

APPENDIX B

EPD HEC-5 MODEL SIMULATION FIGURES

Effects of Flow Reduction at Chattahoochee River at Atlanta

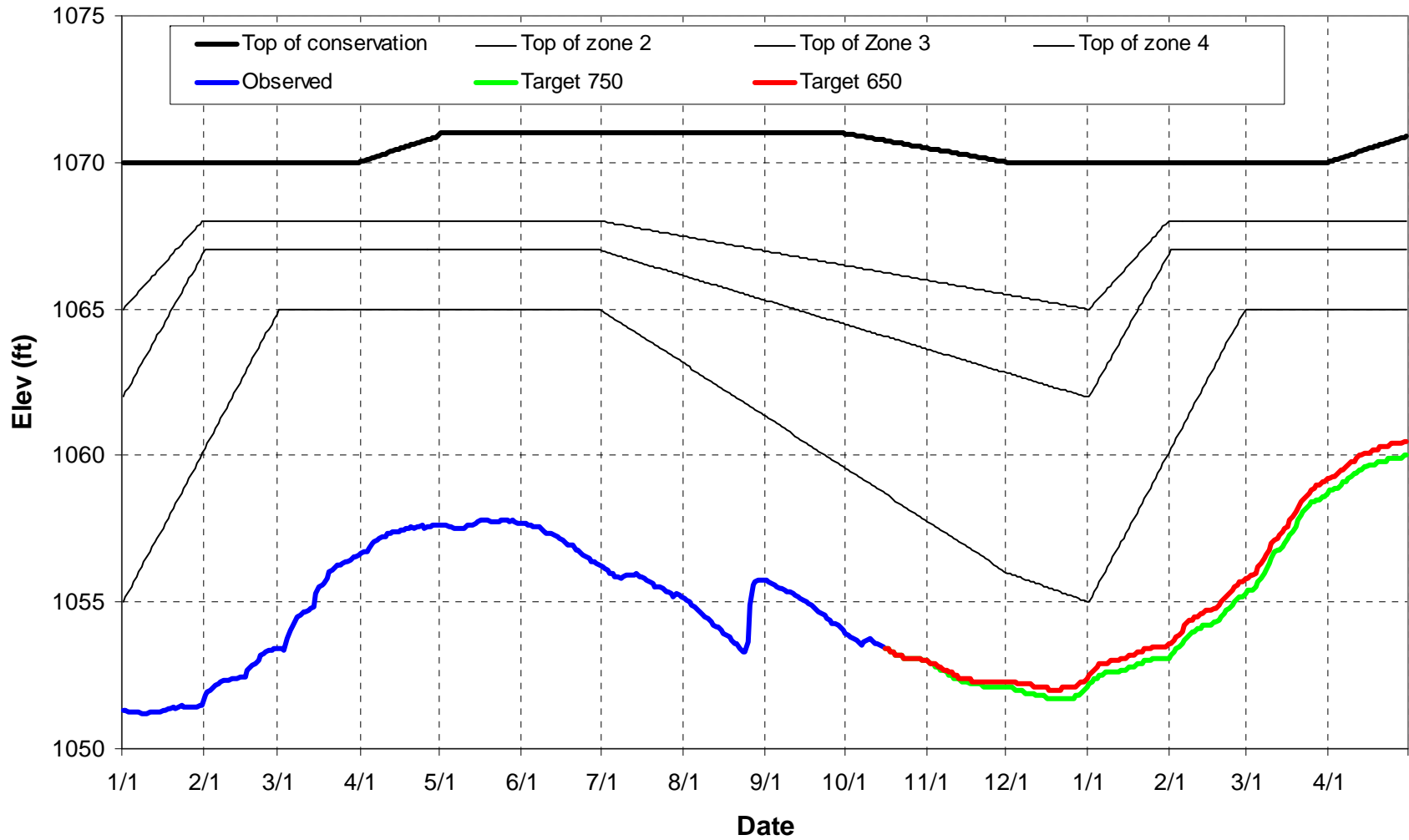
Georgia EPD

October 2008

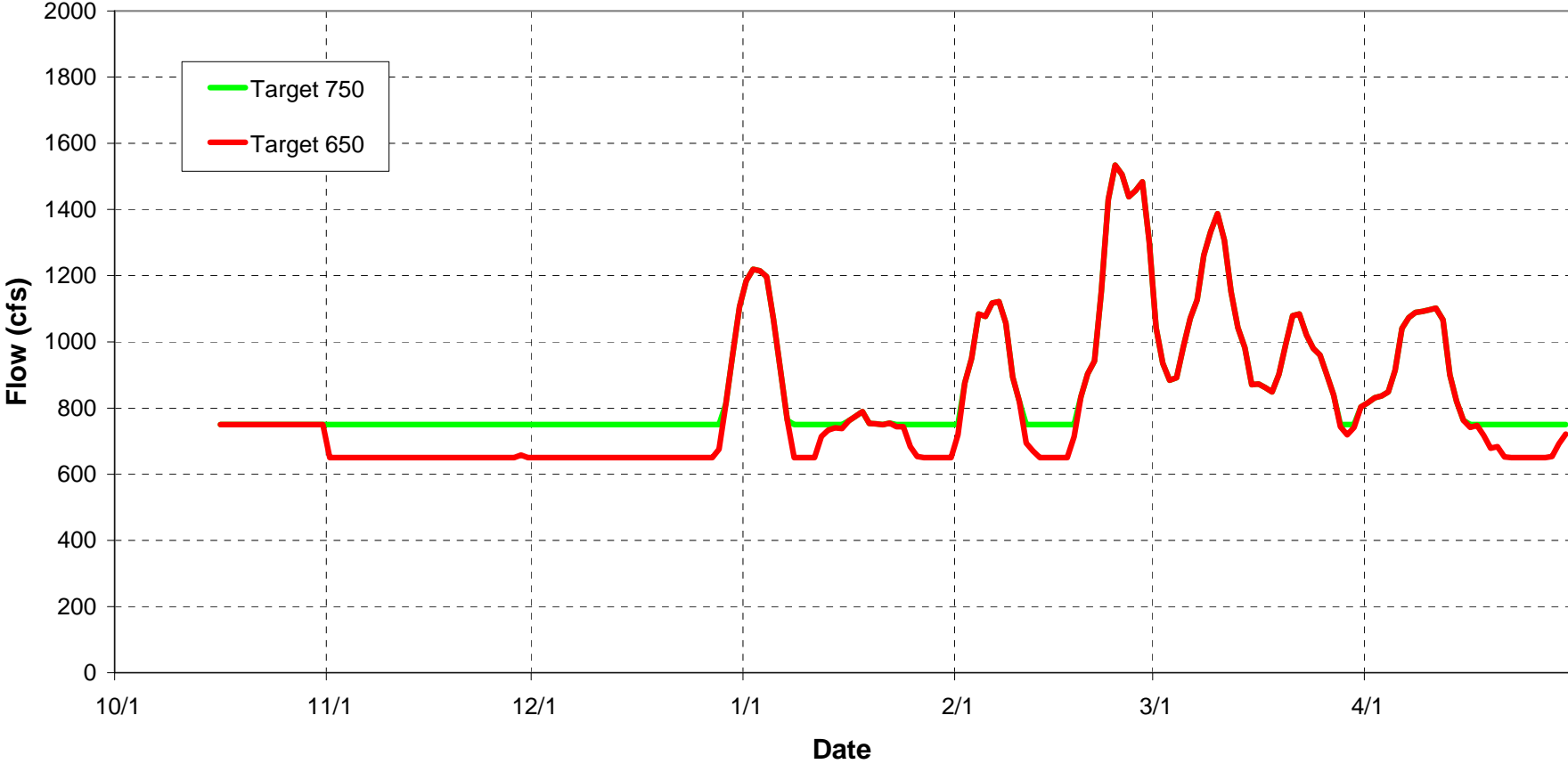
Assumptions for Model Set 1

- ACF Basin operated under the Revised IOP (April 2008)
- Recorded hydrology (inflow) of 2007 to 2008 reflecting actual withdrawal and return
- Initial reservoir conditions recorded on October 16, 2008
- Minimum flow requirement at Atlanta (Peachtree Creek) reduced from 750 cfs to 650 cfs

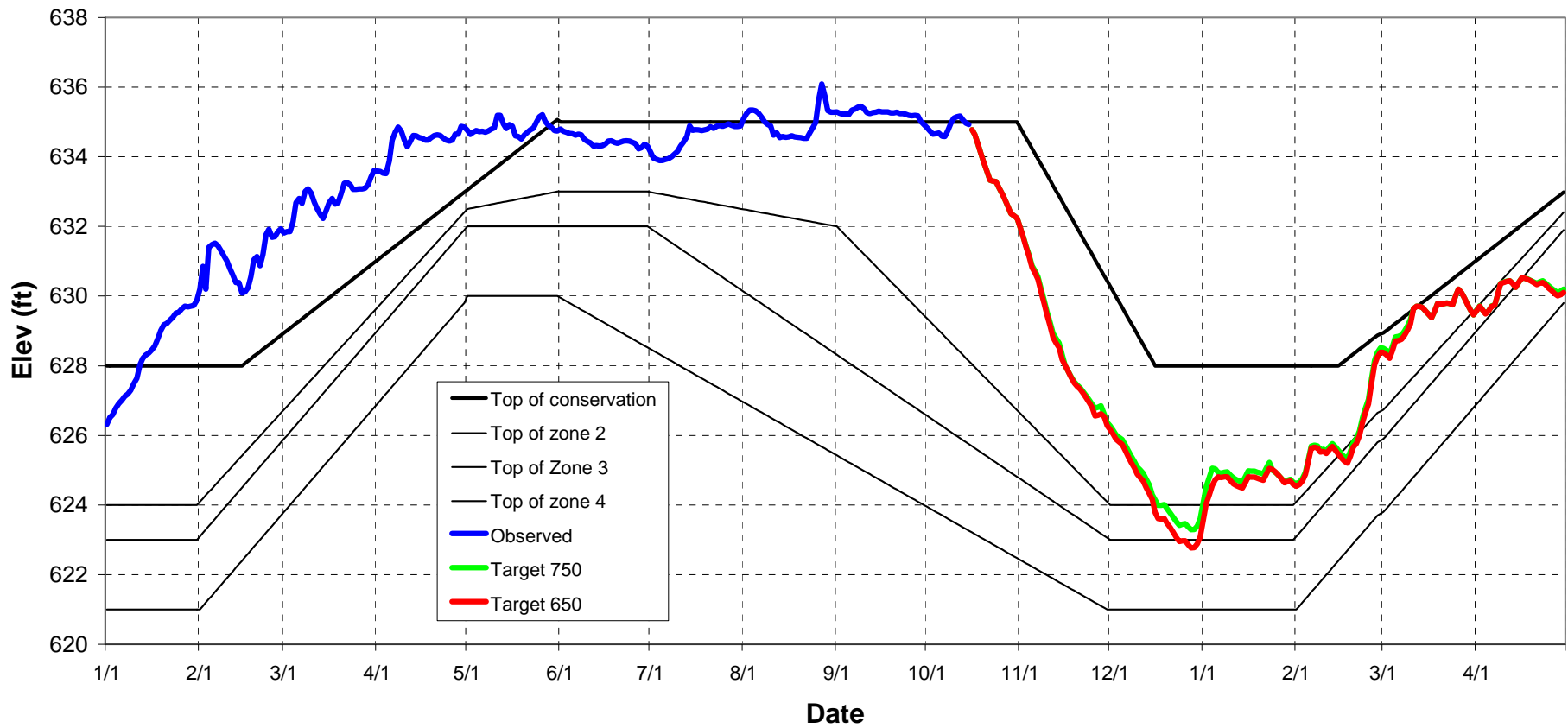
PREDICTED LAKE LANIER ELEVATION IN 2008-2009 WITH MODIFIED IOP UNDER 2007-2008 HYDROLOGY



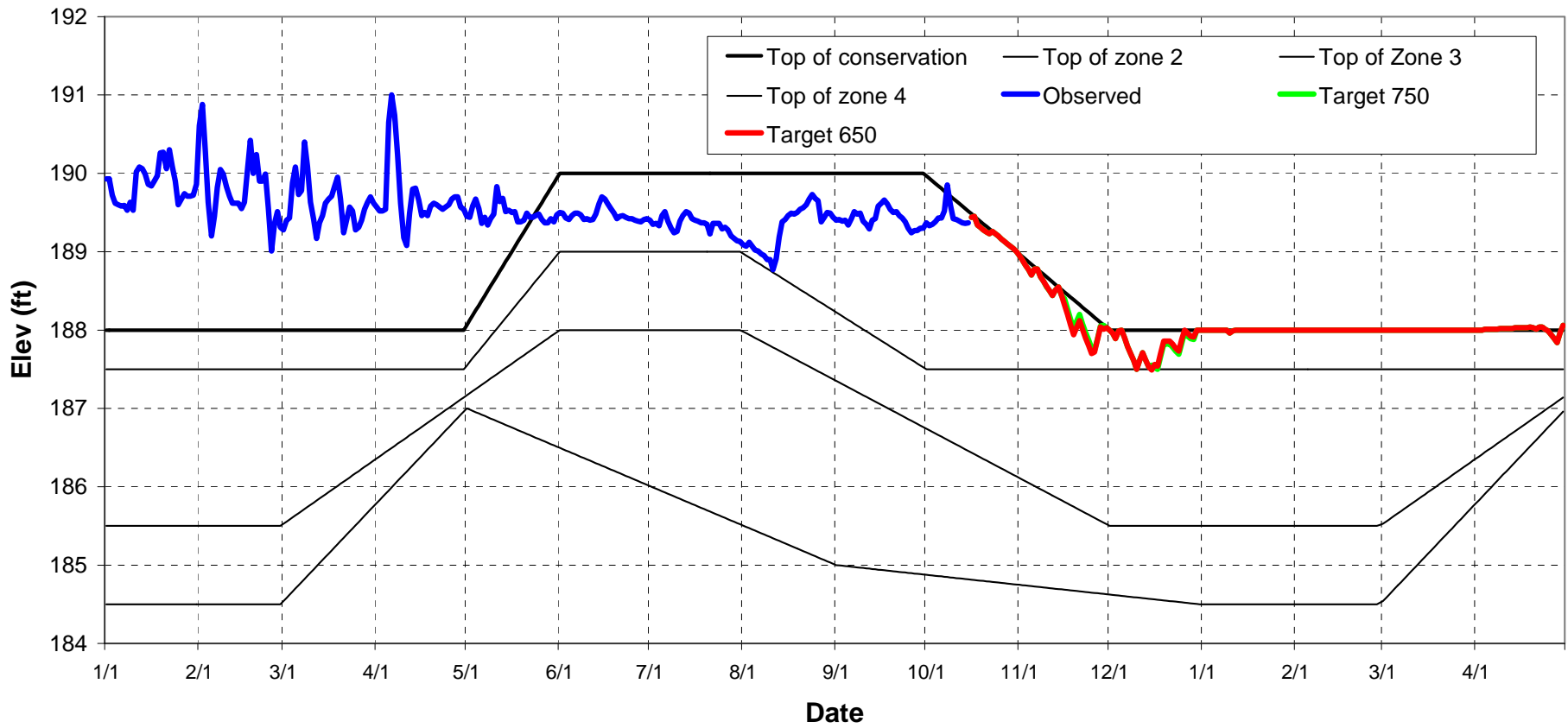
**PREDICTED ATLANTA DISCHARGE IN 2008-2009
WITH MIOP UNDER 2007 & 2008 HYDROLOGY**



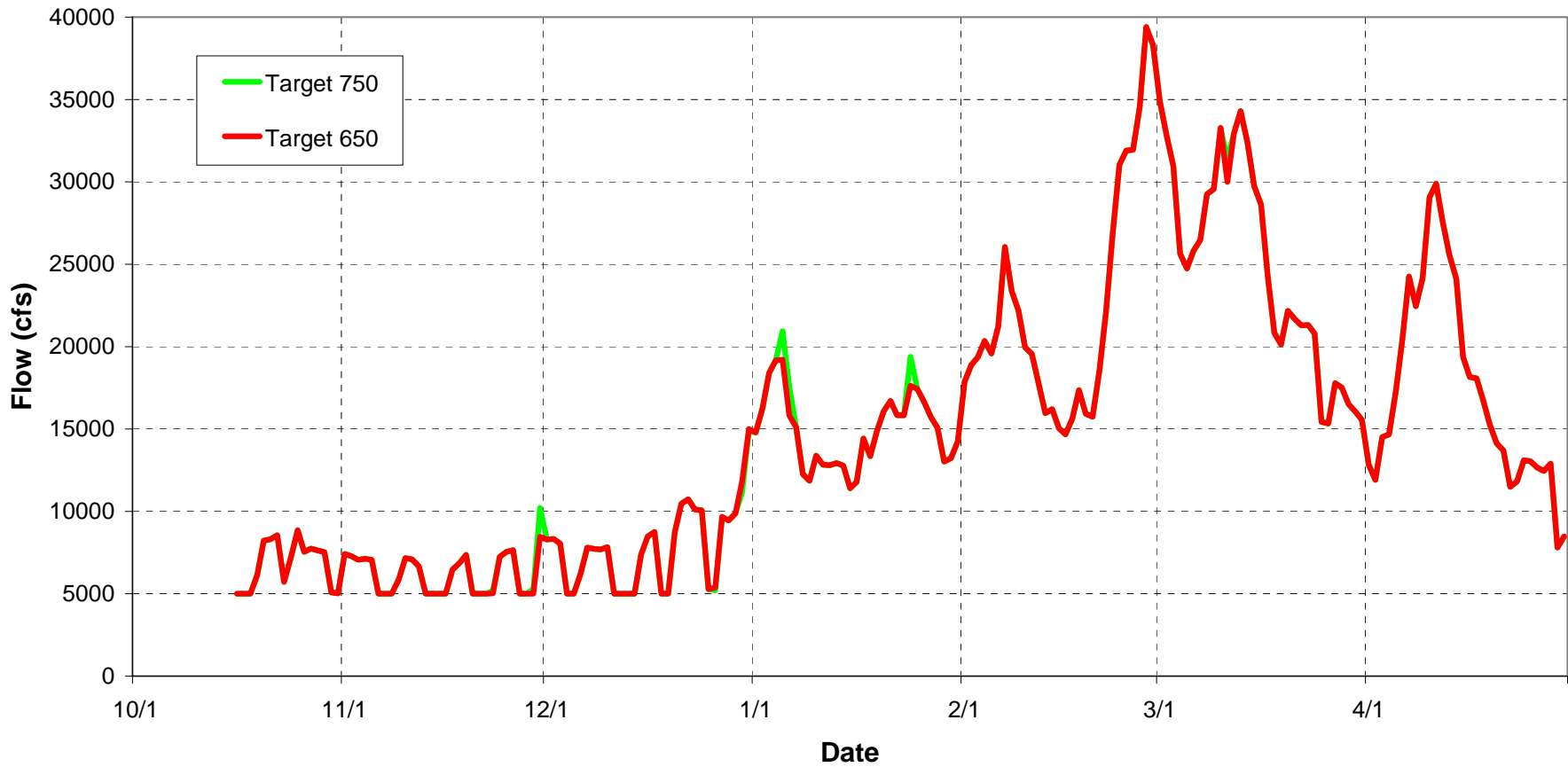
PREDICTED WEST POINT ELEVATION IN 2008-2009 WITH MODIFIED IOP UNDER 2007-2008 HYDROLOGY



PREDICTED W.F.GEORGE ELEVATION IN 2008-2009 WITH MODIFIED IOP UNDER 2007 - 2008 HYDROLOGY



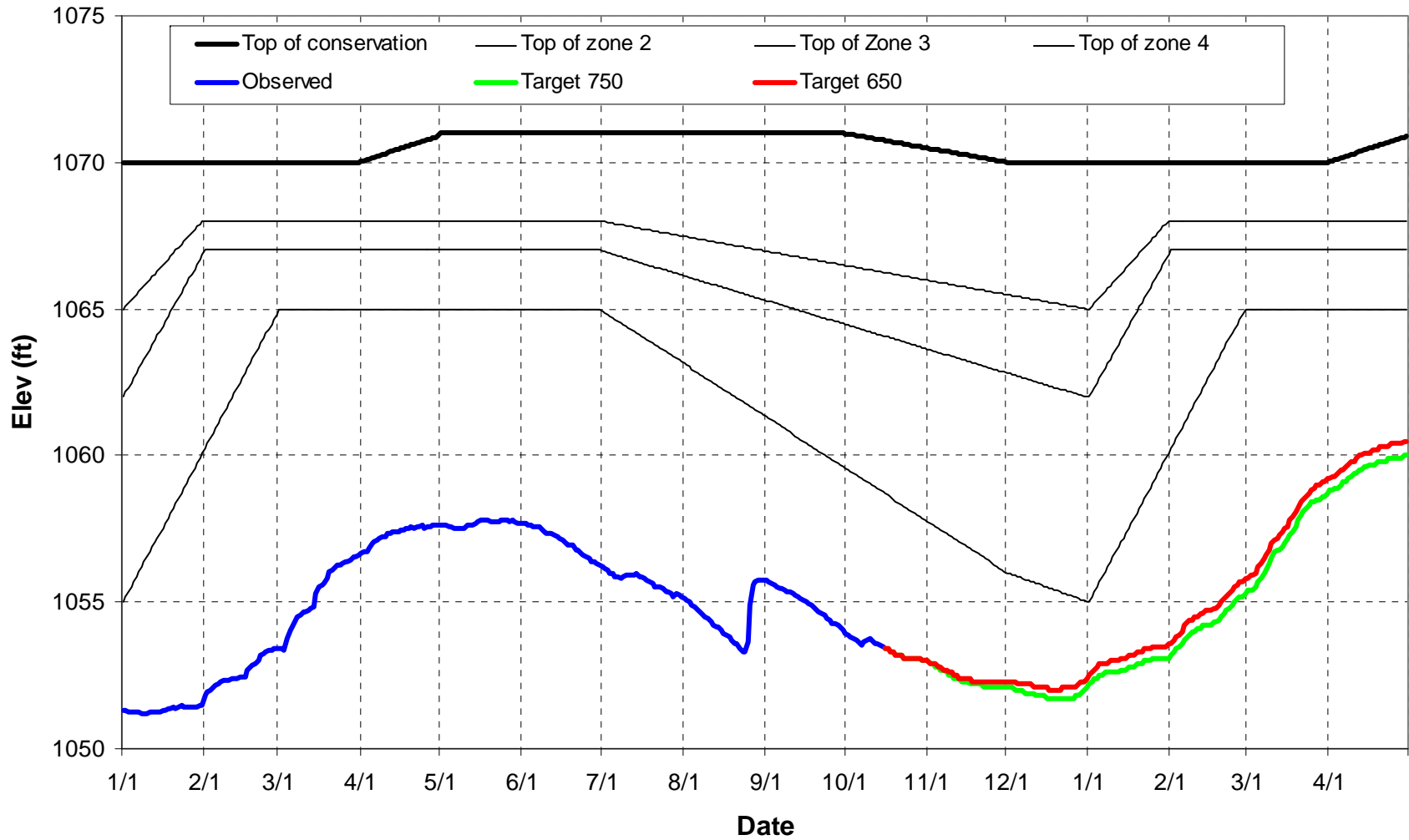
**PREDICTED CHATTAHOOCHEE DISCHARGE IN 2008-2009
WITH MIOP UNDER 2007 & 2008 HYDROLOGY**



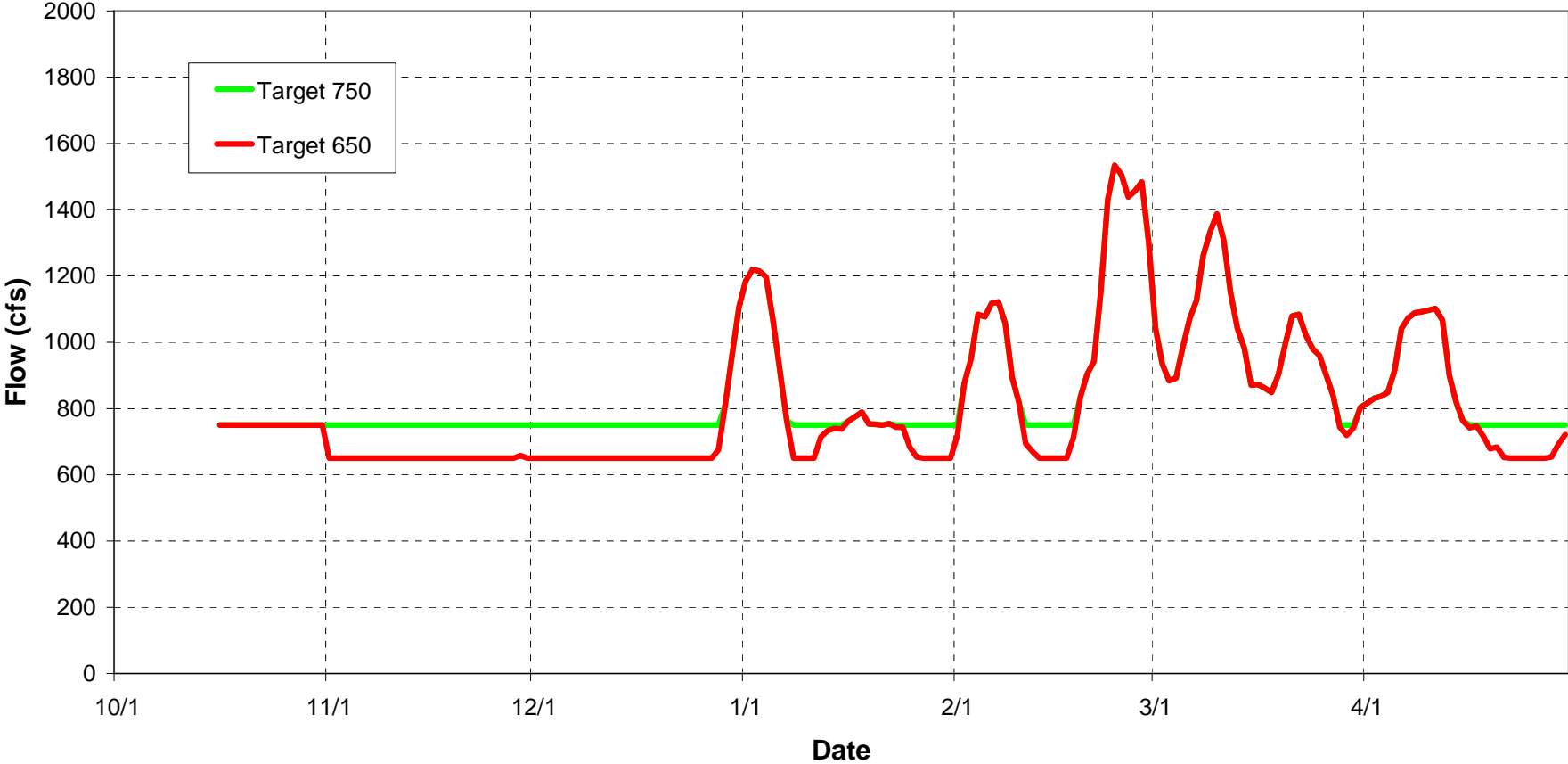
Assumptions for Model Set 2

- ACF Basin operated under the Revised IOP (April 2008)
- Recorded hydrology (inflow) of 2007 to 2008 reflecting actual withdrawal and return
- Initial reservoir conditions recorded on October 16, 2008
- Minimum flow requirement at Atlanta (Peachtree Creek) reduced from 750 cfs to 650 cfs
- Minimum flow requirement at Columbus set to be 1850 cfs (1200 cfs when West Point is lower than 621.6 feet MSL)

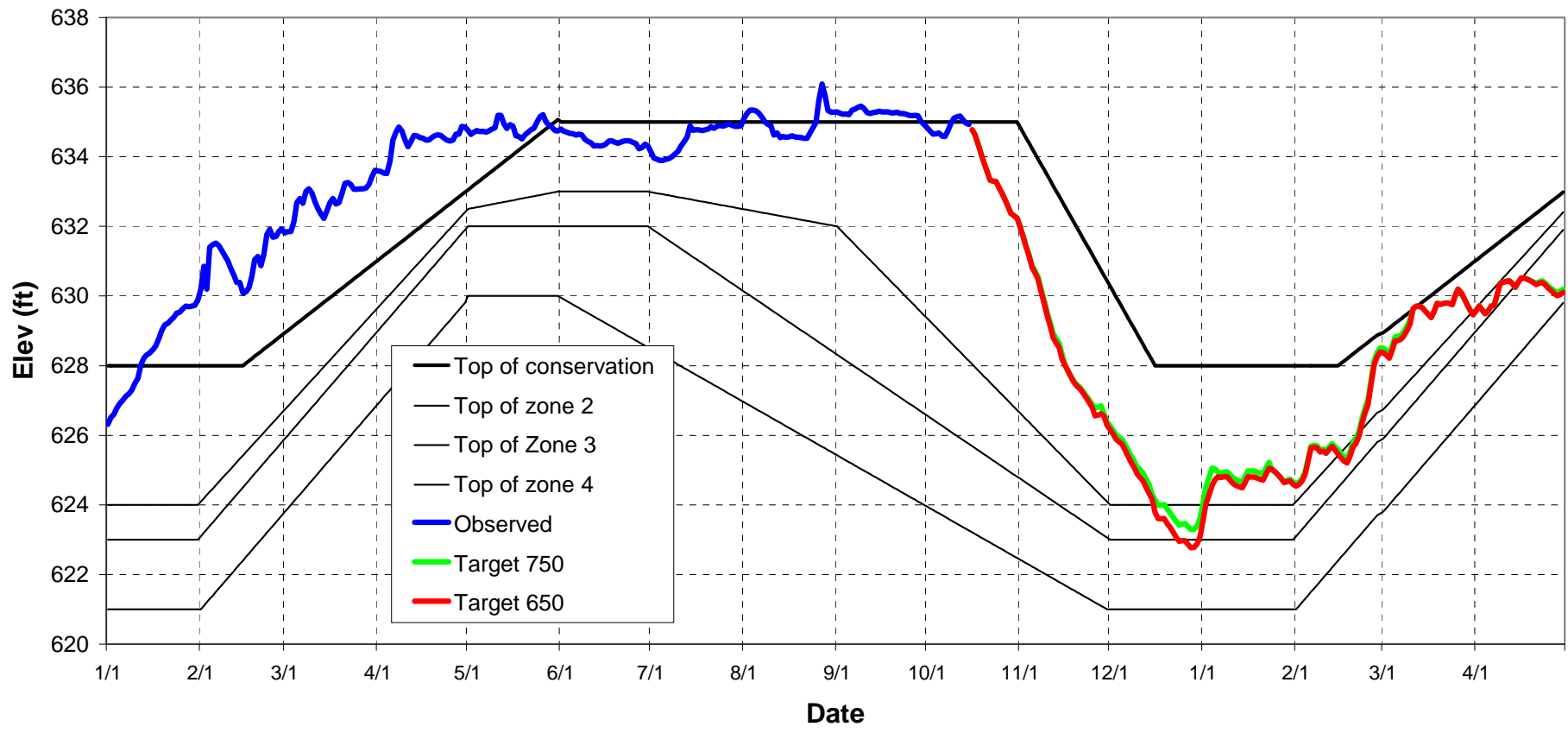
PREDICTED LAKE LANIER ELEVATION IN 2008-2009 WITH MODIFIED IOP UNDER 2007-2008 HYDROLOGY



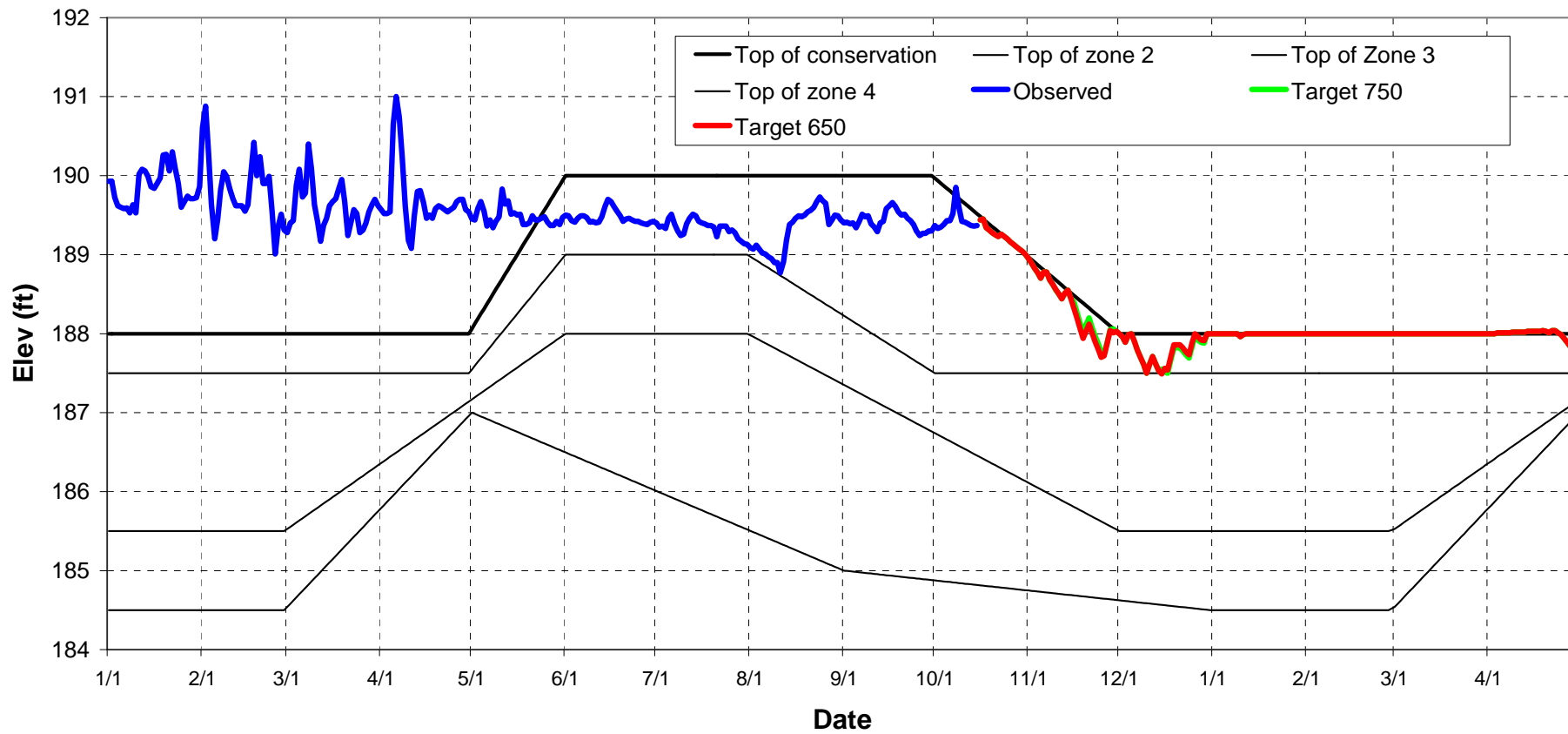
**PREDICTED ATLANTA DISCHARGE IN 2008-2009
WITH MIOP UNDER 2007 & 2008 HYDROLOGY**



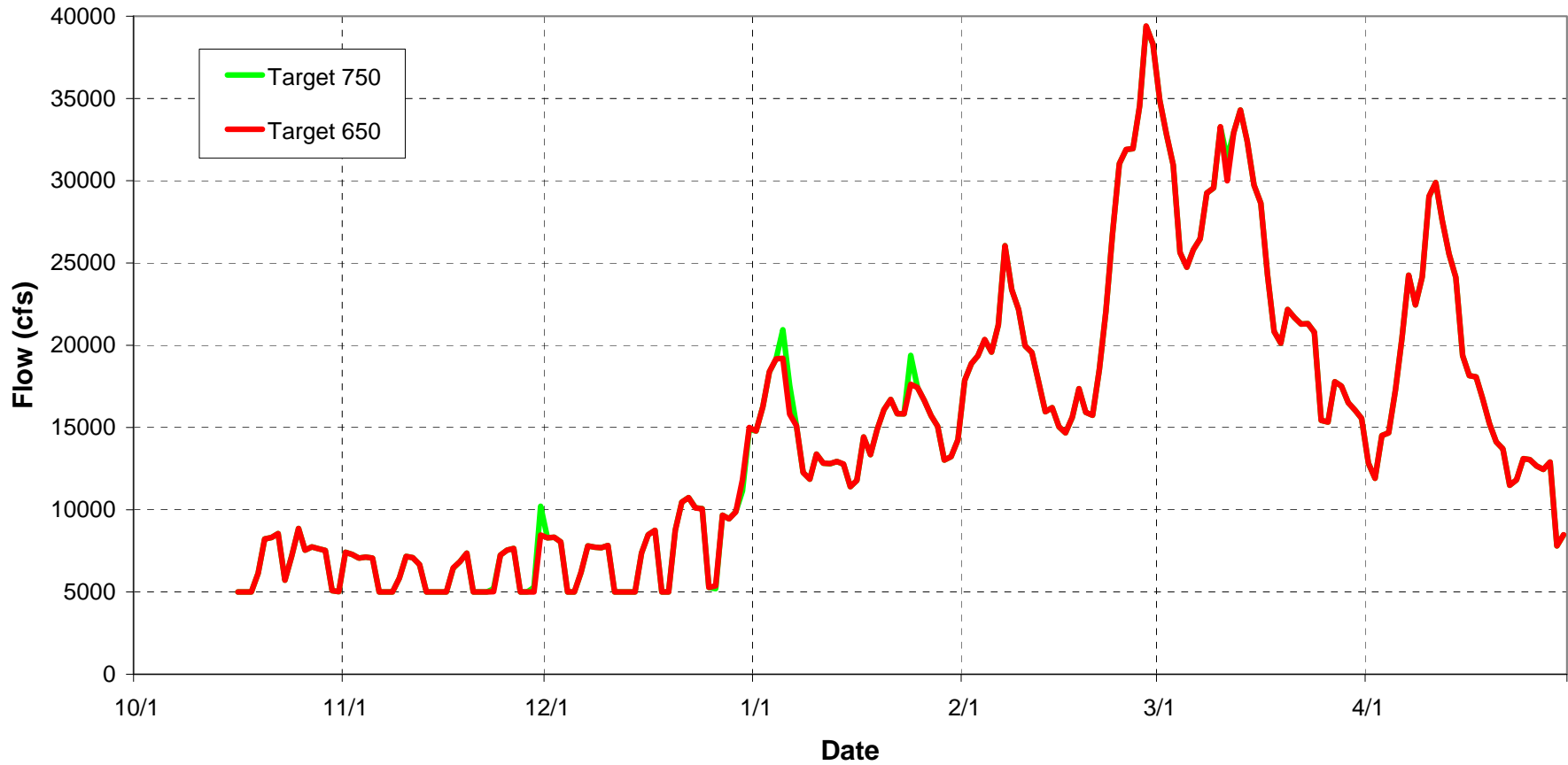
PREDICTED WEST POINT ELEVATION IN 2008-2009 WITH MODIFIED IOP UNDER 2007-2008 HYDROLOGY



PREDICTED W.F.GEORGE ELEVATION IN 2008-2009 WITH MODIFIED IOP UNDER 2007 - 2008 HYDROLOGY



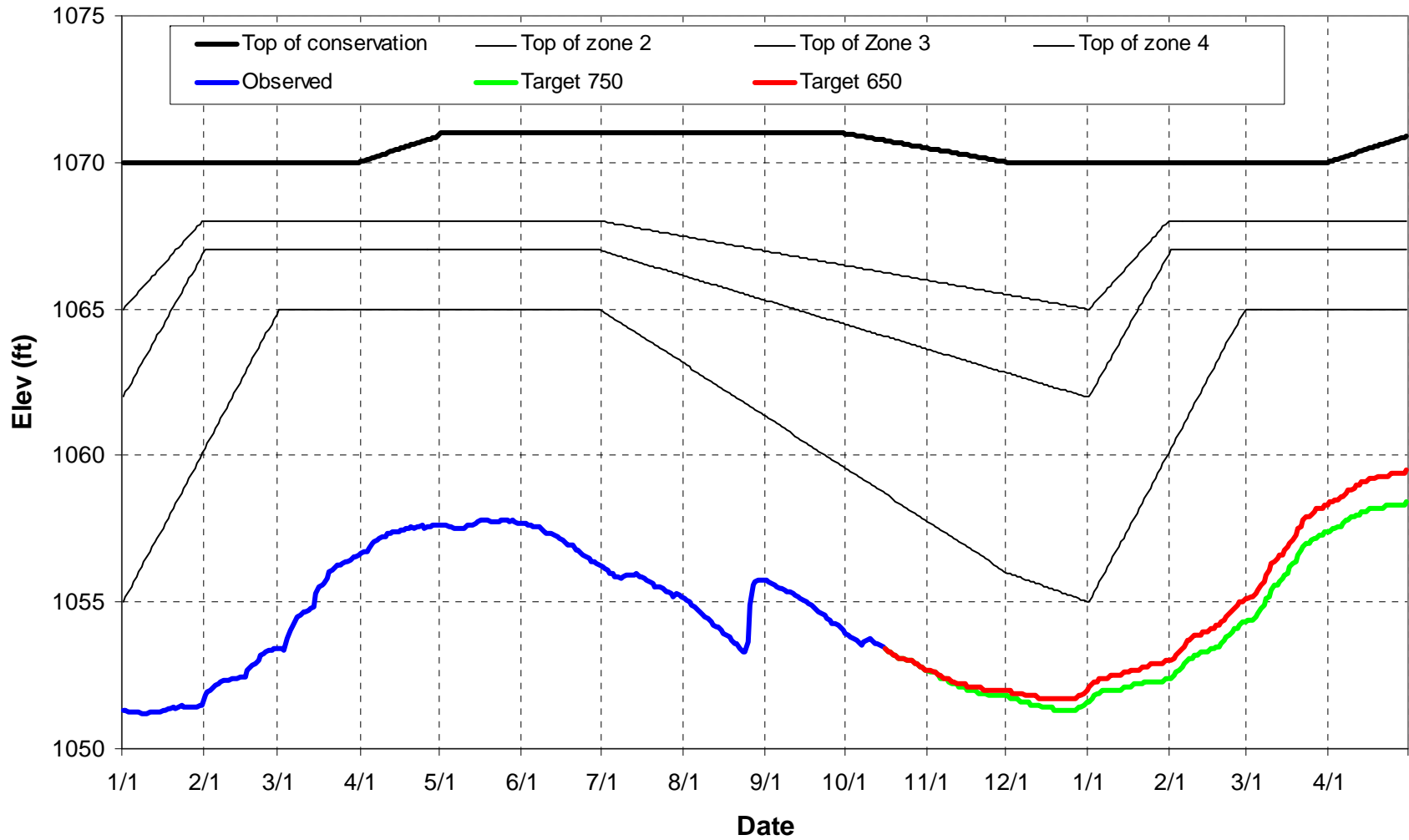
**PREDICTED CHATTAHOOCHEE DISCHARGE IN 2008-2009
WITH MIOP UNDER 2007 & 2008 HYDROLOGY**



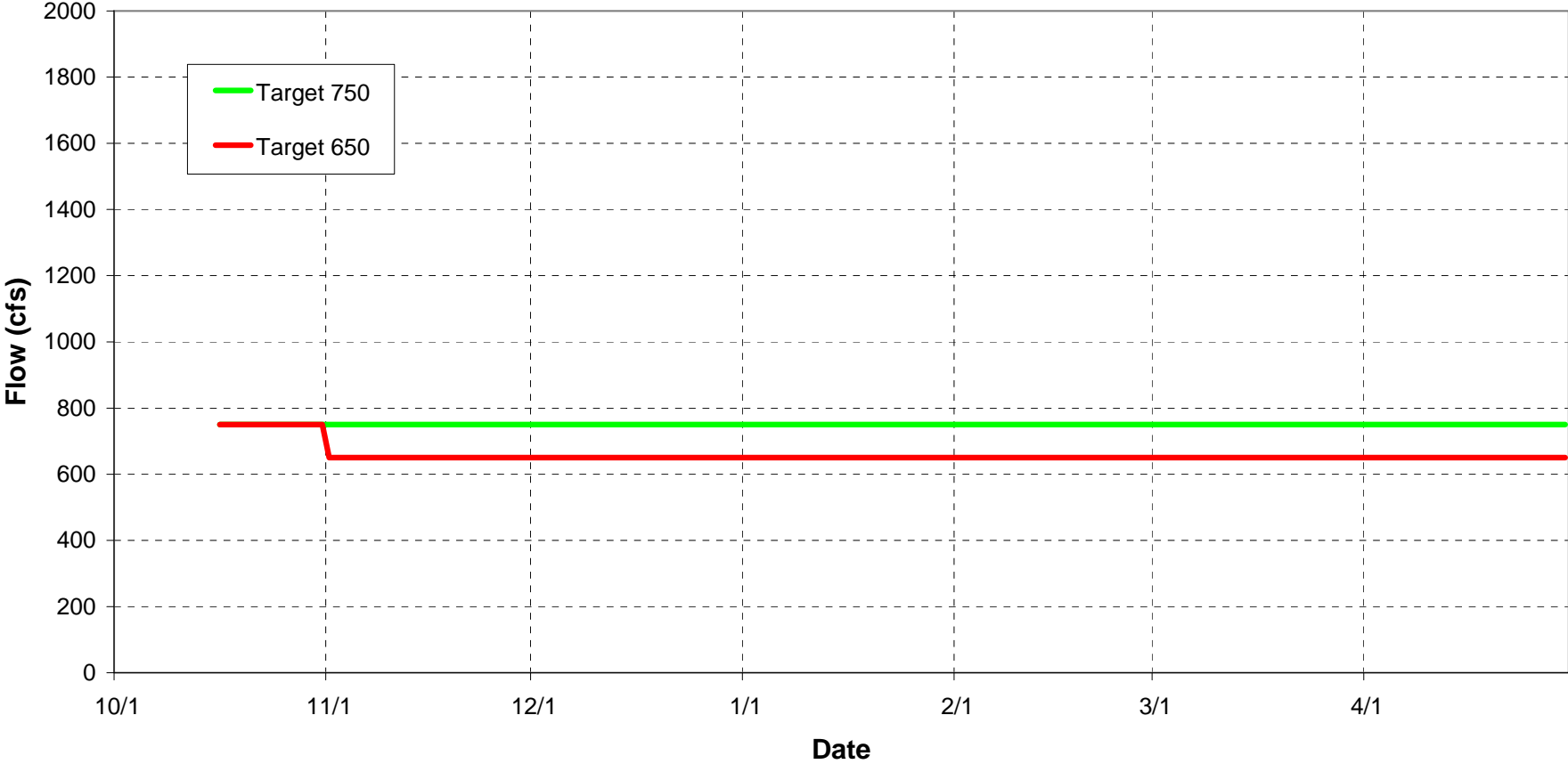
Assumptions for Model Set 3

- ACF Basin operated under the Revised IOP (April 2008)
- Recorded 2007 – 2008 inflow to Lanier, monthly 7Q10 incremental flow between Buford Dam and Whitesburg, actual withdrawal and return in 2007
- Initial reservoir conditions recorded on October 16, 2008
- Minimum flow requirement at Atlanta (Peachtree Creek) reduced from 750 cfs to 650 cfs

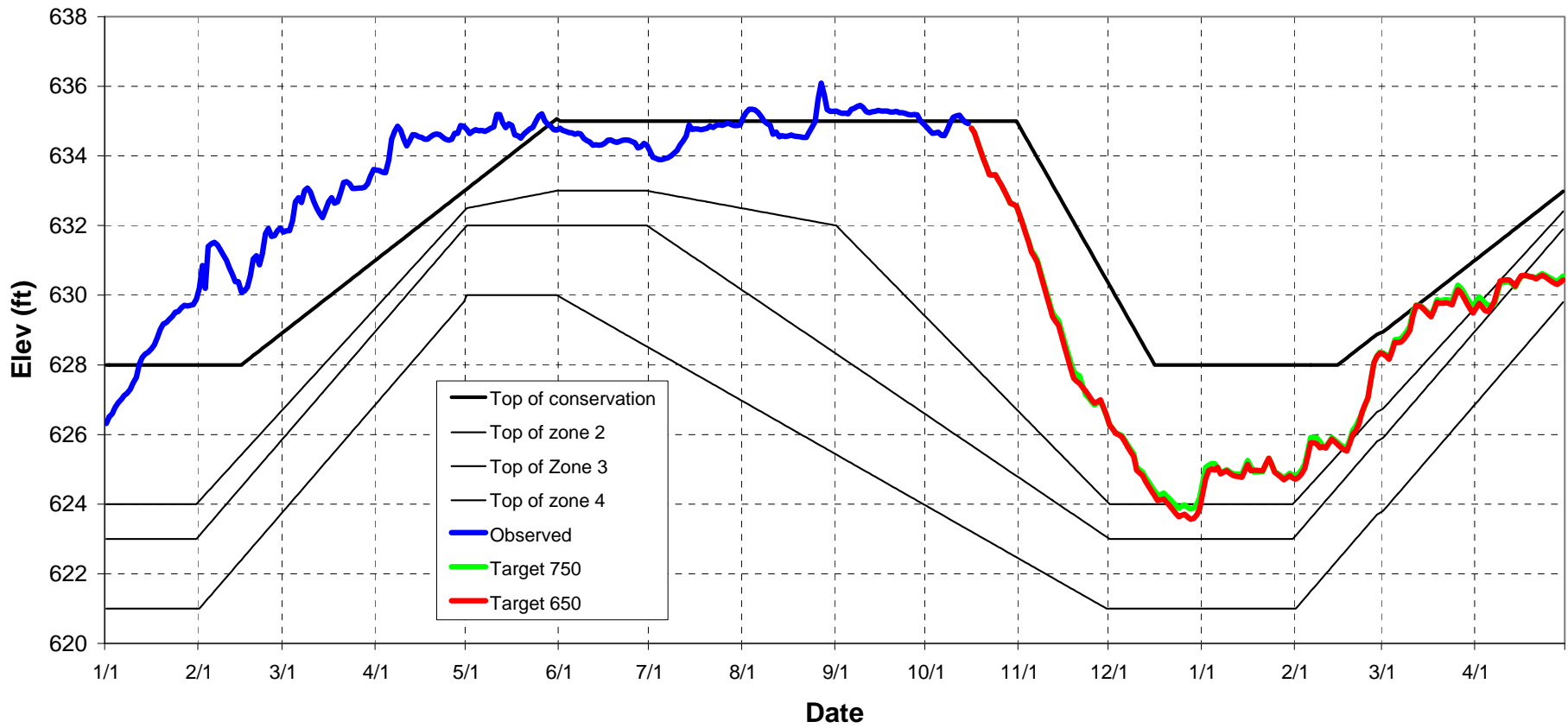
PREDICTED LAKE LANIER ELEVATION IN 2008-2009 WITH MODIFIED IOP UNDER 2007-2008 HYDROLOGY



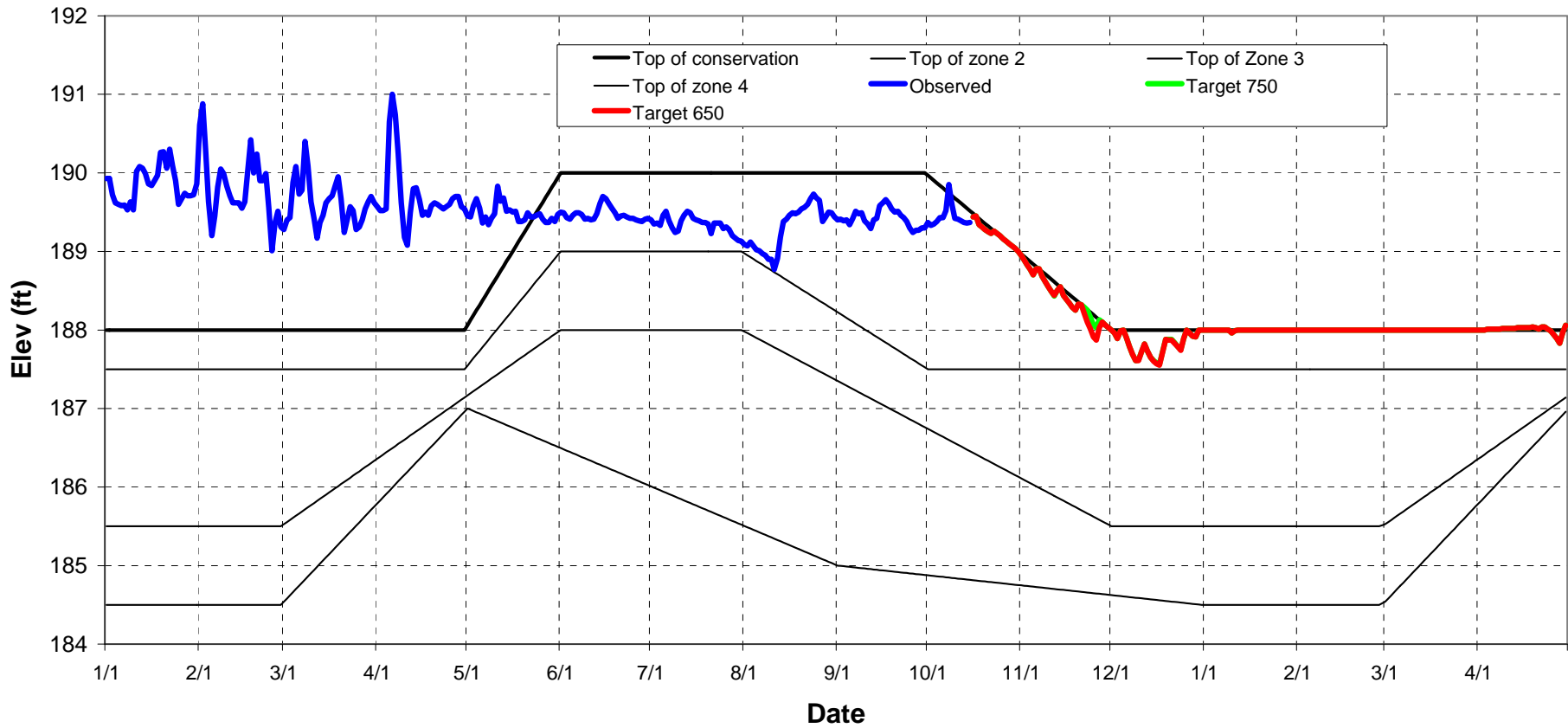
**PREDICTED ATLANTA DISCHARGE IN 2008-2009
WITH MIOP UNDER 2007 & 2008 HYDROLOGY**



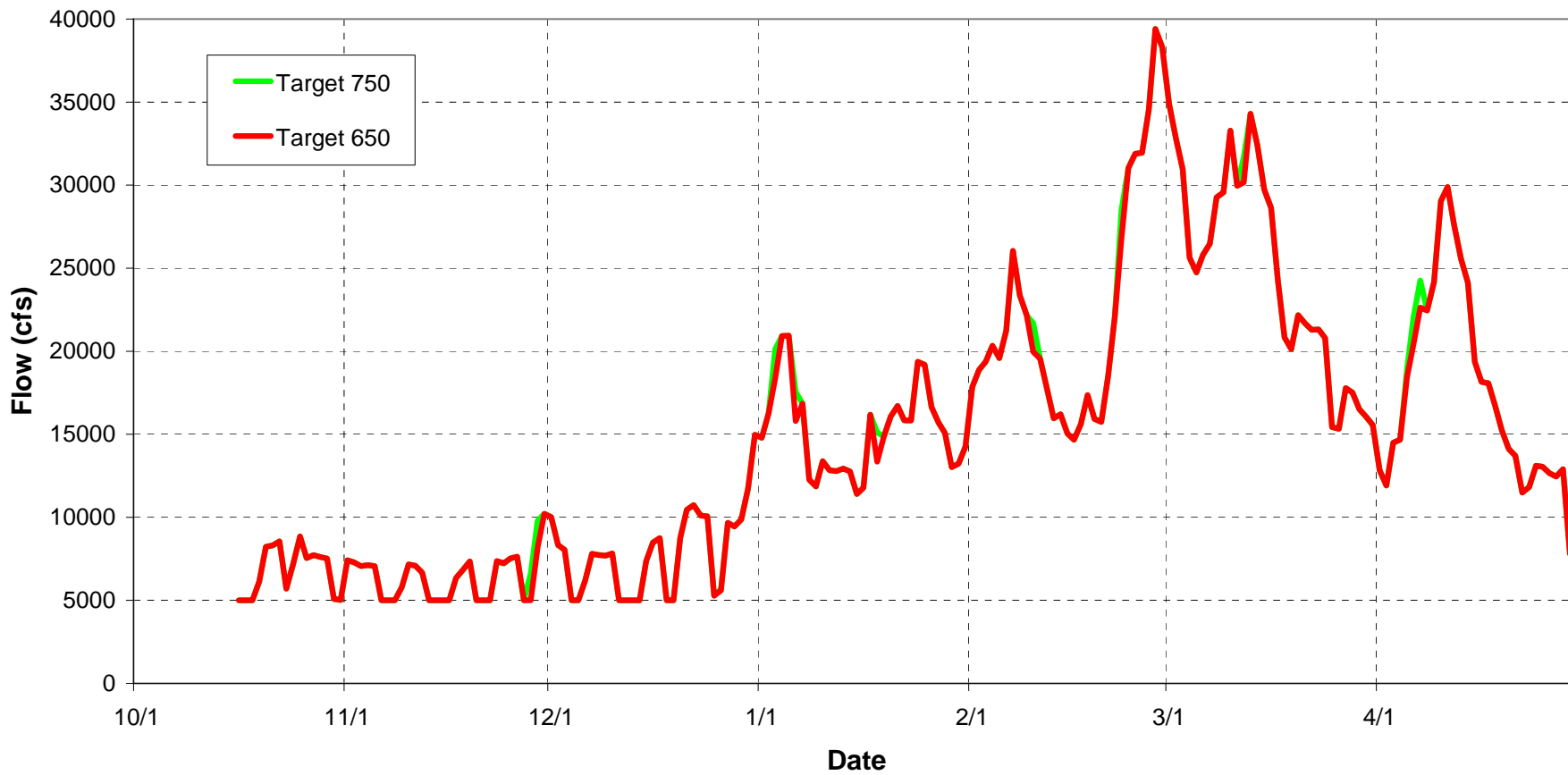
PREDICTED WEST POINT ELEVATION IN 2008-2009 WITH MODIFIED IOP UNDER 2007-2008 HYDROLOGY



PREDICTED W.F.GEORGE ELEVATION IN 2008-2009 WITH MODIFIED IOP UNDER 2007 - 2008 HYDROLOGY



PREDICTED CHATTAHOOCHEE DISCHARGE IN 2008-2009 WITH MIOP UNDER 2007 & 2008 HYDROLOGY



Conclusions

- There is appreciable storage preserved in Lake Lanier under the reduced flow scenario (between 16,750 acre-feet to 35,940 acre-feet depending on incremental flows)
- The effects on downstream reservoirs and flow are very small