Water Operating Board
Water Supply Update

February 6, 2013

Status Summary

- SPU continually monitors weather and snowpack conditions and has been preparing for less than average snowpack since late December
- State convening Water Supply Availability Committee
- Total Precipitation is less than normal; snowpack is low, 40% to 60% of median (Higher on the Tolt and lower on Cedar)

Things we have been doing and will do

- Maintain CML at 1553-54 ('dynamic rule curve') unless storm (>3-4 in and snow level is >5000) is 3-5 days out
- Request permission from FERC to raise Tolt Ring gate 3/1 if Snow is less than 70% of median on Feb 15
- Start Refill Tolt 3/1 CML at or about that time
- Continue to meet supplemental flow as we can for Chinook redds
- Spring Supplemental flow – provide but recognize that it may not be possible to continue past mid March

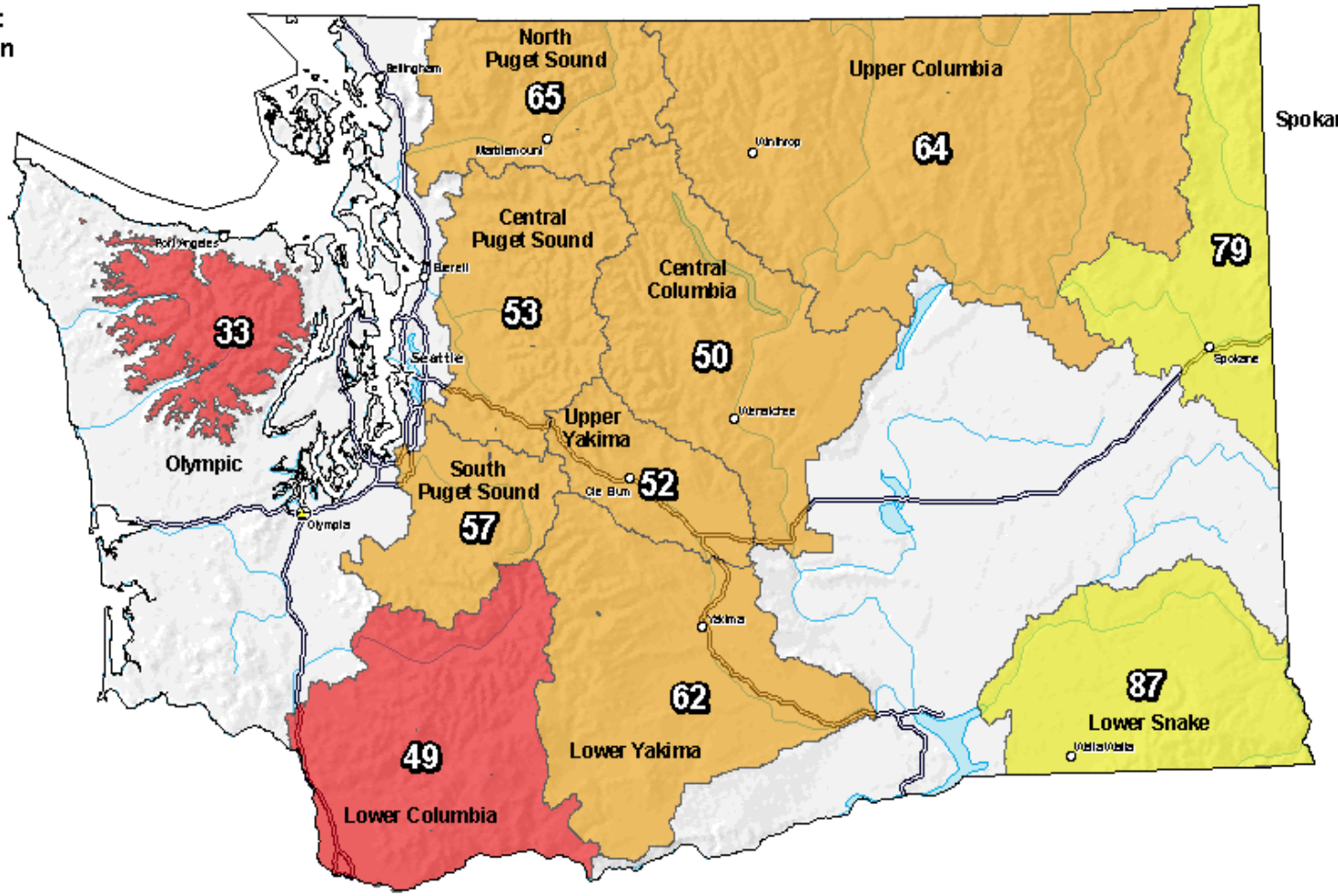
Washington SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Feb 04, 2014

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

* *Data unavailable at time of posting or measurement is not representative at this time of year*



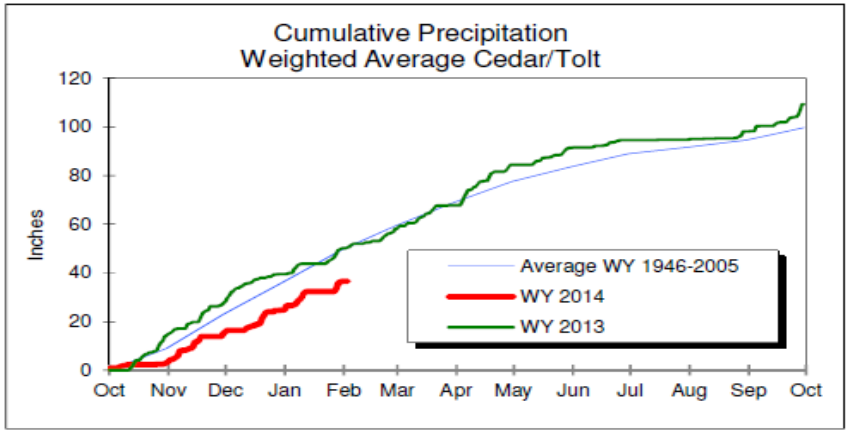
Provisional Data Subject to Revision

USDA NRCS

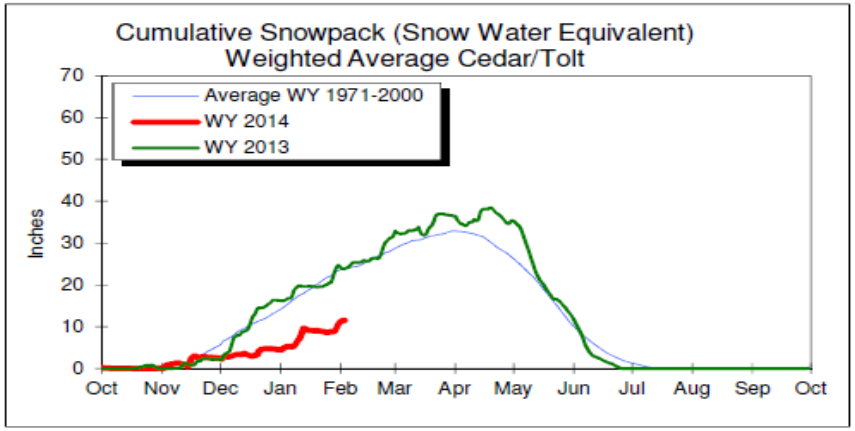
The snow water equivalent percent of normal represents the current snowwater equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
Based on data from http://www.wcc.nrcs.usda.gov/reports/
Science contact: Jim.Marron@por.usda.gov 503 414 3047

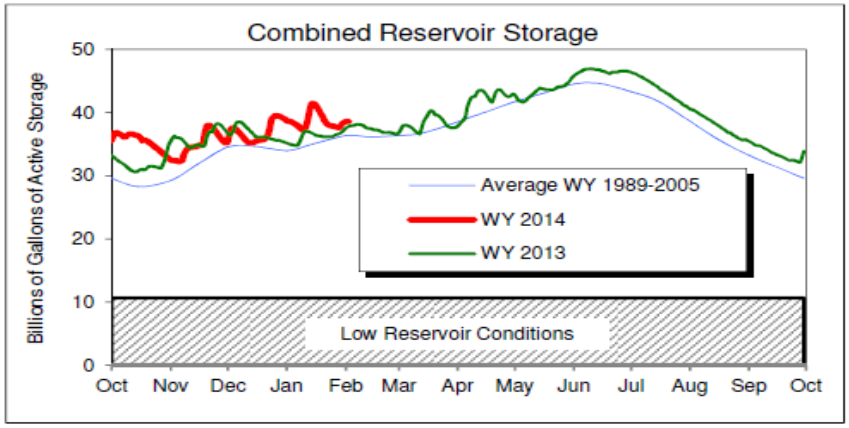
Seattle Public Utilities Water System Synopsis as of February 3, 2014



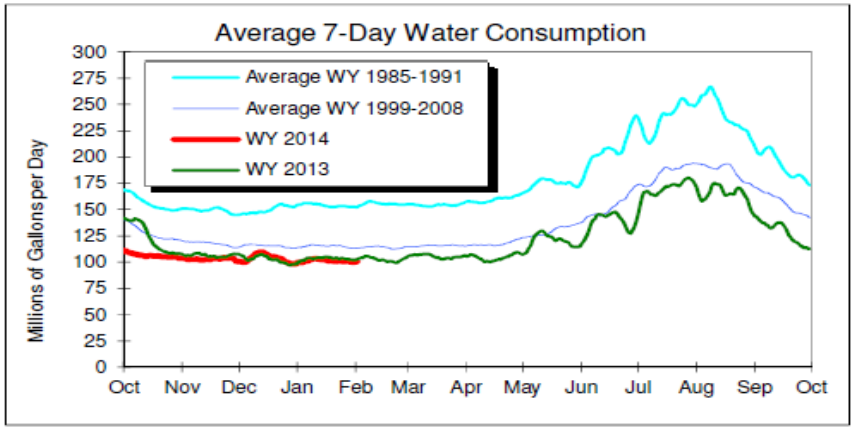
Precipitation was recorded in the Cedar and S.F. Tolt watersheds over the past week.



The average snow accumulation across the sites that we monitor is estimated to be about 11.5 inches snow water equivalent which is below the long term average for this time of the year.

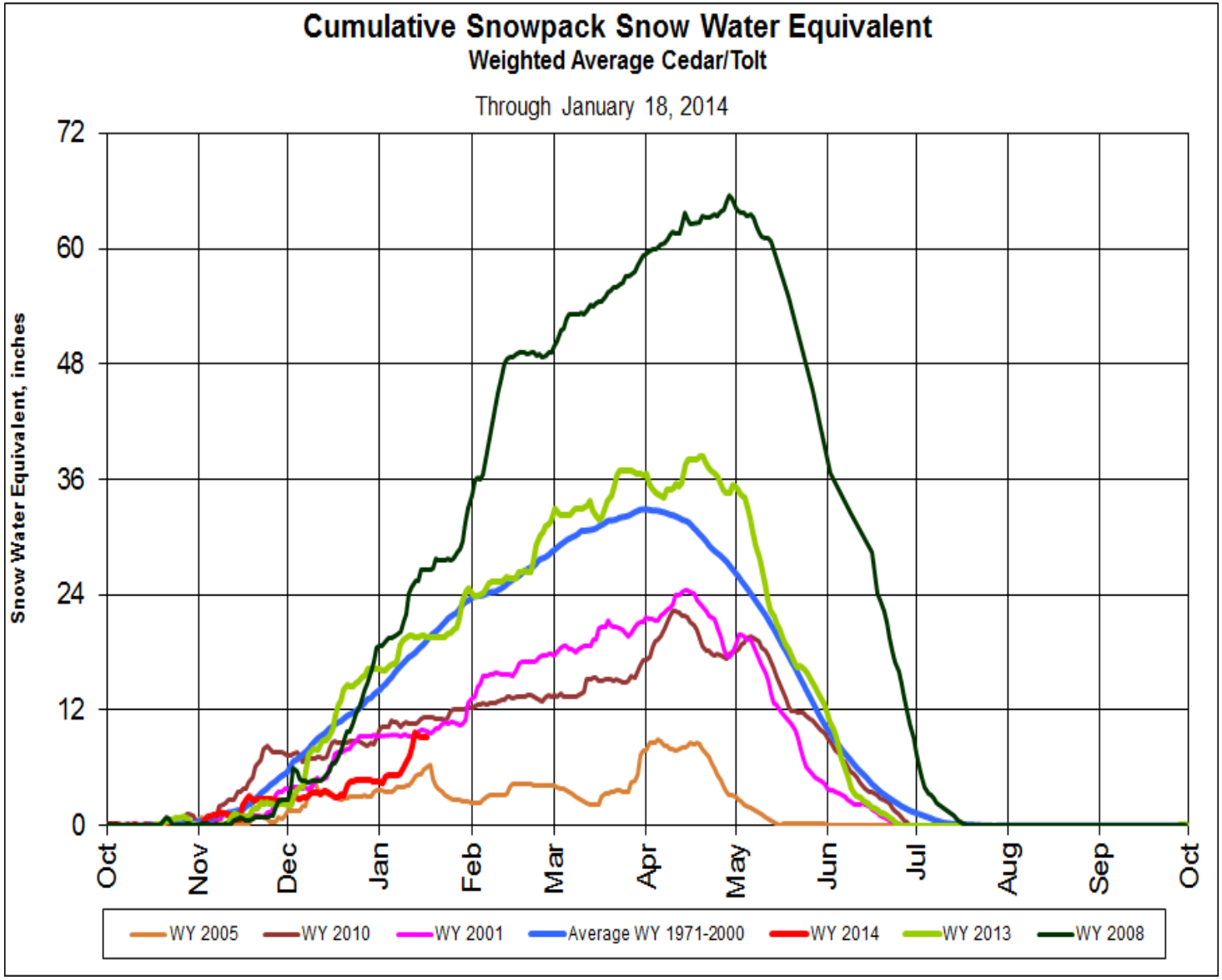


The combined reservoir storage of Chester Morse Lake, Masonry Pool, Lake Youngs and South Fork Tolt Reservoir is above the long term average for this time of year.



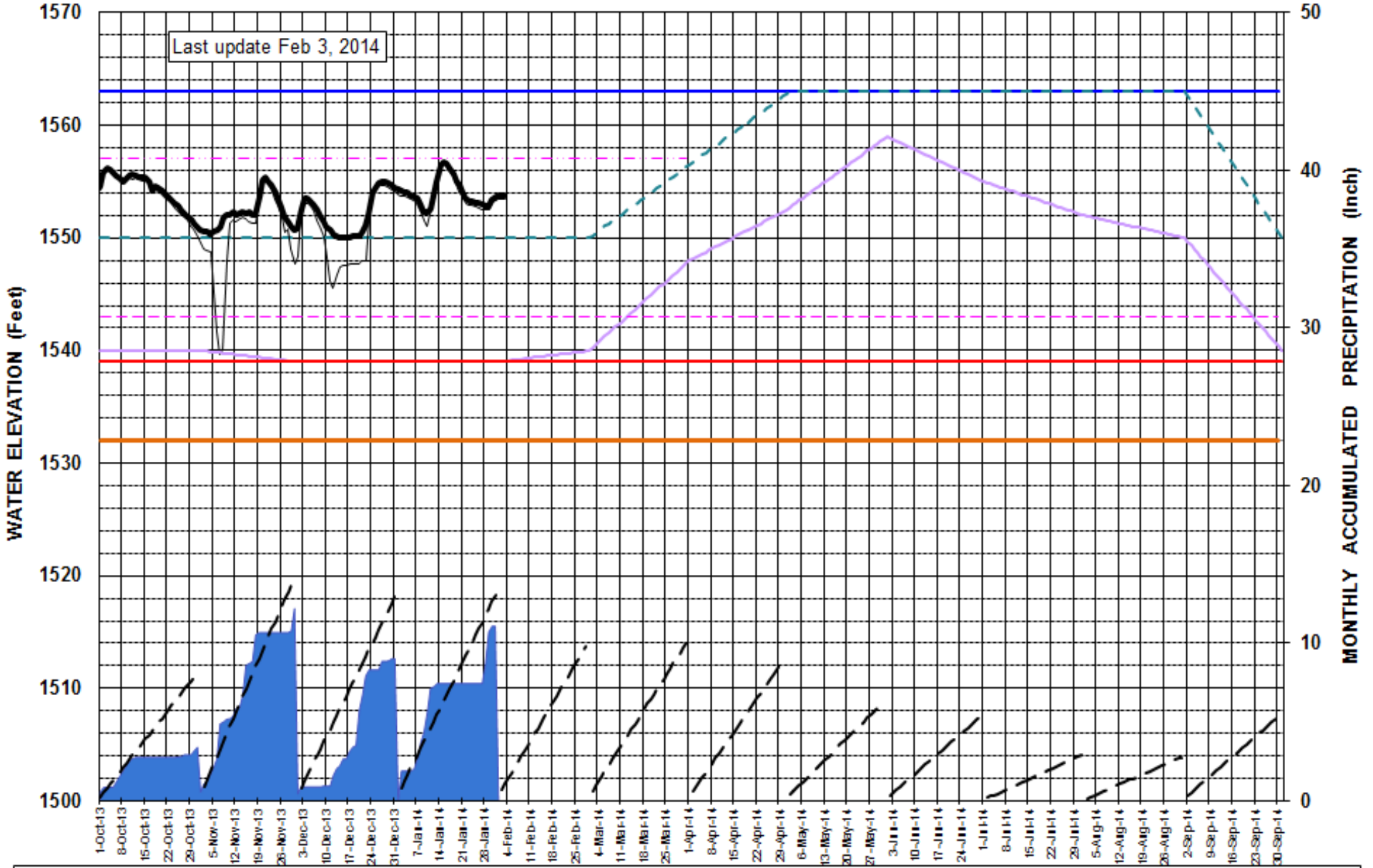
Water use over the past week averaged about 100 million gallons per day (mgd), which is less than the 113 mgd used during the same period over the years 1999-2008.

All data is provisional and subject to revision.


Cumulative Snowpack Snow Water Equivalent
Weighted Average Cedar/Tolt
Through January 18, 2014
Snow Water Equivalent, inches
72
60
48
36
24
12
0
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
WY 2005
WY 2010
WY 2001
Average WY 1971-2000
WY 2014
WY 2013
WY 2008

CEDAR RIVER AT RESERVOIR

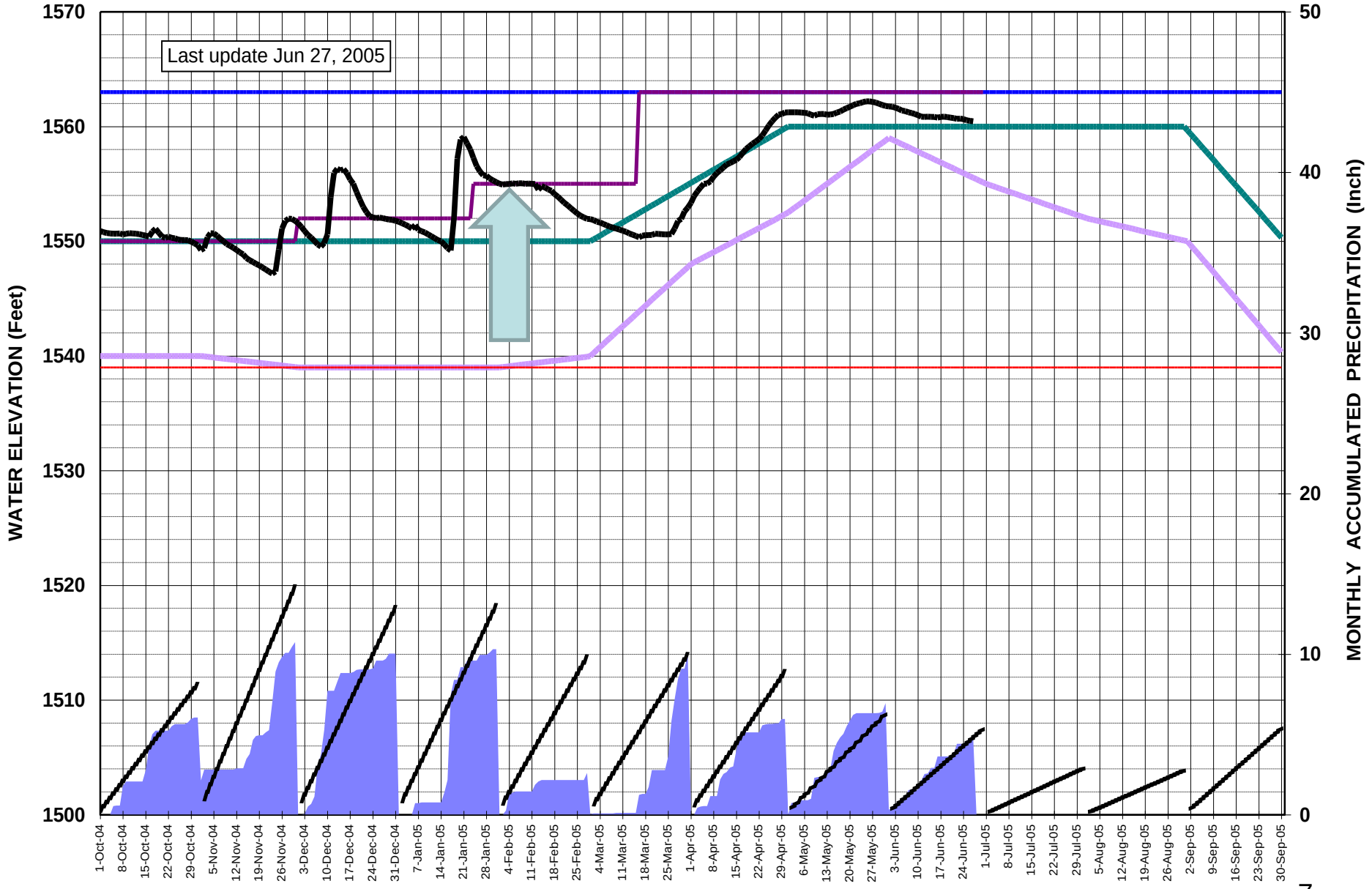
Water Year 2014



Precip, inch
Actual Masonry Pool Water Surface Elevation, feet
Morse Lake Emergency Pumping Elevation, 1539 Feet
Service Spillway Crest Elevation, Open Position, 1557 Feet
Morse Lake Normal High Water Elevation, 1563 Feet
Cedar HCP Morse Lake Reservoir Alert Phase Curve
Actual Morse Lake Water Surface Elevation, feet
Precip, WY 68-97 Avg, inch
Morse Lake Reservoir Generalized Rule Curve, feet
Morse Lake Potential Mobilization Elevation, 1543 Feet
Morse Lake Elevation 1532 ft

MORSE LAKE RESERVOIR

Water Year 2005



Precip, inch

Morse Lake High Water Elevation, 1563 Feet

Morse Lake Reservoir Generalized Rule Curve, feet

Morse Lake Reservoir WY2005 Target Curve, feet

Actual Morse Lake Water Surface Elevation, feet

Cedar HCP Morse Lake Reservoir Alert Phase Curve

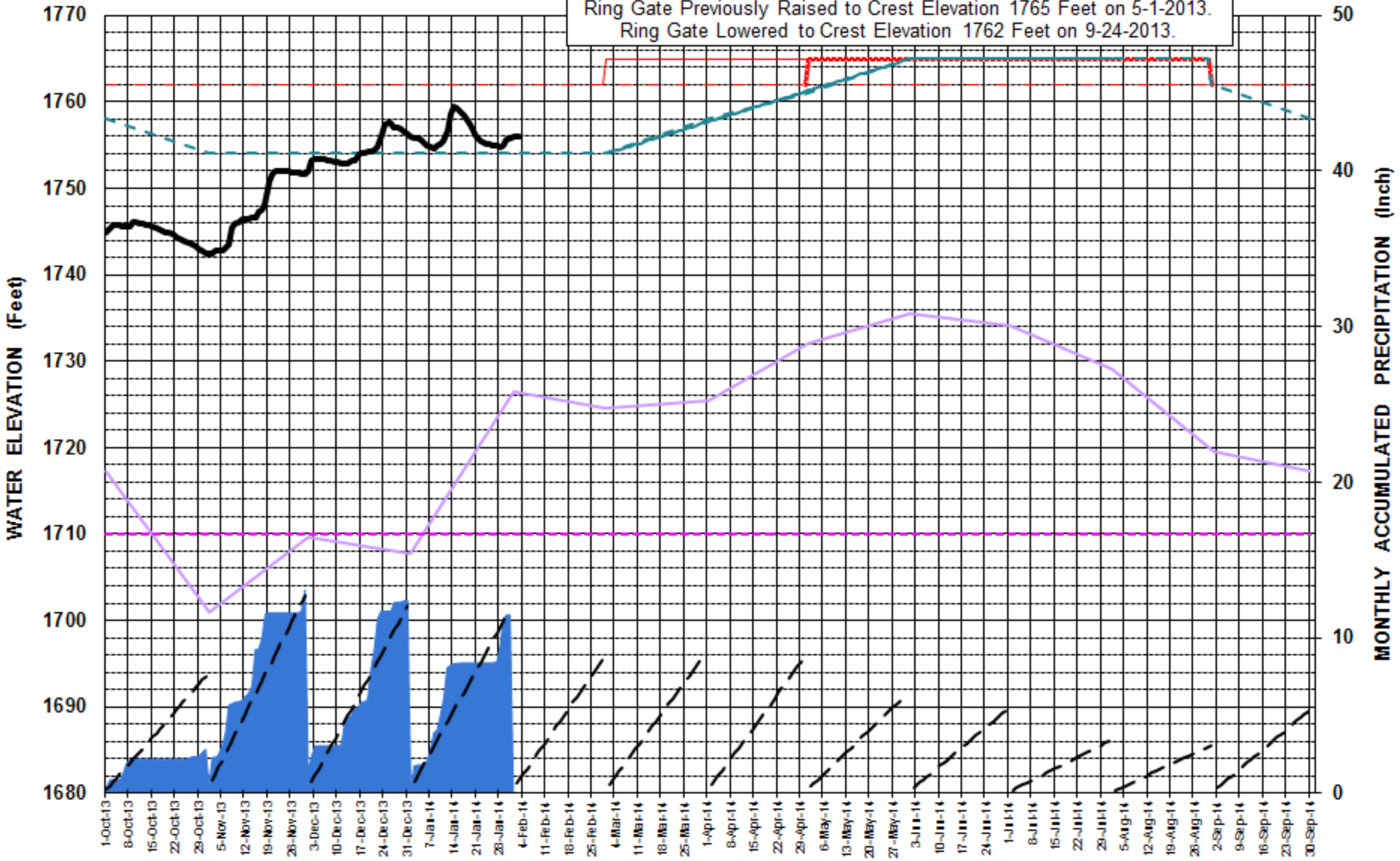
MORSE LAKE Potential Pumping Elevation, 1539 Feet

Precip, WY 68-97 Avg, inch

SOUTH FORK TOLT RIVER AT RESERVOIR
Water Year 2014

Last update Feb 3, 2014

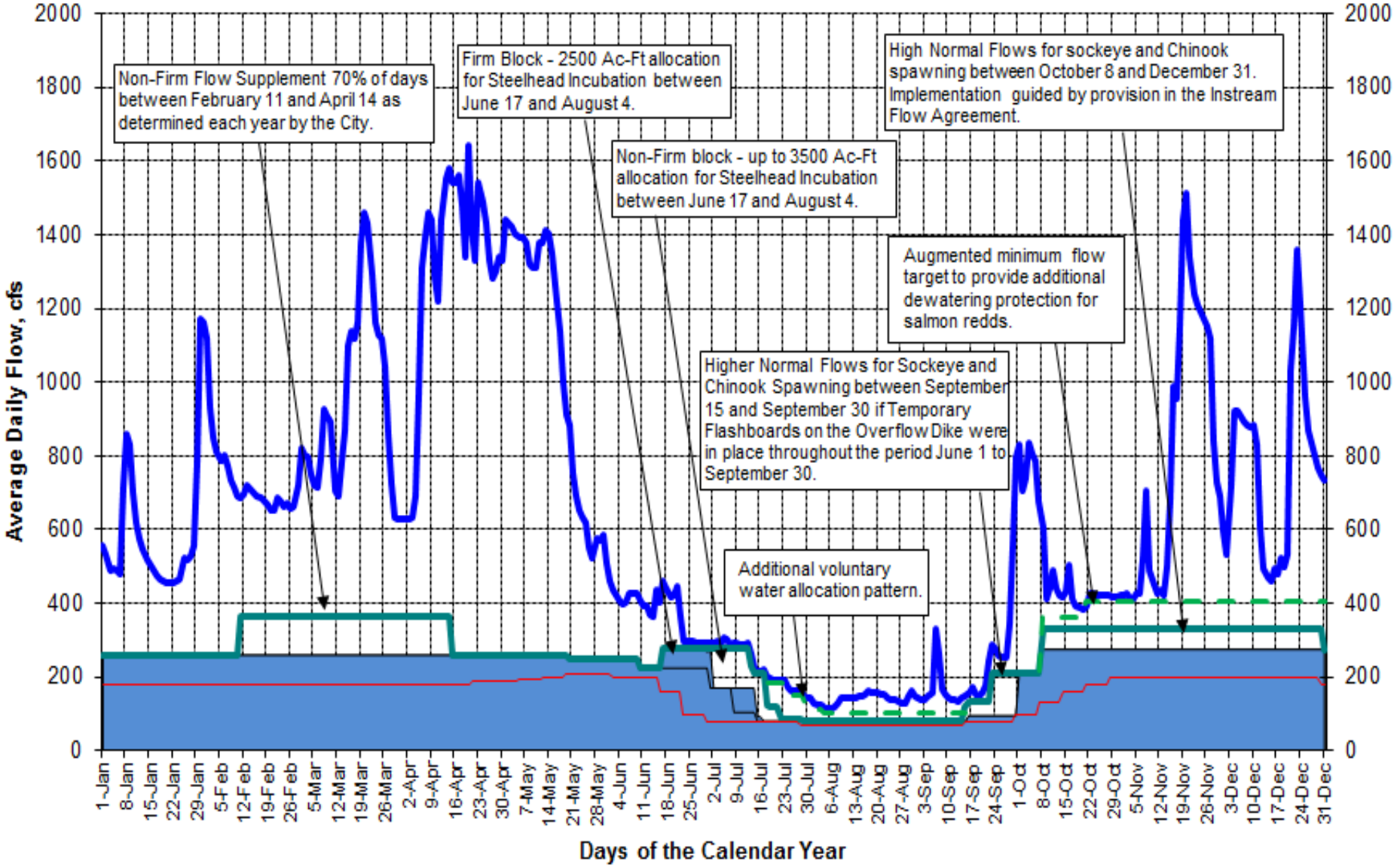
Ring Gate Previously Raised to Crest Elevation 1765 Feet on 5-1-2013.
Ring Gate Lowered to Crest Elevation 1762 Feet on 9-24-2013.



Precip, inch
Morning Glory Overflow El, feet
Early Raising of Ring Gate El, feet
Normal Raising of Ring Gate El, feet
SFT Generalized Reservoir Rule Curve, feet
SF Tolt Reservoir WY2013 Target Curve, feet
SFT Reservoir Critical Rule Curve, feet
SF Tolt Reservoir, Low Water Level Elevation, 1710 Feet
Actual SF Tolt Water Surface Elevation, feet
Precip, WY 68-97 Avg, inch

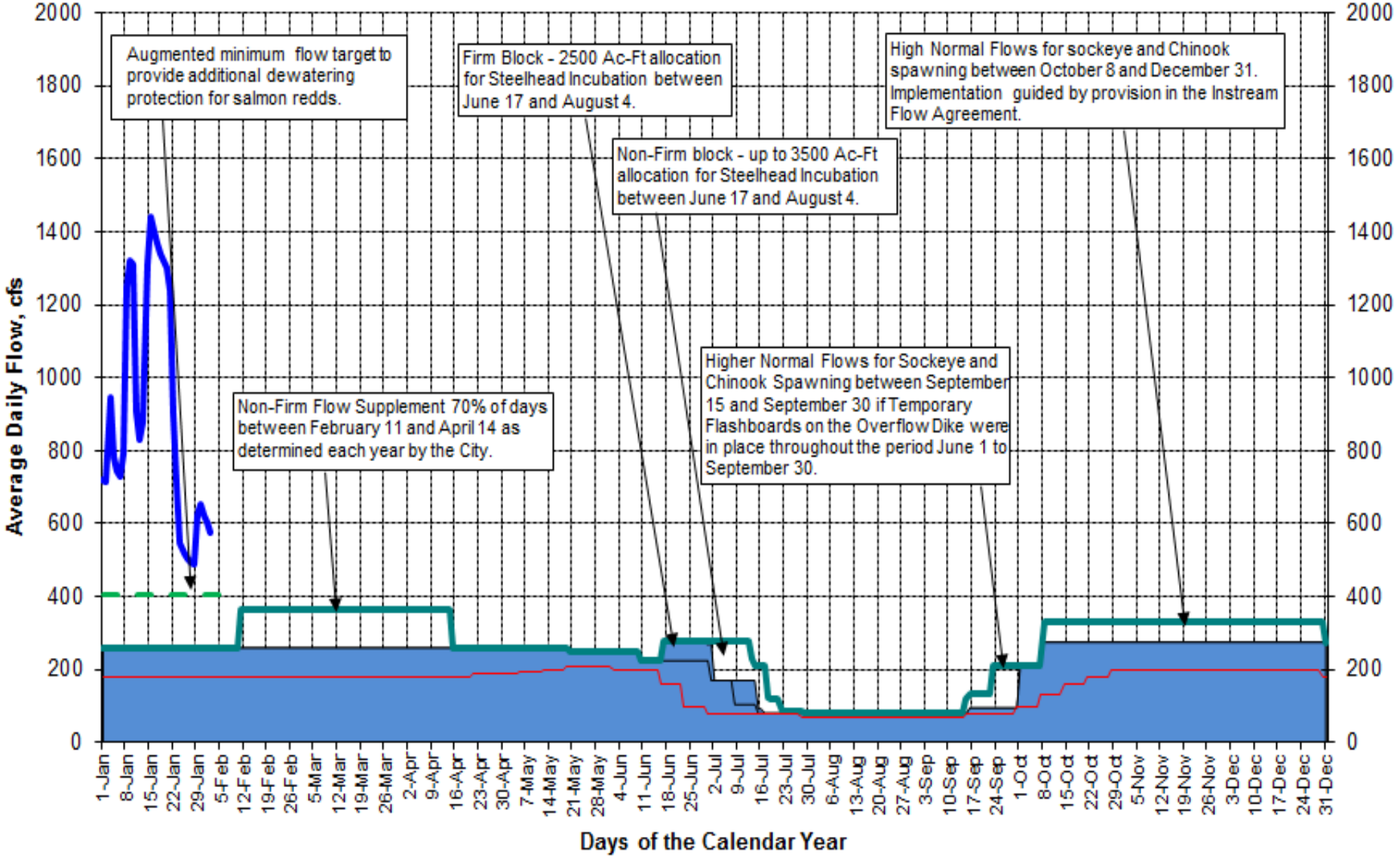
Last Update: 12/31/2013

Calendar Year 2013
Cedar River Instream Flows Measured at USGS Stream Gage No. 12117600
All Data is Provisional and Subject to Revision



Last Update: 2/2/2014

Calendar Year 2014
Cedar River Instream Flows Measured at USGS Stream Gage No. 12117600
All Data is Provisional and Subject to Revision

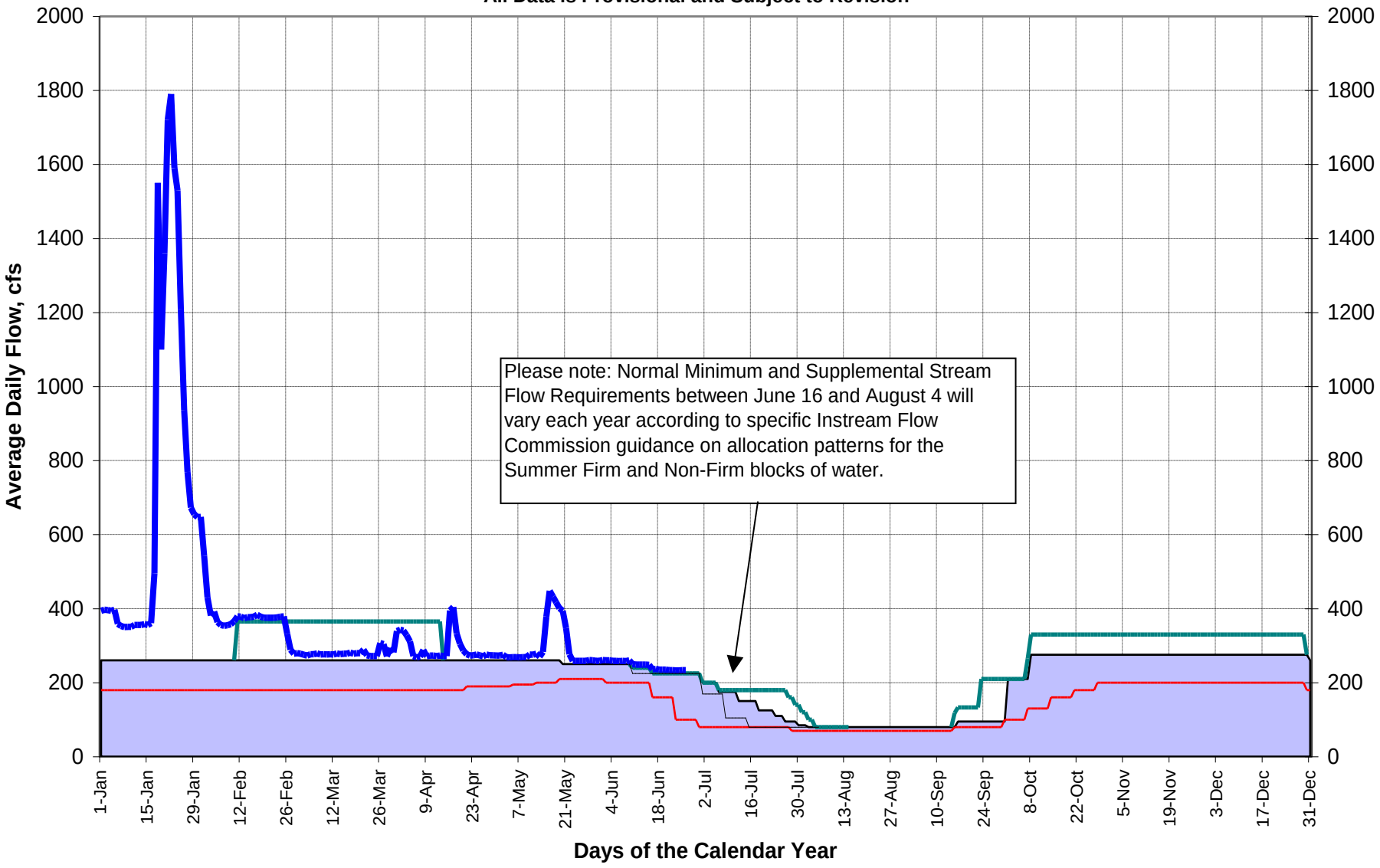


Last Updated: 06/26/2005

Water Year 2005/06

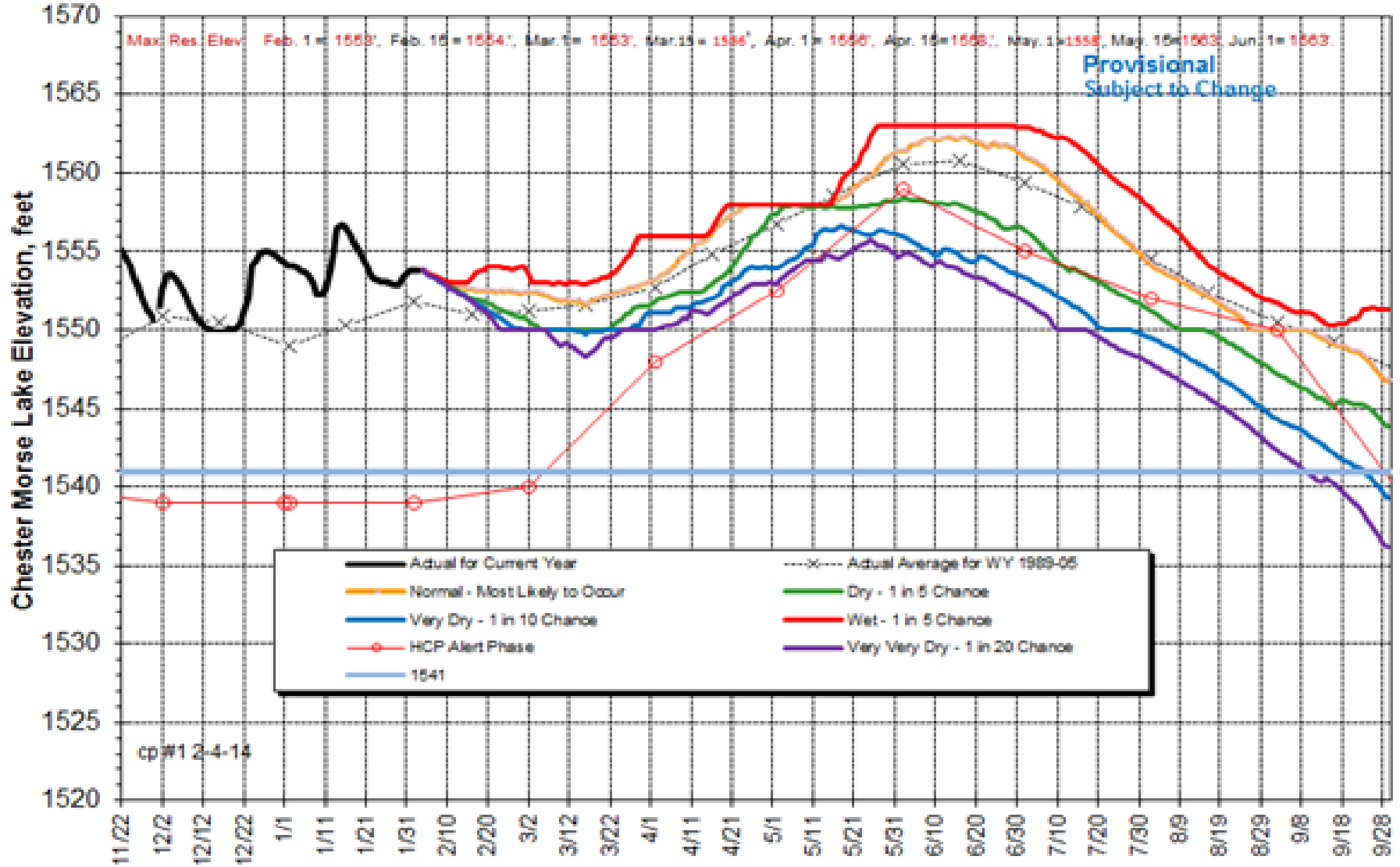
Cedar River Instream Flows Measured at USGS Stream Gage No. 12117600

All Data is Provisional and Subject to Revision



SCENARIO : Probabilistic Run Chester Morse Lk Elev
Actual Reservoir Elevation on 2/3/2014, Historic Data 2-4 thru 9-30-14

Flashboards 1550' , Min. Pool 1515' & Landsburg Min. plus supplemental flows with 520cfs From: 2/4 To: 3/15 (SPU - tcj)



Almost 13 billion gallons are stored between elevations 1539.2 and 1562 feet and more than 3.4 billion gallons between elevations 1532 and 1539.2 feet.