13		
16-Feb-11	4:00	19.04		
16-Feb-11	5:00	19.93		
16-Feb-11	6:00	21.26		
16-Feb-11	7:00	26.16		
16-Feb-11	8:00	31.88		
16-Feb-11	9:00	32.56		
16-Feb-11	10:00	33.24		
16-Feb-11	11:00	33.46		
16-Feb-11	12:00	33.77		
16-Feb-11	13:00	30.58		
16-Feb-11	14:00	33.02		
16-Feb-11	15:00	31.00		
16-Feb-11	16:00	32.20		
16-Feb-11	17:00	33.26		
16-Feb-11	18:00	30.16		
16-Feb-11	19:00	27.93		
16-Feb-11	20:00	27.59		
16-Feb-11	21:00	26.10		
16-Feb-11	22:00	24.51		
16-Feb-11	23:00	23.11	53.606	649.532
17-Feb-11	0:00	21.57		
17-Feb-11	1:00	20.96		
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17-Feb-11	15:00	27.86		
17-Feb-11	16:00	29.42		
17-Feb-11	17:00	27.71		
17-Feb-11	18:00	29.88		
17-Feb-11	19:00	29.97		
17-Feb-11	20:00	29.50		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
17-Feb-11	21:00	27.92		
17-Feb-11	22:00	26.19		
17-Feb-11	23:00	24.18	51.640	701.173
18-Feb-11	0:00	22.69		
18-Feb-11	1:00	21.56		
18-Feb-11	2:00	21.32		
18-Feb-11	3:00	21.13		
18-Feb-11	4:00	21.11		
18-Feb-11	5:00	21.62		
18-Feb-11	6:00	23.16		
18-Feb-11	7:00	27.06		
18-Feb-11	8:00	33.88		
18-Feb-11	9:00	35.01		
18-Feb-11	10:00	34.39		
18-Feb-11	11:00	34.89		
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18-Feb-11	13:00	30.67		
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18-Feb-11	15:00	33.14		
18-Feb-11	16:00	33.17		
18-Feb-11	17:00	33.10		
18-Feb-11	18:00	30.88		
18-Feb-11	19:00	28.59		
18-Feb-11	20:00	27.71		
18-Feb-11	21:00	25.69		
18-Feb-11	22:00	24.88		
18-Feb-11	23:00	23.35	55.893	757.066
19-Feb-11	0:00	22.33		
19-Feb-11	1:00	21.51		
19-Feb-11	2:00	20.73		
19-Feb-11	3:00	20.32		
19-Feb-11	4:00	20.33		
19-Feb-11	5:00	20.57		
19-Feb-11	6:00	21.21		
19-Feb-11	7:00	22.47		
19-Feb-11	8:00	23.12		
19-Feb-11	9:00	24.43		
19-Feb-11	10:00	25.11		
19-Feb-11	11:00	26.81		
19-Feb-11	12:00	26.51		
19-Feb-11	13:00	26.25		
19-Feb-11	14:00	26.08		
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19-Feb-11	21:00	20.10		
19-Feb-11	22:00	12.56		
19-Feb-11	23:00	12.56	45.962	803.028
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20-Feb-11	1:00	15.74		
20-Feb-11	2:00	15.29		
20-Feb-11	3:00	15.04		
20-Feb-11	4:00	14.92		
20-Feb-11	5:00	15.14		
20-Feb-11	6:00	15.36		
20-Feb-11	7:00	15.92		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
20-Feb-11	8:00	16.51		
20-Feb-11	9:00	17.08		
20-Feb-11	10:00	17.94		
20-Feb-11	11:00	21.12		
20-Feb-11	12:00	23.25		
20-Feb-11	13:00	23.60		
20-Feb-11	14:00	23.33		
20-Feb-11	15:00	23.45		
20-Feb-11	16:00	22.93		
20-Feb-11	17:00	23.80		
20-Feb-11	18:00	25.92		
20-Feb-11	19:00	26.31		
20-Feb-11	20:00	25.66		
20-Feb-11	21:00	24.94		
20-Feb-11	22:00	23.56		
20-Feb-11	23:00	21.84	39.903	842.931
21-Feb-11	0:00	20.27		
21-Feb-11	1:00	19.73		
21-Feb-11	2:00	19.11		
21-Feb-11	3:00	18.96		
21-Feb-11	4:00	19.00		
21-Feb-11	5:00	19.26		
21-Feb-11	6:00	20.36		
21-Feb-11	7:00	25.16		
21-Feb-11	8:00	25.60		
21-Feb-11	9:00	26.30		
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21-Feb-11	11:00	26.87		
21-Feb-11	12:00	27.38		
21-Feb-11	13:00	23.68		
21-Feb-11	14:00	26.44		
21-Feb-11	15:00	26.20		
21-Feb-11	16:00	26.20		
21-Feb-11	17:00	26.91		
21-Feb-11	18:00	25.31		
21-Feb-11	19:00	28.83		
21-Feb-11	20:00	27.43		
21-Feb-11	21:00	26.57		
21-Feb-11	22:00	24.77		
21-Feb-11	23:00	22.77	47.953	890.884
22-Feb-11	0:00	21.68		
22-Feb-11	1:00	20.84		
22-Feb-11	2:00	20.67		
22-Feb-11	3:00	20.40		
22-Feb-11	4:00	20.76		
22-Feb-11	5:00	21.22		
22-Feb-11	6:00	22.93		
22-Feb-11	7:00	27.20		
22-Feb-11	8:00	21.82		
22-Feb-11	9:00	14.32		
22-Feb-11	10:00	14.31		
22-Feb-11	11:00	14.25		
22-Feb-11	12:00	14.28		
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22-Feb-11	14:00	14.23		
22-Feb-11	15:00	14.25		
22-Feb-11	16:00	14.25		
22-Feb-11	17:00	15.18		
22-Feb-11	18:00	16.29		

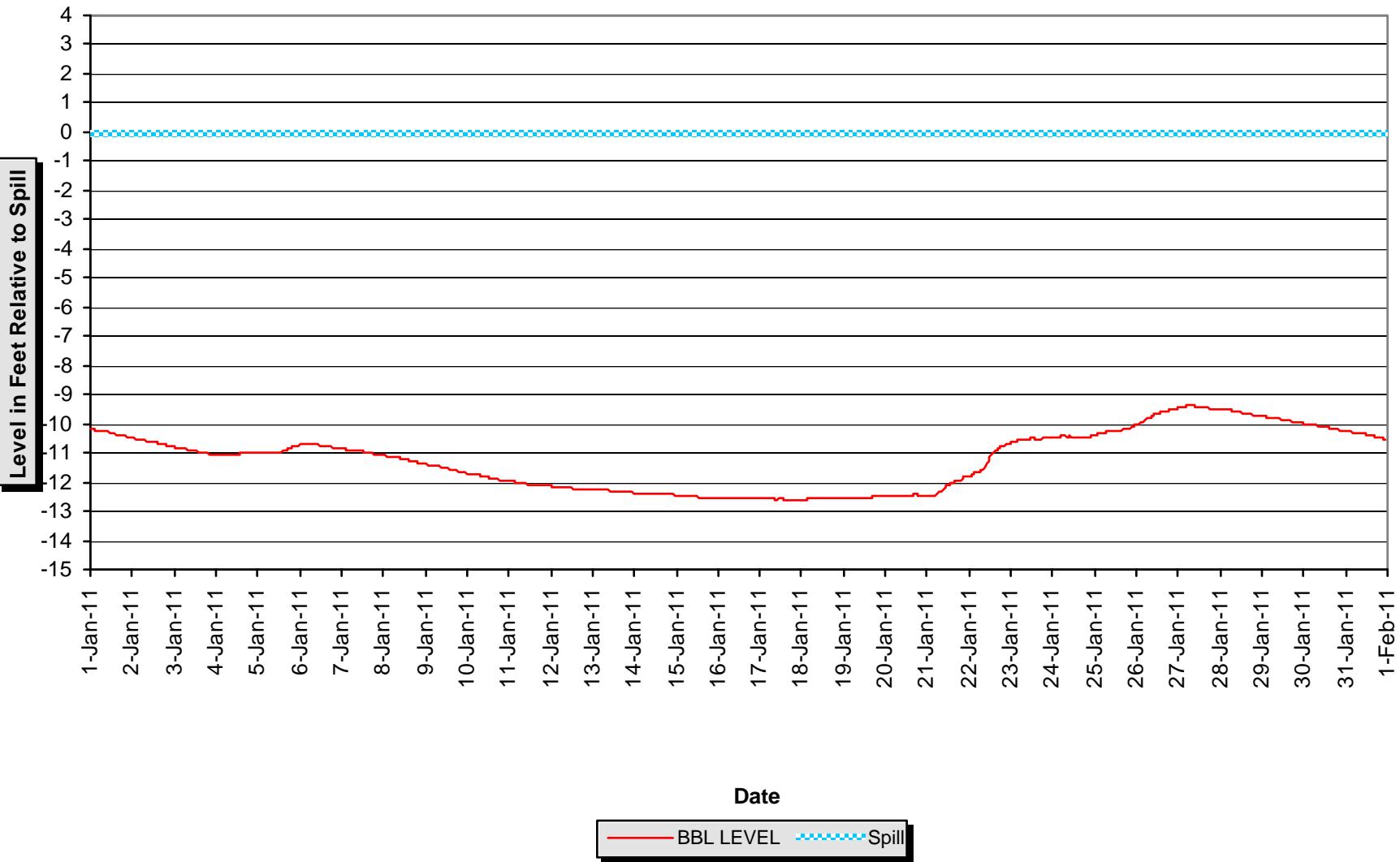
DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
22-Feb-11	19:00	16.35		
22-Feb-11	20:00	16.39		
22-Feb-11	21:00	16.25		
22-Feb-11	22:00	16.27		
22-Feb-11	23:00	15.14	35.000	925.884
23-Feb-11	0:00	12.72		
23-Feb-11	1:00	12.73		
23-Feb-11	2:00	12.69		
23-Feb-11	3:00	12.69		
23-Feb-11	4:00	12.63		
23-Feb-11	5:00	12.68		
23-Feb-11	6:00	12.75		
23-Feb-11	7:00	12.82		
23-Feb-11	8:00	12.91		
23-Feb-11	9:00	13.77		
23-Feb-11	10:00	13.93		
23-Feb-11	11:00	13.99		
23-Feb-11	12:00	13.90		
23-Feb-11	13:00	13.85		
23-Feb-11	14:00	14.01		
23-Feb-11	15:00	14.06		
23-Feb-11	16:00	14.13		
23-Feb-11	17:00	17.12		
23-Feb-11	18:00	15.94		
23-Feb-11	19:00	15.83		
23-Feb-11	20:00	15.74		
23-Feb-11	21:00	15.77		
23-Feb-11	22:00	15.83		
23-Feb-11	23:00	13.28	27.750	953.634
24-Feb-11	0:00	12.98		
24-Feb-11	1:00	12.95		
24-Feb-11	2:00	12.96		
24-Feb-11	3:00	12.87		
24-Feb-11	4:00	12.83		
24-Feb-11	5:00	12.85		
24-Feb-11	6:00	12.94		
24-Feb-11	7:00	12.87		
24-Feb-11	8:00	15.62		
24-Feb-11	9:00	15.80		
24-Feb-11	10:00	15.82		
24-Feb-11	11:00	15.72		
24-Feb-11	12:00	15.81		
24-Feb-11	13:00	15.77		
24-Feb-11	14:00	15.77		
24-Feb-11	15:00	15.90		
24-Feb-11	16:00	15.77		
24-Feb-11	17:00	15.76		
24-Feb-11	18:00	15.72		
24-Feb-11	19:00	15.69		
24-Feb-11	20:00	15.80		
24-Feb-11	21:00	15.68		
24-Feb-11	22:00	15.77		
24-Feb-11	23:00	15.76	29.373	983.007
25-Feb-11	0:00	15.75		
25-Feb-11	1:00	15.77		
25-Feb-11	2:00	15.76		
25-Feb-11	3:00	15.72		
25-Feb-11	4:00	15.64		
25-Feb-11	5:00	15.78		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
25-Feb-11	6:00	15.72		
25-Feb-11	7:00	13.78		
25-Feb-11	8:00	14.49		
25-Feb-11	9:00	14.71		
25-Feb-11	10:00	14.77		
25-Feb-11	11:00	14.60		
25-Feb-11	12:00	14.69		
25-Feb-11	13:00	14.68		
25-Feb-11	14:00	14.67		
25-Feb-11	15:00	18.21		
25-Feb-11	16:00	19.61		
25-Feb-11	17:00	19.75		
25-Feb-11	18:00	19.51		
25-Feb-11	19:00	21.12		
25-Feb-11	20:00	20.26		
25-Feb-11	21:00	19.25		
25-Feb-11	22:00	17.79		
25-Feb-11	23:00	16.18	32.910	1015.917
26-Feb-11	0:00	15.40		
26-Feb-11	1:00	14.56		
26-Feb-11	2:00	14.17		
26-Feb-11	3:00	13.91		
26-Feb-11	4:00	13.78		
26-Feb-11	5:00	13.84		
26-Feb-11	6:00	14.33		
26-Feb-11	7:00	15.34		
26-Feb-11	8:00	16.37		
26-Feb-11	9:00	17.55		
26-Feb-11	10:00	19.30		
26-Feb-11	11:00	20.10		
26-Feb-11	12:00	20.22		
26-Feb-11	13:00	19.96		
26-Feb-11	14:00	19.01		
26-Feb-11	15:00	18.85		
26-Feb-11	16:00	19.29		
26-Feb-11	17:00	19.05		
26-Feb-11	18:00	20.01		
26-Feb-11	19:00	20.43		
26-Feb-11	20:00	19.58		
26-Feb-11	21:00	18.55		
26-Feb-11	22:00	17.37		
26-Feb-11	23:00	16.08	34.467	1050.383
27-Feb-11	0:00	15.43		
27-Feb-11	1:00	14.82		
27-Feb-11	2:00	14.25		
27-Feb-11	3:00	13.89		
27-Feb-11	4:00	13.92		
27-Feb-11	5:00	14.21		
27-Feb-11	6:00	14.65		
27-Feb-11	7:00	14.96		
27-Feb-11	8:00	16.02		
27-Feb-11	9:00	17.17		
27-Feb-11	10:00	18.11		
27-Feb-11	11:00	18.56		
27-Feb-11	12:00	18.30		
27-Feb-11	13:00	18.48		
27-Feb-11	14:00	18.46		
27-Feb-11	15:00	17.82		
27-Feb-11	16:00	17.67		

BBL HYDRO

JANUARY FLOW DATA

Black Bear Lake Level-January 2011



Black Bear Lake Project - FERC #10440
Flow Data - Article 406
Jan-11

Flow in Cubic Feet per Second
 Totals in Acre-Feet

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
1-Jan-11	0:00	22.66		
1-Jan-11	1:00	21.70		
1-Jan-11	2:00	21.02		
1-Jan-11	3:00	20.47		
1-Jan-11	4:00	20.10		
1-Jan-11	5:00	20.21		
1-Jan-11	6:00	20.16		
1-Jan-11	7:00	20.95		
1-Jan-11	8:00	21.31		
1-Jan-11	9:00	21.95		
1-Jan-11	10:00	22.84		
1-Jan-11	11:00	23.70		
1-Jan-11	12:00	24.49		
1-Jan-11	13:00	24.65		
1-Jan-11	14:00	24.58		
1-Jan-11	15:00	24.72		
1-Jan-11	16:00	26.06		
1-Jan-11	17:00	27.63		
1-Jan-11	18:00	27.32		
1-Jan-11	19:00	26.33		
1-Jan-11	20:00	25.53		
1-Jan-11	21:00	24.52		
1-Jan-11	22:00	24.02		
1-Jan-11	23:00	22.73	46.252	46.252
2-Jan-11	0:00	21.55		
2-Jan-11	1:00	20.04		
2-Jan-11	2:00	19.57		
2-Jan-11	3:00	19.43		
2-Jan-11	4:00	19.19		
2-Jan-11	5:00	19.23		
2-Jan-11	6:00	19.34		
2-Jan-11	7:00	20.33		
2-Jan-11	8:00	21.24		
2-Jan-11	9:00	21.83		
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2-Jan-11	11:00	23.64		
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2-Jan-11	13:00	24.30		
2-Jan-11	14:00	24.77		
2-Jan-11	15:00	24.43		
2-Jan-11	16:00	25.85		
2-Jan-11	17:00	26.98		
2-Jan-11	18:00	27.61		
2-Jan-11	19:00	27.15		
2-Jan-11	20:00	26.10		
2-Jan-11	21:00	24.96		
2-Jan-11	22:00	24.03		
2-Jan-11	23:00	21.98	45.527	91.779
3-Jan-11	0:00	20.69		
3-Jan-11	1:00	19.61		
3-Jan-11	2:00	19.30		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
3-Jan-11	3:00	18.86		
3-Jan-11	4:00	18.86		
3-Jan-11	5:00	19.40		
3-Jan-11	6:00	20.08		
3-Jan-11	7:00	22.69		
3-Jan-11	8:00	25.59		
3-Jan-11	9:00	27.15		
3-Jan-11	10:00	27.69		
3-Jan-11	11:00	27.20		
3-Jan-11	12:00	27.47		
3-Jan-11	13:00	27.31		
3-Jan-11	14:00	27.50		
3-Jan-11	15:00	26.86		
3-Jan-11	16:00	28.16		
3-Jan-11	17:00	28.75		
3-Jan-11	18:00	28.71		
3-Jan-11	19:00	27.60		
3-Jan-11	20:00	26.26		
3-Jan-11	21:00	25.23		
3-Jan-11	22:00	22.62		
3-Jan-11	23:00	20.29	48.255	140.034
4-Jan-11	0:00	19.16		
4-Jan-11	1:00	18.13		
4-Jan-11	2:00	17.68		
4-Jan-11	3:00	17.47		
4-Jan-11	4:00	17.26		
4-Jan-11	5:00	17.55		
4-Jan-11	6:00	18.11		
4-Jan-11	7:00	20.10		
4-Jan-11	8:00	23.06		
4-Jan-11	9:00	18.03		
4-Jan-11	10:00	17.16		
4-Jan-11	11:00	17.11		
4-Jan-11	12:00	17.00		
4-Jan-11	13:00	16.54		
4-Jan-11	14:00	15.57		
4-Jan-11	15:00	15.27		
4-Jan-11	16:00	16.53		
4-Jan-11	17:00	17.89		
4-Jan-11	18:00	24.57		
4-Jan-11	19:00	23.26		
4-Jan-11	20:00	22.41		
4-Jan-11	21:00	21.27		
4-Jan-11	22:00	19.88		
4-Jan-11	23:00	18.05	37.112	177.146
5-Jan-11	0:00	16.62		
5-Jan-11	1:00	15.86		
5-Jan-11	2:00	15.65		
5-Jan-11	3:00	15.32		
5-Jan-11	4:00	15.51		
5-Jan-11	5:00	15.89		
5-Jan-11	6:00	16.69		
5-Jan-11	7:00	19.40		
5-Jan-11	8:00	18.03		
5-Jan-11	9:00	15.79		
5-Jan-11	10:00	15.90		
5-Jan-11	11:00	15.88		
5-Jan-11	12:00	16.23		
5-Jan-11	13:00	15.80		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
5-Jan-11	14:00	15.17		
5-Jan-11	15:00	13.99		
5-Jan-11	16:00	17.87		
5-Jan-11	17:00	19.27		
5-Jan-11	18:00	17.69		
5-Jan-11	19:00	15.91		
5-Jan-11	20:00	14.93		
5-Jan-11	21:00	14.37		
5-Jan-11	22:00	12.89		
5-Jan-11	23:00	11.12	31.552	208.698
6-Jan-11	0:00	9.93		
6-Jan-11	1:00	9.56		
6-Jan-11	2:00	10.06		
6-Jan-11	3:00	10.16		
6-Jan-11	4:00	10.82		
6-Jan-11	5:00	11.70		
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6-Jan-11	7:00	16.06		
6-Jan-11	8:00	19.55		
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6-Jan-11	10:00	20.84		
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6-Jan-11	12:00	21.76		
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6-Jan-11	16:00	22.59		
6-Jan-11	17:00	24.45		
6-Jan-11	18:00	24.46		
6-Jan-11	19:00	23.63		
6-Jan-11	20:00	23.33		
6-Jan-11	21:00	21.95		
6-Jan-11	22:00	20.44		
6-Jan-11	23:00	18.71	36.446	245.145
7-Jan-11	0:00	17.57		
7-Jan-11	1:00	16.73		
7-Jan-11	2:00	16.52		
7-Jan-11	3:00	16.28		
7-Jan-11	4:00	16.47		
7-Jan-11	5:00	16.94		
7-Jan-11	6:00	18.04		
7-Jan-11	7:00	19.58		
7-Jan-11	8:00	17.52		
7-Jan-11	9:00	17.46		
7-Jan-11	10:00	17.19		
7-Jan-11	11:00	17.67		
7-Jan-11	12:00	17.35		
7-Jan-11	13:00	16.77		
7-Jan-11	14:00	16.53		
7-Jan-11	15:00	17.62		
7-Jan-11	16:00	20.04		
7-Jan-11	17:00	20.75		
7-Jan-11	18:00	26.20		
7-Jan-11	19:00	25.10		
7-Jan-11	20:00	24.29		
7-Jan-11	21:00	23.93		
7-Jan-11	22:00	22.59		
7-Jan-11	23:00	21.39	38.060	283.205
8-Jan-11	0:00	20.43		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
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8-Jan-11	2:00	18.95		
8-Jan-11	3:00	18.78		
8-Jan-11	4:00	18.69		
8-Jan-11	5:00	18.80		
8-Jan-11	6:00	19.18		
8-Jan-11	7:00	20.13		
8-Jan-11	8:00	21.56		
8-Jan-11	9:00	22.20		
8-Jan-11	10:00	23.70		
8-Jan-11	11:00	24.69		
8-Jan-11	12:00	23.95		
8-Jan-11	13:00	23.55		
8-Jan-11	14:00	23.06		
8-Jan-11	15:00	22.97		
8-Jan-11	16:00	23.66		
8-Jan-11	17:00	27.40		
8-Jan-11	18:00	27.52		
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8-Jan-11	22:00	23.56		
8-Jan-11	23:00	22.19	44.755	327.960
9-Jan-11	0:00	21.21		
9-Jan-11	1:00	20.13		
9-Jan-11	2:00	19.97		
9-Jan-11	3:00	19.63		
9-Jan-11	4:00	19.53		
9-Jan-11	5:00	19.37		
9-Jan-11	6:00	20.08		
9-Jan-11	7:00	20.47		
9-Jan-11	8:00	22.12		
9-Jan-11	9:00	22.84		
9-Jan-11	10:00	24.03		
9-Jan-11	11:00	24.86		
9-Jan-11	12:00	24.53		
9-Jan-11	13:00	24.85		
9-Jan-11	14:00	24.03		
9-Jan-11	15:00	24.09		
9-Jan-11	16:00	24.67		
9-Jan-11	17:00	27.55		
9-Jan-11	18:00	28.70		
9-Jan-11	19:00	28.93		
9-Jan-11	20:00	27.78		
9-Jan-11	21:00	26.46		
9-Jan-11	22:00	24.70		
9-Jan-11	23:00	23.09	46.580	374.540
10-Jan-11	0:00	21.72		
10-Jan-11	1:00	20.73		
10-Jan-11	2:00	20.42		
10-Jan-11	3:00	20.37		
10-Jan-11	4:00	19.74		
10-Jan-11	5:00	20.72		
10-Jan-11	6:00	21.51		
10-Jan-11	7:00	25.61		
10-Jan-11	8:00	29.74		
10-Jan-11	9:00	22.08		
10-Jan-11	10:00	19.29		
10-Jan-11	11:00	19.24		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
10-Jan-11	12:00	19.65		
10-Jan-11	13:00	16.32		
10-Jan-11	14:00	19.14		
10-Jan-11	15:00	19.69		
10-Jan-11	16:00	19.50		
10-Jan-11	17:00	21.41		
10-Jan-11	18:00	23.91		
10-Jan-11	19:00	21.56		
10-Jan-11	20:00	21.00		
10-Jan-11	21:00	20.25		
10-Jan-11	22:00	18.77		
10-Jan-11	23:00	16.75	41.250	415.790
11-Jan-11	0:00	15.40		
11-Jan-11	1:00	14.53		
11-Jan-11	2:00	14.35		
11-Jan-11	3:00	14.21		
11-Jan-11	4:00	14.03		
11-Jan-11	5:00	14.62		
11-Jan-11	6:00	15.45		
11-Jan-11	7:00	18.39		
11-Jan-11	8:00	19.09		
11-Jan-11	9:00	20.31		
11-Jan-11	10:00	21.30		
11-Jan-11	11:00	20.74		
11-Jan-11	12:00	20.62		
11-Jan-11	13:00	18.05		
11-Jan-11	14:00	17.43		
11-Jan-11	15:00	10.73		
11-Jan-11	16:00	9.82		
11-Jan-11	17:00	9.83		
11-Jan-11	18:00	10.24		
11-Jan-11	19:00	10.22		
11-Jan-11	20:00	10.25		
11-Jan-11	21:00	10.28		
11-Jan-11	22:00	10.23		
11-Jan-11	23:00	10.46	28.974	444.764
12-Jan-11	0:00	10.49		
12-Jan-11	1:00	10.48		
12-Jan-11	2:00	10.45		
12-Jan-11	3:00	10.46		
12-Jan-11	4:00	10.45		
12-Jan-11	5:00	10.45		
12-Jan-11	6:00	10.19		
12-Jan-11	7:00	9.38		
12-Jan-11	8:00	10.25		
12-Jan-11	9:00	10.45		
12-Jan-11	10:00	10.48		
12-Jan-11	11:00	10.42		
12-Jan-11	12:00	10.49		
12-Jan-11	13:00	10.49		
12-Jan-11	14:00	10.46		
12-Jan-11	15:00	10.49		
12-Jan-11	16:00	10.51		
12-Jan-11	17:00	10.52		
12-Jan-11	18:00	10.92		
12-Jan-11	19:00	10.91		
12-Jan-11	20:00	10.91		
12-Jan-11	21:00	10.90		
12-Jan-11	22:00	10.84		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
12-Jan-11	23:00	10.30	20.801	465.564
13-Jan-11	0:00	9.77		
13-Jan-11	1:00	9.76		
13-Jan-11	2:00	9.77		
13-Jan-11	3:00	9.77		
13-Jan-11	4:00	9.77		
13-Jan-11	5:00	9.80		
13-Jan-11	6:00	9.78		
13-Jan-11	7:00	9.82		
13-Jan-11	8:00	9.79		
13-Jan-11	9:00	9.79		
13-Jan-11	10:00	9.81		
13-Jan-11	11:00	9.80		
13-Jan-11	12:00	9.80		
13-Jan-11	13:00	9.79		
13-Jan-11	14:00	9.76		
13-Jan-11	15:00	9.79		
13-Jan-11	16:00	9.79		
13-Jan-11	17:00	10.13		
13-Jan-11	18:00	11.00		
13-Jan-11	19:00	11.12		
13-Jan-11	20:00	11.17		
13-Jan-11	21:00	11.13		
13-Jan-11	22:00	11.13		
13-Jan-11	23:00	10.97	20.083	485.648
14-Jan-11	0:00	10.21		
14-Jan-11	1:00	10.27		
14-Jan-11	2:00	10.23		
14-Jan-11	3:00	10.25		
14-Jan-11	4:00	10.26		
14-Jan-11	5:00	10.26		
14-Jan-11	6:00	10.25		
14-Jan-11	7:00	10.22		
14-Jan-11	8:00	10.23		
14-Jan-11	9:00	9.81		
14-Jan-11	10:00	9.78		
14-Jan-11	11:00	9.75		
14-Jan-11	12:00	9.78		
14-Jan-11	13:00	9.75		
14-Jan-11	14:00	9.78		
14-Jan-11	15:00	9.77		
14-Jan-11	16:00	9.80		
14-Jan-11	17:00	9.78		
14-Jan-11	18:00	9.79		
14-Jan-11	19:00	9.80		
14-Jan-11	20:00	9.75		
14-Jan-11	21:00	9.78		
14-Jan-11	22:00	9.76		
14-Jan-11	23:00	9.80	19.740	505.388
15-Jan-11	0:00	9.76		
15-Jan-11	1:00	9.69		
15-Jan-11	2:00	9.73		
15-Jan-11	3:00	9.69		
15-Jan-11	4:00	9.76		
15-Jan-11	5:00	9.74		
15-Jan-11	6:00	9.73		
15-Jan-11	7:00	9.75		
15-Jan-11	8:00	9.74		
15-Jan-11	9:00	9.70		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
15-Jan-11	10:00	9.75		
15-Jan-11	11:00	9.72		
15-Jan-11	12:00	9.71		
15-Jan-11	13:00	9.71		
15-Jan-11	14:00	9.73		
15-Jan-11	15:00	9.73		
15-Jan-11	16:00	9.75		
15-Jan-11	17:00	9.75		
15-Jan-11	18:00	9.74		
15-Jan-11	19:00	9.70		
15-Jan-11	20:00	9.71		
15-Jan-11	21:00	9.73		
15-Jan-11	22:00	9.73		
15-Jan-11	23:00	9.69	19.293	524.681
16-Jan-11	0:00	9.69		
16-Jan-11	1:00	9.74		
16-Jan-11	2:00	9.72		
16-Jan-11	3:00	9.69		
16-Jan-11	4:00	9.71		
16-Jan-11	5:00	9.71		
16-Jan-11	6:00	9.70		
16-Jan-11	7:00	9.66		
16-Jan-11	8:00	9.73		
16-Jan-11	9:00	9.71		
16-Jan-11	10:00	9.73		
16-Jan-11	11:00	9.70		
16-Jan-11	12:00	9.74		
16-Jan-11	13:00	9.69		
16-Jan-11	14:00	9.70		
16-Jan-11	15:00	9.72		
16-Jan-11	16:00	9.68		
16-Jan-11	17:00	9.69		
16-Jan-11	18:00	9.70		
16-Jan-11	19:00	9.72		
16-Jan-11	20:00	9.72		
16-Jan-11	21:00	9.69		
16-Jan-11	22:00	9.72		
16-Jan-11	23:00	9.71	19.254	543.935
17-Jan-11	0:00	9.70		
17-Jan-11	1:00	9.74		
17-Jan-11	2:00	9.72		
17-Jan-11	3:00	9.71		
17-Jan-11	4:00	9.74		
17-Jan-11	5:00	9.74		
17-Jan-11	6:00	9.73		
17-Jan-11	7:00	9.71		
17-Jan-11	8:00	9.72		
17-Jan-11	9:00	9.71		
17-Jan-11	10:00	9.72		
17-Jan-11	11:00	9.70		
17-Jan-11	12:00	9.76		
17-Jan-11	13:00	9.73		
17-Jan-11	14:00	9.70		
17-Jan-11	15:00	9.72		
17-Jan-11	16:00	9.67		
17-Jan-11	17:00	10.02		
17-Jan-11	18:00	9.79		
17-Jan-11	19:00	10.12		
17-Jan-11	20:00	10.15		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
17-Jan-11	21:00	10.13		
17-Jan-11	22:00	10.14		
17-Jan-11	23:00	9.92	19.462	563.397
18-Jan-11	0:00	9.44		
18-Jan-11	1:00	9.42		
18-Jan-11	2:00	9.45		
18-Jan-11	3:00	9.47		
18-Jan-11	4:00	9.48		
18-Jan-11	5:00	9.46		
18-Jan-11	6:00	9.46		
18-Jan-11	7:00	9.50		
18-Jan-11	8:00	9.55		
18-Jan-11	9:00	9.73		
18-Jan-11	10:00	9.68		
18-Jan-11	11:00	9.70		
18-Jan-11	12:00	9.69		
18-Jan-11	13:00	9.76		
18-Jan-11	14:00	9.67		
18-Jan-11	15:00	9.72		
18-Jan-11	16:00	9.66		
18-Jan-11	17:00	9.66		
18-Jan-11	18:00	9.72		
18-Jan-11	19:00	9.66		
18-Jan-11	20:00	9.67		
18-Jan-11	21:00	9.70		
18-Jan-11	22:00	9.69		
18-Jan-11	23:00	9.82	19.071	582.468
19-Jan-11	0:00	9.69		
19-Jan-11	1:00	9.67		
19-Jan-11	2:00	9.69		
19-Jan-11	3:00	9.67		
19-Jan-11	4:00	9.67		
19-Jan-11	5:00	9.66		
19-Jan-11	6:00	9.69		
19-Jan-11	7:00	9.66		
19-Jan-11	8:00	9.70		
19-Jan-11	9:00	9.69		
19-Jan-11	10:00	9.66		
19-Jan-11	11:00	9.72		
19-Jan-11	12:00	9.68		
19-Jan-11	13:00	10.48		
19-Jan-11	14:00	14.89		
19-Jan-11	15:00	13.91		
19-Jan-11	16:00	13.40		
19-Jan-11	17:00	15.11		
19-Jan-11	18:00	15.75		
19-Jan-11	19:00	12.64		
19-Jan-11	20:00	11.04		
19-Jan-11	21:00	9.42		
19-Jan-11	22:00	10.56		
19-Jan-11	23:00	12.99	21.987	604.455
20-Jan-11	0:00	10.96		
20-Jan-11	1:00	10.42		
20-Jan-11	2:00	10.36		
20-Jan-11	3:00	10.41		
20-Jan-11	4:00	10.66		
20-Jan-11	5:00	11.64		
20-Jan-11	6:00	12.67		
20-Jan-11	7:00	17.28		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
20-Jan-11	8:00	16.45		
20-Jan-11	9:00	16.00		
20-Jan-11	10:00	16.48		
20-Jan-11	11:00	16.18		
20-Jan-11	12:00	16.54		
20-Jan-11	13:00	14.05		
20-Jan-11	14:00	16.57		
20-Jan-11	15:00	16.20		
20-Jan-11	16:00	16.53		
20-Jan-11	17:00	17.88		
20-Jan-11	18:00	19.39		
20-Jan-11	19:00	16.73		
20-Jan-11	20:00	16.12		
20-Jan-11	21:00	16.53		
20-Jan-11	22:00	20.18		
20-Jan-11	23:00	18.90	30.176	634.631
21-Jan-11	0:00	17.60		
21-Jan-11	1:00	16.39		
21-Jan-11	2:00	15.51		
21-Jan-11	3:00	15.00		
21-Jan-11	4:00	13.23		
21-Jan-11	5:00	11.96		
21-Jan-11	6:00	10.72		
21-Jan-11	7:00	13.65		
21-Jan-11	8:00	16.04		
21-Jan-11	9:00	14.82		
21-Jan-11	10:00	15.02		
21-Jan-11	11:00	15.58		
21-Jan-11	12:00	15.55		
21-Jan-11	13:00	13.17		
21-Jan-11	14:00	15.51		
21-Jan-11	15:00	14.75		
21-Jan-11	16:00	14.83		
21-Jan-11	17:00	16.29		
21-Jan-11	18:00	17.21		
21-Jan-11	19:00	13.89		
21-Jan-11	20:00	13.35		
21-Jan-11	21:00	12.45		
21-Jan-11	22:00	11.72		
21-Jan-11	23:00	10.52	28.493	663.123
22-Jan-11	0:00	9.50		
22-Jan-11	1:00	9.43		
22-Jan-11	2:00	9.47		
22-Jan-11	3:00	9.59		
22-Jan-11	4:00	9.53		
22-Jan-11	5:00	9.57		
22-Jan-11	6:00	9.51		
22-Jan-11	7:00	9.63		
22-Jan-11	8:00	10.31		
22-Jan-11	9:00	11.52		
22-Jan-11	10:00	12.48		
22-Jan-11	11:00	13.02		
22-Jan-11	12:00	13.30		
22-Jan-11	13:00	12.85		
22-Jan-11	14:00	13.26		
22-Jan-11	15:00	13.38		
22-Jan-11	16:00	13.11		
22-Jan-11	17:00	14.49		
22-Jan-11	18:00	14.89		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
22-Jan-11	19:00	14.02		
22-Jan-11	20:00	13.06		
22-Jan-11	21:00	12.43		
22-Jan-11	22:00	11.54		
22-Jan-11	23:00	10.36	23.161	686.284
23-Jan-11	0:00	9.41		
23-Jan-11	1:00	9.46		
23-Jan-11	2:00	9.51		
23-Jan-11	3:00	9.63		
23-Jan-11	4:00	9.50		
23-Jan-11	5:00	9.42		
23-Jan-11	6:00	9.72		
23-Jan-11	7:00	10.23		
23-Jan-11	8:00	11.56		
23-Jan-11	9:00	13.05		
23-Jan-11	10:00	14.31		
23-Jan-11	11:00	15.47		
23-Jan-11	12:00	15.96		
23-Jan-11	13:00	16.54		
23-Jan-11	14:00	16.92		
23-Jan-11	15:00	17.48		
23-Jan-11	16:00	17.99		
23-Jan-11	17:00	19.58		
23-Jan-11	18:00	18.53		
23-Jan-11	19:00	17.78		
23-Jan-11	20:00	17.21		
23-Jan-11	21:00	15.74		
23-Jan-11	22:00	14.90		
23-Jan-11	23:00	13.28	27.536	713.820
24-Jan-11	0:00	12.34		
24-Jan-11	1:00	11.34		
24-Jan-11	2:00	11.43		
24-Jan-11	3:00	11.35		
24-Jan-11	4:00	11.36		
24-Jan-11	5:00	11.96		
24-Jan-11	6:00	13.14		
24-Jan-11	7:00	16.95		
24-Jan-11	8:00	24.10		
24-Jan-11	9:00	18.48		
24-Jan-11	10:00	19.07		
24-Jan-11	11:00	18.51		
24-Jan-11	12:00	18.76		
24-Jan-11	13:00	16.08		
24-Jan-11	14:00	18.82		
24-Jan-11	15:00	19.08		
24-Jan-11	16:00	19.64		
24-Jan-11	17:00	21.99		
24-Jan-11	18:00	25.08		
24-Jan-11	19:00	22.02		
24-Jan-11	20:00	21.31		
24-Jan-11	21:00	20.00		
24-Jan-11	22:00	17.84		
24-Jan-11	23:00	15.35	34.380	748.200
25-Jan-11	0:00	12.72		
25-Jan-11	1:00	11.58		
25-Jan-11	2:00	11.44		
25-Jan-11	3:00	11.36		
25-Jan-11	4:00	11.50		
25-Jan-11	5:00	12.14		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
25-Jan-11	6:00	13.07		
25-Jan-11	7:00	17.80		
25-Jan-11	8:00	20.73		
25-Jan-11	9:00	18.73		
25-Jan-11	10:00	18.23		
25-Jan-11	11:00	18.05		
25-Jan-11	12:00	18.65		
25-Jan-11	13:00	15.54		
25-Jan-11	14:00	18.22		
25-Jan-11	15:00	18.18		
25-Jan-11	16:00	16.91		
25-Jan-11	17:00	16.74		
25-Jan-11	18:00	18.33		
25-Jan-11	19:00	15.70		
25-Jan-11	20:00	15.47		
25-Jan-11	21:00	14.22		
25-Jan-11	22:00	12.74		
25-Jan-11	23:00	11.13	30.511	778.711
26-Jan-11	0:00	9.77		
26-Jan-11	1:00	9.51		
26-Jan-11	2:00	9.42		
26-Jan-11	3:00	9.37		
26-Jan-11	4:00	9.59		
26-Jan-11	5:00	9.46		
26-Jan-11	6:00	9.59		
26-Jan-11	7:00	12.43		
26-Jan-11	8:00	14.57		
26-Jan-11	9:00	12.81		
26-Jan-11	10:00	13.11		
26-Jan-11	11:00	13.03		
26-Jan-11	12:00	13.71		
26-Jan-11	13:00	17.95		
26-Jan-11	14:00	20.95		
26-Jan-11	15:00	21.19		
26-Jan-11	16:00	21.17		
26-Jan-11	17:00	22.74		
26-Jan-11	18:00	19.17		
26-Jan-11	19:00	16.85		
26-Jan-11	20:00	16.08		
26-Jan-11	21:00	14.91		
26-Jan-11	22:00	13.81		
26-Jan-11	23:00	12.38	28.394	807.105
27-Jan-11	0:00	11.30		
27-Jan-11	1:00	10.41		
27-Jan-11	2:00	10.40		
27-Jan-11	3:00	10.39		
27-Jan-11	4:00	10.82		
27-Jan-11	5:00	11.60		
27-Jan-11	6:00	13.07		
27-Jan-11	7:00	18.32		
27-Jan-11	8:00	24.71		
27-Jan-11	9:00	25.12		
27-Jan-11	10:00	25.79		
27-Jan-11	11:00	25.55		
27-Jan-11	12:00	25.90		
27-Jan-11	13:00	22.77		
27-Jan-11	14:00	25.95		
27-Jan-11	15:00	25.67		
27-Jan-11	16:00	25.94		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
27-Jan-11	17:00	28.46		
27-Jan-11	18:00	26.14		
27-Jan-11	19:00	23.33		
27-Jan-11	20:00	22.90		
27-Jan-11	21:00	21.86		
27-Jan-11	22:00	20.25		
27-Jan-11	23:00	18.63	40.106	847.211
28-Jan-11	0:00	17.03		
28-Jan-11	1:00	16.33		
28-Jan-11	2:00	16.03		
28-Jan-11	3:00	16.09		
28-Jan-11	4:00	16.00		
28-Jan-11	5:00	16.75		
28-Jan-11	6:00	17.92		
28-Jan-11	7:00	21.57		
28-Jan-11	8:00	29.67		
28-Jan-11	9:00	29.72		
28-Jan-11	10:00	29.45		
28-Jan-11	11:00	30.39		
28-Jan-11	12:00	30.65		
28-Jan-11	13:00	26.62		
28-Jan-11	14:00	29.46		
28-Jan-11	15:00	29.19		
28-Jan-11	16:00	29.00		
28-Jan-11	17:00	29.94		
28-Jan-11	18:00	26.97		
28-Jan-11	19:00	24.77		
28-Jan-11	20:00	24.14		
28-Jan-11	21:00	22.81		
28-Jan-11	22:00	21.68		
28-Jan-11	23:00	20.54	47.332	894.543
29-Jan-11	0:00	19.51		
29-Jan-11	1:00	18.66		
29-Jan-11	2:00	18.12		
29-Jan-11	3:00	18.07		
29-Jan-11	4:00	18.07		
29-Jan-11	5:00	18.31		
29-Jan-11	6:00	18.70		
29-Jan-11	7:00	19.70		
29-Jan-11	8:00	20.88		
29-Jan-11	9:00	22.24		
29-Jan-11	10:00	24.11		
29-Jan-11	11:00	23.80		
29-Jan-11	12:00	23.45		
29-Jan-11	13:00	23.14		
29-Jan-11	14:00	22.51		
29-Jan-11	15:00	22.75		
29-Jan-11	16:00	22.72		
29-Jan-11	17:00	25.10		
29-Jan-11	18:00	26.34		
29-Jan-11	19:00	25.95		
29-Jan-11	20:00	25.20		
29-Jan-11	21:00	23.52		
29-Jan-11	22:00	22.61		
29-Jan-11	23:00	21.49	43.384	937.927
30-Jan-11	0:00	20.13		
30-Jan-11	1:00	19.46		
30-Jan-11	2:00	19.07		
30-Jan-11	3:00	19.01		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
30-Jan-11	4:00	18.72		
30-Jan-11	5:00	19.09		
30-Jan-11	6:00	19.48		
30-Jan-11	7:00	20.30		
30-Jan-11	8:00	21.33		
30-Jan-11	9:00	22.03		
30-Jan-11	10:00	22.94		
30-Jan-11	11:00	22.84		
30-Jan-11	12:00	22.46		
30-Jan-11	13:00	22.32		
30-Jan-11	14:00	22.50		
30-Jan-11	15:00	22.67		
30-Jan-11	16:00	23.03		
30-Jan-11	17:00	25.27		
30-Jan-11	18:00	26.84		
30-Jan-11	19:00	26.29		
30-Jan-11	20:00	26.01		
30-Jan-11	21:00	24.81		
30-Jan-11	22:00	23.21		
30-Jan-11	23:00	21.35	43.898	981.825
31-Jan-11	0:00	20.17		
31-Jan-11	1:00	19.05		
31-Jan-11	2:00	18.85		
31-Jan-11	3:00	18.68		
31-Jan-11	4:00	18.43		
31-Jan-11	5:00	18.85		
31-Jan-11	6:00	20.58		
31-Jan-11	7:00	25.11		
31-Jan-11	8:00	32.75		
31-Jan-11	9:00	34.14		
31-Jan-11	10:00	35.28		
31-Jan-11	11:00	35.35		
31-Jan-11	12:00	36.60		
31-Jan-11	13:00	31.15		
31-Jan-11	14:00	27.20		
31-Jan-11	15:00	26.27		
31-Jan-11	16:00	25.69		
31-Jan-11	17:00	28.29		
31-Jan-11	18:00	31.72		
31-Jan-11	19:00	28.41		
31-Jan-11	20:00	26.63		
31-Jan-11	21:00	25.59		
31-Jan-11	22:00	23.99		
31-Jan-11	23:00	21.92	52.124	1033.949

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STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

DIVISION OF SPORT FISH

SEAN PARNELL, GOVERNOR

Research and Technical Services
333 Raspberry Road
Anchorage, Alaska 99518-1565
PHONE: (907) 267-2312
FAX: (907) 267-2422

April 13, 2011

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368

RE: Black Bear Hydroelectric Power Project
FERC No. 10440
License Article 405 – Minimum Instream Flow

Dear Mr. Martin:

The Alaska Department of Fish and Game (ADF&G) has concerns regarding operation of the Black Bear Lake Hydroelectric Power Project (BBL). The operational method has continued to lead to non-compliance events with Article 405, environmental flows, as listed in the Federal Energy Regulatory Commission (FERC) license. Article 405, in the FERC license issued November 9, 1993 for Project P-10440-001 states:

“The licensee shall release from the Black Bear Lake Project into Black Bear Creek minimum flows according to the following table, as measured at the flow recording gage required by Article 406, to protect the downstream aquatic habitat in Black Bear Creek.

Staff's recommended minimum flow releases (in cubic feet per second) to Black Bear Creek downstream of the Black Bear Lake Project.

Month	Minimum Flow (cfs)	Month	Minimum Flow (cfs)
January	9	July	19
February	12	August	17
March	9	September	24
April	15	October	0
May	22	November	15
June	15	December	9

These flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon agreement between the licensee and the Alaska Department of Fish and Game. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.”

Since this project became operational in the mid 1990's, there have been a multitude of non-compliance events. Previous discussions with agencies resulted in various suggestions for predictive weather monitoring and other methods to attempt to reduce non-compliance events. When the South Fork hydroelectric project (non-FERC) was constructed, discussions led agencies to believe that flow difficulties experienced in the past should be minimized if not eliminated. The low flow crisis this spring clearly shows that water availability and project operation issues continue to result in water shortages.

My understanding is that because of the way BBL is constructed, flow from the lake to the creek, goes through the powerhouse / turbine. The natural creek outflow from the lake was filled with shot rock. Prior to the construction of the non-FERC South Fork Project, flow from the lake was required to meet the environmental flow requirements established in the BBL FERC license. The construction of the South Fork Project allowed flows from the South Fork into Black Bear Creek to be counted toward the environmental flow listed in the BBL license. During the current crisis, the South Fork flow contribution has been minimal due to very low flow in the South Fork system. Please correct this information if my understanding of this project is incorrect or incomplete.

With specific regard to the March 14, 2011 e-mail notification to the agencies:

- The BBL notification letter to the agencies (attachment to the March 14, 2011 e-mail) has not been included in the communication list in the notification to FERC of non-compliance and request for variance; therefore, it is included at the end of this letter. This letter and attachment will be filed with FERC.
- Notification to the agencies was only made after Alaska Power and Telephone (APT) and BBL had run the lake down to critically low lake levels. The graphs supplied with the notification letter attached to the e-mail show an indication as early as mid February that the lake level could not sustain the continued rate of water withdrawal. What is missing from this information is a comparison of the daily flow through the powerhouse / turbine with lake levels preceding the crisis. This additional information would help to evaluate how project operation affects lake level or relates to decline in lake level. If, during the weeks prior to declaring a crisis, the project was operating and releasing flows above environmental flows, resulting in a decline in the lake level, then this non-compliance event is the result of exploitation of the system in the hope that the lake would refill before the method of operation became a problem. This is a choice of power production before environmental flows.
- The BBL determination of current flow levels was dictated to the agencies. A statement of "we will assume you are in agreement" is nothing more than saying that this is what it is. The result of BBL dictating what the flows will be is that there was no place for agencies to comment. There needs to be an evaluation of lake level vs. flows to determine proper trigger points to identify when diesel generation should replace hydroelectric generation to prevent extreme drawdown of the lake, which then reduces environmental flows below FERC license levels. For example, if in January the environmental flow is set by license at 9 cfs, the generation is using 12 cfs, and the lake level is declining, it would be prudent to ramp up diesel generation and reduce hydroelectric generation back to the production that 9 cfs will provide. This will assist in

meeting compliance in the spring and reduce the gamble that the lake will refill. This is just an example but demonstrates the need for revisiting current operational methods. The same logic would apply during any operational period for BBL.

- A reduction from 9 cfs to 7.65 cfs was identified by BBL on March 14, 2011, yet on March 15 flows were identified in the update e-mail as 7.30 to 7.65 cfs. March 16 is listed as 7.6 cfs and on March 17 flows were as low as 6.8 cfs between 2 PM and 3 PM. This low flow does not appear in the graph provided in the variance request filing (Page 7 of 13).
- Between March 18 and 21, over a period of approximately 55 hours, BBL increased flows to greater than 1cfs over environmental licensed flows. This caused a further reduction in the lake level of nearly ½ foot to a level lower than -14.2 feet. This was over a weekend and we question why the flows through the generation plant exceeded licensed flows when clearly inflow to the lake was critically low and operation in this manner would only increase problems with the declining lake level.
- By March 25th the lake level had declined to -14.45 feet while the project ran at 7.5 cfs. The 7.5 cfs is an additional reduction of flow from what was listed in the BBL notification to agencies.
- The March 25, 2011 e-mail states, " *If you remove a few anomalous years, i.e. 1996, 1998, 2004, & 2005, you can see that inflow to the lake declines, as expected, each winter. This brings up the instream flow requirement during the winter months. The instream flow is based on a monthly pre-project average.*"

When BBL cites 4 of the 16 years presented as being anomalous, we question how 25% of the past 16 years can meet the definition of anomalous. A new definition of normal for this system needs to be developed and used in making operational decisions. What BBL calls anomalous would probably factor greatly in developing new normal conditions and may actually show a trend in general reduction of inflow which in turn could impact how this project is operated.

- The March 25, 2011 e-mail states, " *When inflow is this low, all we can do is run in run-of-river mode. Perhaps the license should have said we could operate in run-of-river mode when inflow was lower than the minimum instream flow requirement and the lake is below a certain level.*"

It is obvious that the level of the lake is controlled both by inflow as well as hydropower operations. The statement cited would only excuse hydropower operations conducted at the expense of lake levels during times prior to these emergency situations and would do nothing to correct or slow reduction of lake levels. This language would only facilitate a continued game of chance regarding potential lake refill. The trigger point for run of river operations needs to be re-evaluated to reduce potential lake drawdown. This may mean that diesel generation will need to be utilized sooner so that the lake is in better shape to sustain hydropower operations. The lake would also recover faster and environmental flows could be met.

BBL has attempted to provide daily information to the agencies as stated in the FERC filing. There were missed days in those notifications as referenced in the correspondence e-mail dated March 18, 2011. The initial e-mail notification dated March 14, 2011 stated:" We will be submitting daily reports to keep you posted." Only weekday reports have been developed and submitted to the agencies, with a small summary for what may have happened over weekends

since this situation was presented by BBL. Operations during the 55 hours between March 18 and 21, 2011, indicates that there may be limited oversight of this project during weekends.

On March 24, 2011, the U.S. Forest Service notified BBL that they did not necessarily agree to the temporary variance request. ADF&G also has concerns with continued allowance of variance requests without re-evaluation of operations. As such, we also do not necessarily agree with the request of BBL. Agency silence should not be taken as acceptance by BBL. Since BBL made and implemented decisions without any agency consultation, there was nothing to agree to. The BBL operation scenario currently in place is the only scenario that the lake and stream system is left with. In this case, perhaps operational changes could have been implemented much earlier, reducing the intensity of this crisis.

Since little could be accomplished by immediate meetings, ADF&G would propose a meeting to be held as soon as convenient. This meeting should not be delayed since problems seem to become easier to ignore when there is no current crisis. To facilitate this meeting, we request that BBL provide complete records for lake levels along with flow data in a table much like the tables starting with page 4 in the BBL variance request submission of March 25, 2011 to FERC. This table should be expanded to include date, hour, penstock flow, environmental flow identified by license, lake level and estimated lake inflow. In order to develop a corrected expected baseline, the table should include all of the past 16 years as cited on page 3 of the BBL variance request submission of March 25, 2011 to FERC. Flow contributions of the South Fork project and how the South Fork project affects BBL should also be included. Only by conducting thorough evaluations of operations, inflows and lake levels will we be able to suggest any operational change (if identified) to reduce instances of non-compliance with environmental flow license requirements of the BBL project. This table should be available to the agencies well in advance of a meeting so that we have sufficient time to review.

BBL requested a temporary variance for the instream flow requirements for March citing conditions beyond their control. Were the conditions “beyond their control” or did they use an operational plan which gambles on precipitation events? Clearly an evaluation of operational plans and how the lake is managed will be necessary due to repeated non-compliance issues with this project. BBL also requested a variance in lowest lake level allowed. This is confusing since in the past lake elevations below -15 feet have caused problems with the siphon intake. Has something changed with the lake siphon? It would seem that drawing down the lake further would only deepen the current crisis by affecting the siphon, perhaps cutting off all environmental flows, as has happened in the past.

This issue has now been ongoing for a month, with just 55 hours of environmental flow compliance between March 18 and March 21, 2011, compliance which adversely affected lake level. There have been no further variance requests generated by BBL for April, but our concerns and our comments are valid for as long as the current crisis exists and until an evaluation is conducted.

Sincerely,

/s/

Monte D. Miller
Statewide Hydropower Coordinator
Alaska Department of Fish and Game
Division of Sport Fish / RTS
333 Raspberry Road
Anchorage, Alaska 99518-1565

(907) 267-2312

e-copy: Joe Klein, ADF&G
 Shawn Johnson, ADF&G
 Mark Minnillo, ADF&G
 Theodore Deats, DNR
 Patrick Regan, FERC
 Barbara Stanley, USDA, USFS
 Sue Walker, NMFS
 Eric Rothwell, NOAA
 Steve Brockman, USFWS

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A subsidiary of Alaska Power & Telephone Company.



April 14, 2011

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Black Bear Lake Hydroelectric Project
FERC Project No. 10440
License Article 405 – Minimum Instream Flow

Dear Ms. Bose:

This e-Filing for the Black Bear Lake Hydroelectric Project, P-10440, is to request a variance from the instream flow requirement for the month of April due to low inflow to the lake. The minimum instream flow for the month of April is 15 cfs and we have been operating below the minimum since April 1, or for two weeks, hence our request for a variance covering the month of April.

The enclosed flow chart will show that from April 1-14, 2011, we have been below the minimum instream flow requirement of 15 cfs. Also included is the flow chart for March showing that we have been operating at or below minimum instream flows since the middle of that month. The project has been operating in run-of-river mode to match inflows to the lake. Although this is not the licensed flow we are to provide, which are also meant to provide some enhancement of flow to Black Bear Creek, the flow we are providing is at minimum what nature would be providing if the project did not exist and should not be construed as harming the environment, just not enhancing environmental flows as the instream flow requirement¹ was intended to do.

On March 25, we also requested a variance for the instream flow requirement for the month of March. Please refer to that filing for additional information regarding lake elevations since the first of the year, etc.

A copy of our daily (work week or 5 days a week) reporting to the agencies is enclosed under Correspondence. We also received a letter from the Alaska Department of Fish & Game (ADF&G) dated April 13, 2011, that has many misunderstandings within it. We will be filing a letter with the Commission in the near future to address ADF&G's letter.

¹ The minimum instream flow requirement for each month is based on a monthly average of the pre-project flow from gaging the watershed. Hence it should be expected that inflow will also be less than what is required at some time.

The National Weather Service has reported conditions in Southeast Alaska as being dryer and colder than normal. The Black Bear Lake Hydroelectric Project can attest to that as well. As an example, the difference in lake level from inflow to Black Bear Lake for January 1, 2010 and January 1, 2011 was 18-inches (18-inches lower in 2011), but the difference for April 1, 2010 and April 1, 2011 is a 7-foot difference of lake level and thus inflow (7 feet lower in 2011), which is a significant difference in water volume because of weather. This shows the unpredictability of this system. Even though we began using diesel to off-set hydropower in January, we are still having to operate below the minimum instream flow at this time.

Below is a note from the National Weather Service about March's weather.

National Weather Service: March in Juneau one of the driest

March in Juneau was the fourth driest on record.

Meteorologist Richard Lam says total liquid precipitation amounted to 1 point 28 inches, more than 2 inches below normal.

There were only eight days of measurable precipitation.

Even so, he says a new daily precipitation record of point 46 inches was established for March 30.

Snowfall amounted to 4.9 inches, **which is 6 point 4 inches below normal**.

As of the end of the month, the forecaster says there were 78.9 inches of snow since October 1. **That's more than one foot below normal**.

The average temperature for the month ending up at 28 point 8 degrees, about five degrees below normal.

The lowest temperature of the month was nine degrees on the 9th.

The high was 52 degrees on the 27th and 28th which set new record highs for those dates.

A Taku wind event on March 2nd produced the month's strongest gusts. It hit 76 miles per hour at the Douglas Boat Harbor and 49 miles per hour at the airport.

During the month of April we began the month at 8 cfs and then on April 7 we went up to above 9 cfs. Using the Tenant's Method, the project is operating at 65% of the pre-project average monthly flow.

At this time we would like to request a temporary variance from the minimum instream flow requirement for April for conditions we believe are beyond the licensees control. We will inform the Commission as soon as we are back in compliance.

Respectfully Submitted,



Glen D. Martin
Compliance Manager

Enc. (as stated)

Black Bear Lake Project - FERC #10440
Flow Data - Article 406
Apr-11

Flow in Cubic Feet per Second
 Totals in Acre-Feet

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
1-Apr-11	0:00	8.05		
1-Apr-11	1:00	8.08		
1-Apr-11	2:00	8.07		
1-Apr-11	3:00	8.08		
1-Apr-11	4:00	8.07		
1-Apr-11	5:00	8.02		
1-Apr-11	6:00	8.06		
1-Apr-11	7:00	8.07		
1-Apr-11	8:00	8.07		
1-Apr-11	9:00	8.21		
1-Apr-11	10:00	8.38		
1-Apr-11	11:00	8.35		
1-Apr-11	12:00	8.37		
1-Apr-11	13:00	8.37		
1-Apr-11	14:00	8.39		
1-Apr-11	15:00	8.39		
1-Apr-11	16:00	8.39		
1-Apr-11	17:00	8.38		
1-Apr-11	18:00	8.36		
1-Apr-11	19:00	8.39		
1-Apr-11	20:00	9.44		
1-Apr-11	21:00	10.03		
1-Apr-11	22:00	8.76		
1-Apr-11	23:00	8.38	16.625	16.625
2-Apr-11	0:00	8.37		
2-Apr-11	1:00	8.38		
2-Apr-11	2:00	8.37		
2-Apr-11	3:00	8.37		
2-Apr-11	4:00	8.40		
2-Apr-11	5:00	8.38		
2-Apr-11	6:00	8.39		
2-Apr-11	7:00	8.35		
2-Apr-11	8:00	8.37		
2-Apr-11	9:00	8.35		
2-Apr-11	10:00	8.37		
2-Apr-11	11:00	8.38		
2-Apr-11	12:00	8.35		
2-Apr-11	13:00	8.35		
2-Apr-11	14:00	8.39		
2-Apr-11	15:00	8.34		
2-Apr-11	16:00	8.37		
2-Apr-11	17:00	8.36		
2-Apr-11	18:00	8.30		
2-Apr-11	19:00	8.35		
2-Apr-11	20:00	8.34		
2-Apr-11	21:00	8.35		
2-Apr-11	22:00	8.38		
2-Apr-11	23:00	8.38	16.590	33.215
3-Apr-11	0:00	8.36		
3-Apr-11	1:00	8.36		
3-Apr-11	2:00	8.36		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
3-Apr-11	3:00	8.33		
3-Apr-11	4:00	8.34		
3-Apr-11	5:00	8.35		
3-Apr-11	6:00	8.36		
3-Apr-11	7:00	8.33		
3-Apr-11	8:00	8.35		
3-Apr-11	9:00	8.34		
3-Apr-11	10:00	8.35		
3-Apr-11	11:00	8.54		
3-Apr-11	12:00	8.63		
3-Apr-11	13:00	8.64		
3-Apr-11	14:00	8.64		
3-Apr-11	15:00	8.64		
3-Apr-11	16:00	8.64		
3-Apr-11	17:00	8.61		
3-Apr-11	18:00	8.65		
3-Apr-11	19:00	8.62		
3-Apr-11	20:00	8.61		
3-Apr-11	21:00	8.59		
3-Apr-11	22:00	8.59		
3-Apr-11	23:00	8.64	16.849	50.064
4-Apr-11	0:00	8.62		
4-Apr-11	1:00	8.64		
4-Apr-11	2:00	8.63		
4-Apr-11	3:00	8.62		
4-Apr-11	4:00	8.61		
4-Apr-11	5:00	8.63		
4-Apr-11	6:00	8.60		
4-Apr-11	7:00	8.60		
4-Apr-11	8:00	8.62		
4-Apr-11	9:00	8.63		
4-Apr-11	10:00	8.64		
4-Apr-11	11:00	8.62		
4-Apr-11	12:00	8.61		
4-Apr-11	13:00	8.64		
4-Apr-11	14:00	8.63		
4-Apr-11	15:00	8.61		
4-Apr-11	16:00	8.64		
4-Apr-11	17:00	8.60		
4-Apr-11	18:00	8.61		
4-Apr-11	19:00	8.61		
4-Apr-11	20:00	8.62		
4-Apr-11	21:00	8.67		
4-Apr-11	22:00	8.96		
4-Apr-11	23:00	8.87	17.151	67.215
5-Apr-11	0:00	8.87		
5-Apr-11	1:00	8.93		
5-Apr-11	2:00	8.93		
5-Apr-11	3:00	8.94		
5-Apr-11	4:00	8.86		
5-Apr-11	5:00	8.90		
5-Apr-11	6:00	8.90		
5-Apr-11	7:00	8.90		
5-Apr-11	8:00	9.13		
5-Apr-11	9:00	8.89		
5-Apr-11	10:00	8.86		
5-Apr-11	11:00	8.87		
5-Apr-11	12:00	8.87		
5-Apr-11	13:00	8.92		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
5-Apr-11	14:00	8.88		
5-Apr-11	15:00	8.92		
5-Apr-11	16:00	8.87		
5-Apr-11	17:00	8.90		
5-Apr-11	18:00	8.88		
5-Apr-11	19:00	8.87		
5-Apr-11	20:00	8.89		
5-Apr-11	21:00	8.87		
5-Apr-11	22:00	8.87		
5-Apr-11	23:00	8.90	17.655	84.869
6-Apr-11	0:00	8.89		
6-Apr-11	1:00	8.85		
6-Apr-11	2:00	9.09		
6-Apr-11	3:00	9.32		
6-Apr-11	4:00	8.92		
6-Apr-11	5:00	8.92		
6-Apr-11	6:00	8.90		
6-Apr-11	7:00	8.94		
6-Apr-11	8:00	8.90		
6-Apr-11	9:00	8.84		
6-Apr-11	10:00	8.93		
6-Apr-11	11:00	8.91		
6-Apr-11	12:00	8.90		
6-Apr-11	13:00	8.89		
6-Apr-11	14:00	8.88		
6-Apr-11	15:00	8.92		
6-Apr-11	16:00	8.89		
6-Apr-11	17:00	8.86		
6-Apr-11	18:00	8.91		
6-Apr-11	19:00	8.89		
6-Apr-11	20:00	8.89		
6-Apr-11	21:00	8.89		
6-Apr-11	22:00	8.88		
6-Apr-11	23:00	8.88	17.693	102.563
7-Apr-11	0:00	8.89		
7-Apr-11	1:00	8.86		
7-Apr-11	2:00	8.86		
7-Apr-11	3:00	8.89		
7-Apr-11	4:00	8.86		
7-Apr-11	5:00	8.92		
7-Apr-11	6:00	8.92		
7-Apr-11	7:00	8.90		
7-Apr-11	8:00	8.88		
7-Apr-11	9:00	8.90		
7-Apr-11	10:00	9.41		
7-Apr-11	11:00	9.78		
7-Apr-11	12:00	9.79		
7-Apr-11	13:00	9.80		
7-Apr-11	14:00	9.76		
7-Apr-11	15:00	9.78		
7-Apr-11	16:00	9.78		
7-Apr-11	17:00	9.79		
7-Apr-11	18:00	9.81		
7-Apr-11	19:00	9.80		
7-Apr-11	20:00	9.79		
7-Apr-11	21:00	9.80		
7-Apr-11	22:00	9.82		
7-Apr-11	23:00	9.80	18.644	121.207
8-Apr-11	0:00	9.81		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
8-Apr-11	1:00	9.80		
8-Apr-11	2:00	9.77		
8-Apr-11	3:00	9.79		
8-Apr-11	4:00	9.79		
8-Apr-11	5:00	9.78		
8-Apr-11	6:00	9.75		
8-Apr-11	7:00	9.75		
8-Apr-11	8:00	9.78		
8-Apr-11	9:00	9.74		
8-Apr-11	10:00	9.79		
8-Apr-11	11:00	9.77		
8-Apr-11	12:00	9.77		
8-Apr-11	13:00	9.76		
8-Apr-11	14:00	9.76		
8-Apr-11	15:00	9.76		
8-Apr-11	16:00	9.75		
8-Apr-11	17:00	9.78		
8-Apr-11	18:00	9.79		
8-Apr-11	19:00	9.75		
8-Apr-11	20:00	9.81		
8-Apr-11	21:00	9.73		
8-Apr-11	22:00	9.77		
8-Apr-11	23:00	9.77	19.382	140.588
9-Apr-11	0:00	9.79		
9-Apr-11	1:00	9.77		
9-Apr-11	2:00	9.80		
9-Apr-11	3:00	9.76		
9-Apr-11	4:00	9.74		
9-Apr-11	5:00	9.79		
9-Apr-11	6:00	9.78		
9-Apr-11	7:00	9.78		
9-Apr-11	8:00	9.73		
9-Apr-11	9:00	9.77		
9-Apr-11	10:00	9.74		
9-Apr-11	11:00	9.77		
9-Apr-11	12:00	9.78		
9-Apr-11	13:00	9.79		
9-Apr-11	14:00	9.76		
9-Apr-11	15:00	9.78		
9-Apr-11	16:00	9.77		
9-Apr-11	17:00	9.79		
9-Apr-11	18:00	9.79		
9-Apr-11	19:00	9.76		
9-Apr-11	20:00	9.79		
9-Apr-11	21:00	9.82		
9-Apr-11	22:00	9.79		
9-Apr-11	23:00	9.75	19.388	159.976
10-Apr-11	0:00	9.73		
10-Apr-11	1:00	9.78		
10-Apr-11	2:00	9.71		
10-Apr-11	3:00	9.74		
10-Apr-11	4:00	9.74		
10-Apr-11	5:00	9.77		
10-Apr-11	6:00	9.74		
10-Apr-11	7:00	9.78		
10-Apr-11	8:00	9.77		
10-Apr-11	9:00	9.76		
10-Apr-11	10:00	9.80		
10-Apr-11	11:00	9.79		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
10-Apr-11	12:00	9.78		
10-Apr-11	13:00	9.75		
10-Apr-11	14:00	9.77		
10-Apr-11	15:00	9.74		
10-Apr-11	16:00	9.78		
10-Apr-11	17:00	9.74		
10-Apr-11	18:00	9.78		
10-Apr-11	19:00	9.74		
10-Apr-11	20:00	9.73		
10-Apr-11	21:00	9.78		
10-Apr-11	22:00	9.78		
10-Apr-11	23:00	9.77	19.360	179.336
11-Apr-11	0:00	9.76		
11-Apr-11	1:00	9.74		
11-Apr-11	2:00	9.77		
11-Apr-11	3:00	9.76		
11-Apr-11	4:00	9.79		
11-Apr-11	5:00	9.73		
11-Apr-11	6:00	9.78		
11-Apr-11	7:00	9.75		
11-Apr-11	8:00	9.76		
11-Apr-11	9:00	9.77		
11-Apr-11	10:00	9.74		
11-Apr-11	11:00	9.75		
11-Apr-11	12:00	9.75		
11-Apr-11	13:00	9.74		
11-Apr-11	14:00	9.73		
11-Apr-11	15:00	9.75		
11-Apr-11	16:00	9.71		
11-Apr-11	17:00	9.75		
11-Apr-11	18:00	9.74		
11-Apr-11	19:00	9.74		
11-Apr-11	20:00	9.80		
11-Apr-11	21:00	9.77		
11-Apr-11	22:00	9.74		
11-Apr-11	23:00	9.76	19.345	198.681
12-Apr-11	0:00	9.73		
12-Apr-11	1:00	9.77		
12-Apr-11	2:00	9.73		
12-Apr-11	3:00	9.73		
12-Apr-11	4:00	9.75		
12-Apr-11	5:00	9.79		
12-Apr-11	6:00	9.73		
12-Apr-11	7:00	9.75		
12-Apr-11	8:00	9.73		
12-Apr-11	9:00	9.73		
12-Apr-11	10:00	9.74		
12-Apr-11	11:00	9.70		
12-Apr-11	12:00	9.75		
12-Apr-11	13:00	9.76		
12-Apr-11	14:00	9.70		
12-Apr-11	15:00	9.78		
12-Apr-11	16:00	9.74		
12-Apr-11	17:00	9.74		
12-Apr-11	18:00	9.74		
12-Apr-11	19:00	9.74		
12-Apr-11	20:00	9.74		
12-Apr-11	21:00	9.74		
12-Apr-11	22:00	9.70		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
12-Apr-11	23:00	9.72	19.317	217.998
13-Apr-11	0:00	9.78		
13-Apr-11	1:00	9.74		
13-Apr-11	2:00	9.75		
13-Apr-11	3:00	9.76		
13-Apr-11	4:00	9.74		
13-Apr-11	5:00	9.73		
13-Apr-11	6:00	9.73		
13-Apr-11	7:00	9.73		
13-Apr-11	8:00	9.75		
13-Apr-11	9:00	9.69		
13-Apr-11	10:00	11.02		
13-Apr-11	11:00	11.47		
13-Apr-11	12:00	9.76		
13-Apr-11	13:00	9.73		
13-Apr-11	14:00	10.35		
13-Apr-11	15:00	10.25		
13-Apr-11	16:00	9.75		
13-Apr-11	17:00	9.76		
13-Apr-11	18:00	9.72		
13-Apr-11	19:00	9.74		
13-Apr-11	20:00	9.74		
13-Apr-11	21:00	9.77		
13-Apr-11	22:00	9.76		
13-Apr-11	23:00	9.69	19.662	237.660
14-Apr-11	0:00	9.75		
14-Apr-11	1:00	9.73		
14-Apr-11	2:00	9.77		
14-Apr-11	3:00	9.73		
14-Apr-11	4:00	9.75		
14-Apr-11	5:00	9.71		
14-Apr-11	6:00			
14-Apr-11	7:00			
14-Apr-11	8:00			
14-Apr-11	9:00			
14-Apr-11	10:00			
14-Apr-11	11:00			
14-Apr-11	12:00			
14-Apr-11	13:00			
14-Apr-11	14:00			
14-Apr-11	15:00			
14-Apr-11	16:00			
14-Apr-11	17:00			
14-Apr-11	18:00			
14-Apr-11	19:00			
14-Apr-11	20:00			
14-Apr-11	21:00			
14-Apr-11	22:00			
14-Apr-11	23:00		4.830	242.489
15-Apr-11	0:00			
15-Apr-11	1:00			
15-Apr-11	2:00			
15-Apr-11	3:00			
15-Apr-11	4:00			
15-Apr-11	5:00			
15-Apr-11	6:00			
15-Apr-11	7:00			
15-Apr-11	8:00			
15-Apr-11	9:00			

CORRESPONDENCE

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

DIVISION OF SPORT FISH

SEAN PARNELL, GOVERNOR

Research and Technical Services
333 Raspberry Road
Anchorage, Alaska 99518-1565
PHONE: (907) 267-2312
FAX: (907) 267-2422

April 13, 2011

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368

RE: Black Bear Hydroelectric Power Project
FERC No. 10440
License Article 405 – Minimum Instream Flow

Dear Mr. Martin:

The Alaska Department of Fish and Game (ADF&G) has concerns regarding operation of the Black Bear Lake Hydroelectric Power Project (BBL). The operational method has continued to lead to non-compliance events with Article 405, environmental flows, as listed in the Federal Energy Regulatory Commission (FERC) license. Article 405, in the FERC license issued November 9, 1993 for Project P-10440-001 states:

“The licensee shall release from the Black Bear Lake Project into Black Bear Creek minimum flows according to the following table, as measured at the flow recording gage required by Article 406, to protect the downstream aquatic habitat in Black Bear Creek.

Staff's recommended minimum flow releases (in cubic feet per second) to Black Bear Creek downstream of the Black Bear Lake Project.

Month	Minimum Flow (cfs)	Month	Minimum Flow (cfs)
January	9	July	19
February	12	August	17
March	9	September	24
April	15	October	0
May	22	November	15
June	15	December	9

These flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon agreement between the licensee and the Alaska Department of Fish and Game. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.”

Since this project became operational in the mid 1990's, there have been a multitude of non-compliance events. Previous discussions with agencies resulted in various suggestions for predictive weather monitoring and other methods to attempt to reduce non-compliance events. When the South Fork hydroelectric project (non-FERC) was constructed, discussions led agencies to believe that flow difficulties experienced in the past should be minimized if not eliminated. The low flow crisis this spring clearly shows that water availability and project operation issues continue to result in water shortages.

My understanding is that because of the way BBL is constructed, flow from the lake to the creek, goes through the powerhouse / turbine. The natural creek outflow from the lake was filled with shot rock. Prior to the construction of the non-FERC South Fork Project, flow from the lake was required to meet the environmental flow requirements established in the BBL FERC license. The construction of the South Fork Project allowed flows from the South Fork into Black Bear Creek to be counted toward the environmental flow listed in the BBL license. During the current crisis, the South Fork flow contribution has been minimal due to very low flow in the South Fork system. Please correct this information if my understanding of this project is incorrect or incomplete.

With specific regard to the March 14, 2011 e-mail notification to the agencies:

- The BBL notification letter to the agencies (attachment to the March 14, 2011 e-mail) has not been included in the communication list in the notification to FERC of non-compliance and request for variance; therefore, it is included at the end of this letter. This letter and attachment will be filed with FERC.
- Notification to the agencies was only made after Alaska Power and Telephone (APT) and BBL had run the lake down to critically low lake levels. The graphs supplied with the notification letter attached to the e-mail show an indication as early as mid February that the lake level could not sustain the continued rate of water withdrawal. What is missing from this information is a comparison of the daily flow through the powerhouse / turbine with lake levels preceding the crisis. This additional information would help to evaluate how project operation affects lake level or relates to decline in lake level. If, during the weeks prior to declaring a crisis, the project was operating and releasing flows above environmental flows, resulting in a decline in the lake level, then this non-compliance event is the result of exploitation of the system in the hope that the lake would refill before the method of operation became a problem. This is a choice of power production before environmental flows.
- The BBL determination of current flow levels was dictated to the agencies. A statement of "we will assume you are in agreement" is nothing more than saying that this is what it is. The result of BBL dictating what the flows will be is that there was no place for agencies to comment. There needs to be an evaluation of lake level vs. flows to determine proper trigger points to identify when diesel generation should replace hydroelectric generation to prevent extreme drawdown of the lake, which then reduces environmental flows below FERC license levels. For example, if in January the environmental flow is set by license at 9 cfs, the generation is using 12 cfs, and the lake level is declining, it would be prudent to ramp up diesel generation and reduce hydroelectric generation back to the production that 9 cfs will provide. This will assist in

meeting compliance in the spring and reduce the gamble that the lake will refill. This is just an example but demonstrates the need for revisiting current operational methods. The same logic would apply during any operational period for BBL.

- A reduction from 9 cfs to 7.65 cfs was identified by BBL on March 14, 2011, yet on March 15 flows were identified in the update e-mail as 7.30 to 7.65 cfs. March 16 is listed as 7.6 cfs and on March 17 flows were as low as 6.8 cfs between 2 PM and 3 PM. This low flow does not appear in the graph provided in the variance request filing (Page 7 of 13).
- Between March 18 and 21, over a period of approximately 55 hours, BBL increased flows to greater than 1cfs over environmental licensed flows. This caused a further reduction in the lake level of nearly ½ foot to a level lower than -14.2 feet. This was over a weekend and we question why the flows through the generation plant exceeded licensed flows when clearly inflow to the lake was critically low and operation in this manner would only increase problems with the declining lake level.
- By March 25th the lake level had declined to -14.45 feet while the project ran at 7.5 cfs. The 7.5 cfs is an additional reduction of flow from what was listed in the BBL notification to agencies.
- The March 25, 2011 e-mail states, " *If you remove a few anomalous years, i.e. 1996, 1998, 2004, & 2005, you can see that inflow to the lake declines, as expected, each winter. This brings up the instream flow requirement during the winter months. The instream flow is based on a monthly pre-project average.*"

When BBL cites 4 of the 16 years presented as being anomalous, we question how 25% of the past 16 years can meet the definition of anomalous. A new definition of normal for this system needs to be developed and used in making operational decisions. What BBL calls anomalous would probably factor greatly in developing new normal conditions and may actually show a trend in general reduction of inflow which in turn could impact how this project is operated.

- The March 25, 2011 e-mail states, " *When inflow is this low, all we can do is run in run-of-river mode. Perhaps the license should have said we could operate in run-of-river mode when inflow was lower than the minimum instream flow requirement and the lake is below a certain level.*"

It is obvious that the level of the lake is controlled both by inflow as well as hydropower operations. The statement cited would only excuse hydropower operations conducted at the expense of lake levels during times prior to these emergency situations and would do nothing to correct or slow reduction of lake levels. This language would only facilitate a continued game of chance regarding potential lake refill. The trigger point for run of river operations needs to be re-evaluated to reduce potential lake drawdown. This may mean that diesel generation will need to be utilized sooner so that the lake is in better shape to sustain hydropower operations. The lake would also recover faster and environmental flows could be met.

BBL has attempted to provide daily information to the agencies as stated in the FERC filing. There were missed days in those notifications as referenced in the correspondence e-mail dated March 18, 2011. The initial e-mail notification dated March 14, 2011 stated:" We will be submitting daily reports to keep you posted." Only weekday reports have been developed and submitted to the agencies, with a small summary for what may have happened over weekends

since this situation was presented by BBL. Operations during the 55 hours between March 18 and 21, 2011, indicates that there may be limited oversight of this project during weekends.

On March 24, 2011, the U.S. Forest Service notified BBL that they did not necessarily agree to the temporary variance request. ADF&G also has concerns with continued allowance of variance requests without re-evaluation of operations. As such, we also do not necessarily agree with the request of BBL. Agency silence should not be taken as acceptance by BBL. Since BBL made and implemented decisions without any agency consultation, there was nothing to agree to. The BBL operation scenario currently in place is the only scenario that the lake and stream system is left with. In this case, perhaps operational changes could have been implemented much earlier, reducing the intensity of this crisis.

Since little could be accomplished by immediate meetings, ADF&G would propose a meeting to be held as soon as convenient. This meeting should not be delayed since problems seem to become easier to ignore when there is no current crisis. To facilitate this meeting, we request that BBL provide complete records for lake levels along with flow data in a table much like the tables starting with page 4 in the BBL variance request submission of March 25, 2011 to FERC. This table should be expanded to include date, hour, penstock flow, environmental flow identified by license, lake level and estimated lake inflow. In order to develop a corrected expected baseline, the table should include all of the past 16 years as cited on page 3 of the BBL variance request submission of March 25, 2011 to FERC. Flow contributions of the South Fork project and how the South Fork project affects BBL should also be included. Only by conducting thorough evaluations of operations, inflows and lake levels will we be able to suggest any operational change (if identified) to reduce instances of non-compliance with environmental flow license requirements of the BBL project. This table should be available to the agencies well in advance of a meeting so that we have sufficient time to review.

BBL requested a temporary variance for the instream flow requirements for March citing conditions beyond their control. Were the conditions “beyond their control” or did they use an operational plan which gambles on precipitation events? Clearly an evaluation of operational plans and how the lake is managed will be necessary due to repeated non-compliance issues with this project. BBL also requested a variance in lowest lake level allowed. This is confusing since in the past lake elevations below -15 feet have caused problems with the siphon intake. Has something changed with the lake siphon? It would seem that drawing down the lake further would only deepen the current crisis by affecting the siphon, perhaps cutting off all environmental flows, as has happened in the past.

This issue has now been ongoing for a month, with just 55 hours of environmental flow compliance between March 18 and March 21, 2011, compliance which adversely affected lake level. There have been no further variance requests generated by BBL for April, but our concerns and our comments are valid for as long as the current crisis exists and until an evaluation is conducted.

Sincerely,

/s/

Monte D. Miller
Statewide Hydropower Coordinator
Alaska Department of Fish and Game
Division of Sport Fish / RTS
333 Raspberry Road
Anchorage, Alaska 99518-1565

(907) 267-2312

e-copy: Joe Klein, ADF&G
 Shawn Johnson, ADF&G
 Mark Minnillo, ADF&G
 Theodore Deats, DNR
 Patrick Regan, FERC
 Barbara Stanley, USDA, USFS
 Sue Walker, NMFS
 Eric Rothwell, NOAA
 Steve Brockman, USFWS

From: [Glen Martin](#)
To: "Peter.D.Olmstead@usace.army.mil"; "Minnillo, Mark J (DFG)"; "monte.miller@alaska.gov"; "susan.walker@noaa.gov"; "richard.enriquez@fws.gov"; "Deats, Theodore A (DNR)"; "patrick.regan@ferc.gov"; "fbsanchez@fs.fed.us"; "Barbara.Stanley"; "Erich.Gaedeke@ferc.gov"
Cc: "Vern.Neitzer"; "Greg.Mickelson"; "Bob.Grimm"; "Bob.Berreh"
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update
Date: Thursday, April 14, 2011 12:54:00 PM
Attachments: [041411_Klawock-WeatherBug-forecast.pdf](#)

Dear Agency Representatives,

There is little change from yesterday. The lake rose and then went back down and is currently at about -14.27 feet and flow continues at or near 9.7cfs. Previously we reported 9.8 cfs, but was actually between 9.7 and 9.8 cfs. We received a letter from ADF&G regarding how we operate this project that has some erroneous conclusions we will be addressing in our response to further the understanding of this project and Black Bear Lake.

The National Weather Service forecast is as follows:

Today...Rain showers...diminishing in the afternoon. Highs around 45. Light winds.

Tonight...Mostly cloudy. Scattered rain showers. Lows around 35. Light winds.

Thursday...Cloudy. Scattered rain showers in the morning...then isolated rain showers in the afternoon. Highs around 45. East wind 10 mph.

Thursday Night...Cloudy. Isolated rain showers. Lows around 35. Light winds.

Friday...Cloudy. Isolated rain showers. Highs around 48. Light winds.

Friday Night...Cloudy. Scattered rain showers. Lows around 35.

Saturday...Mostly cloudy. Chance of rain. Highs around 48.

Saturday Night Through Sunday Night...Mostly cloudy. Lows around 36. Highs around 48.

Monday...Mostly cloudy. Highs around 46.

Monday Night And Tuesday...Mostly cloudy. Chance of rain. Lows around 37. Highs around 47.

TEMPERATURE

KLAWOCK 46 33 44

HYDABURG 44 34 46

For cross referencing, the WeatherBug forecast is attached.

The weather continues to be cool with little precipitation.

Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Wednesday, April 13, 2011 8:02 AM
To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

There is little change from yesterday. The lake rose about 0.05 feet during the last 24 hours to about -14.25 feet and flow continues at 9.8cfs. South Fork Hydro also experienced a small increase in flow.

The National Weather Service forecast is as follows:

Today...Rain showers...diminishing in the afternoon. Highs around 45. Light winds.

Tonight...Mostly cloudy. Scattered rain showers. Lows around 35. Light winds.

Thursday...Cloudy. Scattered rain showers in the morning...then isolated rain showers in the afternoon. Highs around 45. East wind 10 mph.

Thursday Night...Cloudy. Isolated rain showers. Lows around 35. Light winds.

Friday...Cloudy. Isolated rain showers. Highs around 48. Light winds.

Friday Night...Cloudy. Scattered rain showers. Lows around 35.

Saturday...Mostly cloudy. Chance of rain. Highs around 48.

Saturday Night Through Sunday Night...Mostly cloudy. Lows around 36. Highs around 48.

Monday...Mostly cloudy. Highs around 46.

Monday Night And Tuesday...Mostly cloudy. Chance of rain. Lows around 37. Highs around 47.

TEMPERATURE

KLAWOCK 46 33 44
HYDABURG 44 34 46

For cross referencing, the WeatherBug forecast is attached.

The weather has not really changed over the last month with temperatures during the night in the mid-30's at sealevel. At 1,500 feet elevation, the elevation of Black Bear Lake, this would be at or below freezing, slowing the thaw that probably occurs each

afternoon after temps have warmed for the day. Southeast Alaska continues to experience colder than normal temps for this time of year. Two charts are attached from NOAA, one is the temperature probability for April, showing lower than normal temperatures, and the other is the precipitation probability for April, showing lower than normal precipitation predicted. The good news is that the probability charts for April, May, June combined show temperatures and precipitation going back to normal conditions. We anxiously await this transition.

Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Tuesday, April 12, 2011 8:14 AM
To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

There is little change from yesterday. The lake is at -14.3 feet and flow continues at 9.8cfs.

The National Weather Service forecast is as follows:

Today...Rain showers. Highs around 43. Southeast wind 10 to 20 mph with higher gusts in the morning.

Tonight...Rain showers. Lows around 38. Southeast wind 10 mph in the evening becoming light and variable.

Wednesday...Rain showers likely. Highs around 46. Southeast wind 10 to 15 mph.

Wednesday Night...Mostly cloudy. Slight chance of rain showers. Lows around 37. Light winds.

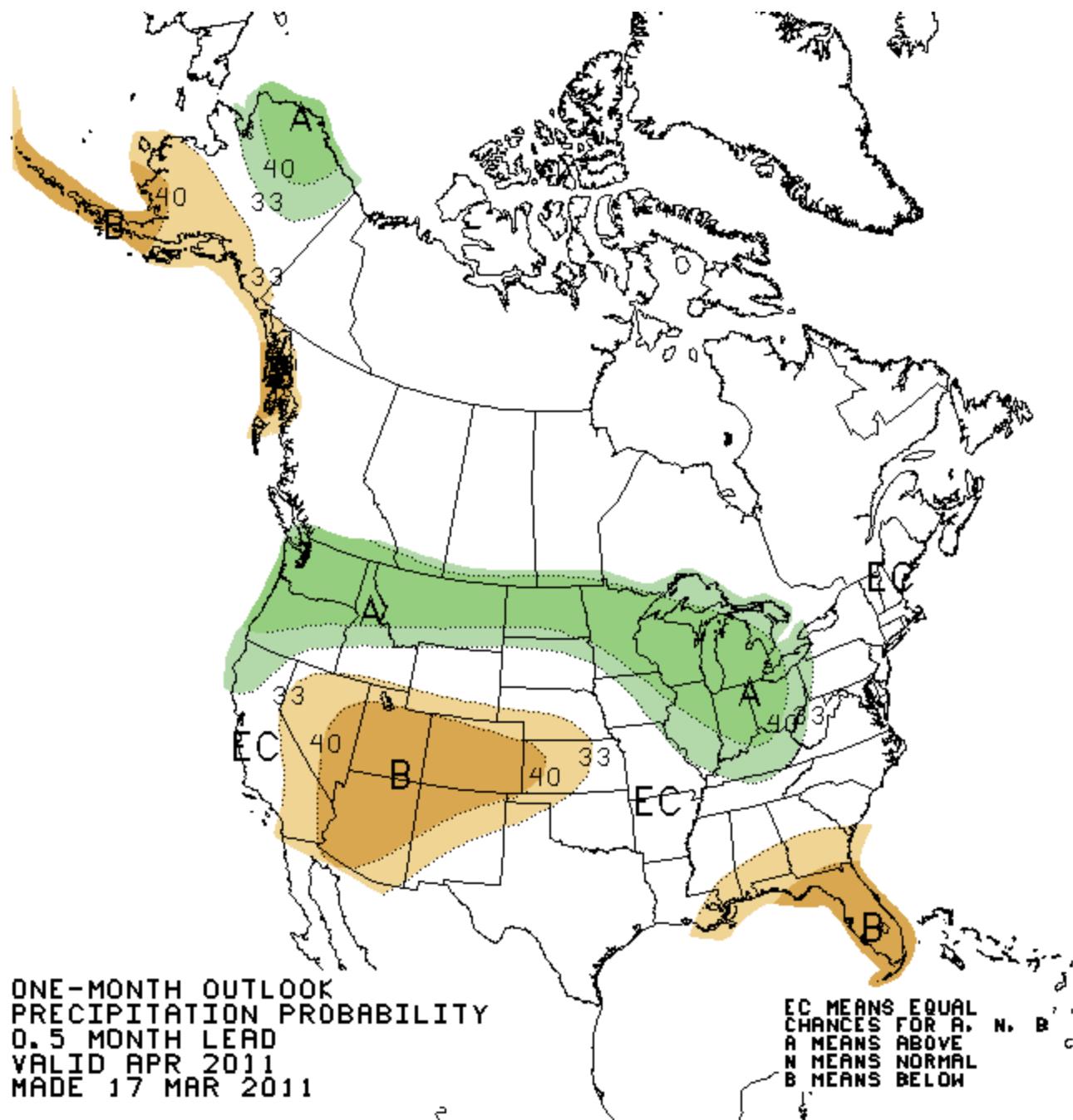
Thursday...Mostly cloudy. Chance of rain showers. Highs around 47. Light winds.

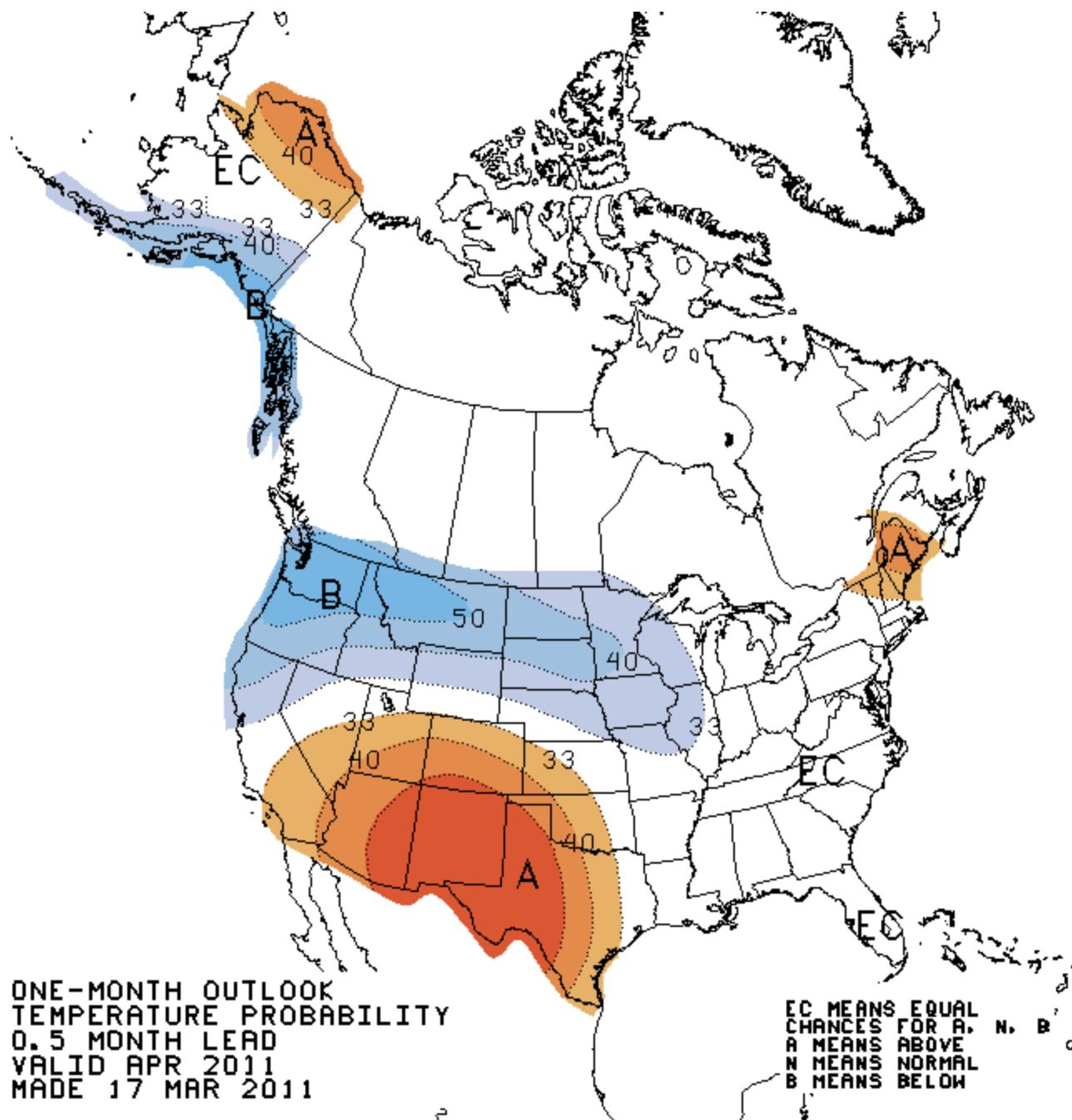
Thursday Night Through Saturday...Mostly cloudy. Chance of rain showers. Lows around 36. Highs around 47.

Saturday Night...Mostly cloudy. Lows around 36.

Sunday Through Monday...Mostly cloudy. Highs around 47. Lows around 36.

For cross referencing, the WeatherBug forecast is attached.





We will continue reporting daily. Weather has not really changed over the last month.

Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
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(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Monday, April 11, 2011 10:08 AM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

As of 8 a.m. Friday morning the lake was at -14.26 ft and flow continued at between 9-10 cfs. The air temperature was 34.4°F at the lake.

This morning, the lake is at -14.29 ft and flows are at 9.8 cfs.

The National Weather Service forecast is as follows:

Today...Scattered rain and snow showers in the morning...then rain showers in the afternoon. Little or no snow accumulation. Highs around 44. South wind 10 mph with higher gusts in the afternoon.

Tonight...Rain showers. Lows around 38. Southeast wind 10 to 15 mph with higher gusts in the evening.

Tuesday...Rain showers. Highs around 45. Southeast wind 10 to 20 mph.

Tuesday Night...Rain showers. Lows around 36. Southeast wind 10 to 15 mph.

Wednesday...Cloudy. Chance of rain showers. Highs around 46. Southeast wind 10 mph.

Wednesday Night...Mostly cloudy. Lows around 36.

Thursday And Thursday Night...Cloudy. Chance of rain showers. Highs around 46. Lows around 36.

Friday...Mostly cloudy. Chance of rain showers. Highs around 46.

Friday Night...Rain likely. Lows around 35.

Saturday...Rain. Highs around 47.

Saturday Night...Cloudy. Chance of rain. Lows around 35.

Sunday...Mostly cloudy. Chance of rain. Highs around 47.

TEMPERATURE / PRECIPITATION

KLAWOCK 45 37 45

HYDABURG 44 38 45

For cross referencing, the WeatherBug forecast is attached.

In summary, we have been able to increase flow to almost 10 cfs, but the lake continues to go slowly down, thus inflow to the lake remains below 9.8 cfs. Cold temperatures persist at Black Bear Lake slowing any thaw. The South Fork Hydro Project is not contributing significantly at this time either.

Regards,

Glen

Glen D. Martin
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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Thursday, April 07, 2011 11:04 AM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

As of 8 a.m. this morning the lake was at -14.23 ft and flow continues at about 9 cfs. The air temperature is 34.6°F at the lake.

The National Weather Service forecast is as follows:

Today...Mostly cloudy. Patchy fog early. Highs around 49. West wind 10 mph.

Tonight...Cloudy. Chance of rain late. Lows around 38. South wind 10 to 15 mph.

Friday...Rain. Highs around 45. South wind 10 to 20 mph.

Friday Night...Rain showers. Lows around 36. Southwest wind 10 to 15 mph.

Saturday...Rain showers...possible mixed with snow. Highs around 43. Southwest wind 10 mph.

Saturday Night...Numerous rain and snow showers. Lows around 35.

Sunday...Numerous rain showers. Highs around 45.

Sunday Night...Mostly cloudy. Scattered rain showers. Lows around 35.

Monday...Numerous rain showers. Highs around 46.

Monday Night...Numerous rain showers. Lows around 36.

Tuesday And Tuesday Night...Numerous rain showers. Highs around 46. Lows around 36.

Wednesday...Cloudy. Chance of rain. Highs around 46.

TEMPERATURE / PRECIPITATION

KLAWOCK 49 34 45 / 10 50 90

HYDABURG 50 38 45 / 10 40 90

For cross referencing, the WeatherBug forecast is attached.

Inflow appears to remain below 9 cfs, judging by the continued drawdown. Rain is suppose to continue at sea level, however, with the cold temperatures predicted for nights, the temperature at the lake will be at or below freezing, slowing the thaw. Not much if any change from yesterday.

We will continue to keep you informed.

Best Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Wednesday, April 06, 2011 10:02 AM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

As of Noon on Tuesday April 5, the lake was at -14.05 ft and we continued to operate at 9 cfs. As of 8 a.m. this morning the lake was at -14.14 ft and flow continues at about 9 cfs. The air temperature is 33°F at the lake.

Below is a note from the National Weather Service about March's weather.

National Weather Service: March in Juneau one of the driest

March in Juneau was the fourth driest on record.

Meteorologist Richard Lam says total liquid precipitation amounted to 1 point 28 inches, more than 2 inches below normal.

There were only eight days of measurable precipitation.

Even so, he says a new daily precipitation record of point 46 inches was established for March 30.

Snowfall amounted to 4.9 inches, **which is 6 point 4 inches below normal.**

As of the end of the month, the forecaster says there were 78.9 inches of snow since October 1. **That's more than one foot below normal.**

The average temperature for the month ending up at 28 point 8 degrees, about five degrees below normal.

The lowest temperature of the month was nine degrees on the 9th.

The high was 52 degrees on the 27th and 28th which set new record highs for those dates.

A Taku wind event on March 2nd produced the month's strongest gusts. It hit 76 miles per hour at the Douglas Boat Harbor and 49 miles per hour at the airport.

Nature has placed many hydroelectric projects in Southeast Alaska in a low water predicament, similar to Black Bear Lake Hydro. The solution is probably to amend our license so that we are allowed to operate in run-of-river mode when inflow to the lake drops below the minimum instream flow requirement. This would reduce agency time spent on this project as well as our time filing reports because we are out of compliance, while addressing natural conditions beyond our control.

The National Weather Service forecast is as follows:

Today...Rain showers diminishing in the afternoon. Highs around 47. Light winds becoming northwest 10 mph in the afternoon.

Tonight...Decreasing clouds. Isolated rain showers in the evening. Lows around 35. Northwest wind 10 mph.

Thursday...Increasing clouds. Highs around 48. West wind 10 mph.

Thursday Night...Rain likely. Lows around 38. South wind 10 to 20 mph.

Friday...Rain. Highs around 44. South wind 10 to 15 mph.

Friday Night...Numerous rain showers. Lows around 37.

Saturday And Saturday Night...Numerous rain showers. Highs around 45. Lows around 36.

Sunday And Sunday Night...Mostly cloudy. Scattered rain showers. Highs around 45. Lows around 35.

Monday...Numerous rain showers. Highs around 46.

Monday Night And Tuesday...Numerous rain showers. Lows around 36. Highs around 46.

For cross referencing, the WeatherBug forecast is attached.

Inflow presently is below 9 cfs, judging by the continued drawdown. Rain is suppose to continue at sea level, however, with the cold temperatures predicted for nights, the temperature at the lake will be at or below freezing, slowing the thaw.

We will continue to keep you informed.

Best Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Monday, April 04, 2011 10:14 AM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'Marcia.L.Heer@usace.army.mil'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Last Friday we went to 9 cfs in the morning. The minimum flow for April is 15 cfs. The weekend on POW had a combination of rain, wind, and fog. We gained some water at South Fork Hydro but all the moisture fell as snow at Black Bear Lake because it was colder at that elevation. As a result we just maintained the lake while us using about 9 cfs of water. Temperatures are cold at the lake again today (33 degrees) so we don't expect much thaw today either.

Operating at 9 cfs places us at 50% of the average pre-project flow for April, using the Tenant Method. Below is the National Weather Service forecast and attached is the WeatherBug forecast for Klawock on POW.

Today...Rain showers...mixing with snow showers in the morning diminishing in the afternoon. No snow accumulation. Highs around 43. Southeast wind 10 to 15 mph.

Tonight...Mostly cloudy. Chance of rain showers. Lows around 35. East wind 10 to 20 mph.

Tuesday...Rain likely. Highs around 45. Southeast wind to 15 mph.

Tuesday Night...Rain showers. Lows around 35. West wind 10 mph.

Wednesday...Rain likely. Highs around 46. West wind to 15 mph.

Wednesday Night...Mostly cloudy. Chance of rain. Lows around 35.

Thursday And Thursday Night...Mostly cloudy. Highs around 47. Lows around 36.

Friday...Cloudy. Highs around 48.

Friday Night...Cloudy. Chance of rain. Lows around 36.

Saturday Through Sunday...Rain likely. Highs around 47. Lows around 36.

Inflow to the lake has slightly improved, but not significant enough to immediately go to 15 cfs. If the lake begins filling again such as it began to last week, perhaps we can ramp up to match the inflow and meet the instream flow as well. Attached is a table, in PDF format, showing for a decade of USGS data the number of days each year that the project could not have met the current instream flow requirements. We include this in preparation for the meeting we understand you propose. When would you like to hold a meeting and because of the location distribution of all involved, would you prefer to conduct this telephonically, or in person?

Thank you,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Bob Berreth [mailto:bob.b@aptalaska.com]
Sent: Friday, April 01, 2011 8:18 AM
To: 'Bob Berreth'; 'Glen Martin'; 'Minnillo, Mark J (DFG)'; monte.miller@alaska.gov; susan.walker@noaa.gov; richard_enriquez@fws.gov; 'Deats, Theodore A (DNR)'; patrick.regan@ferc.gov; fbsanchez@fs.fed.us; 'Barbara Stanley'; Erich.Gaedeke@ferc.gov; 'Marcia.L.Heer@usace.army.mil'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Friday, April 1, 2011, update on Black Bear Lake Hydro.

Yesterday we increased flow to 8 cfs. The lake level has risen a tenth of a foot to -14.0 feet. Flow at South Fork is moderate. Forecast is for continued rain.

Regards,
Bob Berreth

From: Bob Berreth [mailto:bob.b@aptalaska.com]
Sent: Thursday, March 31, 2011 2:39 PM
To: 'Bob Berreth'; 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'Marcia.L.Heer@usace.army.mil'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Thursday, March 31, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. The lake level has risen almost 0.5 feet to -14.1 feet. Flow at South Fork Hydro increased substantially but has started to fall off. Forecast is for continued rain. Today started with a rain/snow mix at sea level.

Regards,
Bob Berreth

From: Bob Berreth [mailto:bob.b@aptalaska.com]
Sent: Wednesday, March 30, 2011 8:33 AM
To: 'Bob Berreth'; 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'Marcia.L.Heer@usace.army.mil'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Wednesday, March 30, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. The lake level has risen almost 0.2 feet to -14.47 feet. Flow at South Fork Hydro continues to increase. Forecast is for continued rain.

Regards,
Bob Berreth

From: Bob Berreth [mailto:bob.b@aptalaska.com]
Sent: Tuesday, March 29, 2011 9:59 AM
To: 'Bob Berreth'; 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'Marcia.L.Heer@usace.army.mil'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Tuesday, March 29, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. with the lake level steady at -14.66 feet. Flow at South Fork Hydro

continues to increase.

Regards,
Bob Berreth

From: Bob Berreth [mailto:bob.b@aptalaska.com]

Sent: Monday, March 28, 2011 9:35 AM

To: 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedekke@ferc.gov'; 'Marcia.L.Heer@usace.army.mil'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Monday, March 28, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. with the lake level continuing to slowly fall. Between Friday at 7AM and Monday at 7AM the lake lost an additional quarter of a foot to -14.7 feet. Flow at South Fork Hydro has slightly increased. Below is a seven day forecast.

Regards,
Bob Berreth

7-Day Forecast

Weather Alert

[Alert](#)

[More](#)

Klawock, AK 99925

Top of Form

Bottom of Form

Today  47° Rain	Tue  46° Rain	Wed  45° Rain	Thu  45° Rain	Fri  45° Rain	Sat  44° Chance of Rain	Sun  46° Rain
Tonight  39° Rain	Tue Night  40° Rain	Wed Night  38° Chance of Rain	Thu Night  38° Rain	Fri Night  34° Chance of Rain	Sat Night  35° Chance of Rain	

From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Friday, March 25, 2011 9:41 AM

To: 'Minnillo, Mark J (DFG)'; monte.miller@alaska.gov; susan.walker@noaa.gov; richard_enriquez@fws.gov; 'Deats, Theodore A (DNR)'; patrick.regan@ferc.gov; fbsanchez@fs.fed.us; 'Barbara Stanley'; 'Erich.Gaedekke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

We have heard from several of you that there may be a request for a meeting coming through the pipeline to discuss Black Bear Lake Hydro with us. We are certainly agreeable to this, although we would like to point out we have been down this road before and discussed this very situation with all of the agencies. But that said, a meeting would be fine.

I will be on vacation next week so any time after that.

Some facts about the project some of you may not be aware of, Black Bear Lake has 215 surface acres. The total 15 foot storage the project has equates to 3200 acre-feet. Because of the shape or bathymetry of the lake, we conservatively assume there are 200 acre-feet per foot and therefore approximately 3000 acre-feet of storage. The available water is approximately 20,440 acre-feet per year, based on pre-project gaging. This equates to a lake that fills over 6 times each year, which means it is a very flashy lake that also only has 1.8 miles of drainage basin feeding it. The attached graph, the same one I included in yesterdays e-mail, shows how quickly the lake can fill. Here is the amount of water we have used for each of the last four years:

2007 = 18,249 acre-feet
2008 = 13,466 acre-feet
2009 = 15,795 acre-feet
2010 = 16,353 acre-feet

What isn't used generally spills, as illustrated on the graph by the lines going above the light blue line each spring. If you remove a few anomalous years, i.e. 1996, 1998, 2004, & 2005, you can see that inflow to the lake declines, as expected, each winter. This brings up the instream flow requirement during the winter months. The instream flow is based on a monthly pre-project average. The monthly pre-project average for March is 15 cfs. For the twenty-four days we have operated this month, this would provide 714 acre-feet of water. The project has used 467 acre-feet, only 65% of the average, and yet the lake level continues to decline. This illustrates that frequently the inflow to the lake has been less than this average each winter. Hence, the 9 cfs instream flow requirement for March can't be met because only about 7.5 cfs is flowing into the lake.

These instream flow requirements were what the agencies proposed at the time of licensing, and they tried to take into account the average by using a lower number for the instream flow, i.e. pre-project = 15 cfs, operations = 9 cfs. However, as nature and our operations has pointed out, the average they used is just an average and not necessarily realistic for operations, because an average doesn't account for lower inflow. When inflow is this low, all we can do is run in run-of-river mode. Perhaps the license should have said we could operate in run-of-river mode when inflow was lower than the minimum instream flow requirement and the lake is below a certain level.

Although it is obvious that if we don't operate in run-of-river mode under the current conditions, that no water would get to Black Bear Creek from the lake (project would have to shut down), it should also be obvious that if the project did not exist, only 7.5 cfs would

be reaching the creek under current conditions. This simple fact needs to be recognized, i.e. we are replicating nature at this time, where normally we would be supplementing nature when we are able to operate normally by drawing the lake down.

Also, just for your info, we are using about 4,000 gallons of diesel each day to handle the load on the island with very little hydro.

To update you on conditions today, March 25, at Black Bear Lake Hydro, we remain at 7.5 cfs and the lake lost about a tenth of a foot to -14.45 feet in the last 24 hours. This means the inflow is below 7.5 cfs. Below is the National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Increasing clouds. Highs around 49. East wind 10 to 20 mph.

Tonight...Mostly cloudy. Lows around 38. East wind 10 mph.

Saturday...Mostly cloudy. Highs around 51. Southeast wind 10 mph.

Saturday Night...Mostly cloudy. Lows around 38. Southeast wind 10 mph.

Sunday...Partly cloudy. Highs around 48. Light winds.

Sunday Night...Partly cloudy. Lows 33 to 39.

Monday And Monday Night...Rain likely. Highs around 46. Lows 33 to 39.

Tuesday...Mostly cloudy. Chance of rain. Highs around 45.

Tuesday Night...Rain likely. Lows around 38.

Wednesday Through Thursday...Rain likely. Highs around 47. Lows 33 to 39.

TEMPERATURE / PRECIPITATION

KLAWOCK 51 35 53 / 10 10 10

HYDABURG 50 36 50 / 10 10 10

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel as the primary source of generation. The lake has come down a tenth of a foot in 24 hours. Rain seems to have been delayed for POW till next Monday. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222

Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Thursday, March 24, 2011 12:14 PM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Thursday, March 24, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. with the lake remaining fairly steady around -14.3 feet.

As was the case yesterday, using the Tenants Method, we remain at 50% of pre-project flow for this time of year.

Below it the latest National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Partly cloudy. Highs around 47. Light winds.

Tonight...Mostly cloudy. Lows around 37. East 10 to 15 mph.

Friday...Mostly cloudy. Chance of rain. Highs around 47. East wind 10 mph.

Friday Night...Cloudy. Chance of rain. Lows around 39. East wind 10 mph.

Saturday...Mostly cloudy. Chance of rain. Highs around 49. Southeast wind 10 mph.

Saturday Night...Mostly cloudy. Chance of rain. Lows around 39.

Sunday Through Monday Night...Rain likely. Highs around 47. Lows around 38.

Tuesday Through Wednesday...Rain likely. Highs around 46. Lows around 38.

TEMPERATURE / PRECIPITATION

KLAWOCK 48 34 50 / 10 10 40

HYDABURG 48 36 47 / 10 10 40

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel as the primary source of generation. Rain is in the forecast for this weekend, so the possibility is that we can begin operating at the required minimum instream flow of 9 cfs soon. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Also attached is a graph of the lake elevation this month, thus far, and another graph showing lake elevations from 1996-Present. This historical graph will show you that there is frequently a period just before spring where the lake gets low. The 2011 year is marked in bright red to help it stand out. It

rises off the top of the chart because there isn't another data point for it to go to. Notice how quickly the lake can rise each spring, and at other times of the year. This is a very flashy lake that refills over 6 times each year, i.e. refills the top 15 feet we can use 6 times. This lake however only has a drainage area of 1.8 sq. miles.

We will continue to keep you posted.

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Wednesday, March 23, 2011 10:25 AM
To: 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Wednesday, March 23, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs with the lake remaining steady at about -14.3 feet. South Fork Hydro is contributing minimal water at this time.

Using the Tenants Method, we remain at 50% of pre-project flow for the month of March.

Below is the National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Mostly cloudy. Scattered rain showers. Highs around 45. East wind 10 to 20 mph.

Tonight...Mostly cloudy. Lows around 35. East wind 10 mph in the evening becoming light and variable.

Thursday...Mostly cloudy. Highs around 46. Northeast wind 10 mph.

Thursday Night...Mostly cloudy. Lows around 36. Northeast wind 10 mph.

Friday...Cloudy. Chance of rain. Highs around 45. East wind 10 to 20 mph.

Friday Night...Cloudy. Chance of rain. Lows around 36.

Saturday...Mostly cloudy. Chance of rain. Highs around 48.

Saturday Night...Rain likely. Lows around 38.

Sunday And Sunday Night...Rain likely. Highs around 46. Lows around 37.

Monday Through Tuesday...Rain likely. Highs around 46. Lows around 37.

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel to supplement generation. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Thank you,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Tuesday, March 22, 2011 9:44 AM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Tuesday, March 22, 2011, update on Black Bear Lake Hydro.

Yesterday morning, after our report to you, we set the BBL Hydro flow back to 7.5 cfs. The lake continues to slowly decline and is currently 14.23 feet below spill. South Fork water remains minimal.

This places us at 50% of the pre-project flow of 15 cfs. Using the Tenants Method, the Optimum Range is 60%-100%, and 40% is listed as Outstanding. We presently fall between those two recommendations.

Below is the National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Increasing clouds. Slight chance of rain in the afternoon. Highs around 44. Light winds becoming southeast 10 mph in the afternoon.

Tonight...Mostly cloudy. Chance of rain. Lows around 36. Southeast wind 10 to 15 mph.

Wednesday...Mostly cloudy. Chance of rain. Highs around 46. Southeast wind 10 to 20 mph.

Wednesday Night...Mostly cloudy. Lows around 36. East wind 10 to 15 mph.

Thursday...Mostly cloudy. Highs around 46. East wind 10 mph.

Thursday Night...Mostly cloudy. Lows around 37.

Friday Through Saturday Night...Mostly cloudy. Chance of rain. Highs around 47. Lows around 38.

Sunday...Rain likely. Highs around 47.

Sunday Night...Cloudy. Chance of rain. Lows around 37.

Monday...Rain likely. Highs around 46.

TEMPERATURE / PRECIPITATION

KLAWOCK 45 34 47 / 20 50 40

HYDABURG 45 35 46 / 20 50 40

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel to supplement generation. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Thank you,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Monday, March 21, 2011 9:59 AM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Monday, March 21, 2011, update on Black Bear Lake Hydro.

Late last Friday, March 18, we increased the BBL Hydro flow to just over 10 cfs. As a result, we lost about ¼ of a foot of water in the lake. The lake as of today is at -14.13 feet. We will try to maintain the licensed instream flow depending on weather, but we are currently operating at or above the minimum instream flow requirement of 9 cfs for the month of March. South Fork Hydro, which operates in an adjacent drainage, but discharges into Black Bear Creek as well, still has a minimum amount of water, but more than the first two weeks of March.

Below is the forecast by the National Weather Service for Klawock, the closest location to the project site. A chance of rain throughout the week, but continued cool temperatures as well, particularly at night. The winds may help with some thaw during the day. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Partly cloudy. Highs around 48. East wind 10 mph until late afternoon becoming light and variable.

Tonight...Increasing clouds. Lows around 34. Light winds becoming east 10 mph late.

Tuesday...Mostly cloudy. Chance of rain in the afternoon. Highs around 44. Southeast wind 10 to 15 mph.

Tuesday Night...Mostly cloudy. Chance of rain. Lows around 36. Southeast wind 10 to 15 mph.

Wednesday...Mostly cloudy. Chance of rain. Highs around 45. East wind 10 to 15 mph.

Wednesday Night And Thursday...Mostly cloudy. Lows around 37. Highs around 45.

Thursday Night...Partly cloudy. Lows around 37.

Friday...Mostly cloudy. Highs around 45.

Friday Night...Mostly cloudy. Chance of rain. Lows around 37.

Saturday And Saturday Night...Mostly cloudy. Chance of rain. Highs around 46. Lows around 37.

Sunday...Rain likely. Highs around 46.

TEMPERATURE / PRECIPITATION

KLAWOCK 49 33 45 / 0 0 30

HYDABURG 48 33 45 / 0 0 30

We are currently operating at 100% of the minimum instream flow, putting us back in compliance with our permits as of Friday, March 18. However, we will continue to operate in a run-of-river mode, which is typical for this time of year where we rely on diesel as the primary source of electricity until thaw or rains begin in earnest and the lake begins to rise. With the present weather forecast for the week, during the day there may be some melt, but we would expect that at night this will slow due to freezing or near freezing temperatures.

We will keep you posted if we again need to go below the minimum instream flow requirement. We appreciate your cooperation in this matter.

Best Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Friday, March 18, 2011 8:39 AM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'John Novak'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: Black Bear Lake Hydroelectric Project - P-10440

Dear Agency Representatives,

First, let me apologize for not updating you over the last two days; we had a communication snafu here.

To update you for Wednesday through today:

Flow for Wednesday, 7.6cfs.

Flow for Thursday, 7.9cfs. Due to an emergency diesel fuel issue and ensuing diesel generation transfers the average turbine flow between 2 and 3 pm decreased to 6.8cfs.

Flow for today, is at 8.5cfs.

The lake remains fairly flat at -13.8 feet since Tuesday.

We are seeing a little more water at the South Fork Hydro Project, which flows into Black Bear Creek below the BBL Hydro tailrace.

Weather conditions appear dry and cold at Black Bear Lake, not very conducive for hydro. The National Weather Service forecast is below:

Short Term Forecast

Today...Partly cloudy. Highs around 48. Northeast wind 10 to 20 mph.

Tonight...Partly cloudy. Lows around 32. Northeast wind 10 mph in the evening becoming light and variable.

Saturday...Partly cloudy in the morning then becoming sunny. Highs around 51. Northeast wind 10 mph.

Saturday Night...Clear. Lows around 33. North wind 10 mph.

Sunday...Partly cloudy. Highs around 44. Light winds.

Sunday Night And Monday...Partly cloudy. Lows around 36. Highs around 44.

Monday Night...Mostly cloudy. Lows around 34.

Tuesday...Cloudy. Highs around 43.

Tuesday Night...Cloudy. Chance of rain. Lows around 34.

Wednesday...Cloudy. Chance of rain. Highs around 43.

Wednesday Night And Thursday...Cloudy. Lows around 34. Highs around 43.

TEMPERATURE / PRECIPITATION

KLAWOCK 50 30 53 / 0 0 0

HYDABURG 47 32 52 / 0 0 0

A weather forecast from WeatherBug is also attached to provide a cross reference for the forecast.

At the 8.5 cfs we are currently operating at and based on the pre-project average minimum flow of 15 cfs, using the Tennant's Method we are at 57% of the average minimum flow for the month of March. We are operating in run-of-river mode, hence the fluctuation in our output to match increases in the inflow to the lake with the goal of meeting the permitted minimum as soon as possible. The weather forecast, however, does not look good for increased inflow in the near future. During the day there may be some melt, but we would expect that at night this will slow due to freezing temperatures.

We will continue to keep you posted.

Best Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Tuesday, March 15, 2011 1:11 PM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'John Novak'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440

Dear Agency Representatives,
Per our e-mail from yesterday notifying you of the need to reduce flow at the Black Bear Lake Hydroelectric Project, here is our daily update:

The lake level has risen just slightly in the last 24 hrs., but is basically the same as yesterday when we were at about -13.9 feet (at ~ -13.8 today).

The flow is between 7.30 cfs and 7.65 cfs (flow we are operating at). Evidently, this is about what the inflow to the lake is because it is staying relatively steady.

Although rain is occurring at lower elevations, it is possible at the higher elevations around the Black Bear Lake drainage that precipitation is occurring as snow. Rain is in the forecast below through Thursday this week, at least at sea level. Also as an attachment is the seven day forecast for Klawock, the closest community to the project from WeatherBug; just to provide a cross reference for the forecast.

Forecast from the National Weather Service

AKZ027-160200-

DIXON ENTRANCE TO CAPE DECISION COASTAL AREA-

INCLUDING...CRAIG...KLAWORD

855 AM AKDT TUE MAR 15 2011

.**TODAY**...RAIN. HIGHS AROUND 44. EAST WIND 10 TO 20 MPH.

.**TONIGHT**...RAIN. LOWS AROUND 39. SOUTHEAST WIND 10 TO 20 MPH.

.**WEDNESDAY**...RAIN. HIGHS AROUND 43. SOUTH WIND 10 MPH IN THE MORNING BECOMING LIGHT AND VARIABLE.

.**WEDNESDAY NIGHT**...RAIN LIKELY. LOWS AROUND 34. SOUTH WIND 10 MPH.

.**THURSDAY**...RAIN LIKELY. HIGHS AROUND 43. SOUTHEAST WIND 10 TO 15 MPH.

.**THURSDAY NIGHT**...MOSTLY CLOUDY. LOWS AROUND 34.

.**FRIDAY THROUGH SATURDAY**...PARTLY CLOUDY. HIGHS AROUND 44. LOWS AROUND 34.

.**SATURDAY NIGHT**...MOSTLY CLOUDY. LOWS AROUND 33.

.**SUNDAY THROUGH MONDAY**...MOSTLY CLOUDY. CHANCE OF RAIN. HIGHS AROUND 43. LOWS AROUND 34.

TEMPERATURE / PRECIPITATION

KLAWOCK	44	37	43	/	90	80	80
HYDABURG	44	39	43	/	100	90	80

At this point we continue to operate in run-of-river mode and are primarily relying on diesel generation.

Thank you for your patience.

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Monday, March 14, 2011 2:45 PM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'John Novak'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: Black Bear Lake Hydroelectric Project - P-10440

Dear Agency Representatives,

Attached is a letter regarding the low level of Black Bear Lake for our Black Bear Lake Hydroelectric Project. We are asking for a temporary waiver to go below our March minimum flow of 9 cfs to 7.65 cfs in order to keep the project in operation, maintaining our siphon, until inflow increases. We would like to receive notification of agreement to the temporary waiver, if you have time, or we will assume you are in agreement if we do not hear back from you. We will be submitting daily reports to keep you posted.

Best Regards,

Glen

Glen D. Martin
Project Manager
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P.O. Box 3222
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March 25, 2011

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Black Bear Lake Hydroelectric Project
FERC Project No. 10440
License Article 405 – Minimum Instream Flow

Dear Ms. Bose:

This e-Filing for the Black Bear Lake Hydroelectric Project, P-10440, is to request a variance from the instream flow requirement for the month of March due to low inflow to the lake. The minimum instream flow for the month of March is 9 cfs. If conditions do not improve soon, we would also like to request a temporary variance from the minimum lake level of -15 feet for reasons described in this letter.

The enclosed flow chart will show that from March 1-14, 2011, we stayed above 9 cfs, which was the minimum flow requirement for the month, but on March 15 we went to about 7.5 cfs due to the cold and low precipitation conditions that continue to persist in Southeast Alaska. We have been consuming approximately 4,000 gallons of diesel fuel to generate electricity every 24 hours. We first notified the resource agencies of this situation on March 14, requesting a temporary waiver from the required minimum instream flow of 9 cfs to match the inflow to the lake. We briefly on March 18-20 were able to again meet the minimum flow, but had to go back below 9 cfs on March 21 because the lake continued to go down. We have been operating at about 7.5 cfs since then, however it has been two weeks since we started the initial variance, hence we are requesting of the Commission a variance from our licensed minimum instream flow of 9 cfs. With the potential that we could end up going below the maximum drawdown of -15 feet, we would also like to request a variance from this license condition, just in case.

We started out the year with low water, lower than usual, as can be seen by the attached graph of annual lake elevations. Lack of fall precipitation has contributed to the current lake level. The forecast has rain arriving early next week, but either it has been falling as snow at elevation, or little precipitation has been coming to this watershed.

Enclosed is e-mail correspondence with the resource agencies regarding the need to reduce flows in Black Bear Creek to slow the use of water in Black Bear Lake starting on March 14. By the agencies silence we have assumed they are in agreement that we should reduce flows, as needed. We updated them everyday during the week.

On March 24, the Forest Service notified us that they do not necessarily agree to the temporary waiver request, but recognized the current difficulties presented by low lake levels. They also mentioned that the agencies may be requesting a meeting soon to discuss project operations.

At this time we would like to request a temporary variance from the minimum instream flow requirement for March for conditions that are beyond the licensees control. We also would like to request a temporary variance from the minimum lake drawdown for conditions that may yet occur this month in order to keep water flowing to Black Bear Creek should we have to temporarily go below -15 feet. It is possible we will be back in compliance next week with the minimum instream flow requirement and we will inform FERC as soon as we are back in compliance.

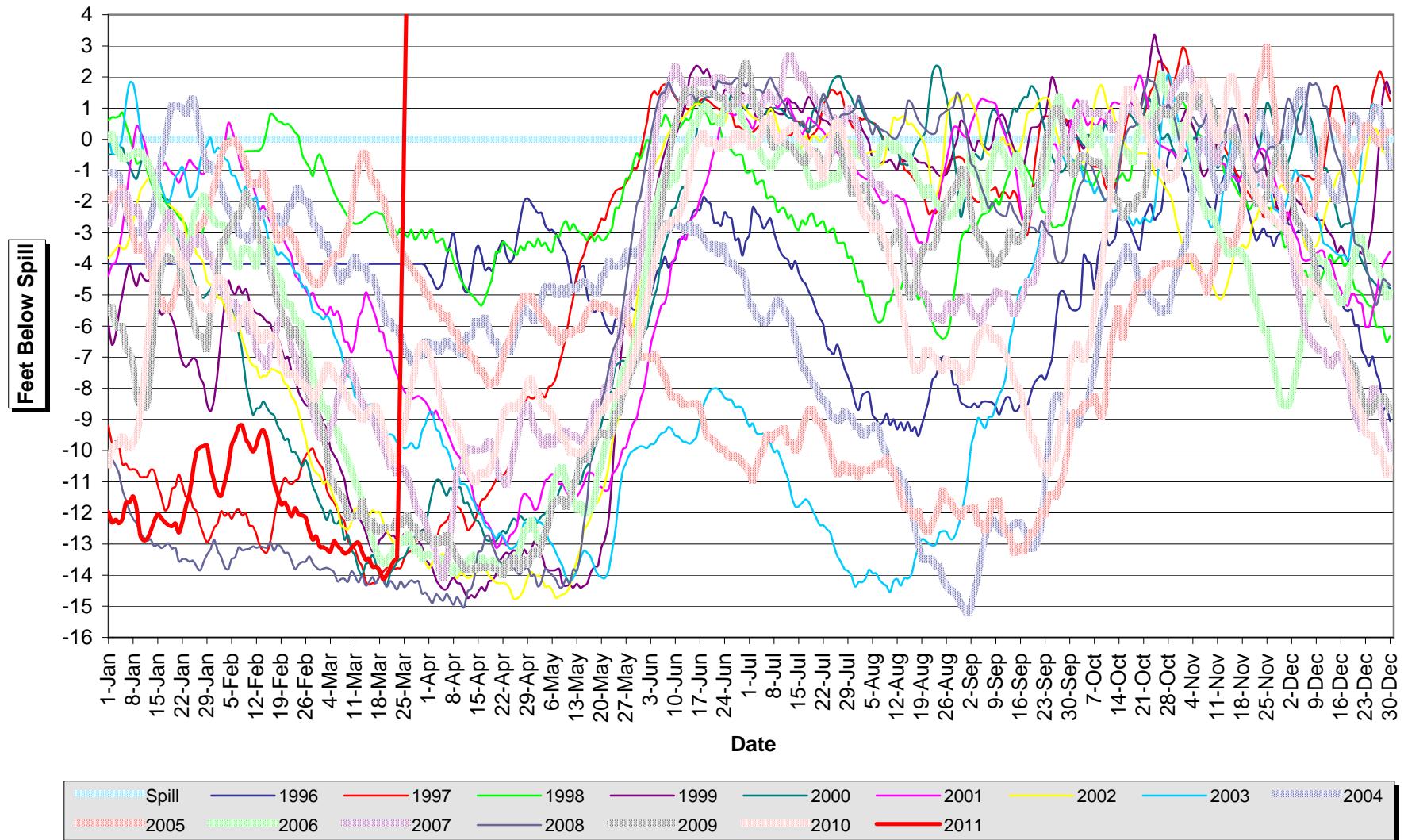
Respectfully Submitted,



Glen D. Martin
Compliance Manager

Enc. (as stated)

Black Bear Lake Level-Synthesized



Black Bear Lake Project - FERC #10440
Flow Data - Article 406
Mar-11

Flow in Cubic Feet per Second
 Totals in Acre-Feet

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
1-Mar-11	0:00	14.25		
1-Mar-11	1:00	14.18		
1-Mar-11	2:00	14.13		
1-Mar-11	3:00	14.12		
1-Mar-11	4:00	14.18		
1-Mar-11	5:00	14.10		
1-Mar-11	6:00	14.22		
1-Mar-11	7:00	14.14		
1-Mar-11	8:00	15.00		
1-Mar-11	9:00	15.26		
1-Mar-11	10:00	15.17		
1-Mar-11	11:00	15.24		
1-Mar-11	12:00	15.22		
1-Mar-11	13:00	15.19		
1-Mar-11	14:00	16.33		
1-Mar-11	15:00	15.72		
1-Mar-11	16:00	15.62		
1-Mar-11	17:00	21.01		
1-Mar-11	18:00	19.32		
1-Mar-11	19:00	21.38		
1-Mar-11	20:00	20.83		
1-Mar-11	21:00	20.74		
1-Mar-11	22:00	20.94		
1-Mar-11	23:00	20.85	32.821	32.821
2-Mar-11	0:00	20.94		
2-Mar-11	1:00	20.77		
2-Mar-11	2:00	21.00		
2-Mar-11	3:00	20.79		
2-Mar-11	4:00	20.84		
2-Mar-11	5:00	20.73		
2-Mar-11	6:00	20.12		
2-Mar-11	7:00	11.43		
2-Mar-11	8:00	9.51		
2-Mar-11	9:00	9.50		
2-Mar-11	10:00	9.46		
2-Mar-11	11:00	9.46		
2-Mar-11	12:00	9.47		
2-Mar-11	13:00	9.44		
2-Mar-11	14:00	9.44		
2-Mar-11	15:00	9.61		
2-Mar-11	16:00	12.12		
2-Mar-11	17:00	12.14		
2-Mar-11	18:00	12.96		
2-Mar-11	19:00	13.05		
2-Mar-11	20:00	13.04		
2-Mar-11	21:00	13.07		
2-Mar-11	22:00	13.08		
2-Mar-11	23:00	10.85	27.506	60.327
3-Mar-11	0:00	10.54		
3-Mar-11	1:00	10.53		
3-Mar-11	2:00	10.50		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
3-Mar-11	3:00	10.53		
3-Mar-11	4:00	10.49		
3-Mar-11	5:00	10.49		
3-Mar-11	6:00	10.50		
3-Mar-11	7:00	10.55		
3-Mar-11	8:00	10.54		
3-Mar-11	9:00	10.47		
3-Mar-11	10:00	10.47		
3-Mar-11	11:00	10.51		
3-Mar-11	12:00	10.51		
3-Mar-11	13:00	10.50		
3-Mar-11	14:00	10.51		
3-Mar-11	15:00	10.54		
3-Mar-11	16:00	10.50		
3-Mar-11	17:00	10.52		
3-Mar-11	18:00	11.61		
3-Mar-11	19:00	12.09		
3-Mar-11	20:00	12.11		
3-Mar-11	21:00	12.10		
3-Mar-11	22:00	12.06		
3-Mar-11	23:00	12.08	21.591	81.918
4-Mar-11	0:00	12.02		
4-Mar-11	1:00	12.05		
4-Mar-11	2:00	12.02		
4-Mar-11	3:00	12.04		
4-Mar-11	4:00	11.99		
4-Mar-11	5:00	12.04		
4-Mar-11	6:00	12.09		
4-Mar-11	7:00	13.56		
4-Mar-11	8:00	12.21		
4-Mar-11	9:00	11.97		
4-Mar-11	10:00	11.05		
4-Mar-11	11:00	11.07		
4-Mar-11	12:00	10.70		
4-Mar-11	13:00	10.09		
4-Mar-11	14:00	10.58		
4-Mar-11	15:00	10.25		
4-Mar-11	16:00	9.74		
4-Mar-11	17:00	9.70		
4-Mar-11	18:00	9.74		
4-Mar-11	19:00	9.74		
4-Mar-11	20:00	9.70		
4-Mar-11	21:00	9.73		
4-Mar-11	22:00	9.71		
4-Mar-11	23:00	9.71	21.777	103.695
5-Mar-11	0:00	9.70		
5-Mar-11	1:00	9.65		
5-Mar-11	2:00	9.68		
5-Mar-11	3:00	9.71		
5-Mar-11	4:00	9.65		
5-Mar-11	5:00	9.70		
5-Mar-11	6:00	9.70		
5-Mar-11	7:00	9.73		
5-Mar-11	8:00	9.71		
5-Mar-11	9:00	9.72		
5-Mar-11	10:00	9.65		
5-Mar-11	11:00	9.65		
5-Mar-11	12:00	9.69		
5-Mar-11	13:00	9.66		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
5-Mar-11	14:00	9.72		
5-Mar-11	15:00	9.71		
5-Mar-11	16:00	9.67		
5-Mar-11	17:00	9.71		
5-Mar-11	18:00	9.70		
5-Mar-11	19:00	9.72		
5-Mar-11	20:00	9.68		
5-Mar-11	21:00	9.71		
5-Mar-11	22:00	9.70		
5-Mar-11	23:00	9.69	19.224	122.919
6-Mar-11	0:00	9.70		
6-Mar-11	1:00	9.69		
6-Mar-11	2:00	9.70		
6-Mar-11	3:00	9.67		
6-Mar-11	4:00	9.68		
6-Mar-11	5:00	9.68		
6-Mar-11	6:00	9.67		
6-Mar-11	7:00	9.69		
6-Mar-11	8:00	9.67		
6-Mar-11	9:00	9.68		
6-Mar-11	10:00	9.71		
6-Mar-11	11:00	9.66		
6-Mar-11	12:00	9.69		
6-Mar-11	13:00	9.65		
6-Mar-11	14:00	9.67		
6-Mar-11	15:00	9.71		
6-Mar-11	16:00	9.71		
6-Mar-11	17:00	9.73		
6-Mar-11	18:00	9.69		
6-Mar-11	19:00	9.69		
6-Mar-11	20:00	9.65		
6-Mar-11	21:00	9.68		
6-Mar-11	22:00	9.68		
6-Mar-11	23:00	9.68	19.209	142.128
7-Mar-11	0:00	9.67		
7-Mar-11	1:00	9.63		
7-Mar-11	2:00	9.67		
7-Mar-11	3:00	9.68		
7-Mar-11	4:00	9.65		
7-Mar-11	5:00	9.65		
7-Mar-11	6:00	9.65		
7-Mar-11	7:00	10.15		
7-Mar-11	8:00	9.44		
7-Mar-11	9:00	9.39		
7-Mar-11	10:00	9.63		
7-Mar-11	11:00	9.98		
7-Mar-11	12:00	9.99		
7-Mar-11	13:00	9.96		
7-Mar-11	14:00	9.97		
7-Mar-11	15:00	9.98		
7-Mar-11	16:00	10.02		
7-Mar-11	17:00	10.00		
7-Mar-11	18:00	10.90		
7-Mar-11	19:00	11.59		
7-Mar-11	20:00	11.54		
7-Mar-11	21:00	11.56		
7-Mar-11	22:00	10.70		
7-Mar-11	23:00	10.06	20.038	162.166
8-Mar-11	0:00	10.26		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
8-Mar-11	1:00	9.76		
8-Mar-11	2:00	9.45		
8-Mar-11	3:00	9.46		
8-Mar-11	4:00	9.44		
8-Mar-11	5:00	9.43		
8-Mar-11	6:00	9.41		
8-Mar-11	7:00	10.73		
8-Mar-11	8:00	9.36		
8-Mar-11	9:00	9.52		
8-Mar-11	10:00	9.56		
8-Mar-11	11:00	10.18		
8-Mar-11	12:00	10.07		
8-Mar-11	13:00	10.04		
8-Mar-11	14:00	9.99		
8-Mar-11	15:00	10.01		
8-Mar-11	16:00	10.01		
8-Mar-11	17:00	10.01		
8-Mar-11	18:00	11.49		
8-Mar-11	19:00	13.70		
8-Mar-11	20:00	13.63		
8-Mar-11	21:00	13.61		
8-Mar-11	22:00	12.74		
8-Mar-11	23:00	9.88	20.805	182.971
9-Mar-11	0:00	10.52		
9-Mar-11	1:00	10.53		
9-Mar-11	2:00	10.52		
9-Mar-11	3:00	10.52		
9-Mar-11	4:00	10.51		
9-Mar-11	5:00	10.54		
9-Mar-11	6:00	10.21		
9-Mar-11	7:00	9.45		
9-Mar-11	8:00	9.42		
9-Mar-11	9:00	9.42		
9-Mar-11	10:00	9.45		
9-Mar-11	11:00	9.45		
9-Mar-11	12:00	9.43		
9-Mar-11	13:00	9.43		
9-Mar-11	14:00	9.45		
9-Mar-11	15:00	9.45		
9-Mar-11	16:00	9.42		
9-Mar-11	17:00	9.48		
9-Mar-11	18:00	10.75		
9-Mar-11	19:00	12.09		
9-Mar-11	20:00	10.62		
9-Mar-11	21:00	9.98		
9-Mar-11	22:00	9.97		
9-Mar-11	23:00	9.94	19.880	202.851
10-Mar-11	0:00	9.62		
10-Mar-11	1:00	9.41		
10-Mar-11	2:00	9.43		
10-Mar-11	3:00	9.43		
10-Mar-11	4:00	9.40		
10-Mar-11	5:00	9.40		
10-Mar-11	6:00	9.43		
10-Mar-11	7:00	9.46		
10-Mar-11	8:00	9.43		
10-Mar-11	9:00	9.46		
10-Mar-11	10:00	9.48		
10-Mar-11	11:00	9.41		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
10-Mar-11	12:00	9.42		
10-Mar-11	13:00	9.46		
10-Mar-11	14:00	9.45		
10-Mar-11	15:00	9.48		
10-Mar-11	16:00	9.67		
10-Mar-11	17:00	9.67		
10-Mar-11	18:00	10.20		
10-Mar-11	19:00	10.23		
10-Mar-11	20:00	9.55		
10-Mar-11	21:00	9.43		
10-Mar-11	22:00	9.43		
10-Mar-11	23:00	9.44	18.908	221.760
11-Mar-11	0:00	9.45		
11-Mar-11	1:00	9.42		
11-Mar-11	2:00	9.44		
11-Mar-11	3:00	9.45		
11-Mar-11	4:00	9.40		
11-Mar-11	5:00	9.44		
11-Mar-11	6:00	9.46		
11-Mar-11	7:00	9.60		
11-Mar-11	8:00	9.70		
11-Mar-11	9:00	9.68		
11-Mar-11	10:00	9.72		
11-Mar-11	11:00	9.74		
11-Mar-11	12:00	9.68		
11-Mar-11	13:00	9.72		
11-Mar-11	14:00	9.73		
11-Mar-11	15:00	9.72		
11-Mar-11	16:00	9.74		
11-Mar-11	17:00	9.71		
11-Mar-11	18:00	9.71		
11-Mar-11	19:00	9.72		
11-Mar-11	20:00	9.70		
11-Mar-11	21:00	9.70		
11-Mar-11	22:00	9.69		
11-Mar-11	23:00	9.52	19.078	240.837
12-Mar-11	0:00	9.44		
12-Mar-11	1:00	9.40		
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12-Mar-11	3:00	9.41		
12-Mar-11	4:00	9.41		
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12-Mar-11	6:00	9.44		
12-Mar-11	7:00	9.43		
12-Mar-11	8:00	9.42		
12-Mar-11	9:00	9.45		
12-Mar-11	10:00	9.45		
12-Mar-11	11:00	9.43		
12-Mar-11	12:00	9.45		
12-Mar-11	13:00	9.42		
12-Mar-11	14:00	9.47		
12-Mar-11	15:00	9.45		
12-Mar-11	16:00	9.45		
12-Mar-11	17:00	9.44		
12-Mar-11	18:00	9.49		
12-Mar-11	19:00	9.44		
12-Mar-11	20:00	9.44		
12-Mar-11	21:00	9.37		
12-Mar-11	22:00	9.43		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
12-Mar-11	23:00	9.42	18.712	259.549
13-Mar-11	0:00	9.42		
13-Mar-11	1:00	9.38		
13-Mar-11	2:00	9.40		
13-Mar-11	3:00	9.41		
13-Mar-11	4:00	9.43		
13-Mar-11	5:00	9.42		
13-Mar-11	6:00	9.43		
13-Mar-11	7:00	9.40		
13-Mar-11	8:00	9.61		
13-Mar-11	9:00	9.65		
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13-Mar-11	12:00	9.44		
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14-Mar-11	18:00	9.67		
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14-Mar-11	22:00	9.71		
14-Mar-11	23:00	9.67	19.285	297.607
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15-Mar-11	1:00	9.70		
15-Mar-11	2:00	9.67		
15-Mar-11	3:00	9.67		
15-Mar-11	4:00	9.67		
15-Mar-11	5:00	9.22		
15-Mar-11	6:00	8.59		
15-Mar-11	7:00	7.74		
15-Mar-11	8:00	8.38		
15-Mar-11	9:00	9.68		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
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15-Mar-11	11:00	7.14		
15-Mar-11	12:00	7.70		
15-Mar-11	13:00	7.23		
15-Mar-11	14:00	6.79		
15-Mar-11	15:00	7.73		
15-Mar-11	16:00	8.29		
15-Mar-11	17:00	7.95		
15-Mar-11	18:00	8.64		
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15-Mar-11	20:00	7.86		
15-Mar-11	21:00	7.92		
15-Mar-11	22:00	7.61		
15-Mar-11	23:00	7.59	16.535	314.143
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16-Mar-11	13:00	7.63		
16-Mar-11	14:00	7.58		
16-Mar-11	15:00	7.60		
16-Mar-11	16:00	7.89		
16-Mar-11	17:00	8.22		
16-Mar-11	18:00	7.89		
16-Mar-11	19:00	7.87		
16-Mar-11	20:00	7.88		
16-Mar-11	21:00	7.91		
16-Mar-11	22:00	7.87		
16-Mar-11	23:00	7.88	15.260	329.402
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17-Mar-11	1:00	7.88		
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17-Mar-11	3:00	7.88		
17-Mar-11	4:00	7.86		
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17-Mar-11	7:00	7.89		
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17-Mar-11	11:00	7.90		
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17-Mar-11	16:00	7.91		
17-Mar-11	17:00	8.07		
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17-Mar-11	20:00	7.89		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
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18-Mar-11	19:00	8.49		
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19-Mar-11	3:00	10.09		
19-Mar-11	4:00	10.11		
19-Mar-11	5:00	10.11		
19-Mar-11	6:00	10.10		
19-Mar-11	7:00	10.08		
19-Mar-11	8:00	10.11		
19-Mar-11	9:00	10.08		
19-Mar-11	10:00	10.11		
19-Mar-11	11:00	10.08		
19-Mar-11	12:00	10.10		
19-Mar-11	13:00	10.10		
19-Mar-11	14:00	10.11		
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19-Mar-11	16:00	10.09		
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20-Mar-11	6:00	10.09		
20-Mar-11	7:00	10.09		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
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21-Mar-11	4:00	10.06		
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21-Mar-11	7:00	7.54		
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21-Mar-11	14:00	7.55		
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22-Mar-11	15:00	7.54		
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22-Mar-11	17:00	7.69		
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DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
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23-Mar-11	8:00	7.54		
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23-Mar-11	13:00	7.54		
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23-Mar-11	16:00	7.56		
23-Mar-11	17:00	7.54		
23-Mar-11	18:00	7.55		
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23-Mar-11	22:00	7.53		
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24-Mar-11	22:00	7.52		
24-Mar-11	23:00	7.53	14.938	463.772
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25-Mar-11	2:00	7.51		
25-Mar-11	3:00	7.53		
25-Mar-11	4:00	7.53		
25-Mar-11	5:00	7.51		

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
25-Mar-11	6:00			
25-Mar-11	7:00			
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25-Mar-11	9:00			
25-Mar-11	10:00			
25-Mar-11	11:00			
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27-Mar-11	14:00			
27-Mar-11	15:00			
27-Mar-11	16:00			

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
27-Mar-11	17:00			
27-Mar-11	18:00			
27-Mar-11	19:00			
27-Mar-11	20:00			
27-Mar-11	21:00			
27-Mar-11	22:00			
27-Mar-11	23:00		0.000	467.500
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29-Mar-11	22:00			
29-Mar-11	23:00		0.000	467.500
30-Mar-11	0:00			
30-Mar-11	1:00			
30-Mar-11	2:00			
30-Mar-11	3:00			

DATE	HOUR	PENSTOCK	DAILY TOTAL	MONTH TOTAL
30-Mar-11	4:00			
30-Mar-11	5:00			
30-Mar-11	6:00			
30-Mar-11	7:00			
30-Mar-11	8:00			
30-Mar-11	9:00			
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30-Mar-11	19:00			
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30-Mar-11	21:00			
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31-Mar-11	10:00			
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31-Mar-11	14:00			
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31-Mar-11	16:00			
31-Mar-11	17:00			
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31-Mar-11	19:00			
31-Mar-11	20:00			
31-Mar-11	21:00			
31-Mar-11	22:00			
31-Mar-11	23:00		0.000	467.500

CORRESPONDENCE

From: [Barbara Stanley](#)
To: [Glen Martin](#)
Cc: [Julianne E Thompson](#); [Sheila A Jacobson](#); [Thomas A Cady](#)
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update
Date: Thursday, March 24, 2011 3:57:15 PM

Glen--

Speaking for the Forest Service, we do not necessarily agree to the temporary waiver request, but we do recognize the current operational difficulties resulting from the low lake levels. We will probably join other agencies in requesting a discussion about future operations and perhaps, in calling for an updated operations plan.

Craig forecast

Friday-Saturday: Chance of rain

Sunday-Wednesday: **Rain likely**

--Barb

Barbara A. Stanley, Energy Coordinator
Alaska Region, USDA Forest Service
phone in Ketchikan, AK: (907) 228-6262
fax in Ketchikan, AK: (907) 228-6215
bstanley@fs.fed.us

From: [Glen Martin](#)
To: "Minnillo, Mark J (DFG)"; "monte.miller@alaska.gov"; "susan.walker@noaa.gov"; "richard_enriquez@fws.gov"; "Deats, Theodore A (DNR)"; "patrick.regan@ferc.gov"; "fbsanchez@fs.fed.us"; "Barbara Stanley"; "Erich.Gaedeke@ferc.gov"
Cc: "Vern Neitzer"; "Greg Mickelson"; "Bob Grimm"; "Bob Berreth"
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update
Date: Friday, March 25, 2011 9:41:00 AM
Attachments: [BBL_Hydro_Lake_Level_History_1996-2011.xls](#)
[032511_Klawock-WeatherBug-forecast.pdf](#)

Dear Agency Representatives,

We have heard from several of you that there may be a request for a meeting coming through the pipeline to discuss Black Bear Lake Hydro with us. We are certainly agreeable to this, although we would like to point out we have been down this road before and discussed this very situation with all of the agencies. But that said, a meeting would be fine.

I will be on vacation next week so any time after that.

Some facts about the project some of you may not be aware of, Black Bear Lake has 215 surface acres. The total 15 foot storage the project has equates to 3200 acre-feet. Because of the shape or bathymetry of the lake, we conservatively assume there are 200 acre-feet per foot and therefore approximately 3000 acre-feet of storage. The available water is approximately 20,440 acre-feet per year, based on pre-project gaging. This equates to a lake that fills over 6 times each year, which means it is a very flashy lake that also only has 1.8 miles of drainage basin feeding it. The attached graph, the same one I included in yesterdays e-mail, shows how quickly the lake can fill. Here is the amount of water we have used for each of the last four years:

2007 = 18,249 acre-feet
2008 = 13,466 acre-feet
2009 = 15,795 acre-feet
2010 = 16,353 acre-feet

What isn't used generally spills, as illustrated on the graph by the lines going above the light blue line each spring. If you remove a few anomalous years, i.e. 1996, 1998, 2004, & 2005, you can see that inflow to the lake declines, as expected, each winter. This brings up the instream flow requirement during the winter months. The instream flow is based on a monthly pre-project average. The monthly pre-project average for March is 15 cfs. For the twenty-four days we have operated this month, this would provide 714 acre-feet of water. The project has used 467 acre-feet, only 65% of the average, and yet the lake level continues to decline. This illustrates that frequently the inflow to the lake has been less than this average each winter. Hence, the 9 cfs instream flow requirement for March can't be met because only about 7.5 cfs is flowing into the lake.

These instream flow requirements were what the agencies proposed at the time of licensing, and they tried to take into account the average by using a lower number for the instream flow, i.e. pre-project = 15 cfs, operations = 9 cfs. However, as nature and our operations has pointed out, the average they used is just an average and not necessarily realistic for operations, because an average doesn't account for lower inflow. When inflow is this low, all we can do is run in run-of-river mode. Perhaps the license should have said

we could operate in run-of-river mode when inflow was lower than the minimum instream flow requirement and the lake is below a certain level.

Although it is obvious that if we don't operate in run-of-river mode under the current conditions, that no water would get to Black Bear Creek from the lake (project would have to shut down), it should also be obvious that if the project did not exist, only 7.5 cfs would be reaching the creek under current conditions. This simple fact needs to be recognized, i.e. we are replicating nature at this time, where normally we would be supplementing nature when we are able to operate normally by drawing the lake down.

Also, just for your info, we are using about 4,000 gallons of diesel each day to handle the load on the island with very little hydro.

To update you on conditions today, March 25, at Black Bear Lake Hydro, we remain at 7.5 cfs and the lake lost about a tenth of a foot to -14.45 feet in the last 24 hours. This means the inflow is below 7.5 cfs. Below is the National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Increasing clouds. Highs around 49. East wind 10 to 20 mph.

Tonight...Mostly cloudy. Lows around 38. East wind 10 mph.

Saturday...Mostly cloudy. Highs around 51. Southeast wind 10 mph.

Saturday Night...Mostly cloudy. Lows around 38. Southeast wind 10 mph.

Sunday...Partly cloudy. Highs around 48. Light winds.

Sunday Night...Partly cloudy. Lows 33 to 39.

Monday And Monday Night...Rain likely. Highs around 46. Lows 33 to 39.

Tuesday...Mostly cloudy. Chance of rain. Highs around 45.

Tuesday Night...Rain likely. Lows around 38.

Wednesday Through Thursday...Rain likely. Highs around 47. Lows 33 to 39.

TEMPERATURE / PRECIPITATION

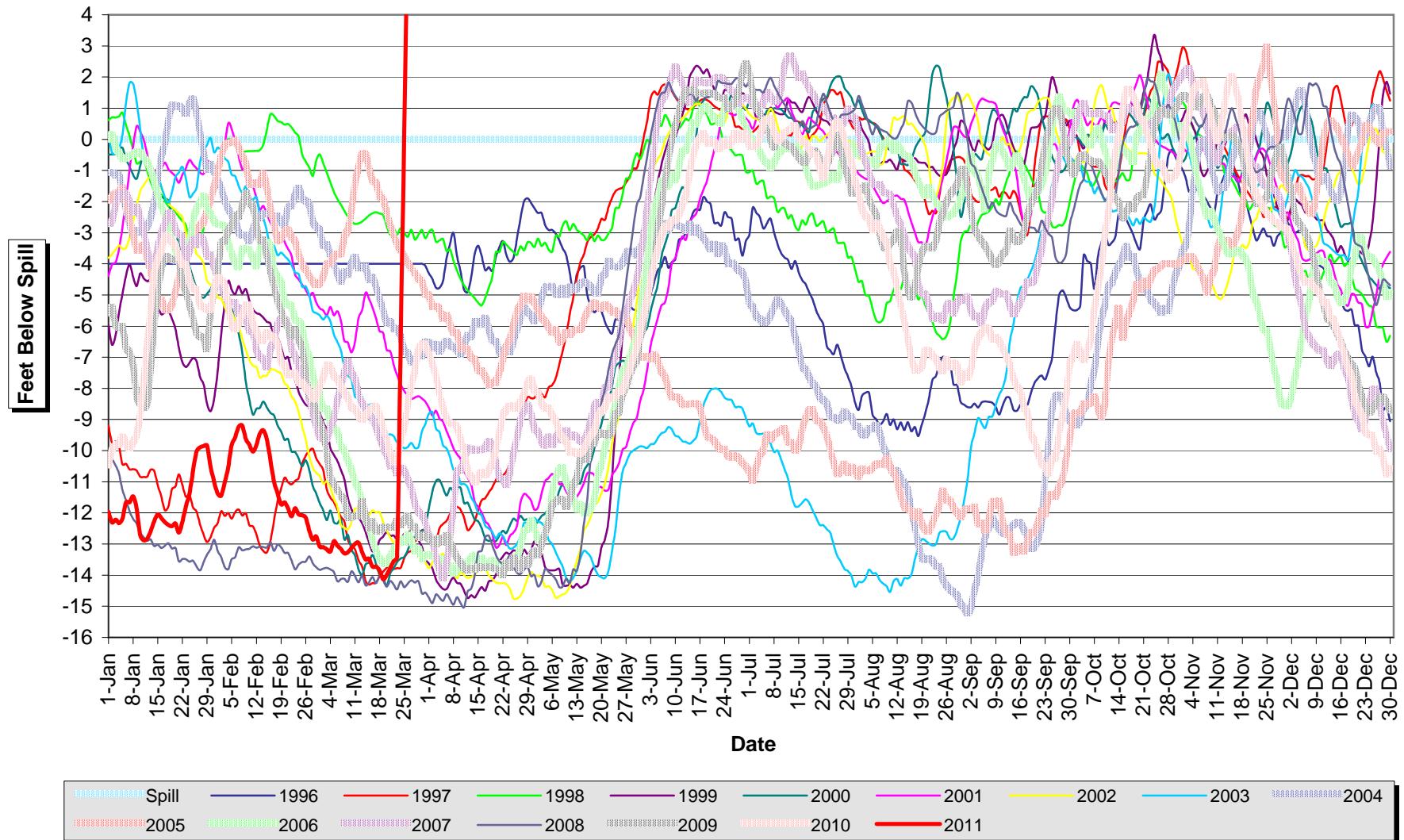
KLAWOCK 51 35 53 / 10 10 10

HYDABURG 50 36 50 / 10 10 10

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel as the primary source of generation. The lake has come down a tenth of a foot in 24 hours. Rain seems to have been delayed for POW till next Monday. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Regards,

Black Bear Lake Level-Synthesized



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Klawock, AK 99925

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TODAY	SAT	SUN	MON	TUE	WED	THU
49°	51°	48°	46°	45°	47°	47°
Increasing Clouds	Mostly Cloudy	Partly Cloudy	Rain	Chance of Rain	Rain	Rain
TONIGHT	SAT NIGHT	SUN NIGHT	MON NIGHT	TUE NIGHT	WED NIGHT	
38°	38°	36°	36°	38°	36°	
Mostly Cloudy	Mostly Cloudy	Partly Cloudy	Rain	Rain	Rain	

[Detailed Forecast](#) [Weekend Forecast](#) [Video Forecast](#)
Radar for Klawock, AK

[Enlarge Radar Map](#)
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Weather News

Today's Weather Outlook

The week is going to end pretty much the way it started, with the West battling another late-season Pacific storm. More mountain snow and flooding rain will be possible. On top of that, winter continues its grip on the Midwest.

[More >](#)
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Other Top Weather Headlines
Series of Storms Will Impact West Coast This Weekend

While today will bring a brief reprieve from the recent stretch of stormy days, two more storms this weekend will increase...[More >](#)

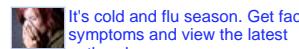
Storms Eye Southern Plains, Mid-South Today

Severe storms will blossom across the southeastern Plains and Mid-South later today. The threat will shift east along...[More >](#)

Weekend Weather Outlook

Spring is officially here, but winter has a few more wallops for the U.S. this...[More >](#)

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Seven Day Forecast Near Klawock, AK

[Petersburg Seven Day Forecast](#)
[Stewart Seven Day Forecast](#)
[Five Finger Seven Day Forecast](#)
[Rose Spit Seven Day Forecast](#)
[Wrangell Seven Day Forecast](#)
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[Langara Seven Day Forecast](#)
[Kake Seven Day Forecast](#)

Weather Videos

Weather Forecast

Friday, March 25, 2011 National weather forecast video highlighting extreme conditions, including severe weather news and events.

[Watch Video](#)

Local Weather

Friday, March 25, 2011 Local weather, including current conditions and extended forecast, from the weathercaster of your choice.

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Camera for Hartley Bay, BC


View live images and time-lapse video animation from local WeatherBug weather cameras.

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Glen

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From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Thursday, March 24, 2011 12:14 PM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Thursday, March 24, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. with the lake remaining fairly steady around -14.3 feet.

As was the case yesterday, using the Tenants Method, we remain at 50% of pre-project flow for this time of year.

Below it the latest National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Partly cloudy. Highs around 47. Light winds.

Tonight...Mostly cloudy. Lows around 37. East 10 to 15 mph.

Friday...Mostly cloudy. Chance of rain. Highs around 47. East wind 10 mph.

Friday Night...Cloudy. Chance of rain. Lows around 39. East wind 10 mph.

Saturday...Mostly cloudy. Chance of rain. Highs around 49. Southeast wind 10 mph.

Saturday Night...Mostly cloudy. Chance of rain. Lows around 39.

Sunday Through Monday Night...Rain likely. Highs around 47. Lows around 38.

Tuesday Through Wednesday...Rain likely. Highs around 46. Lows around 38.

TEMPERATURE / PRECIPITATION

KLAWOCK 48 34 50 / 10 10 40

HYDABURG 48 36 47 / 10 10 40

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel as the primary source of generation. Rain is

in the forecast for this weekend, so the possibility is that we can begin operating at the required minimum instream flow of 9 cfs soon. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Also attached is a graph of the lake elevation this month, thus far, and another graph showing lake elevations from 1996-Present. This historical graph will show you that there is frequently a period just before spring where the lake gets low. The 2011 year is marked in bright red to help it stand out. It rises off the top of the chart because there isn't another data point for it to go to. Notice how quickly the lake can rise each spring, and at other times of the year. This is a very flashy lake that refills over 6 times each year, i.e. refills the top 15 feet we can use 6 times. This lake however only has a drainage area of 1.8 sq. miles.

We will continue to keep you posted.

Glen

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From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Wednesday, March 23, 2011 10:25 AM
To: 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Wednesday, March 23, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs with the lake remaining steady at about -14.3 feet. South Fork Hydro is contributing minimal water at this time.

Using the Tenants Method, we remain at 50% of pre-project flow for the month of March.

Below is the National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Mostly cloudy. Scattered rain showers. Highs around 45. East wind 10 to 20 mph.

Tonight...Mostly cloudy. Lows around 35. East wind 10 mph in the evening becoming light and variable.

Thursday...Mostly cloudy. Highs around 46. Northeast wind 10 mph.

Thursday Night...Mostly cloudy. Lows around 36. Northeast wind 10 mph.

Friday...Cloudy. Chance of rain. Highs around 45. East wind 10 to 20 mph.

Friday Night...Cloudy. Chance of rain. Lows around 36.

Saturday...Mostly cloudy. Chance of rain. Highs around 48.

Saturday Night...Rain likely. Lows around 38.

Sunday And Sunday Night...Rain likely. Highs around 46. Lows around 37.

Monday Through Tuesday...Rain likely. Highs around 46. Lows around 37.

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel to supplement generation. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Thank you,

Glen

Glen D. Martin
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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Tuesday, March 22, 2011 9:44 AM

To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Tuesday, March 22, 2011, update on Black Bear Lake Hydro.

Yesterday morning, after our report to you, we set the BBL Hydro flow back to 7.5 cfs. The lake continues to slowly decline and is currently 14.23 feet below spill. South Fork water remains minimal.

This places us at 50% of the pre-project flow of 15 cfs. Using the Tenants Method, the Optimum Range is 60%-100%, and 40% is listed as Outstanding. We presently fall between those two recommendations.

Below is the National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Increasing clouds. Slight chance of rain in the afternoon. Highs around 44. Light winds becoming southeast 10 mph in the afternoon.

Tonight...Mostly cloudy. Chance of rain. Lows around 36. Southeast wind 10 to 15 mph.

Wednesday...Mostly cloudy. Chance of rain. Highs around 46. Southeast wind 10 to 20 mph.

Wednesday Night...Mostly cloudy. Lows around 36. East wind 10 to 15 mph.

Thursday...Mostly cloudy. Highs around 46. East wind 10 mph.

Thursday Night...Mostly cloudy. Lows around 37.

Friday Through Saturday Night...Mostly cloudy. Chance of rain. Highs around 47. Lows around 38.

Sunday...Rain likely. Highs around 47.

Sunday Night...Cloudy. Chance of rain. Lows around 37.

Monday...Rain likely. Highs around 46.

TEMPERATURE / PRECIPITATION

KLAWOCK 45 34 47 / 20 50 40

HYDABURG 45 35 46 / 20 50 40

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel to supplement generation. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Thank you,

Glen

Glen D. Martin
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From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Monday, March 21, 2011 9:59 AM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Monday, March 21, 2011, update on Black Bear Lake Hydro.

Late last Friday, March 18, we increased the BBL Hydro flow to just over 10 cfs. As a result, we lost about ¼ of a foot of water in the lake. The lake as of today is at -14.13 feet. We will try to maintain the licensed instream flow depending on weather, but we are currently operating at or above the minimum instream flow requirement of 9 cfs for the month of March. South Fork Hydro, which operates in an adjacent drainage, but discharges into Black Bear Creek as well, still has a minimum amount of water, but more than the first two weeks of March.

Below is the forecast by the National Weather Service for Klawock, the closest location to the project site. A chance of rain throughout the week, but continued cool temperatures as well, particularly at night. The winds may help with some thaw during the day. A weather forecast from WeatherBug is

also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Partly cloudy. Highs around 48. East wind 10 mph until late afternoon becoming light and variable.

Tonight...Increasing clouds. Lows around 34. Light winds becoming east 10 mph late.

Tuesday...Mostly cloudy. Chance of rain in the afternoon. Highs around 44. Southeast wind 10 to 15 mph.

Tuesday Night...Mostly cloudy. Chance of rain. Lows around 36. Southeast wind 10 to 15 mph.

Wednesday...Mostly cloudy. Chance of rain. Highs around 45. East wind 10 to 15 mph.

Wednesday Night And Thursday...Mostly cloudy. Lows around 37. Highs around 45.

Thursday Night...Partly cloudy. Lows around 37.

Friday...Mostly cloudy. Highs around 45.

Friday Night...Mostly cloudy. Chance of rain. Lows around 37.

Saturday And Saturday Night...Mostly cloudy. Chance of rain. Highs around 46. Lows around 37.

Sunday...Rain likely. Highs around 46.

TEMPERATURE / PRECIPITATION

KLAWOCK 49 33 45 / 0 0 30

HYDABURG 48 33 45 / 0 0 30

We are currently operating at 100% of the minimum instream flow, putting us back in compliance with our permits as of Friday, March 18. However, we will continue to operate in a run-of-river mode, which is typical for this time of year where we rely on diesel as the primary source of electricity until thaw or rains begin in earnest and the lake begins to rise. With the present weather forecast for the week, during the day there may be some melt, but we would expect that at night this will slow due to freezing or near freezing temperatures.

We will keep you posted if we again need to go below the minimum instream flow requirement. We appreciate your cooperation in this matter.

Best Regards,

Glen

Glen D. Martin
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(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Friday, March 18, 2011 8:39 AM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'John Novak'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: Black Bear Lake Hydroelectric Project - P-10440

Dear Agency Representatives,

First, let me apologize for not updating you over the last two days; we had a communication snafu here.

To update you for Wednesday through today:

Flow for Wednesday, 7.6cfs.

Flow for Thursday, 7.9cfs. Due to an emergency diesel fuel issue and ensuing diesel generation transfers the average turbine flow between 2 and 3 pm decreased to 6.8cfs.

Flow for today, is at 8.5cfs.

The lake remains fairly flat at -13.8 feet since Tuesday.

We are seeing a little more water at the South Fork Hydro Project, which flows into Black Bear Creek below the BBL Hydro tailrace.

Weather conditions appear dry and cold at Black Bear Lake, not very conducive for hydro. The National Weather Service forecast is below:

Short Term Forecast

Today...Partly cloudy. Highs around 48. Northeast wind 10 to 20 mph.

Tonight...Partly cloudy. Lows around 32. Northeast wind 10 mph in the evening becoming light and variable.

Saturday...Partly cloudy in the morning then becoming sunny. Highs around 51. Northeast wind 10 mph.

Saturday Night...Clear. Lows around 33. North wind 10 mph.

Sunday...Partly cloudy. Highs around 44. Light winds.

Sunday Night And Monday...Partly cloudy. Lows around 36. Highs around 44.

Monday Night...Mostly cloudy. Lows around 34.

Tuesday...Cloudy. Highs around 43.

Tuesday Night...Cloudy. Chance of rain. Lows around 34.

Wednesday...Cloudy. Chance of rain. Highs around 43.

Wednesday Night And Thursday...Cloudy. Lows around 34. Highs around 43.

TEMPERATURE / PRECIPITATION

KLAWOCK 50 30 53 / 0 0 0

HYDABURG 47 32 52 / 0 0 0

A weather forecast from WeatherBug is also attached to provide a cross reference for the forecast.

At the 8.5 cfs we are currently operating at and based on the pre-project average minimum flow of 15 cfs, using the Tennant's Method we are at 57% of the average minimum flow for the month of March. We are operating in run-of-river mode, hence the fluctuation in our output to match increases in the inflow to the lake with the goal of meeting the permitted minimum as soon as possible. The weather forecast, however, does not look good for increased inflow in the near future. During the day there may be some melt, but we would expect that at night this will slow due to freezing temperatures.

We will continue to keep you posted.

Best Regards,

Glen

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From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Tuesday, March 15, 2011 1:11 PM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'John Novak'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440

Dear Agency Representatives,

Per our e-mail from yesterday notifying you of the need to reduce flow at the Black Bear Lake Hydroelectric Project, here is our daily update:

The lake level has risen just slightly in the last 24 hrs., but is basically the same as yesterday when we were at about -13.9 feet (at ~ -13.8 today).

The flow is between 7.30 cfs and 7.65 cfs (flow we are operating at). Evidently, this is about what the inflow to the lake is because it is staying relatively steady.

Although rain is occurring at lower elevations, it is possible at the higher elevations around the Black Bear Lake drainage that precipitation is occurring as snow. Rain is in the forecast below through Thursday this week, at least at sea level. Also as an attachment is the seven day forecast for Klawock, the closest community to the project from WeatherBug; just to provide a cross reference for the forecast.

Forecast from the National Weather Service

AKZ027-160200-

DIXON ENTRANCE TO CAPE DECISION COASTAL AREA-

INCLUDING...CRAIG...KLAWORD

855 AM AKDT TUE MAR 15 2011

.TODAY...RAIN. HIGHS AROUND 44. EAST WIND 10 TO 20 MPH.

.TONIGHT...RAIN. LOWS AROUND 39. SOUTHEAST WIND 10 TO 20 MPH.

.WEDNESDAY...RAIN. HIGHS AROUND 43. SOUTH WIND 10 MPH IN THE MORNING BECOMING LIGHT AND VARIABLE.

.WEDNESDAY NIGHT...RAIN LIKELY. LOWS AROUND 34. SOUTH WIND 10 MPH.

.THURSDAY...RAIN LIKELY. HIGHS AROUND 43. SOUTHEAST WIND 10 TO 15 MPH.

.THURSDAY NIGHT...MOSTLY CLOUDY. LOWS AROUND 34.
.FRIDAY THROUGH SATURDAY...PARTLY CLOUDY. HIGHS AROUND 44. LOWS AROUND 34.
.SATURDAY NIGHT...MOSTLY CLOUDY. LOWS AROUND 33.
.SUNDAY THROUGH MONDAY...MOSTLY CLOUDY. CHANCE OF RAIN. HIGHS AROUND 43.
LOWS AROUND 34.

TEMPERATURE / PRECIPITATION

KLAWOCK	44	37	43	/	90	80	80
HYDABURG	44	39	43	/	100	90	80

At this point we continue to operate in run-of-river mode and are primarily relying on diesel generation.

Thank you for your patience.

Glen

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From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Monday, March 14, 2011 2:45 PM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'John Novak'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: Black Bear Lake Hydroelectric Project - P-10440

Dear Agency Representatives,
Attached is a letter regarding the low level of Black Bear Lake for our Black Bear Lake Hydroelectric Project. We are asking for a temporary waiver to go below our March minimum flow of 9 cfs to 7.65 cfs in order to keep the project in operation, maintaining our siphon, until inflow increases. We would like to receive notification of agreement to the temporary waiver, if you have time, or we will assume you are in agreement if we do not hear back from you. We will be submitting daily reports to keep you posted.

Best Regards,

Glen

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Port Townsend, WA 98368
(360) 385-1733 x122
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From: [Glen Martin](#)
To: "Peter.D.Olmstead@usace.army.mil"; "Minnillo, Mark J (DFG)"; "monte.miller@alaska.gov"; "susan.walker@noaa.gov"; "Steve_Brockmann@fws.gov"; "Deals, Theodore A (DNR)"; "patrick.regan@ferc.gov"; "fbsanchez@fs.fed.us"; "Barbara_Stanley"; "Erich.Gaedeke@ferc.gov"; "eric.rothwell@noaa.gov"; "Johnson, Shawn L (DFG)"
Cc: "Vern_Neitzer"; "Greg_Mickelson"; "Bob_Grimm"; "Bob_Berreth"
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update
Date: Wednesday, April 27, 2011 8:12:00 AM
Attachments: [042711_Klawock-WeatherBug-forecast.pdf](#)

Dear Agency Representatives,

Here is the Wednesday update on BBL Hydro.

BBL Hydro continues to operating at 6.4 cfs and the lake level as of this morning was -14.78 feet. Inflow to the lake has increased with the lake elevation rising +0.11 feet since yesterday morning and +0.19 feet since Monday morning. It is still too soon to ramp up the project operations to a higher flow until this trend shows more gains. South Fork Hydro has increased flow from about 5 cfs over the last couple days to about 10 cfs as of this morning, which will help Black Bear Creek. South Fork being lower in elevation is able to contribute more flow at this time. The weather forecasts included here show temps are at a plateau of the low 50's and night temps are still in the upper 30's. Rain is forecasted for the weekend.

The National Weather Service forecast is as follows:

Tonight...Mostly cloudy. Scattered rain showers. Lows around 37. Light winds.

Wednesday...Mostly cloudy. Chance of rain showers. Highs around 51. Light winds.

Wednesday Night...Partly cloudy. Lows around 36. Northwest wind 10 mph.

Thursday...Sunny. Highs around 50. Northwest wind 10 to 20 mph.

Thursday Night...Mostly cloudy. Lows around 38. West wind 10 to 20 mph.

Friday...Mostly cloudy. Highs around 49.

Friday Night...Partly cloudy. Lows around 39.

Saturday And Saturday Night...Mostly cloudy. Chance of rain. Highs around 48. Lows around 39.

Sunday...Rain likely. Highs around 49.

Sunday Night And Monday...Rain likely. Lows around 39. Highs around 50.

Monday Night...Mostly cloudy. Chance of rain showers. Lows around 39.

Tuesday...Mostly cloudy. Chance of rain. Highs around 52.

TEMPERATURE

KLAWOCK 37 53 33 53

HYDABURG 37 51 36 50

For cross referencing, the WeatherBug forecast is attached.

At this time we will remain at 6.4 cfs until the lake level gains more elevation. We would likely change operations to meet the MIFR at about -14 feet. However, as you know in May the MIFR goes to 22 cfs and whether we can meet this requirement on May 1 will be dependant on how much the lake rises. Because the lake fills so quickly, once inflow starts showing its typical quick rise, we should be able to go immediately to the MIFR, or above. We will continue to keep you apprised of conditions.

Regards,

Glen

Glen D. Martin
Project Manager
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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Tuesday, April 26, 2011 9:04 AM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'Steve_Brockmann@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'eric.rothwell@noaa.gov'; 'Johnson, Shawn L (DFG)'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Monday update on BBL Hydro.

BBL Hydro continues to operating at 6.4 cfs and the lake level as of this morning was -14.89 feet. Inflow to the lake has increased with the lake elevation rising +0.08 feet since yesterday morning.

The National Weather Service forecast is as follows:

Today...Mostly cloudy. Scattered rain showers. Highs around 48. Light winds.

Tonight...Mostly cloudy. Scattered rain showers. Lows around 37. Light winds.

Wednesday...Mostly cloudy. Chance of rain. Highs around 50. East wind 10 mph in the morning becoming light and variable.

Wednesday Night...Partly cloudy. Lows around 36. Northwest wind 10 mph.

Thursday...Mostly sunny. Highs around 50. Northwest wind 10 to 20 mph.

Thursday Night And Friday...Mostly cloudy. Lows around 38. Highs around 51.

Friday Night...Partly cloudy. Lows around 38.

Saturday And Saturday Night...Mostly cloudy. Highs around 48. Lows around 39.

Sunday...Cloudy. Chance of rain. Highs around 50.

Sunday Night...Rain. Lows around 40.

Monday...Cloudy. Chance of rain. Highs around 51.

TEMPERATURE

KLAWOCK 52 37 52

HYDABURG 48 37 50

For cross referencing, the WeatherBug forecast is attached.

Weather conditions are predicted to gradually warm this week and overnight temps are also forecasted to slowly rise. These conditions may finally be having an affect on BBL with its elevation having risen over the last 24 hours.

At this time we will remain at 6.4 cfs.

Regards,

Glen

Glen D. Martin
Project Manager
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(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Monday, April 25, 2011 9:49 AM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'Steve_Brockmann@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'eric.rothwell@noaa.gov'; 'Johnson, Shawn L (DFG)'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Monday update on BBL Hydro.

BBL Hydro continues to operating at 6.4 cfs and the lake level as of this morning was -14.97 feet. Inflow to the lake has not been increasing with the lake elevation dropping -0.10 feet since Friday morning. Over the weekend we had the following lake elevations: Saturday = -14.91; Sunday = -14.93.

The National Weather Service forecast is as follows:

Today...Periods of rain. Highs around 49. Light winds.

Tonight...Rain likely. Lows around 40. Light winds.

Tuesday...Mostly cloudy. Chance of rain. Highs around 48. Light winds.

Tuesday Night...Mostly cloudy. Chance of rain. Lows around 36. Light winds.

Wednesday...Rain likely. Highs around 47. East wind 10 mph.

Wednesday Night...Mostly cloudy. Lows around 36.

Thursday...Partly cloudy. Highs around 51.

Thursday Night...Mostly clear. Lows around 37.

Friday And Friday Night...Partly cloudy. Highs around 51. Lows around 37.

Saturday...Mostly cloudy. Chance of rain. Highs around 48.

Saturday Night...Cloudy. Chance of rain. Lows around 37.

Sunday...Mostly cloudy. Chance of rain. Highs around 51.

TEMPERATURE

KLAWOCK 50 40 48

HYDABURG 48 40 48

For cross referencing, the WeatherBug forecast is attached.

Although weather conditions were to have started warming up over the weekend for POW, as well as an increased chance of rain, the lake continues to be drawn down.

With the project flow set at about 6.4 cfs, the lake drawdown has significantly slowed, which indicates we are near the current inflow to the lake, but still higher than the inflow. If the forecast remains similar this week with highs (at sea level) near or above 50 degrees F, and chance of rain, we would expect some melt and precipitation to occur. Night time temps at sea level continue to be forecasted in the mid-thirties, which means at 1,600 feet the temps are likely freezing. This may be the significant factor preventing significant inflow.

At this time we will remain at 6.4 cfs since the lake draw down has been significantly slowed.

Regards,

Glen

Glen D. Martin
Project Manager

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From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Friday, April 22, 2011 9:08 AM
To: 'Glen Martin'; 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'Steve_Brockmann@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'eric.rothwell@noaa.gov'; 'Johnson, Shawn L (DFG)'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Friday update on BBL Hydro.

BBL flow is still operating at 6.4 cfs and the lake level as of this morning was -14.87 feet. This indicates we are operating at about the inflow to the lake with only a -0.01 foot change from yesterday.

The National Weather Service forecast is as follows:

Today...Cloudy. Chance of rain...mainly this morning. Highs around 46. South wind 10 to 15 mph.

Tonight...Cloudy. Slight chance of rain. Lows around 38. Southeast wind 10 to 15 mph.

Saturday...Partly cloudy. Highs around 54. Southeast wind 10 mph.

Saturday Night...Becoming mostly cloudy. Lows around 39. Southeast wind 10 to 15 mph.

Sunday...Rain likely. Highs around 49. Southeast wind 10 to 20 mph.

Sunday Night...Rain likely. Lows around 38.

Monday...Cloudy. Chance of rain. Highs around 50.

Monday Night...Mostly cloudy. Chance of rain. Lows around 38.

Tuesday...Cloudy. Chance of rain. Highs around 50.

Tuesday Night...Mostly cloudy. Chance of rain. Lows around 38.

Wednesday Through Thursday...Mostly cloudy. Chance of rain. Highs around 51. Lows around 38.

TEMPERATURE

KLAWOCK 48 35 56
HYDABURG 46 38 54

For cross referencing, the WeatherBug forecast is attached.

Weather conditions start warming up this weekend for POW with a higher possibility

of rain as well. With the project flow set at about 6.4 cfs, the lake drawdown as significantly slowed, which indicates we are very close to the current inflow to the lake. If the forecast is correct, we should see thaw occurring more consistently during the daylight hours at the lake with sealevel temps in the low 50's. We may be able to increase flow next week depending on how much the lake increases its elevation.

Regards,

Glen

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From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Thursday, April 21, 2011 12:41 PM
To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'Steve_Brockmann@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'eric.rothwell@noaa.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Thursday update on BBL Hydro.

BBL flow was reduced to about 6.4 cfs at 1 p.m. yesterday. The lake level as of this morning was -14.86 feet.

The National Weather Service forecast is as follows:

Rest Of Today...Rain likely. Highs around 45. West wind 10 mph.

Tonight...Mostly cloudy. Slight chance of rain. Lows around 37. South wind 10 mph.

Friday...Mostly cloudy. Chance of rain. Highs around 48. Southeast wind 10 mph.

Friday Night...Mostly cloudy. Slight chance of rain in the evening. Lows around 39. East wind 10 mph.

Saturday...Partly cloudy. Highs around 54. East wind 10 to 15 mph.

Saturday Night...Partly cloudy. Lows around 38.

Sunday Through Monday Night...Cloudy. Chance of rain. Highs around 51. Lows around 38.

Tuesday...Cloudy. Chance of rain. Highs around 50.

Tuesday Night And Wednesday...Mostly cloudy. Chance of rain. Lows around 38. Highs around 50.

TEMPERATURE

KLAWOCK 47 34 48
HYDABURG 45 35 47

For cross referencing, the WeatherBug forecast is attached.

Weather conditions start warming up this coming weekend for POW with a higher possibility of rain as well. As you know, we went to about 6.4 cfs yesterday afternoon to slow the downward trend of the lake. If this weekends weather will persist with daytime temps in the low 50's we should begin seeing more daylight thaw.

Regards,

Glen

Glen D. Martin
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From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Wednesday, April 20, 2011 1:20 PM
To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'Steve_Brockmann@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'eric.rothwell@noaa.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Wednesday update on BBL Hydro.

BBL flow remains at about 9.7cfs and the lake level is at -14.80 feet. We are going down to 6 cfs sometime today due to the extremely low inflow to the lake. This will help preserve some lake water incase conditions continue through to next week.

The National Weather Service forecast is as follows:

Today...Mostly cloudy. Highs around 46. Light winds becoming west 10 mph in the afternoon.

Tonight...Mostly cloudy. Isolated rain showers late. Lows around 34. West wind 10 mph.

Thursday...Mostly cloudy. Chance of rain. Highs around 47. Light winds.

Thursday Night...Mostly cloudy. Chance of rain. Lows around 37. South wind 10 mph.

Friday...Mostly cloudy. Chance of rain. Highs around 48. Southeast wind 10 to 15 mph.

Friday Night Through Saturday Night...Mostly cloudy. Lows around 37. Highs 48 to 53.

Sunday...Mostly cloudy. Chance of rain. Highs around 51.

Sunday Night...Rain likely. Lows around 38.

Monday...Rain likely. Highs around 50.

Monday Night And Tuesday...Mostly cloudy. Chance of rain. Lows around 38. Highs around 51.

TEMPERATURE

KLAWOCK 48 33 48

HYDABURG 47 33 47

For cross referencing, the WeatherBug forecast is attached. WeatherBug's forecast seems more optimistic than the NWS. We'll see who is correct.

Weather conditions start warming up this coming weekend for POW with a higher possibility of rain as well. This should lead to melt, if not rain, at the 1,600 foot lake elevation during the day. Night temps are still very cool. Anecdotally, POW is very dry with Black Lake, below Black Bear Creek, lower than one of our staff has ever observed before. Other drainages on the island are also either dry or very low.

Regards,

Glen

Glen D. Martin
Project Manager
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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Tuesday, April 19, 2011 12:01 PM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'Steve_Brockmann@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Tuesday update on BBL Hydro.

BBL flow remains at about 9.7cfs and the lake level is at -14.72 feet. We anticipate going down to 6 cfs later today.

The National Weather Service forecast is as follows:

Today...Mostly cloudy. Scattered rain showers. Highs around 46. Light winds.

Tonight...Mostly cloudy. Isolated rain showers in the evening... Then scattered rain showers and snow showers late. Lows around 35. Light winds.

Wednesday...Mostly cloudy. Highs around 46. Light winds becoming west 10 mph in the afternoon.

Wednesday Night...Mostly cloudy. Slight chance of rain. Lows around 36. West wind 10 mph.

Thursday...Mostly cloudy. Chance of rain. Highs around 46. Southwest wind 10 mph.

Thursday Night And Friday...Cloudy. Chance of rain. Lows around 36. Highs around 48.

Friday Night And Saturday...Mostly cloudy. Chance of rain. Lows around 37. Highs around 50.

Saturday Night...Rain likely. Lows around 38.

Sunday Through Monday...Rain likely. Highs around 49. Lows around 38.

TEMPERATURE

KLAWOCK 46 33 48

HYDABURG 46 34 46

For cross referencing, the WeatherBug forecast is attached.

Weather conditions start warming up this coming weekend for POW with a higher possibility of rain as well.

Regards,

Glen

Glen D. Martin
Project Manager
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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Monday, April 18, 2011 10:52 AM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Monday update on BBL Hydro.

Weekend data as follows:

BBL Flow remains at 9.7cfs. Lake level Saturday morning: -14.46 ft, Sunday

morning: -14.54 ft, Monday morning: -14.62 ft. Flow at South Fork is about 3cfs.

We are currently losing about 0.08 feet of lake level per day. That would put us at -15 feet in about 4 to 5 days. The inflow appears to be less than half of what we are releasing. Using the Tennant Method to evaluate what flow we should reduce to in order to slow the lake drawdown, if we were to go to 6cfs, that would place us at about 33% of the pre-project average flow, or what is considered FAIR flows. This will slow the lake drawdown, but not altogether with the current low inflow to the lake. This will buy us time to see if temperatures finally begin to warm up in the project area while providing more flow to the creek than nature would be if there were no project.

The National Weather Service forecast is as follows:

Today...Mostly cloudy. Areas of fog in the morning. Isolated rain showers. Highs around 49. Light winds becoming west 10 mph in the afternoon.

Tonight...Mostly cloudy. Isolated rain showers in the evening... Then scattered rain showers late. Lows around 35. West wind 10 to 15 mph.

Tuesday...Mostly cloudy. Scattered rain showers. Highs around 46. Light winds.

Tuesday Night...Mostly cloudy. Lows around 35. West wind 10 mph.

Wednesday...Mostly cloudy. Isolated rain showers. Highs around 47. West wind 10 mph.

Wednesday Night Through Friday Night...Mostly cloudy. Chance of rain. Lows around 36. Highs around 48.

Saturday...Mostly cloudy. Chance of rain. Highs around 49.

Saturday Night...Cloudy. Chance of rain. Lows around 38.

Sunday...Rain likely. Highs around 49.

TEMPERATURE

KLAWOCK 50 34 48

HYDABURG 49 34 45

For cross referencing, the WeatherBug forecast is attached.

The weather continues to be cool with little precipitation, or precipitation as snow. The long term forecast shows warmer temps occurring over next weekend. We will go to **6cfs** later today or tomorrow. We welcome your comments.

Regards,

Glen

Glen D. Martin
Project Manager
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From: Bob Berreth [mailto:bob.b@aptalaska.com]
Sent: Friday, April 15, 2011 8:09 AM
To: 'Glen Martin'; Peter.D.Olmstead@usace.army.mil; 'Minnillo, Mark J (DFG)'; monte.miller@alaska.gov; susan.walker@noaa.gov; richard_enriquez@fws.gov; 'Deats, Theodore A (DNR)'; patrick.regan@ferc.gov; fbsanchez@fs.fed.us; 'Barbara Stanley'; Erich.Gaedeke@ferc.gov
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

There is little change from yesterday. The lake lost 0.1 feet and is currently at -14.37 feet. Flow continues at or near 9.7CFS. South Fork flow currently averages about 4CFS.

Regards,
Bob

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Thursday, April 14, 2011 12:54 PM
To: Peter.D.Olmstead@usace.army.mil; 'Minnillo, Mark J (DFG)'; monte.miller@alaska.gov; susan.walker@noaa.gov; richard_enriquez@fws.gov; 'Deats, Theodore A (DNR)'; patrick.regan@ferc.gov; fbsanchez@fs.fed.us; 'Barbara Stanley'; Erich.Gaedeke@ferc.gov
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

There is little change from yesterday. The lake rose and then went back down and is currently at about -14.27 feet and flow continues at or near 9.7cfs. Previously we reported 9.8 cfs, but was actually between 9.7 and 9.8 cfs. We received a letter from ADF&G regarding how we operate this project that has some erroneous conclusions we will be addressing in our response to further the understanding of this project and Black Bear Lake.

The National Weather Service forecast is as follows:

Today...Rain showers...diminishing in the afternoon. Highs around 45. Light winds.

Tonight...Mostly cloudy. Scattered rain showers. Lows around 35. Light winds.

Thursday...Cloudy. Scattered rain showers in the morning...then isolated rain showers in the afternoon. Highs around 45. East wind 10 mph.

Thursday Night...Cloudy. Isolated rain showers. Lows around 35. Light winds.

Friday...Cloudy. Isolated rain showers. Highs around 48. Light winds.

Friday Night...Cloudy. Scattered rain showers. Lows around 35.

Saturday...Mostly cloudy. Chance of rain. Highs around 48.

Saturday Night Through Sunday Night...Mostly cloudy. Lows around 36. Highs around 48.

Monday...Mostly cloudy. Highs around 46.

Monday Night And Tuesday...Mostly cloudy. Chance of rain. Lows around 37. Highs around 47.

TEMPERATURE

KLAWOCK 46 33 44

HYDABURG 44 34 46

For cross referencing, the WeatherBug forecast is attached.

The weather continues to be cool with little precipitation.

Regards,

Glen

Glen D. Martin
Project Manager
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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Wednesday, April 13, 2011 8:02 AM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

There is little change from yesterday. The lake rose about 0.05 feet during the last 24 hours to about -14.25 feet and flow continues at 9.8cfs. South Fork Hydro also experienced a small increase in flow.

The National Weather Service forecast is as follows:

Today...Rain showers...diminishing in the afternoon. Highs around 45. Light winds.

Tonight...Mostly cloudy. Scattered rain showers. Lows around 35. Light winds.

Thursday...Cloudy. Scattered rain showers in the morning...then isolated rain showers in the afternoon. Highs around 45. East wind 10 mph.

Thursday Night...Cloudy. Isolated rain showers. Lows around 35. Light winds.

Friday...Cloudy. Isolated rain showers. Highs around 48. Light winds.

Friday Night...Cloudy. Scattered rain showers. Lows around 35.

Saturday...Mostly cloudy. Chance of rain. Highs around 48.

Saturday Night Through Sunday Night...Mostly cloudy. Lows around 36. Highs around 48.

Monday...Mostly cloudy. Highs around 46.

Monday Night And Tuesday...Mostly cloudy. Chance of rain. Lows around 37. Highs around 47.

TEMPERATURE

KLAWOCK 46 33 44

HYDABURG 44 34 46

For cross referencing, the WeatherBug forecast is attached.

The weather has not really changed over the last month with temperatures during the night in the mid-30's at sealevel. At 1,500 feet elevation, the elevation of Black Bear Lake, this would be at or below freezing, slowing the thaw that probably occurs each afternoon after temps have warmed for the day. Southeast Alaska continues to experience colder than normal temps for this time of year. Two charts are attached from NOAA, one is the temperature probability for April, showing lower than normal temperatures, and the other is the precipitation probability for April, showing lower than normal precipitation predicted. The good news is that the probability charts for April, May, June combined show temperatures and precipitation going back to normal conditions. We anxiously await this transition.

Regards,

Glen

Glen D. Martin
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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Tuesday, April 12, 2011 8:14 AM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

There is little change from yesterday. The lake is at -14.3 feet and flow continues at 9.8cfs.

The National Weather Service forecast is as follows:

Today...Rain showers. Highs around 43. Southeast wind 10 to 20 mph with higher gusts in the morning.

Tonight...Rain showers. Lows around 38. Southeast wind 10 mph in the evening becoming light and variable.

Wednesday...Rain showers likely. Highs around 46. Southeast wind 10 to 15 mph.

Wednesday Night...Mostly cloudy. Slight chance of rain showers. Lows around 37. Light winds.

Thursday...Mostly cloudy. Chance of rain showers. Highs around 47. Light winds.

Thursday Night Through Saturday...Mostly cloudy. Chance of rain showers. Lows around 36. Highs around 47.

Saturday Night...Mostly cloudy. Lows around 36.

Sunday Through Monday...Mostly cloudy. Highs around 47. Lows around 36.

For cross referencing, the WeatherBug forecast is attached.

We will continue reporting daily. Weather has not really changed over the last month.

Regards,

Glen

Glen D. Martin
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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Monday, April 11, 2011 10:08 AM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

As of 8 a.m. Friday morning the lake was at -14.26 ft and flow continued at between 9-10 cfs. The air temperature was 34.4°F at the lake.

This morning, the lake is at -14.29 ft and flows are at 9.8 cfs.

The National Weather Service forecast is as follows:

Today...Scattered rain and snow showers in the morning..then rain showers in the afternoon. Little or no snow

accumulation. Highs around 44. South wind 10 mph with higher gusts in the afternoon.

Tonight...Rain showers. Lows around 38. Southeast wind 10 to 15 mph with higher gusts in the evening.

Tuesday...Rain showers. Highs around 45. Southeast wind 10 to 20 mph.

Tuesday Night...Rain showers. Lows around 36. Southeast wind 10 to 15 mph.

Wednesday...Cloudy. Chance of rain showers. Highs around 46. Southeast wind 10 mph.

Wednesday Night...Mostly cloudy. Lows around 36.

Thursday And Thursday Night...Cloudy. Chance of rain showers. Highs around 46. Lows around 36.

Friday...Mostly cloudy. Chance of rain showers. Highs around 46.

Friday Night...Rain likely. Lows around 35.

Saturday...Rain. Highs around 47.

Saturday Night...Cloudy. Chance of rain. Lows around 35.

Sunday...Mostly cloudy. Chance of rain. Highs around 47.

TEMPERATURE / PRECIPITATION

KLAWOCK 45 37 45

HYDABURG 44 38 45

For cross referencing, the WeatherBug forecast is attached.

In summary, we have been able to increase flow to almost 10 cfs, but the lake continues to go slowly down, thus inflow to the lake remains below 9.8 cfs. Cold temperatures persist at Black Bear Lake slowing any thaw. The South Fork Hydro Project is not contributing significantly at this time either.

Regards,

Glen

Glen D. Martin
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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Thursday, April 07, 2011 11:04 AM

To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

As of 8 a.m. this morning the lake was at -14.23 ft and flow continues at about 9 cfs.
The air temperature is 34.6°F at the lake.

The National Weather Service forecast is as follows:

Today...Mostly cloudy. Patchy fog early. Highs around 49. West wind 10 mph.

Tonight...Cloudy. Chance of rain late. Lows around 38. South wind 10 to 15 mph.

Friday...Rain. Highs around 45. South wind 10 to 20 mph.

Friday Night...Rain showers. Lows around 36. Southwest wind 10 to 15 mph.

Saturday...Rain showers...possible mixed with snow. Highs around 43. Southwest wind 10 mph.

Saturday Night...Numerous rain and snow showers. Lows around 35.

Sunday...Numerous rain showers. Highs around 45.

Sunday Night...Mostly cloudy. Scattered rain showers. Lows around 35.

Monday...Numerous rain showers. Highs around 46.

Monday Night...Numerous rain showers. Lows around 36.

Tuesday And Tuesday Night...Numerous rain showers. Highs around 46. Lows around 36.

Wednesday...Cloudy. Chance of rain. Highs around 46.

TEMPERATURE / PRECIPITATION

KLAWOCK 49 34 45 / 10 50 90

HYDABURG 50 38 45 / 10 40 90

For cross referencing, the WeatherBug forecast is attached.

Inflow appears to remain below 9 cfs, judging by the continued drawdown. Rain is suppose to continue at sea level, however, with the cold temperatures predicted for nights, the temperature at the lake will be at or below freezing, slowing the thaw. Not much if any change from yesterday.

We will continue to keep you informed.

Best Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.

P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Wednesday, April 06, 2011 10:02 AM
To: 'Peter.D.Olmstead@usace.army.mil'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

As of Noon on Tuesday April 5, the lake was at -14.05 ft and we continued to operate at 9 cfs. As of 8 a.m. this morning the lake was at -14.14 ft and flow continues at about 9 cfs. The air temperature is 33°F at the lake.

Below is a note from the National Weather Service about March's weather.

National Weather Service: March in Juneau one of the driest
March in Juneau was the fourth driest on record.

Meteorologist Richard Lam says total liquid precipitation amounted to 1 point 28 inches, more than 2 inches below normal.

There were only eight days of measurable precipitation.

Even so, he says a new daily precipitation record of point 46 inches was established for March 30.

Snowfall amounted to 4.9 inches, **which is 6 point 4 inches below normal**.

As of the end of the month, the forecaster says there were 78.9 inches of snow since October 1. **That's more than one foot below normal**.

The average temperature for the month ending up at 28 point 8 degrees, about five degrees below normal.

The lowest temperature of the month was nine degrees on the 9th.

The high was 52 degrees on the 27th and 28th which set new record highs for those dates.

A Taku wind event on March 2nd produced the month's strongest gusts. It hit 76 miles per hour at the Douglas Boat Harbor and 49 miles per hour at the airport.

Nature has placed many hydroelectric projects in Southeast Alaska in a low water predicament, similar to Black Bear Lake Hydro. The solution is probably to amend our license so that we are allowed to operate in run-of-river mode when inflow to the lake drops below the minimum instream flow requirement. This would reduce agency time spent on this project as well as our time filing reports because we are out of compliance, while addressing natural conditions beyond our control.

The National Weather Service forecast is as follows:

Today...Rain showers diminishing in the afternoon. Highs around 47. Light winds becoming northwest 10 mph in the afternoon.

Tonight...Decreasing clouds. Isolated rain showers in the evening. Lows around 35. Northwest wind 10 mph.

Thursday...Increasing clouds. Highs around 48. West wind 10 mph.

Thursday Night...Rain likely. Lows around 38. South wind 10 to 20 mph.

Friday...Rain. Highs around 44. South wind 10 to 15 mph.

Friday Night...Numerous rain showers. Lows around 37.

Saturday And Saturday Night...Numerous rain showers. Highs around 45. Lows around 36.

Sunday And Sunday Night...Mostly cloudy. Scattered rain showers. Highs around 45. Lows around 35.

Monday...Numerous rain showers. Highs around 46.

Monday Night And Tuesday...Numerous rain showers. Lows around 36. Highs around 46.

For cross referencing, the WeatherBug forecast is attached.

Inflow presently is below 9 cfs, judging by the continued drawdown. Rain is suppose to continue at sea level, however, with the cold temperatures predicted for nights, the temperature at the lake will be at or below freezing, slowing the thaw.

We will continue to keep you informed.

Best Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Monday, April 04, 2011 10:14 AM

To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'Marcia.L.Heer@usace.army.mil'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Last Friday we went to 9 cfs in the morning. The minimum flow for April is 15 cfs. The weekend on POW had a combination of rain, wind, and fog. We gained some water at South Fork Hydro but all the moisture fell as snow at Black Bear Lake because it was colder at that elevation. As a result we just maintained the lake while us using about 9 cfs of water. Temperatures are cold at the lake again today (33 degrees) so we don't expect much thaw today either.

Operating at 9 cfs places us at 50% of the average pre-project flow for April, using the Tenant Method. Below is the National Weather Service forecast and attached is the WeatherBug forecast for Klawock on POW.

Today...Rain showers...mixing with snow showers in the morning diminishing in the afternoon. No snow accumulation. Highs around 43. Southeast wind 10 to 15 mph.

Tonight...Mostly cloudy. Chance of rain showers. Lows around 35. East wind 10 to 20 mph.

Tuesday...Rain likely. Highs around 45. Southeast wind to 15 mph.

Tuesday Night...Rain showers. Lows around 35. West wind 10 mph.

Wednesday...Rain likely. Highs around 46. West wind to 15 mph.

Wednesday Night...Mostly cloudy. Chance of rain. Lows around 35.

Thursday And Thursday Night...Mostly cloudy. Highs around 47. Lows around 36.

Friday...Cloudy. Highs around 48.

Friday Night...Cloudy. Chance of rain. Lows around 36.

Saturday Through Sunday...Rain likely. Highs around 47. Lows around 36.

Inflow to the lake has slightly improved, but not significant enough to immediately go to 15 cfs. If the lake begins filling again such as it began to last week, perhaps we can ramp up to match the inflow and meet the instream flow as well. Attached is a table, in PDF format, showing for a decade of USGS data the number of days each year that the project could not have met the current instream flow requirements. We include this in preparation for the meeting we understand you propose. When would you like to hold a meeting and because of the location distribution of all involved, would you prefer to conduct this telephonically, or in person?

Thank you,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.

P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Bob Berreth [mailto:bob.b@aptalaska.com]
Sent: Friday, April 01, 2011 8:18 AM
To: 'Bob Berreth'; 'Glen Martin'; 'Minnillo, Mark J (DFG)'; monte.miller@alaska.gov; susan.walker@noaa.gov; richard_enriquez@fws.gov; 'Deats, Theodore A (DNR)'; patrick.regan@ferc.gov; fbsanchez@fs.fed.us; 'Barbara Stanley'; Erich.Gaedek@ferc.gov; 'Marcia.L.Heer@usace.army.mil'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Friday, April 1, 2011, update on Black Bear Lake Hydro.

Yesterday we increased flow to 8 cfs. The lake level has risen a tenth of a foot to -14.0 feet. Flow at South Fork is moderate. Forecast is for continued rain.

Regards,
Bob Berreth

From: Bob Berreth [mailto:bob.b@aptalaska.com]
Sent: Thursday, March 31, 2011 2:39 PM
To: 'Bob Berreth'; 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedek@ferc.gov'; 'Marcia.L.Heer@usace.army.mil'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Thursday, March 31, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. The lake level has risen almost 0.5 feet to -14.1 feet. Flow at South Fork Hydro increased substantially but has started to fall off. Forecast is for continued rain. Today started with a rain/snow mix at sea level.

Regards,
Bob Berreth

From: Bob Berreth [mailto:bob.b@aptalaska.com]
Sent: Wednesday, March 30, 2011 8:33 AM
To: 'Bob Berreth'; 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedek@ferc.gov'; 'Marcia.L.Heer@usace.army.mil'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Wednesday, March 30, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. The lake level has risen almost 0.2 feet to -14.47 feet. Flow at South Fork Hydro continues to increase. Forecast is for continued rain.

Regards,
Bob Berreth

From: Bob Berreth [mailto:bob.b@aptalaska.com]
Sent: Tuesday, March 29, 2011 9:59 AM
To: 'Bob Berreth'; 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'Marcia.L.Heer@usace.army.mil'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Tuesday, March 29, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. with the lake level steady at -14.66 feet. Flow at South Fork Hydro continues to increase.

Regards,
Bob Berreth

From: Bob Berreth [mailto:bob.b@aptalaska.com]
Sent: Monday, March 28, 2011 9:35 AM
To: 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'; 'Marcia.L.Heer@usace.army.mil'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Monday, March 28, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. with the lake level continuing to slowly fall. Between Friday at 7AM and Monday at 7AM the lake lost an additional quarter of a foot to -14.7 feet. Flow at South Fork Hydro has slightly increased. Below is a seven day forecast.

Regards,
Bob Berreth

7-Day Forecast

Weather Alert

[Alert](#)

[More](#)

Klawock, AK 99925

Top of Form

Bottom of Form							
Today	Tue	Wed	Thu	Fri	Sat	Sun	
47° Rain	46° Rain	45° Rain	45° Rain	45° Rain	44° Chance of Rain	46° Rain	
Tonight	Tue Night	Wed Night	Thu Night	Fri Night	Sat Night		
39° Rain	40° Rain	38° Chance of Rain	38° Rain	34° Chance of Rain	35° Chance of Rain		

From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Friday, March 25, 2011 9:41 AM

To: 'Minnillo, Mark J (DFG)'; monte.miller@alaska.gov; susan.walker@noaa.gov; richard_enriquez@fws.gov; 'Deats, Theodore A (DNR)'; patrick.regan@ferc.gov; fbsanchez@fs.fed.us; 'Barbara Stanley'; Erich.Gaedeke@ferc.gov

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

We have heard from several of you that there may be a request for a meeting coming through the pipeline to discuss Black Bear Lake Hydro with us. We are certainly agreeable to this, although we would like to point out we have been down this road before and discussed this very situation with all of the agencies. But that said, a meeting would be fine.

I will be on vacation next week so any time after that.

Some facts about the project some of you may not be aware of, Black Bear Lake has 215 surface acres. The total 15 foot storage the project has equates to 3200 acre-feet. Because of the shape or bathymetry of the lake, we conservatively assume there are 200 acre-feet per foot and therefore approximately 3000 acre-feet of storage. The available water is approximately 20,440 acre-feet per year, based on pre-project gaging. This equates to a lake that fills over 6 times each year, which means it is a very flashy lake that also only has 1.8 miles of drainage basin feeding it. The attached graph, the same one I included in yesterdays e-mail, shows how quickly the lake can fill. Here is the amount of water we have used for each of the last four years:

2007 = 18,249 acre-feet
 2008 = 13,466 acre-feet
 2009 = 15,795 acre-feet
 2010 = 16,353 acre-feet

What isn't used generally spills, as illustrated on the graph by the lines going above the light blue line each spring. If you remove a few anomalous years, i.e. 1996, 1998, 2004, & 2005, you can see that inflow to the lake declines, as expected, each winter. This brings

up the instream flow requirement during the winter months. The instream flow is based on a monthly pre-project average. The monthly pre-project average for March is 15 cfs. For the twenty-four days we have operated this month, this would provide 714 acre-feet of water. The project has used 467 acre-feet, only 65% of the average, and yet the lake level continues to decline. This illustrates that frequently the inflow to the lake has been less than this average each winter. Hence, the 9 cfs instream flow requirement for March can't be met because only about 7.5 cfs is flowing into the lake.

These instream flow requirements were what the agencies proposed at the time of licensing, and they tried to take into account the average by using a lower number for the instream flow, i.e. pre-project = 15 cfs, operations = 9 cfs. However, as nature and our operations has pointed out, the average they used is just an average and not necessarily realistic for operations, because an average doesn't account for lower inflow. When inflow is this low, all we can do is run in run-of-river mode. Perhaps the license should have said we could operate in run-of-river mode when inflow was lower than the minimum instream flow requirement and the lake is below a certain level.

Although it is obvious that if we don't operate in run-of-river mode under the current conditions, that no water would get to Black Bear Creek from the lake (project would have to shut down), it should also be obvious that if the project did not exist, only 7.5 cfs would be reaching the creek under current conditions. This simple fact needs to be recognized, i.e. we are replicating nature at this time, where normally we would be supplementing nature when we are able to operate normally by drawing the lake down.

Also, just for your info, we are using about 4,000 gallons of diesel each day to handle the load on the island with very little hydro.

To update you on conditions today, March 25, at Black Bear Lake Hydro, we remain at 7.5 cfs and the lake lost about a tenth of a foot to -14.45 feet in the last 24 hours. This means the inflow is below 7.5 cfs. Below is the National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Increasing clouds. Highs around 49. East wind 10 to 20 mph.

Tonight...Mostly cloudy. Lows around 38. East wind 10 mph.

Saturday...Mostly cloudy. Highs around 51. Southeast wind 10 mph.

Saturday Night...Mostly cloudy. Lows around 38. Southeast wind 10 mph.

Sunday...Partly cloudy. Highs around 48. Light winds.

Sunday Night...Partly cloudy. Lows 33 to 39.

Monday And Monday Night...Rain likely. Highs around 46. Lows 33 to 39.

Tuesday...Mostly cloudy. Chance of rain. Highs around 45.

Tuesday Night...Rain likely. Lows around 38.

Wednesday Through Thursday...Rain likely. Highs around 47. Lows 33 to 39.

TEMPERATURE / PRECIPITATION

KLAWOCK 51 35 53 / 10 10 10

HYDABURG 50 36 50 / 10 10 10

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel as the primary source of generation. The lake has come down a tenth of a foot in 24 hours. Rain seems to have been delayed for POW till next Monday. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Thursday, March 24, 2011 12:14 PM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Thursday, March 24, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs. with the lake remaining fairly steady around -14.3 feet.

As was the case yesterday, using the Tenants Method, we remain at 50% of pre-project flow for this time of year.

Below it the latest National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Partly cloudy. Highs around 47. Light winds.

Tonight...Mostly cloudy. Lows around 37. East 10 to 15 mph.

Friday...Mostly cloudy. Chance of rain. Highs around 47. East wind 10 mph.

Friday Night...Cloudy. Chance of rain. Lows around 39. East wind 10 mph.

Saturday...Mostly cloudy. Chance of rain. Highs around 49. Southeast wind 10 mph.

Saturday Night...Mostly cloudy. Chance of rain. Lows around 39.

Sunday Through Monday Night...Rain likely. Highs around 47. Lows around 38.

Tuesday Through Wednesday...Rain likely. Highs around 46. Lows around 38.

TEMPERATURE / PRECIPITATION

KLAWOCK 48 34 50 / 10 10 40

HYDABURG 48 36 47 / 10 10 40

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel as the primary source of generation. Rain is in the forecast for this weekend, so the possibility is that we can begin operating at the required minimum instream flow of 9 cfs soon. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Also attached is a graph of the lake elevation this month, thus far, and another graph showing lake elevations from 1996-Present. This historical graph will show you that there is frequently a period just before spring where the lake gets low. The 2011 year is marked in bright red to help it stand out. It rises off the top of the chart because there isn't another data point for it to go to. Notice how quickly the lake can rise each spring, and at other times of the year. This is a very flashy lake that refills over 6 times each year, i.e. refills the top 15 feet we can use 6 times. This lake however only has a drainage area of 1.8 sq. miles.

We will continue to keep you posted.

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Wednesday, March 23, 2011 10:25 AM

To: 'Glen Martin'; 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Wednesday, March 23, 2011, update on Black Bear Lake Hydro.

We continue to operate at 7.5 cfs with the lake remaining steady at about -14.3 feet. South Fork Hydro is contributing minimal water at this time.

Using the Tenants Method, we remain at 50% of pre-project flow for the month of March.

Below is the National Weather Service forecast. A weather forecast from WeatherBug is also attached

to provide a cross reference for the below forecast.

Short Term Forecast

Today...Mostly cloudy. Scattered rain showers. Highs around 45. East wind 10 to 20 mph.

Tonight...Mostly cloudy. Lows around 35. East wind 10 mph in the evening becoming light and variable.

Thursday...Mostly cloudy. Highs around 46. Northeast wind 10 mph.

Thursday Night...Mostly cloudy. Lows around 36. Northeast wind 10 mph.

Friday...Cloudy. Chance of rain. Highs around 45. East wind 10 to 20 mph.

Friday Night...Cloudy. Chance of rain. Lows around 36.

Saturday...Mostly cloudy. Chance of rain. Highs around 48.

Saturday Night...Rain likely. Lows around 38.

Sunday And Sunday Night...Rain likely. Highs around 46. Lows around 37.

Monday Through Tuesday...Rain likely. Highs around 46. Lows around 37.

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel to supplement generation. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Thank you,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Tuesday, March 22, 2011 9:44 AM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedke@ferc.gov'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: RE: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Tuesday, March 22, 2011, update on Black Bear Lake Hydro.

Yesterday morning, after our report to you, we set the BBL Hydro flow back to 7.5 cfs. The lake continues to slowly decline and is currently 14.23 feet below spill. South Fork water remains minimal.

This places us at 50% of the pre-project flow of 15 cfs. Using the Tenants Method, the Optimum Range is 60%-100%, and 40% is listed as Outstanding. We presently fall between those to

recommendations.

Below is the National Weather Service forecast. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Increasing clouds. Slight chance of rain in the afternoon. Highs around 44. Light winds becoming southeast 10 mph in the afternoon.

Tonight...Mostly cloudy. Chance of rain. Lows around 36. Southeast wind 10 to 15 mph.

Wednesday...Mostly cloudy. Chance of rain. Highs around 46. Southeast wind 10 to 20 mph.

Wednesday Night...Mostly cloudy. Lows around 36. East wind 10 to 15 mph.

Thursday...Mostly cloudy. Highs around 46. East wind 10 mph.

Thursday Night...Mostly cloudy. Lows around 37.

Friday Through Saturday Night...Mostly cloudy. Chance of rain. Highs around 47. Lows around 38.

Sunday...Rain likely. Highs around 47.

Sunday Night...Cloudy. Chance of rain. Lows around 37.

Monday...Rain likely. Highs around 46.

TEMPERATURE / PRECIPITATION

KLAWOCK 45 34 47 / 20 50 40

HYDABURG 45 35 46 / 20 50 40

In summary, we are at 50% of the average monthly flow, using the Tenants Method. We are operating at 7.5 cfs, in run-of-river mode and continue to use diesel to supplement generation. We will continue to update you on a daily basis until we meet the minimum instream flow requirement of 9 cfs.

Thank you,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
P.O. Box 3222
Port Townsend, WA 98368
(360) 385-1733 x122
(360) 385-7538 fax

From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Monday, March 21, 2011 9:59 AM

To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'; 'Erich.Gaedeke@ferc.gov'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: Black Bear Lake Hydroelectric Project - P-10440 - Update

Dear Agency Representatives,

Here is the Monday, March 21, 2011, update on Black Bear Lake Hydro.

Late last Friday, March 18, we increased the BBL Hydro flow to just over 10 cfs. As a result, we lost about ¼ of a foot of water in the lake. The lake as of today is at -14.13 feet. We will try to maintain the licensed instream flow depending on weather, but we are currently operating at or above the minimum instream flow requirement of 9 cfs for the month of March. South Fork Hydro, which operates in an adjacent drainage, but discharges into Black Bear Creek as well, still has a minimum amount of water, but more than the first two weeks of March.

Below is the forecast by the National Weather Service for Klawock, the closest location to the project site. A chance of rain throughout the week, but continued cool temperatures as well, particularly at night. The winds may help with some thaw during the day. A weather forecast from WeatherBug is also attached to provide a cross reference for the below forecast.

Short Term Forecast

Today...Partly cloudy. Highs around 48. East wind 10 mph until late afternoon becoming light and variable.

Tonight...Increasing clouds. Lows around 34. Light winds becoming east 10 mph late.

Tuesday...Mostly cloudy. Chance of rain in the afternoon. Highs around 44. Southeast wind 10 to 15 mph.

Tuesday Night...Mostly cloudy. Chance of rain. Lows around 36. Southeast wind 10 to 15 mph.

Wednesday...Mostly cloudy. Chance of rain. Highs around 45. East wind 10 to 15 mph.

Wednesday Night And Thursday...Mostly cloudy. Lows around 37. Highs around 45.

Thursday Night...Partly cloudy. Lows around 37.

Friday...Mostly cloudy. Highs around 45.

Friday Night...Mostly cloudy. Chance of rain. Lows around 37.

Saturday And Saturday Night...Mostly cloudy. Chance of rain. Highs around 46. Lows around 37.

Sunday...Rain likely. Highs around 46.

TEMPERATURE / PRECIPITATION

KLAWOCK 49 33 45 / 0 0 30

HYDABURG 48 33 45 / 0 0 30

We are currently operating at 100% of the minimum instream flow, putting us back in compliance with our permits as of Friday, March 18. However, we will continue to operate in a run-of-river mode, which is typical for this time of year where we rely on diesel as the primary source of electricity until thaw or rains begin in earnest and the lake begins to rise. With the present weather forecast for the week, during the day there may be some melt, but we would expect that at night this will slow due to freezing or near freezing temperatures.

We will keep you posted if we again need to go below the minimum instream flow requirement. We appreciate your cooperation in this matter.

Best Regards,

Glen

Glen D. Martin
Project Manager
Alaska Power & Telephone Co.
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From: Glen Martin [mailto:glen.m@aptalaska.com]
Sent: Friday, March 18, 2011 8:39 AM
To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'John Novak'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'
Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'
Subject: Black Bear Lake Hydroelectric Project - P-10440

Dear Agency Representatives,

First, let me apologize for not updating you over the last two days; we had a communication snafu here.

To update you for Wednesday through today:

Flow for Wednesday, 7.6cfs.

Flow for Thursday, 7.9cfs. Due to an emergency diesel fuel issue and ensuing diesel generation transfers the average turbine flow between 2 and 3 pm decreased to 6.8cfs.

Flow for today, is at 8.5cfs.

The lake remains fairly flat at -13.8 feet since Tuesday.

We are seeing a little more water at the South Fork Hydro Project, which flows into Black Bear Creek below the BBL Hydro tailrace.

Weather conditions appear dry and cold at Black Bear Lake, not very conducive for hydro. The National Weather Service forecast is below:

Short Term Forecast

Today...Partly cloudy. Highs around 48. Northeast wind 10 to 20 mph.

Tonight...Partly cloudy. Lows around 32. Northeast wind 10 mph in the evening becoming light and variable.

Saturday...Partly cloudy in the morning then becoming sunny. Highs around 51. Northeast wind 10 mph.

Saturday Night...Clear. Lows around 33. North wind 10 mph.

Sunday...Partly cloudy. Highs around 44. Light winds.

Sunday Night And Monday...Partly cloudy. Lows around 36. Highs around 44.

Monday Night...Mostly cloudy. Lows around 34.

Tuesday...Cloudy. Highs around 43.

Tuesday Night...Cloudy. Chance of rain. Lows around 34.

Wednesday...Cloudy. Chance of rain. Highs around 43.

Wednesday Night And Thursday...Cloudy. Lows around 34. Highs around 43.

TEMPERATURE / PRECIPITATION

KLAWOCK 50 30 53 / 0 0 0

HYDABURG 47 32 52 / 0 0 0

A weather forecast from WeatherBug is also attached to provide a cross reference for the forecast.

At the 8.5 cfs we are currently operating at and based on the pre-project average minimum flow of 15 cfs, using the Tennant's Method we are at 57% of the average minimum flow for the month of March. We are operating in run-of-river mode, hence the fluctuation in our output to match increases in the inflow to the lake with the goal of meeting the permitted minimum as soon as possible. The weather forecast, however, does not look good for increased inflow in the near future. During the day there may be some melt, but we would expect that at night this will slow due to freezing temperatures.

We will continue to keep you posted.

Best Regards,

Glen

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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Tuesday, March 15, 2011 1:11 PM

To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'John Novak'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: RE: Black Bear Lake Hydroelectric Project - P-10440

Dear Agency Representatives,

Per our e-mail from yesterday notifying you of the need to reduce flow at the Black Bear Lake Hydroelectric Project, here is our daily update:

The lake level has risen just slightly in the last 24 hrs., but is basically the same as yesterday when we were at about -13.9 feet (at ~ -13.8 today).

The flow is between 7.30 cfs and 7.65 cfs (flow we are operating at). Evidently, this is about what the inflow to the lake is because it is staying relatively steady.

Although rain is occurring at lower elevations, it is possible at the higher elevations around the Black Bear Lake drainage that precipitation is occurring as snow. Rain is in the forecast below through Thursday this week, at least at sea level. Also as an attachment is the seven day forecast for

Klawock, the closest community to the project from WeatherBug; just to provide a cross reference for the forecast.

Forecast from the National Weather Service

AKZ027-160200-

DIXON ENTRANCE TO CAPE DECISION COASTAL AREA-

INCLUDING...CRAIG...KLAWORD

855 AM AKDT TUE MAR 15 2011

.**TODAY**...RAIN. HIGHS AROUND 44. EAST WIND 10 TO 20 MPH.

.**TONIGHT**...RAIN. LOWS AROUND 39. SOUTHEAST WIND 10 TO 20 MPH.

.**WEDNESDAY**...RAIN. HIGHS AROUND 43. SOUTH WIND 10 MPH IN THE MORNING BECOMING LIGHT AND VARIABLE.

.**WEDNESDAY NIGHT**...RAIN LIKELY. LOWS AROUND 34. SOUTH WIND 10 MPH.

.**THURSDAY**...RAIN LIKELY. HIGHS AROUND 43. SOUTHEAST WIND 10 TO 15 MPH.

.**THURSDAY NIGHT**...MOSTLY CLOUDY. LOWS AROUND 34.

.**FRIDAY THROUGH SATURDAY**...PARTLY CLOUDY. HIGHS AROUND 44. LOWS AROUND 34.

.**SATURDAY NIGHT**...MOSTLY CLOUDY. LOWS AROUND 33.

.**SUNDAY THROUGH MONDAY**...MOSTLY CLOUDY. CHANCE OF RAIN. HIGHS AROUND 43. LOWS AROUND 34.

TEMPERATURE / PRECIPITATION

KLAWORD	44	37	43	/	90	80	80
HYDABURG	44	39	43	/	100	90	80

At this point we continue to operate in run-of-river mode and are primarily relying on diesel generation.

Thank you for your patience.

Glen

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From: Glen Martin [mailto:glen.m@aptalaska.com]

Sent: Monday, March 14, 2011 2:45 PM

To: 'Minnillo, Mark J (DFG)'; 'monte.miller@alaska.gov'; 'susan.walker@noaa.gov'; 'richard_enriquez@fws.gov'; 'Deats, Theodore A (DNR)'; 'patrick.regan@ferc.gov'; 'John Novak'; 'fbsanchez@fs.fed.us'; 'Barbara Stanley'

Cc: 'Vern Neitzer'; 'Greg Mickelson'; 'Bob Grimm'; 'Bob Berreth'

Subject: Black Bear Lake Hydroelectric Project - P-10440

Dear Agency Representatives,

Attached is a letter regarding the low level of Black Bear Lake for our Black Bear Lake Hydroelectric Project. We are asking for a temporary waiver to go below our March minimum flow of 9 cfs to 7.65 cfs in order to keep the project in operation, maintaining our siphon, until inflow increases. We would like to receive notification of agreement to the temporary waiver, if you have time, or we will assume you are in agreement if we do not hear back from you. We will be submitting daily reports to keep you posted.

Best Regards,

Glen

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March 14, 2011

Agency Representatives
Alaskan State & Federal Agencies

Re: Black Bear Lake Hydroelectric Project
FERC Project No. 10440

Dear Agency Representatives:

We have been using diesel to offset the use of water from Black Bear Lake since February 22, 2011. The lake level on February 22 was -11 feet. Since then we have continued to increase the amount of diesel used to slow the drawdown of the lake until precipitation or thaw begins to fill the lake. This has necessitated our operations to run in run-of-river mode at between 9-10 cfs. Nine cfs is the minimum flow for the month of March. Charts are enclosed to show the lake drawdown from January 1, 2011, through the current date. The drawdown curve has really flattened out, but is still going slightly down.

In order to keep the project in operation, keeping the siphon going, we would like to go below the March minimum flow of 9 cfs to 7.65 cfs to conserve water. The average minimum flow pre-project was 15 cfs. Using the Tenant's Method, going to 7.65 cfs would be going to 51% of the average minimum flow for the month. Rain has been expected, but has been slow in materializing at this watershed.

We request a temporary waiver from the March 9 cfs until inflow increases. If this flow deviation goes beyond two weeks we will have to report this to FERC and request a waiver from them as well. We would propose to give you daily updates, starting tomorrow.

Please e-mail your comments and approval of a waiver at your earliest convenience. However, to prevent further drawdown, we will go to 7.65 cfs immediately until we hear otherwise.

If you have any questions, please contact Bob Berreth or myself at 1-800-982-0136. If a teleconference seems appropriate to discuss, we could set one up for first thing tomorrow morning, at your convenience. Mark Minnillo and Sue Walker have the most experience with this situation of those of you on the contact list and may be able to provide preliminary background if you would prefer to speak with them first.

Thank you,



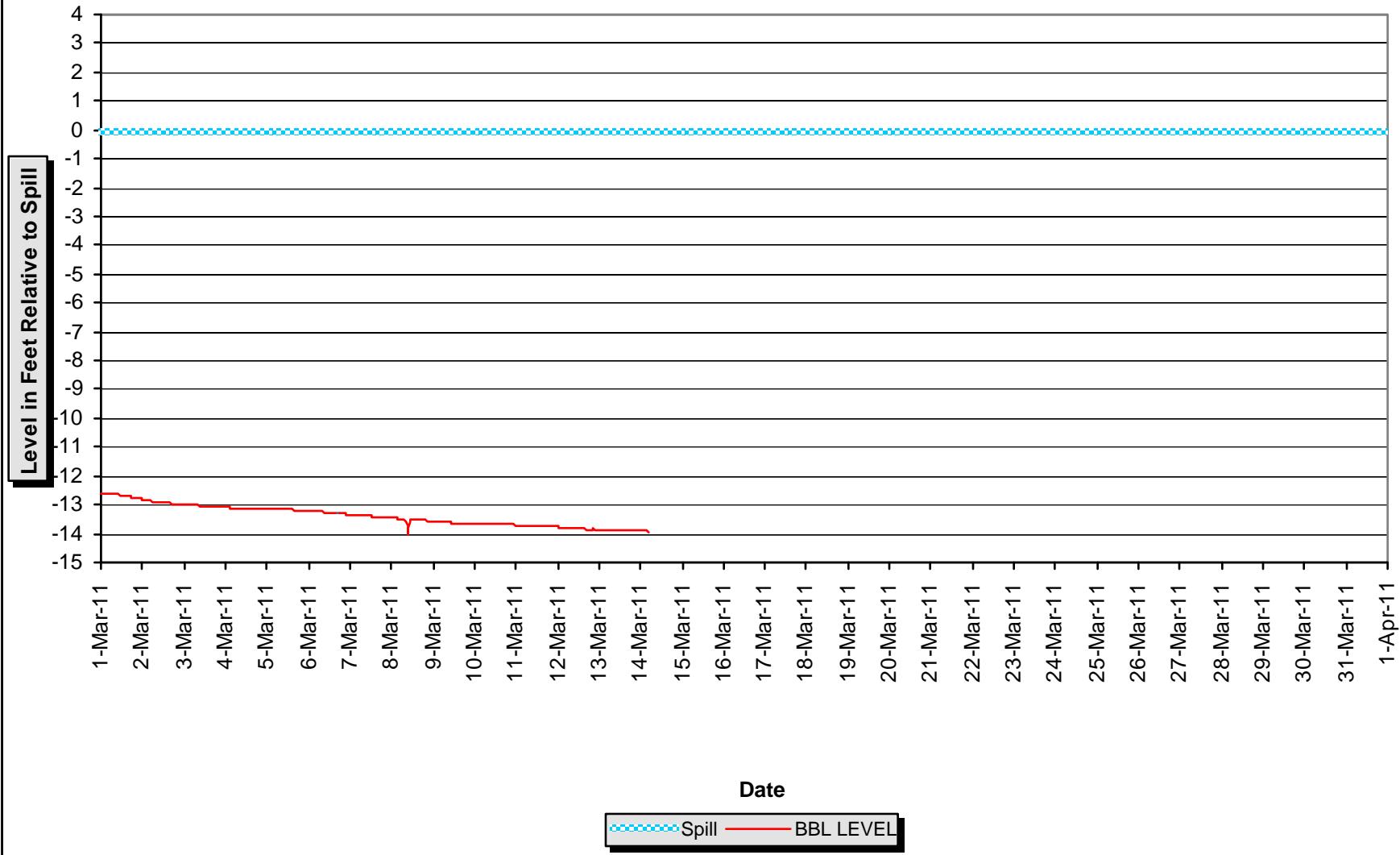
Glen D. Martin
Compliance Manager

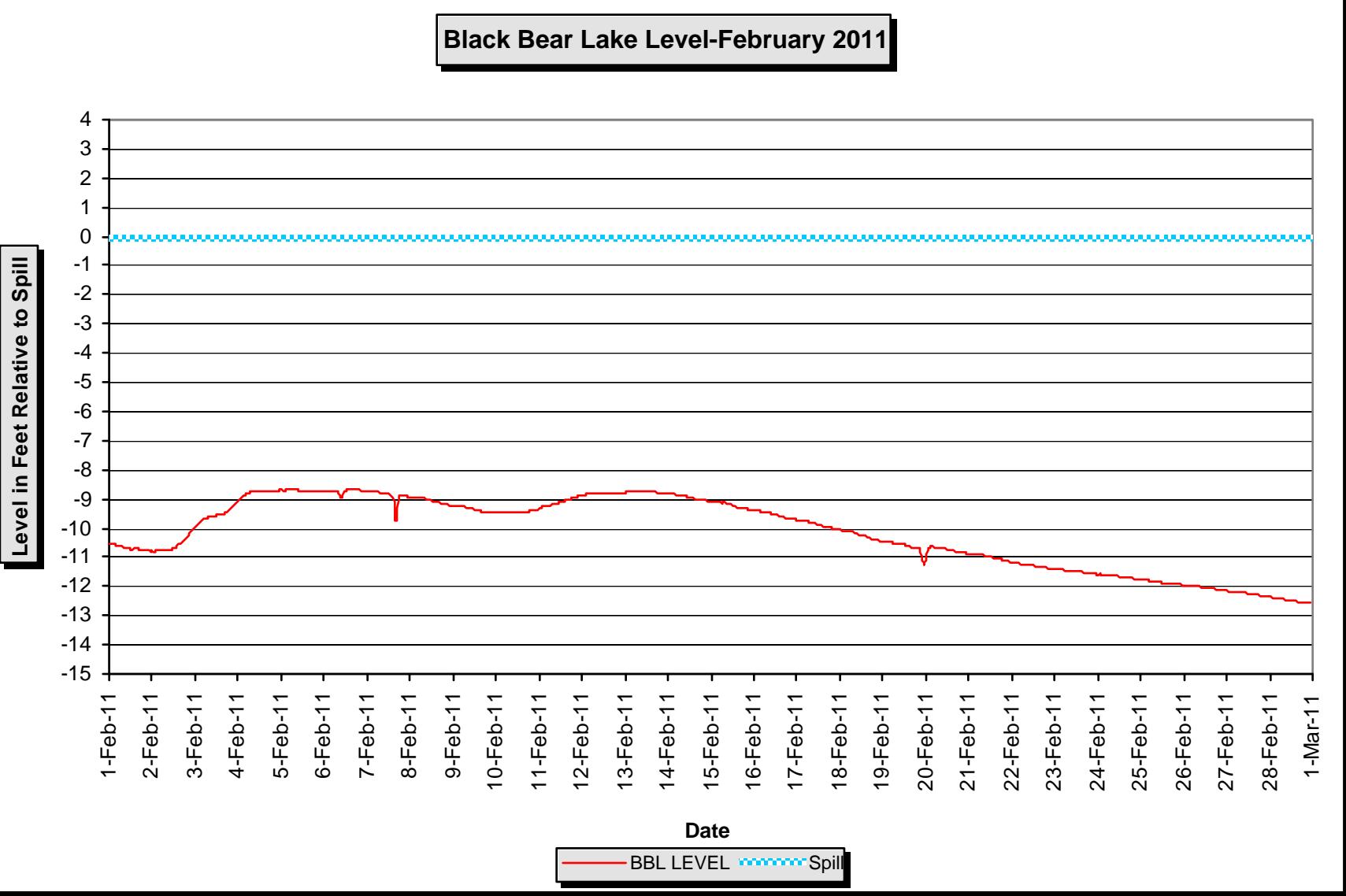
Enc. (as stated)

Cc:

Mark Minnillo, ADF&G – Area Manager
Monte Miller, ADF&G – Hydro Coordinator
Sue Walker – NMFS
Richard Enriquez, USF&WS
Theodore Deats, DNR – Water Resources
Patrick J. Regan, – FERC Regional Office, Portland

Black Bear Lake Level-March 2011





Black Bear Lake Level-January 2011

