US Army Corps
of Engineers ®
Northwestern Division

Bonneville
Power Administration

April 10, 2015

The Honorable C.L. "Butch" Otter
Governor of Idaho
State Capitol
Boise, Idaho 83720

Dear Governor Otter:

The U.S. Army Corps of Engineers (Corps) and the Bonneville Power Administration (BPA) wish to thank you for your letter of August 13, 2014, on Albeni Falls Dam and Lake Pend Oreille operations, and for the ongoing coordination which has ensued with the State of Idaho.

At the request of your August 13, 2014, letter, and as reiterated in your October 7, 2014, letter, the Corps and BPA have been coordinating with Idaho's Northwest Power and Conservation Council member Bill Booth, Idaho Department of Fish and Game, and the Lake Pend Oreille, Pend Oreille River, Priest Lake and Priest River Commission (Lake Pend Oreille Basin Commission) on issues regarding Albeni Falls Dam and Lake Pend Oreille operations. This coordination has included detailed discussions on the complexities of managing lake levels on Pend Oreille as well as the concerns and interests of the State of Idaho regarding lake-level management, recreation, and public involvement.

As a result of this coordination, and after taking into consideration the concerns of the public as well as the project's authorized purposes, the below operational objectives will be put into practice beginning this spring. These operational objectives describe with greater specificity the lake-level management authorized for the project and described in the Water Control Manual, with a goal of giving the public additional certainty as to timing of draft and refill of Lake Pend Oreille.

Regarding Draft of Lake Pend Oreille in the Summer: As discussed at the October 23 public listening session in Sandpoint, Idaho, BPA and the Kalispel Tribe have modified the Kalispel Memorandum of Agreement by eliminating further analysis of pre- or post-Labor Day temperature operations that could have potentially drafted Lake Pend Oreille earlier than practiced in past years. Instead, BPA has agreed to further help support habitat work by the Kalispel Tribe.

Regarding Spring Refill Operations: As discussed through our meetings, the operation of Albeni Falls Dam and Lake Pend Oreille during spring refill is set with flood control as a priority. As described in the Spring Operations enclosure, Lake Pend Oreille will continue to be refilled to 2,062 feet in mid to late June depending on flood risk, forecasts, and snowpack conditions in the

Pend Oreille River basin. Any earlier attempts to refill the Lake would increase flood risk both downstream and upstream of the Dam. This risk is unacceptable to the Corps.

Regarding September Elevations on Lake Pend Oreille: The Corps must balance the multiple purposes of the Albeni Falls project as competing demands and requirements intensify at the end of summer and into fall. The following operational objectives, identified below, will be put into practice to help provide both additional recreational use of the Lake and to create greater predictability about lake levels for the end of September.

September Operational Objectives: The Lake will generally be held within the summer operating range of 2,062 to 2,062.5 feet through the third Sunday in September, or September 18, whichever date is later. Reasonable efforts will be made to be above 2,061 feet through the fourth Sunday in September, or September 25, whichever date is later, and to hold a stable pool for the regatta.

- Hydrology and Columbia River system needs will determine how long it will be possible to stay above 2,061 feet.

a. The Water Control Manual states that the project will be no lower than 2,060 feet on September 30.

b. The Corps' Water Management Section may determine if special needs require water to be made available through use of the full September operating range of 2,062.5 to 2,060 feet after Labor Day. The decision to use the full range of the pool may be based on:

- Biological and/or operational needs of the coordinated system.

- Construction or maintenance work on Lake Pend Oreille or downstream of the Dam.

c. Operations for September will be presented at the August public meeting as described below.

Regarding Kokanee Spawning: The Lake will be drafted to the target winter minimum control elevation (MCE) of 2,051 feet, starting October 1 and drafting the pool into early November. In order to ensure that kokanee redds are not dewatered during the drawdown, the Corps will work with Idaho Department of Fish and Game to track kokanee status during the spawning season. The operational objectives for drafting the Lake to its winter elevation are:

a. During the month of October and through the first week of November, the Corps will draft Lake Pend Oreille, targeting to be within a half a foot of 2,051 feet (or other minimum winter pool elevation established for a special operation), reaching the MCE no later than November 15.

b. In November the Lake will be drafted no lower than whatever elevation (2,051 feet or higher if kokanee have begun to spawn) is achieved for kokanee spawning; and to avoid dewatering of redds by operating within a half a foot of the resulting elevation once spawning has commenced. Holding the pool within a half a foot of this elevation generally continues through December, except when hydrologic conditions preclude the Corps from so doing.

Regarding Flexible Winter Power Operations (FWPO): The Environmental Assessment (EA) presented the full range of potential FWPO operations. It is highly unlikely that hydrologic and power system conditions would warrant utilizing FWPO with back-to-back significant fill and draft events as presented in the EA. However, it is apparent that the public is still concerned about what might occur. Analysis on how FWPO may actually be implemented over the winter is provided in the enclosed "Flexible Winter Operations - More Likely Use Retrospective." Generally, it is unlikely that any significant (>4') fill and draft event would be followed by another similar fill and draft event. It is most likely that a fill and draft event greater than four feet would be followed by steady outflows that would result in lake-level fluctuations of less than two feet through the end of March.

To ensure stakeholders and members of the public are informed, the Corps will continue holding two public meetings each year, in April and August, to review dam operations for the past season and to preview upcoming dam operations. These meetings will be closely coordinated with the Pend Oreille Basin Commission to ensure widespread public announcement of the dates and agendas. Representatives from BPA will attend to discuss power operations and provide a retrospective of any FWPO use from the previous winter.

We have appreciated working with the Pend Oreille Basin Commission on lake levels and operations that affect Lake Pend Oreille and will continue coordination on a regular basis.

Sincerely,

David J. Ponganis, SES
Director, Programs
U.S. Army Corps of Engineers
Northwestern Division

Gregory K. Delwiche
Deputy Administrator
Bonneville Power Administration

Enclosures

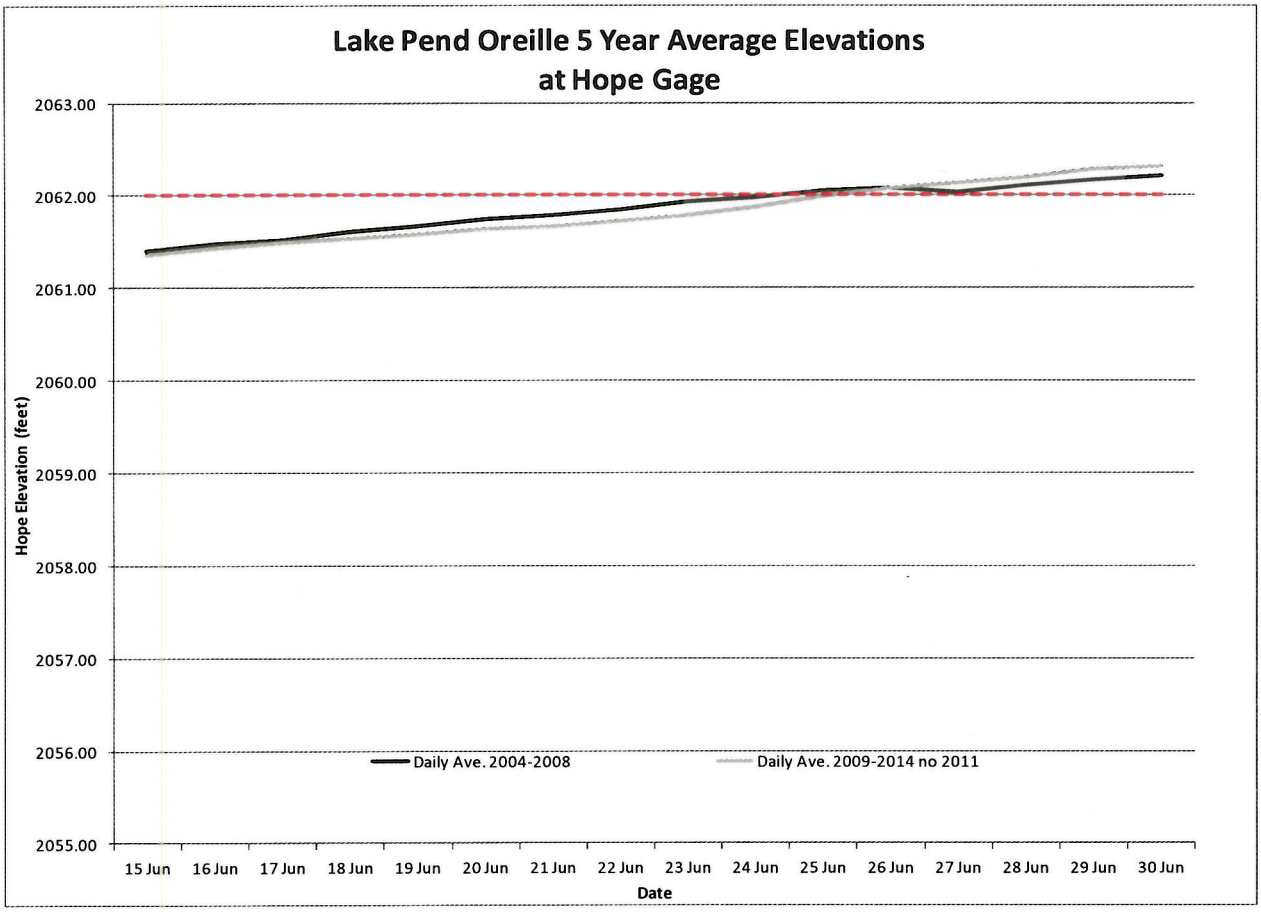
Spring Operations Flood Risk Operations and Lake Pend Oreille

The Corps monitors snowpack status during the spring flood season from April to mid-July, downstream and upstream residents are still susceptible to flooding from precipitation events that can be, at best, known only a few days ahead of time. Throughout the month of June, the Corps monitors snowpack and weather forecasts to best determine timing to refill the reservoir to the summer operating range of 2,062.0 to 2,062.5 feet.

As to requests for the lake to be raised to full summer pool by Memorial Day, that request would increase the risk of surpassing 95,000 cubic feet per second on the Pend Oreille River below Albeni Falls Dam, the official flood flow set by the National Weather Service. In two of the past four years, downstream communities have experienced flood events. Those downstream flood events would have been longer in duration had the lake elevation been raised in late May instead of June. In the years since Albeni Falls Dam was constructed Lake Pend Oreille has exceeded the official flood stage (currently 2,063.5 feet) five times whereas the Pend Oreille River below Albeni Falls Dam has exceeded the official flood flow (currently 95,000 cfs) 20 times.

The figure on the next page shows daily averages for two five-year periods for Hope elevations on Lake Pend Oreille in late June. The Hope gage is the official measurement for lake levels on Lake Pend Oreille. The darker gray line represents average elevations from 2004 to 2008 and the lighter gray line covers 2009 to 2014 but does not include 2011. The year 2011 is excluded because the project was not on controlled refill due to an extremely high snowpack and a subsequently higher than normal elevation of the lake even though the dam was on freeflow from May to mid-July. For the 2009 to 2014 time period when regulation of the lake was controlled the average date to reach 2,062 feet was June 26. For the 2004 to 2008 time period the average date to reach 2,062 feet was June 25. The difference in daily average elevations is approximately 0.1 feet for the two five-year periods. In general the timing of refill, when 2,062 feet is reached, in June has stayed relatively the same. Delays to being at or above 2,062 feet has been due to higher water years from 2011 to 2014 and regulation purposely holding the lake down slightly from refilling in order to reduce flood risk by saving space for higher than average snowpack throughout the early spring and summer.

The Corps operates Albeni Falls Dam and Lake Pend Oreille in an effort to ensure that health, life and safety risks are minimized during each spring flood season. To refill Lake Pend Oreille any earlier than mid to late June would knowingly increase the flood risk both upstream and downstream of Albeni Falls Dam.


Lake Pend Oreille 5 Year Average Elevations at Hope Gage
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Hope Elevation (feet)
Daily Ave. 2004-2008
Daily Ave. 2009-2014 no 2011
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Albeni Falls Dam
Flexible Winter Operations
More Likely Use Retrospective

FWPO Likely use Characteristics

The Environmental Assessment (EA) presented the full range of potential FWPO operations. It is highly unlikely that hydrologic and power system conditions would warrant utilizing FWPO with back to back significant fill and draft events as presented in the EA. It is most likely that a fill and draft event greater than 4 feet would be followed by steady outflows that would result in lake level fluctuations less than 2' through the end of March.

Background

The Albeni Falls Dam Flexible Winter Power Operation (FWPO) Environmental Assessment (EA) presented an analysis to show the most extreme operation possible under the operating constraints without regard to any particular signal from streamflows or the power system to warrant the operation. This was done so the maximum operation could be analyzed for impacts.

The actual use of FWPO will be keyed on many in-season variables such as: power prices; streamflows; weather; regional temperatures; water supply; downstream flow constraints and the status of downstream reservoirs.

The following notes and observations are based on a retrospective cursory analysis of the likely use of FWPO for the years 2002-2015. The basis for the retrospective choices of how much water was likely to have been stored, released or held in Lake Pend Oreille was limited to observed streamflows, downstream flow constraints and the operation of Grand Coulee. The only exception is 2012 when FWPO was implemented. The actual operation for 2012 is represented.

Observations from the Analysis

- The availability of FWPO every year will result in the Lake being held higher more often than if the Lake were held between 2051 to 2052 feet each winter.
- Fill and draft operations under FWPO greater than 3 feet are not likely to be followed by another fill and draft operation of more than 1-2'.
- Operating the lake with steady outflows will fill and draft incidentally and create opportunities with relatively small changes in lake elevation.

See Attached Tables and Graphs summarizing the analysis

January 30, 2015

January 30, 2015

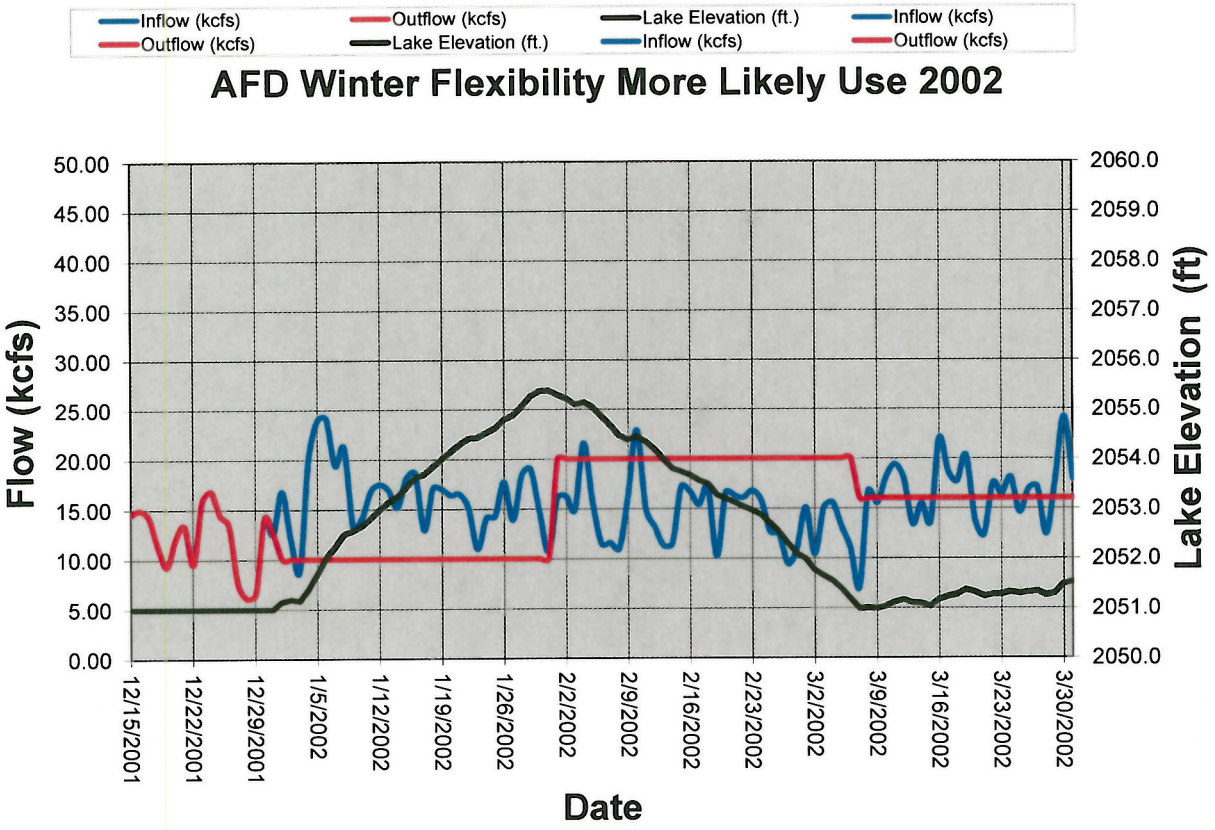
Summary of Potential FWPO Use 2002-2015

Year	FWPO Use	Draft Magnitude	Notes
2002	Yes	4.5′	Single slow fill across January and slow draft across February. Steady flows in March result in ~.5′ of subsequent fill.
2003	Yes	1.5′	Inflow spike in late January early February fill ~2′ then draft in early March. Subsequent ~2′ fill with steady out flows ending March above 2051′.
2004	No	.5′	Below average water year with Grand Coulee drafting to meet chum and Vernita Bar. Likely incidental fill/draft (~1′) and draft on steady outflows.
2005	Yes	none	Grand Coulee Drum Gate maintenance in 2005 would have indicated a fill on high inflow to the Lake in January. This water would likely have been held and not drafted to minimize reductions to Grand Coulee's inflow during April.
2006	Yes	~4′	High inflows to the Lake in early January would fill ~4-5′. This would have been held and then released across March.
2007	No	1.2′	Likely incidental fill/draft (~1′) and draft on steady outflows.
2008	No	1′	Bigger water year with large flood control drafts at Grand Coulee and low inflows to Lake Pend Oreille. Likely incidental fill (~1′) and draft on steady outflows.
2009	Yes	3.4′	Single fill (~4′) across January with draft across February. Incidental fill (~1′) on steady outflows to finish March above 2051′.
2010	Yes	3′	Slow single fill of approximately 4′ across January with subsequent 3′ draft across February and March. Ends March above 2051′
2011	Yes	4.5′	Likely fill of ~4′ on big inflow spike in last half of January. This would have been drafted out across March to prepare for high spring inflows.
2012	Yes	1.2′	**Implemented** Slow fill of ~2′ from 12/18-1/12 then drafted ~1′ 1/12-19. Then outflows held steady resulting in incidental fill and draft of ~1′. Late March inflow picked up and project filled on increasing inflows.
2013	Yes	2′	Fill ~2′ on steady outflows then drafted slowly in February to 2051 and held through March.
2014	No	.5′	Likely incidental fill/draft (~1′) and draft on steady outflows.
2015	Yes	2-3′	Fill the full 5′ January – February on higher than average inflows to Lake Pend Oreille. Then draft ~2-3′ in late March ending March 2-3′above 2051.

January 30, 2015

Graphical Examples

January 30, 2015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Outflow (kcfs)
Lake Elevation (ft.)
Inflow (kcfs)
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AFD Winter Flexibility More Likely Use 2002
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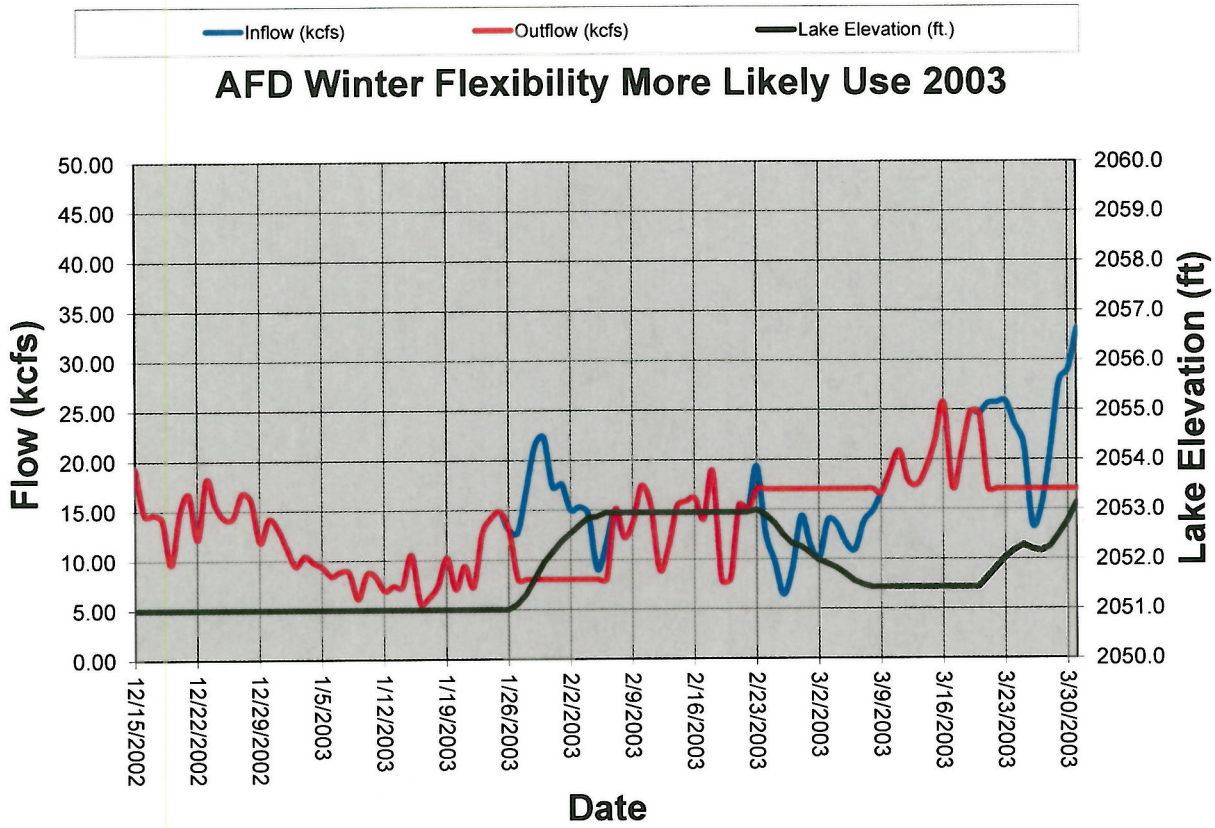
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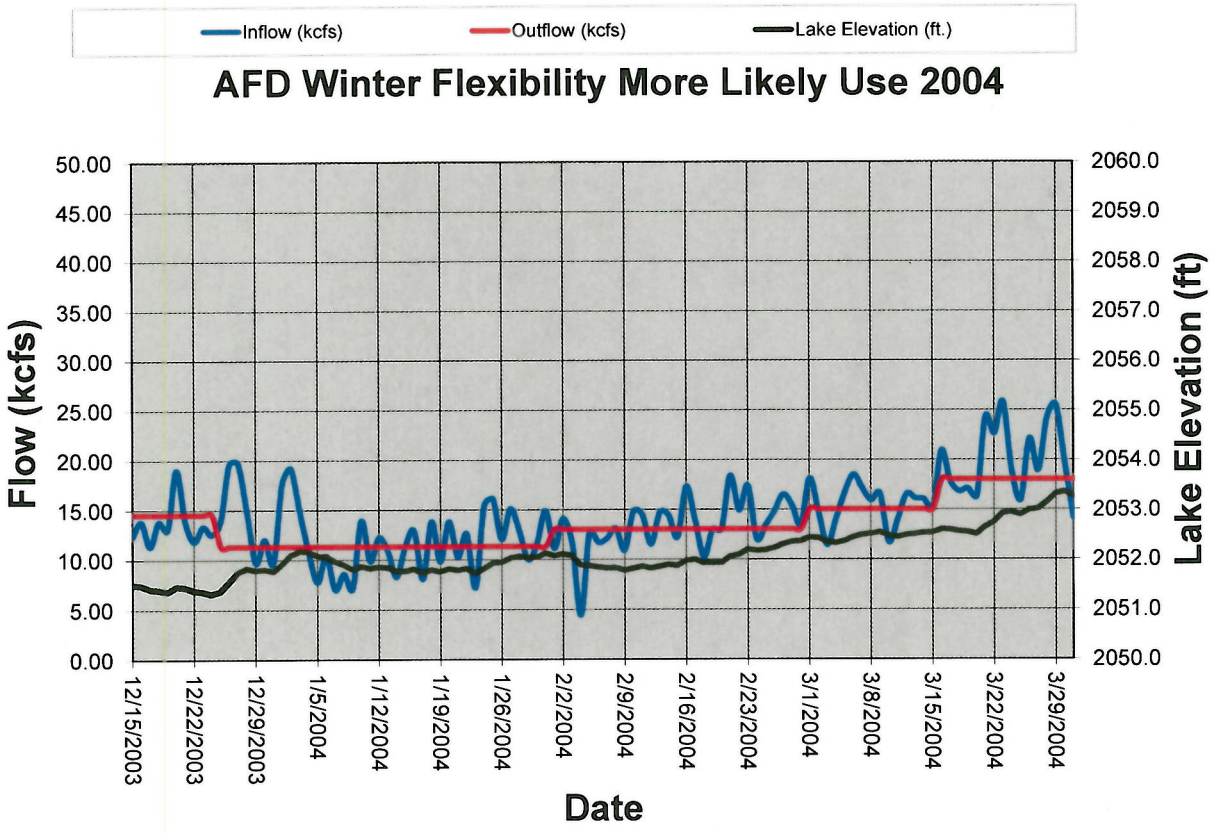
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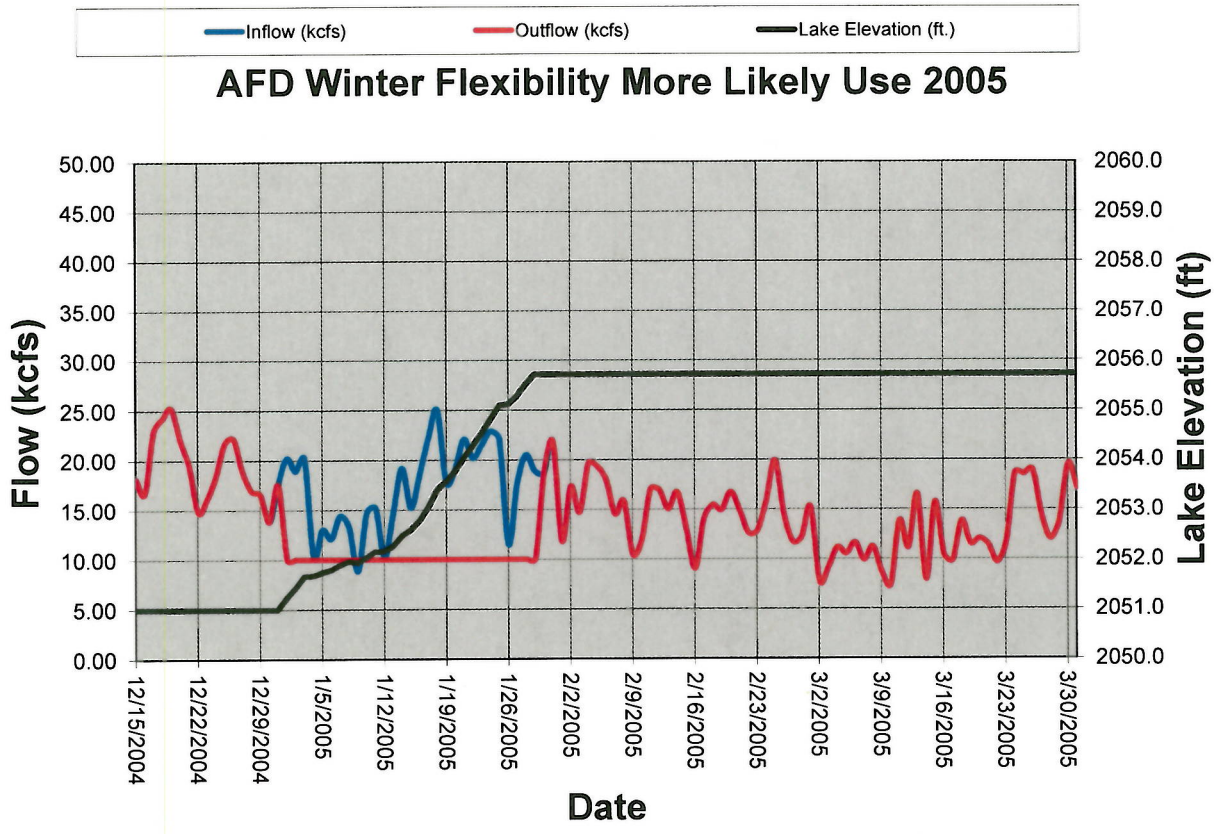
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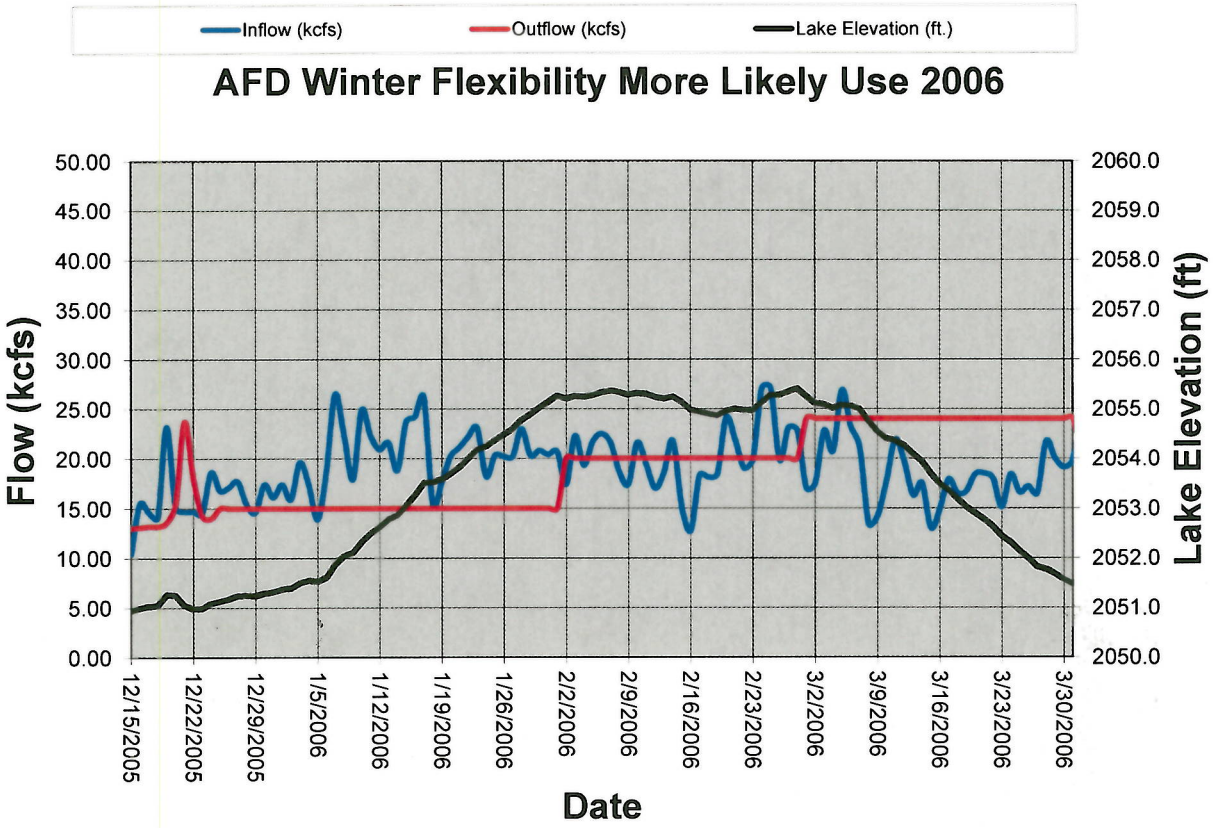
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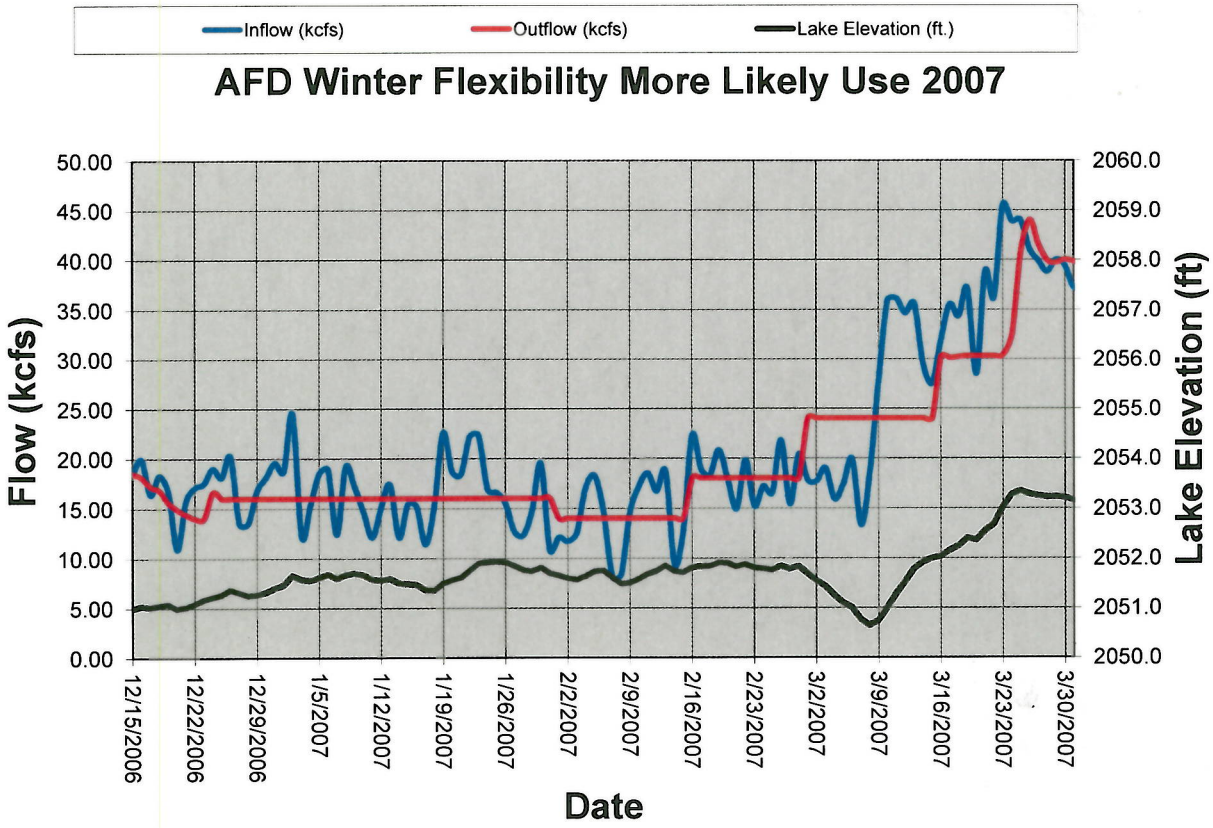
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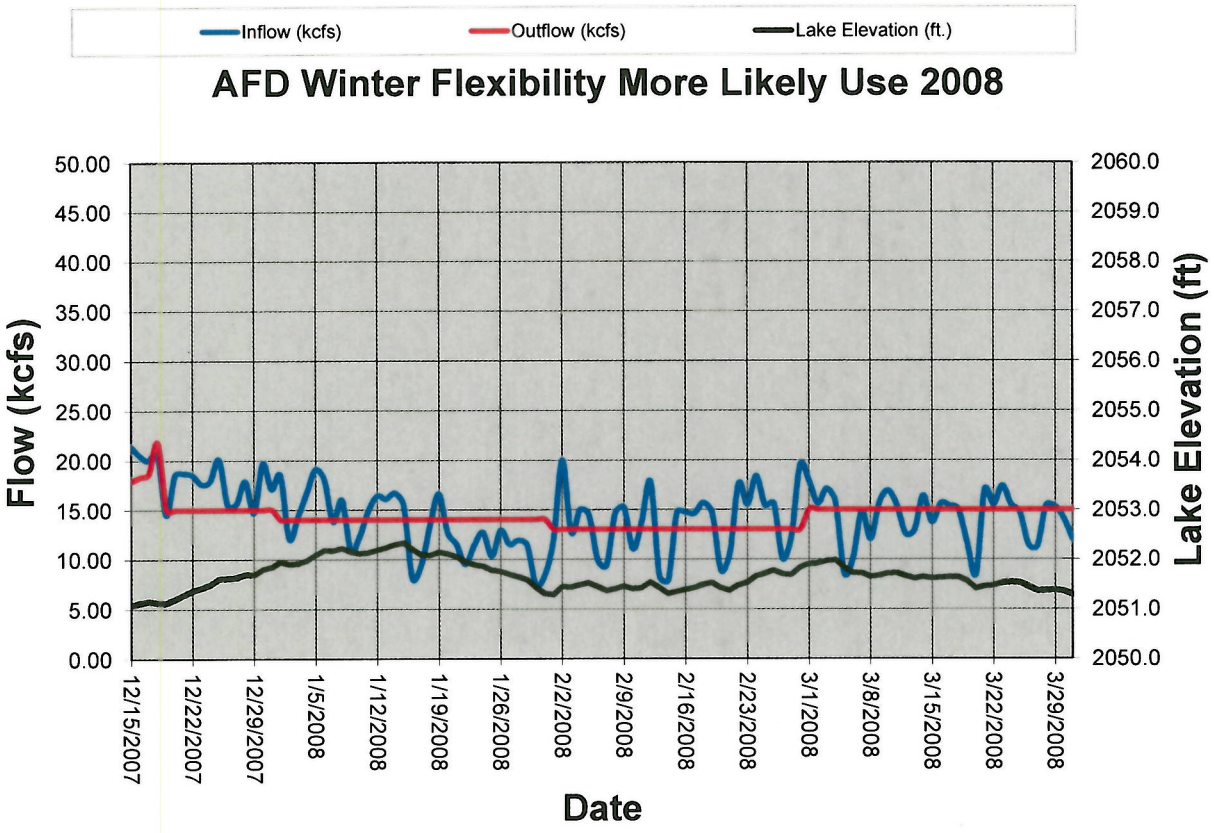
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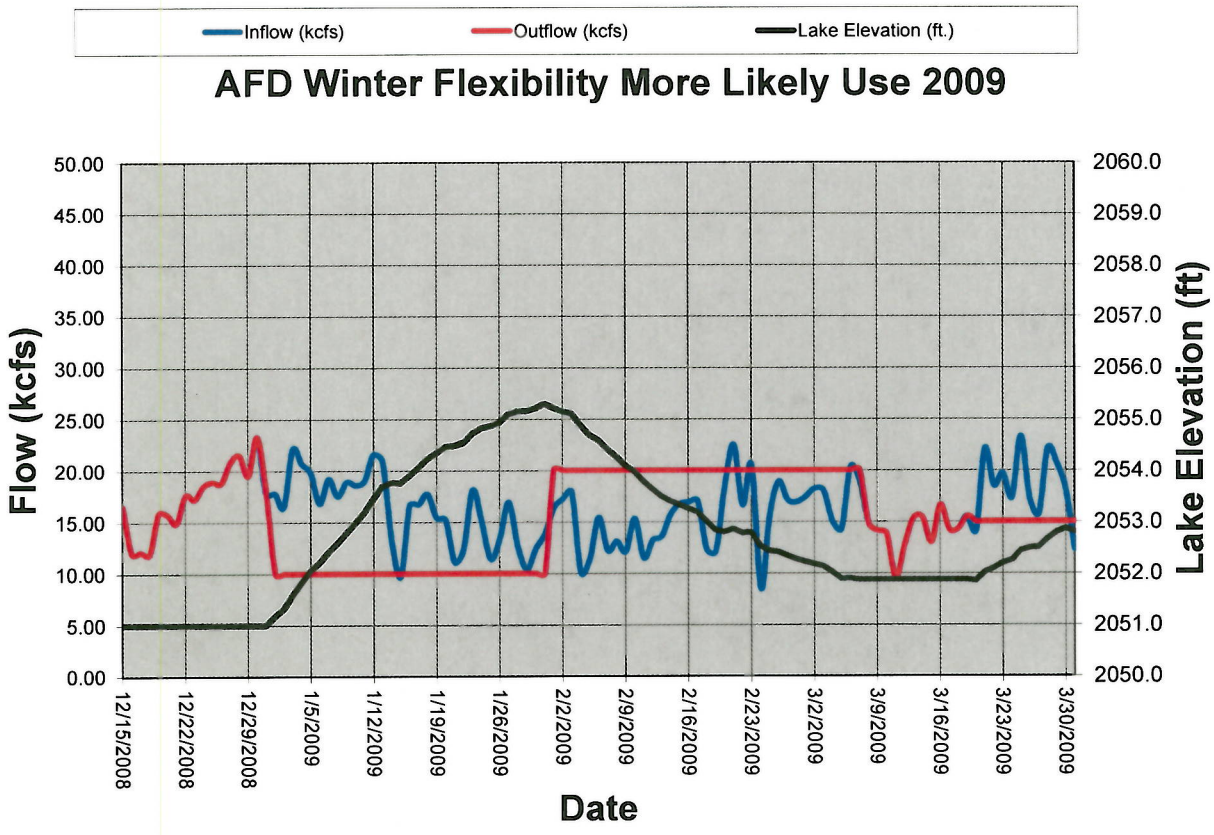
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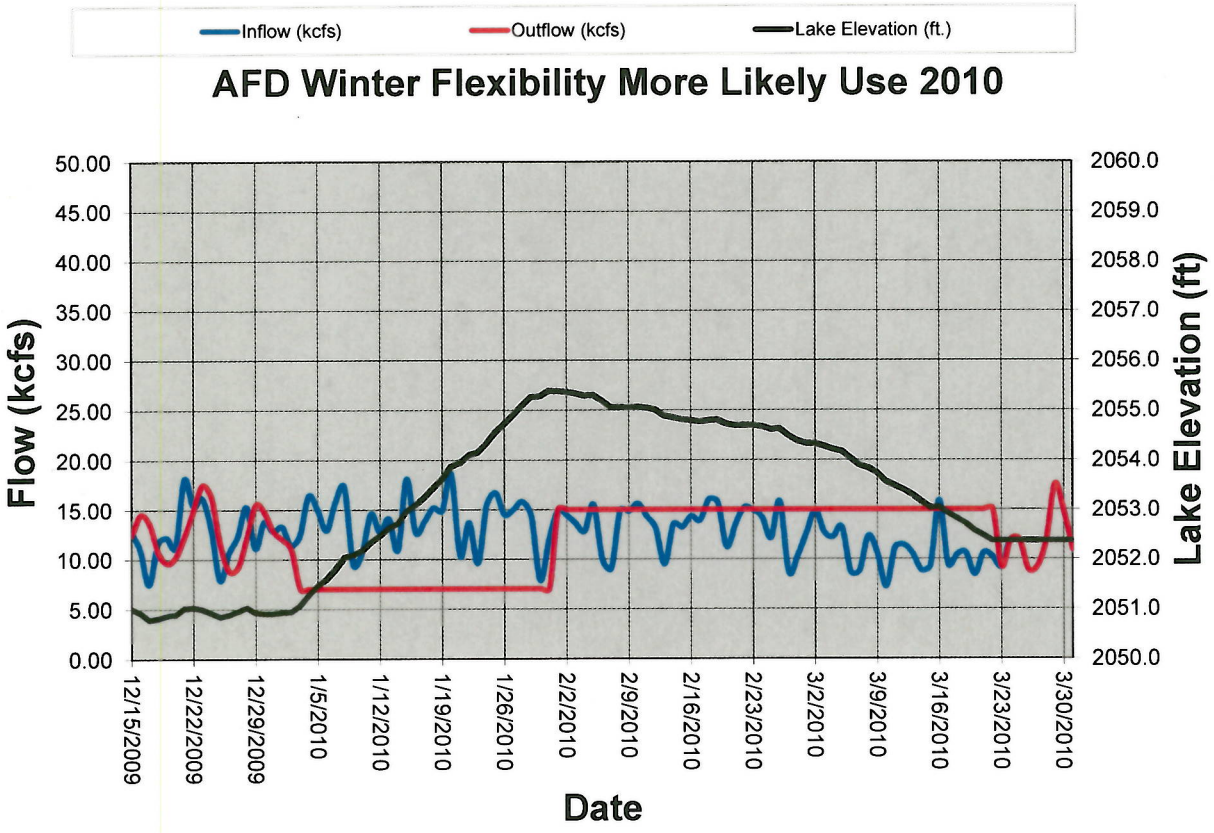
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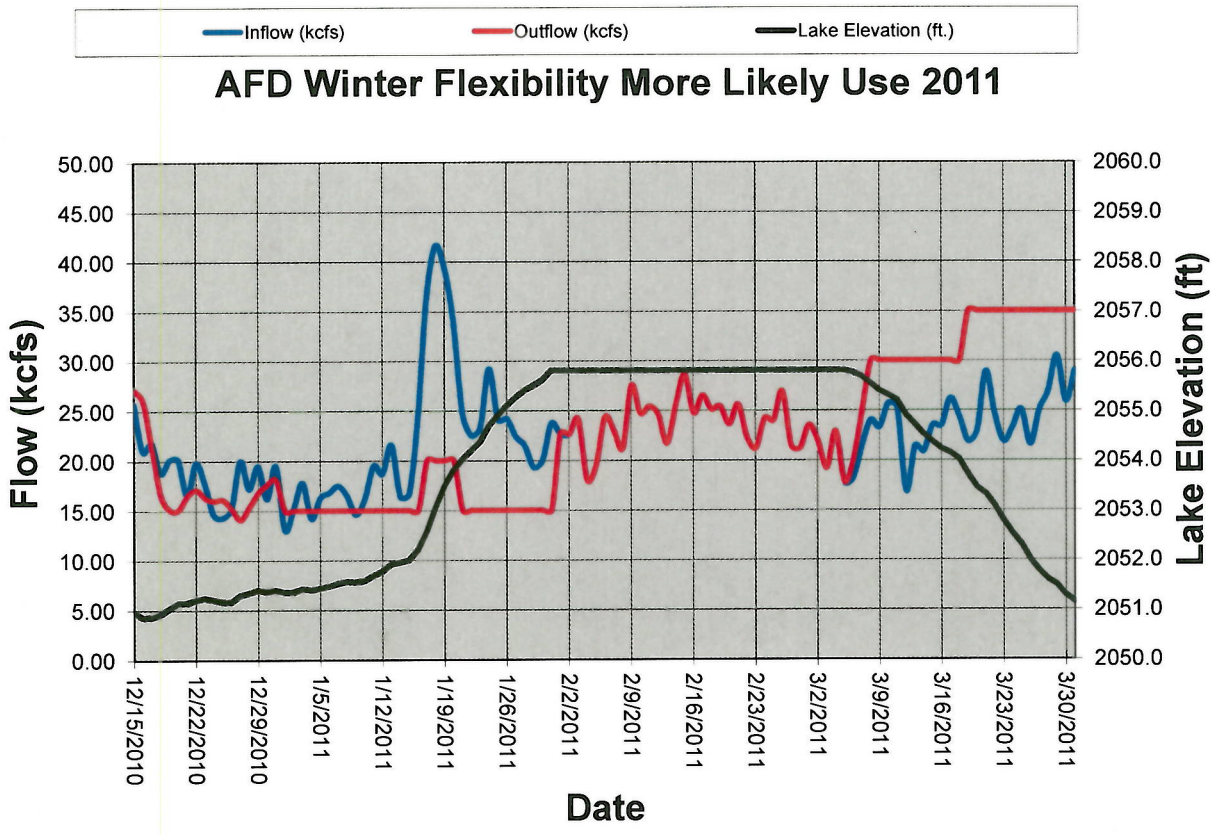
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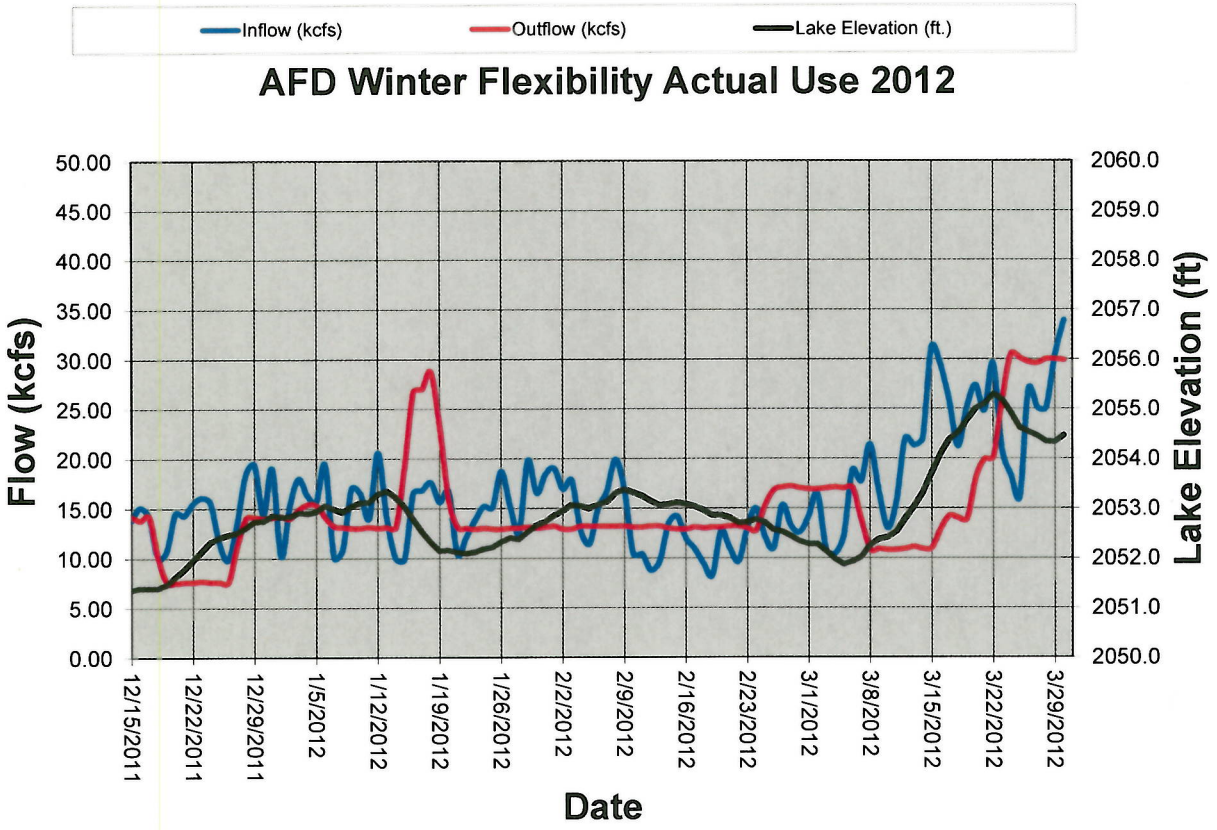
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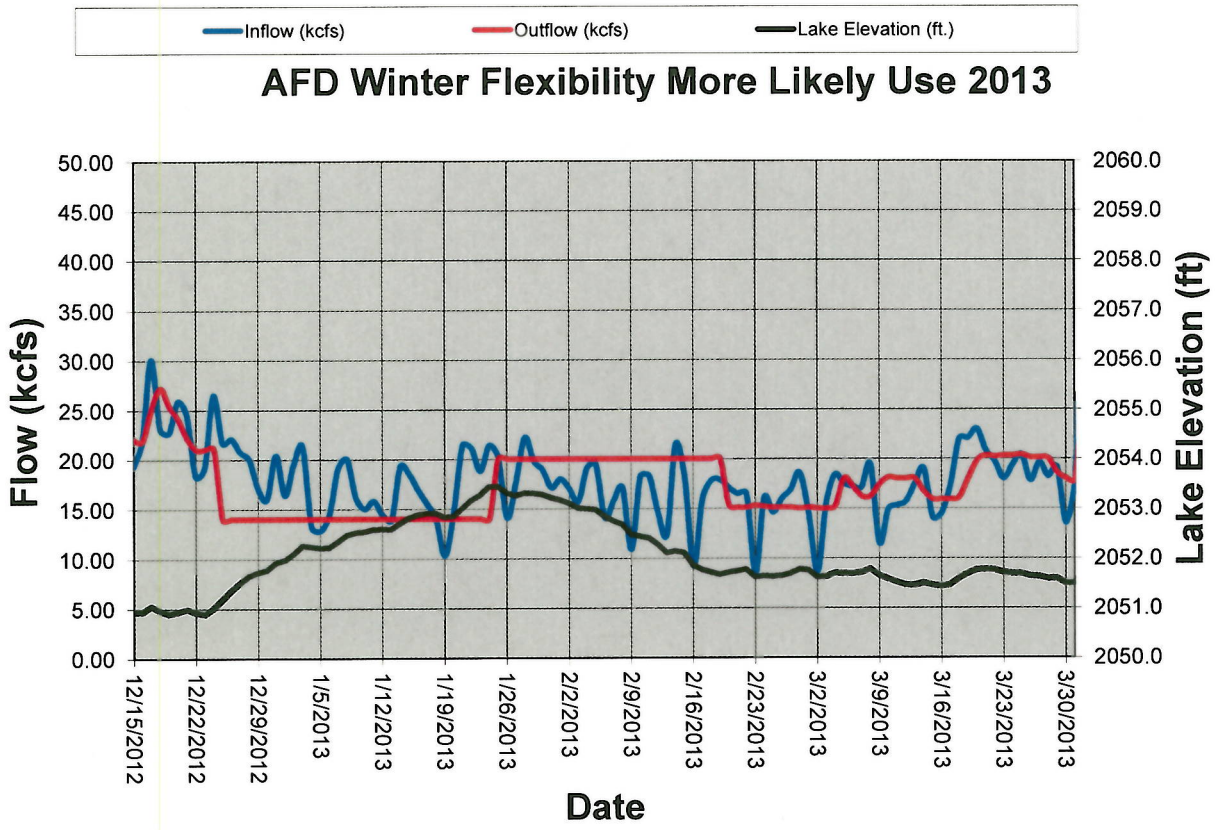
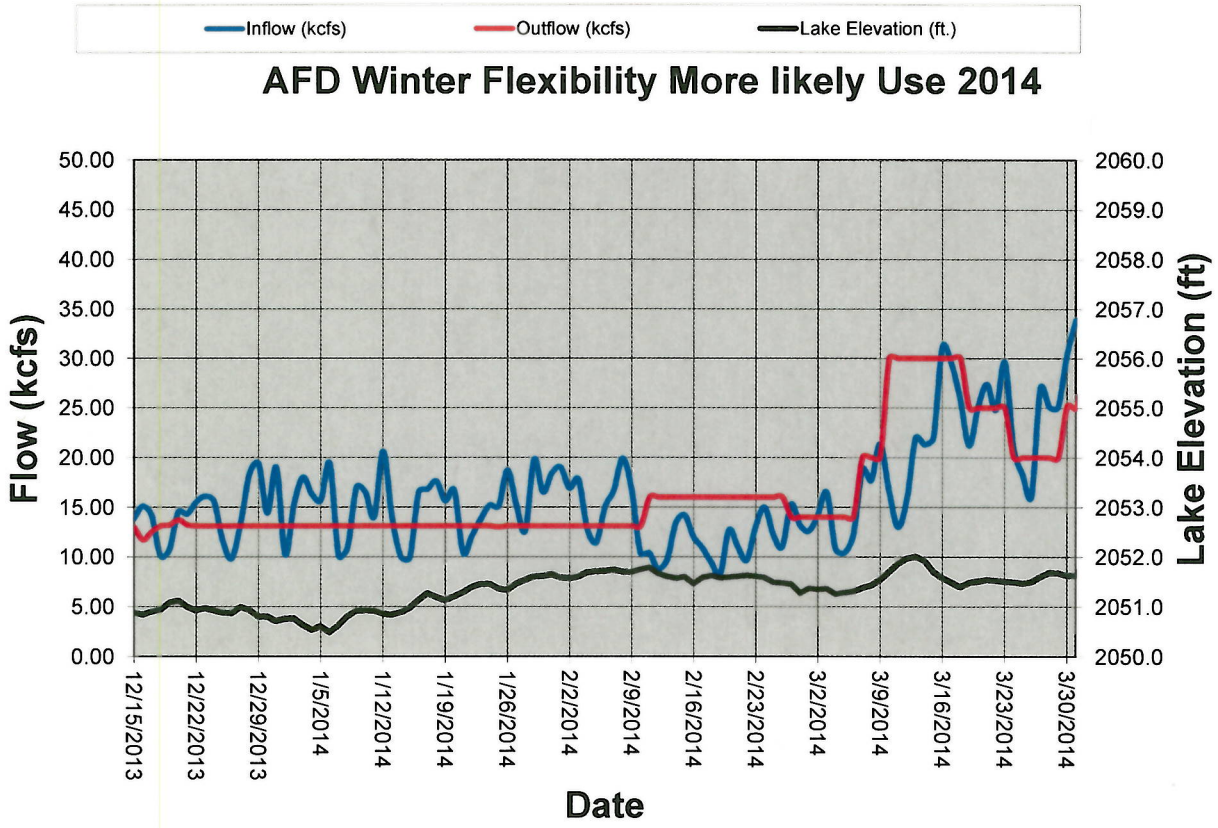
3/22/2012
3/29/2012


Inflow (kcfs)
Outflow (kcfs)
Lake Elevation (ft.)
AFD Winter Flexibility More Likely Use 2013
Flow (kcfs)
Lake Elevation (ft)
Date
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
2060.0
2059.0
2058.0
2057.0
2056.0
2055.0
2054.0
2053.0
2052.0
2051.0
2050.0
12/15/2012
12/22/2012
12/29/2012
1/5/2013
1/12/2013
1/19/2013
1/26/2013
2/2/2013
2/9/2013
2/16/2013
2/23/2013
3/2/2013
3/9/2013
3/16/2013
3/23/2013
3/30/2013



January 30, 2015