

APPENDIX A

HEC-5 MODEL SIMULATION FIGURES

Water Quantity Analysis of Lowering
Chattahoochee River at Peachtree Creek
Minimum Flow
01 Nov 08 - 30 Apr 09

Mobile District
HEC-5 Reservoir Simulation
Nov 12, 2008

Modeling Assumption

- Current Revised Interim Operation Plan for Jim Woodruff
- Initial Reservoir conditions recorded 09Nov2008
- Year 2000 Demands
- Hydrology Alternatives
 - 10th Percentile
 - Year 1988-1989
 - 7Q10 between Buford and Whitesburg, Year 2000 rest of basin
- Minimum Flow
 - Peachtree Minimum Flow Requirement Alternatives
 - 650 cfs
 - 750 cfs
 - West Point
 - 675 cfs

Summary of Impact on 01 May 2009

- Using 7Q10 Hydrology
 - If we reduce to 650
 - Buford elevation 1.10 feet higher
 - West Point elevation 0.12 feet lower
 - Buford storage increased by 34,226 ac-ft
 - Composite Storage increased by 31,391 ac-ft
 - No impact downstream of West Point

Summary of Impact on 01 May 2009

- Using 1988-89 Hydrology
 - If we reduce to 650
 - Buford elevation 0.79 feet higher
 - West Point elevation 0.10 feet lower
 - Buford storage increased by 26,853 ac-ft
 - Composite Storage increased by 24,452 ac-ft
 - No impact downstream of West Point

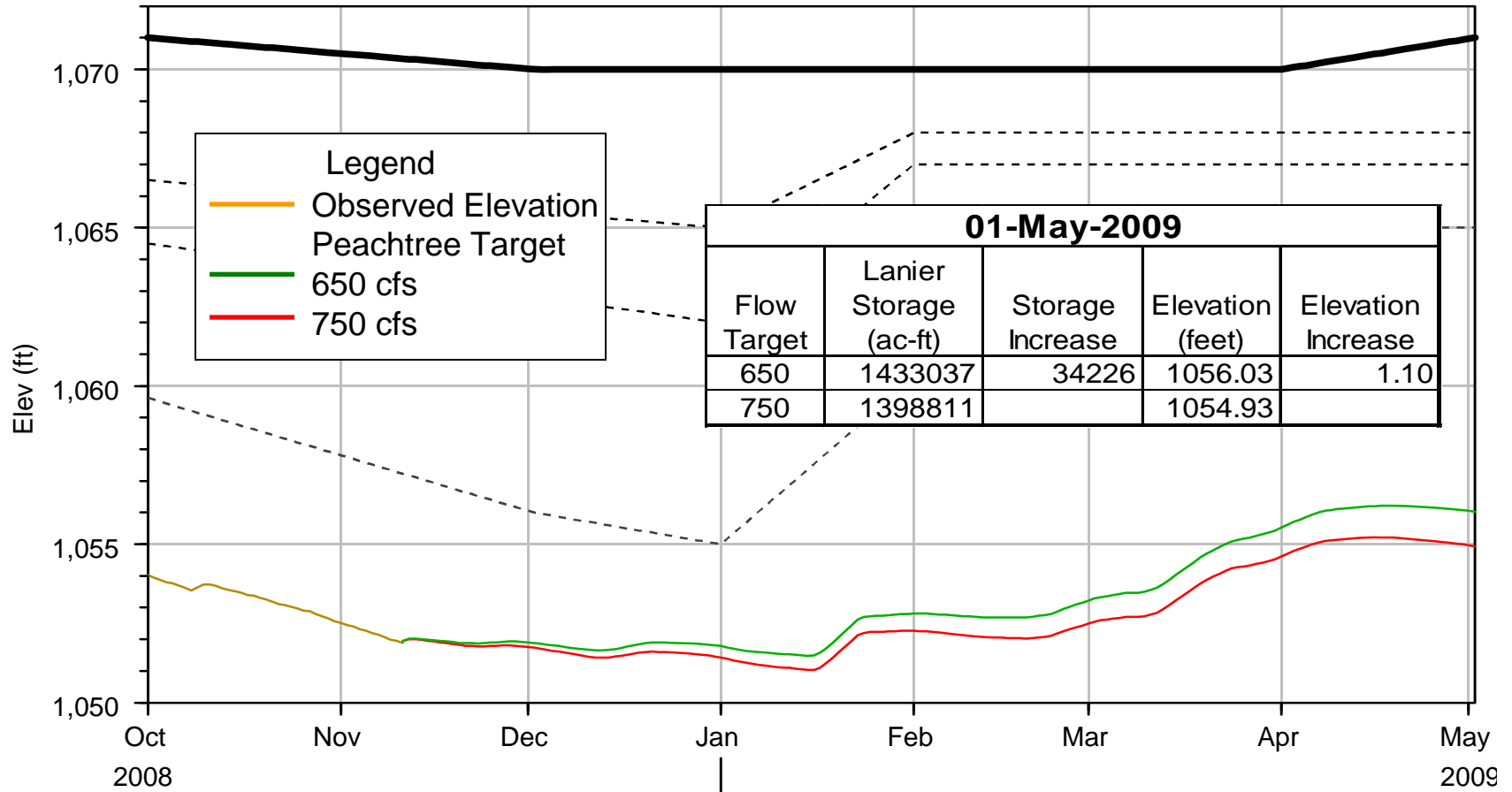
Summary of Impact on 01 May 2009

- Using 10th Percentile Hydrology
 - If we reduce to 650
 - Buford elevation 1.15 feet higher
 - West Point elevation 0.17 feet lower
 - Buford storage increased by 34,222 ac-ft
 - Composite Storage increased by 30,117 ac-ft
 - No impact downstream of West Point

Model Results

7Q10 Hydrology

Buford Elevation 7Q10 Hydrology

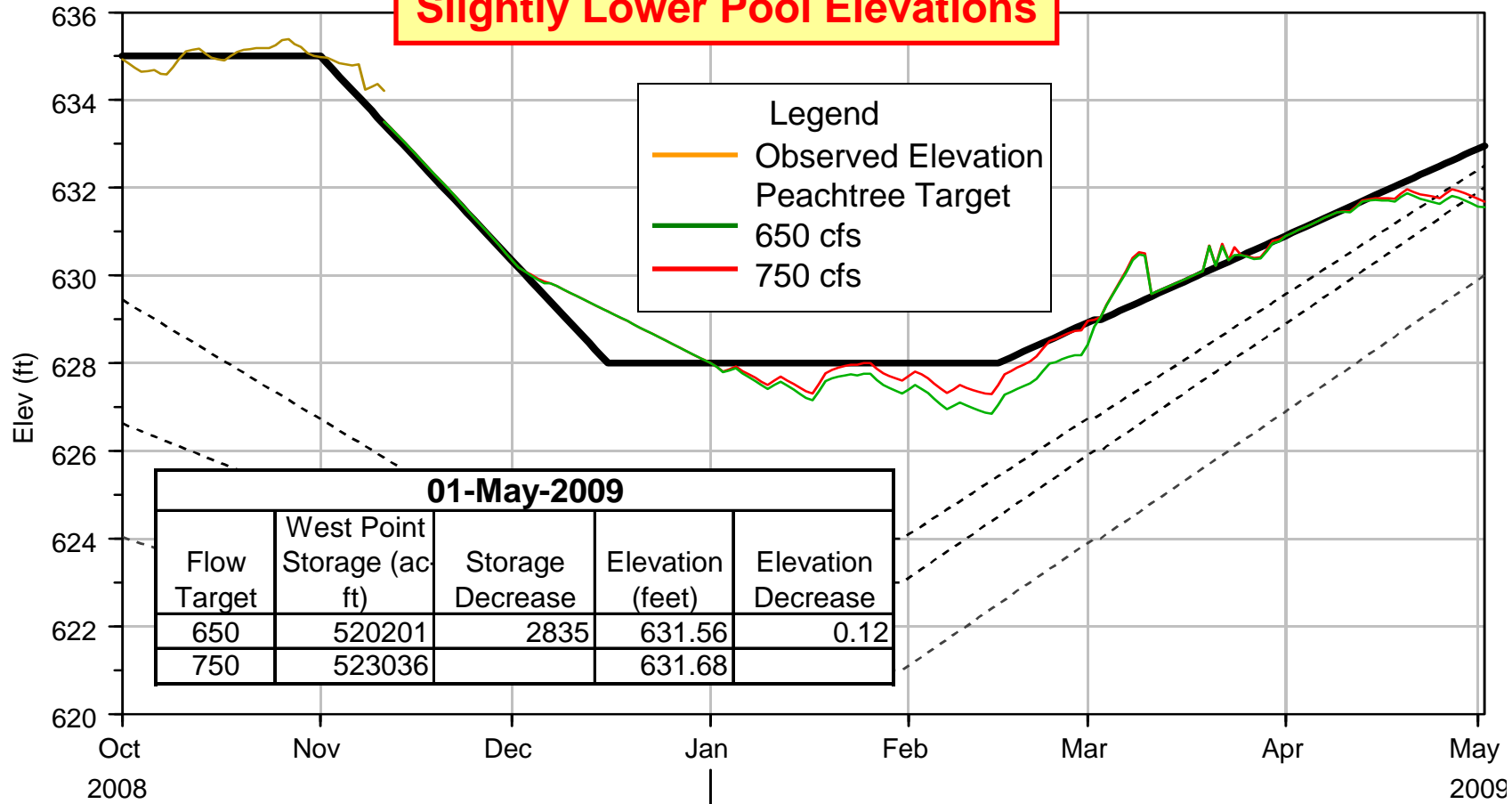


— BUFORD DAM ZONE1 ELEV
- - - - BUFORD DAM ZONE2 ELEV
· · · · BUFORD DAM ZONE3 ELEV
- · - · BUFORD DAM ZONE4 ELEV
— BUFORD OBSERVED ELEV
— BUFORD DAM PT_NOV08_650_7Q ELEV
— BUFORD DAM PT_NOV08_750_7Q ELEV

— BUFORD DAM ZONE1 ELEV
- - - - BUFORD DAM ZONE2 ELEV
· · · · BUFORD DAM ZONE3 ELEV
- · - · BUFORD DAM ZONE4 ELEV
— BUFORD DAM PT_NOV08_750_7Q ELEV

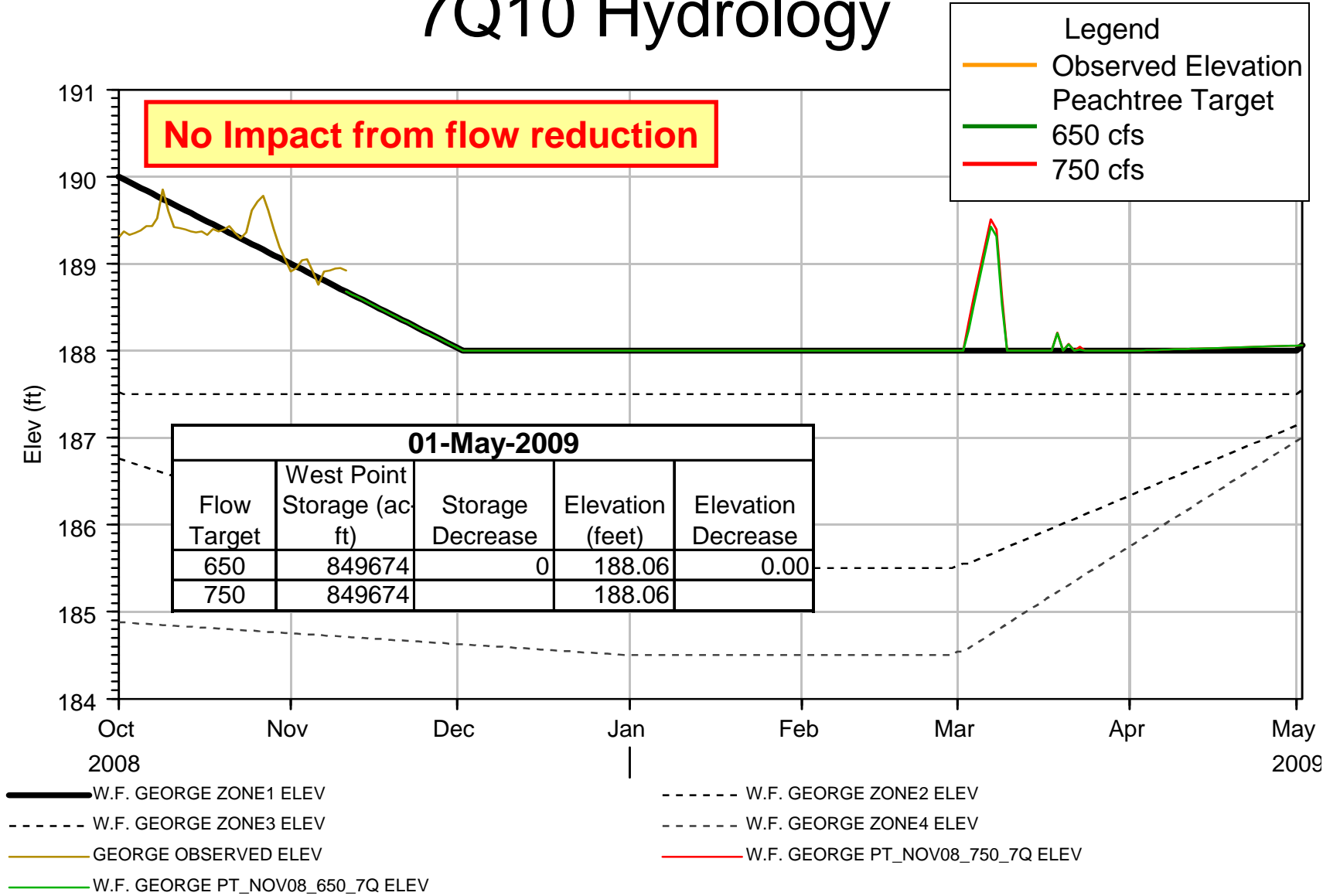
West Point Elevation 7Q10 Hydrology

Slightly Lower Pool Elevations

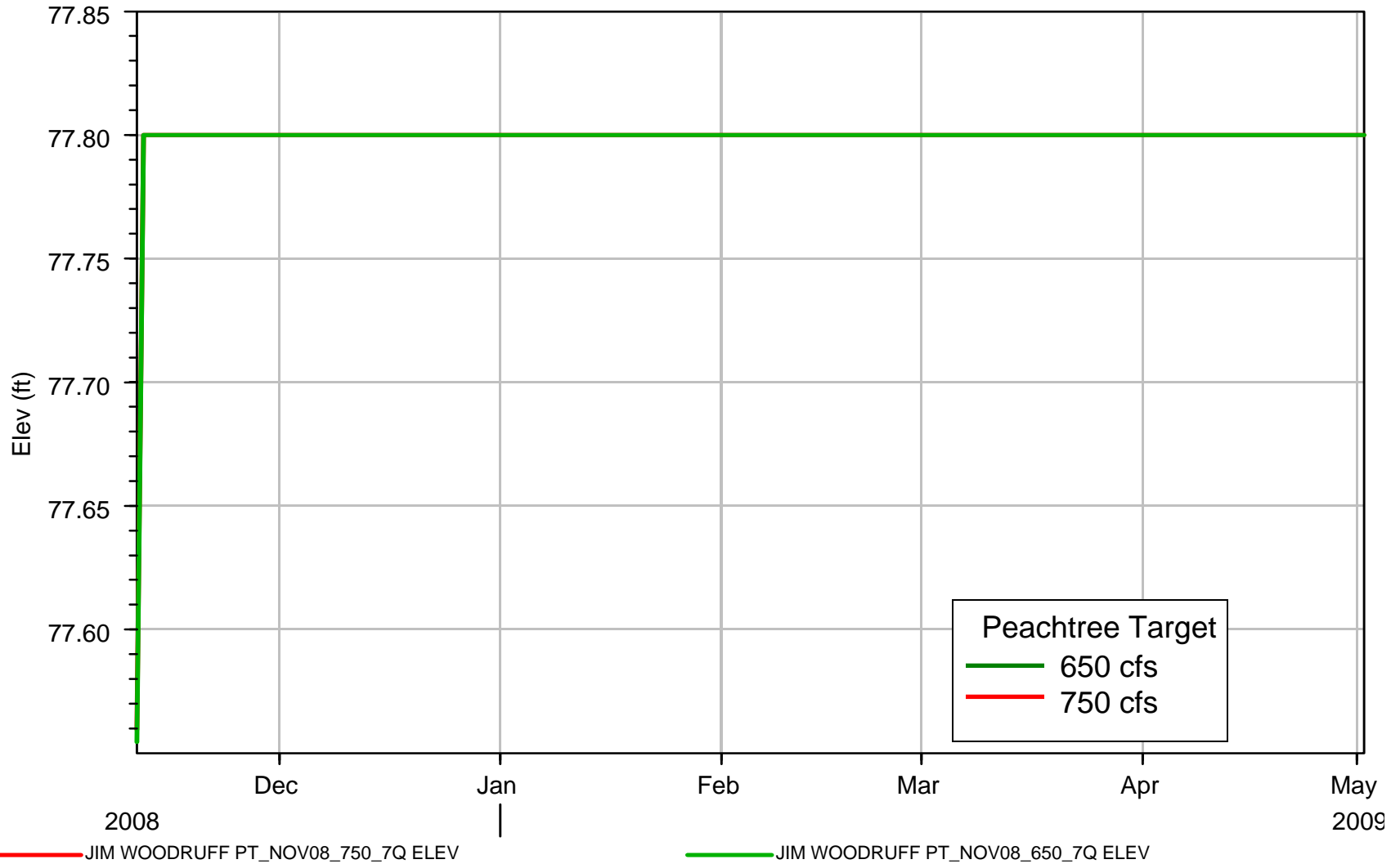


- WEST POINT ZONE1 ELEV
- - - - WEST POINT ZONE3 ELEV
- WEST-POINT OBSERVED ELEV
- WEST POINT PT_NOV08_650_7Q ELEV
- - - - WEST POINT ZONE2 ELEV
- - - - WEST POINT ZONE4 ELEV
- WEST POINT PT_NOV08_750_7Q ELEV

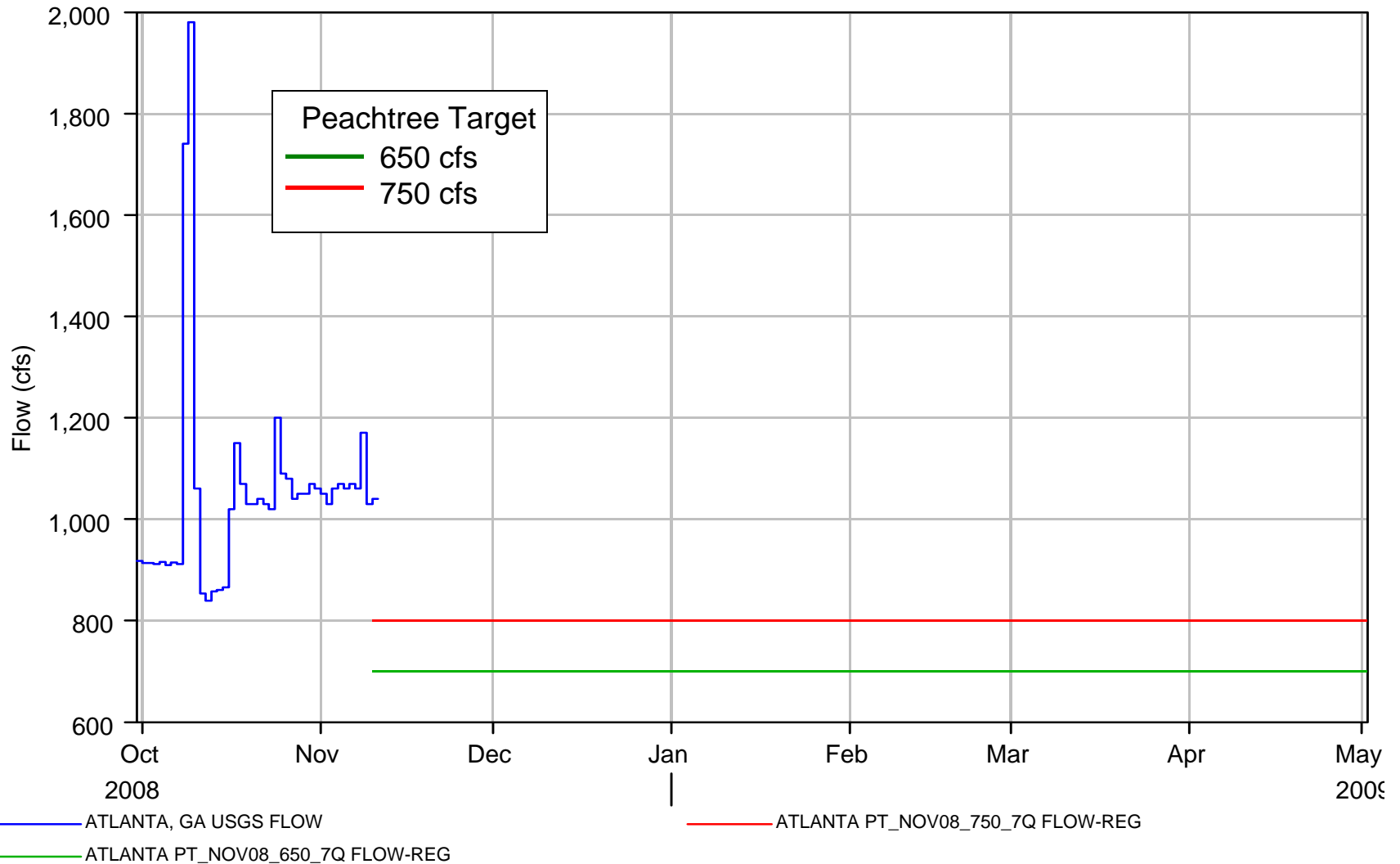
W.F. George Elevation 7Q10 Hydrology



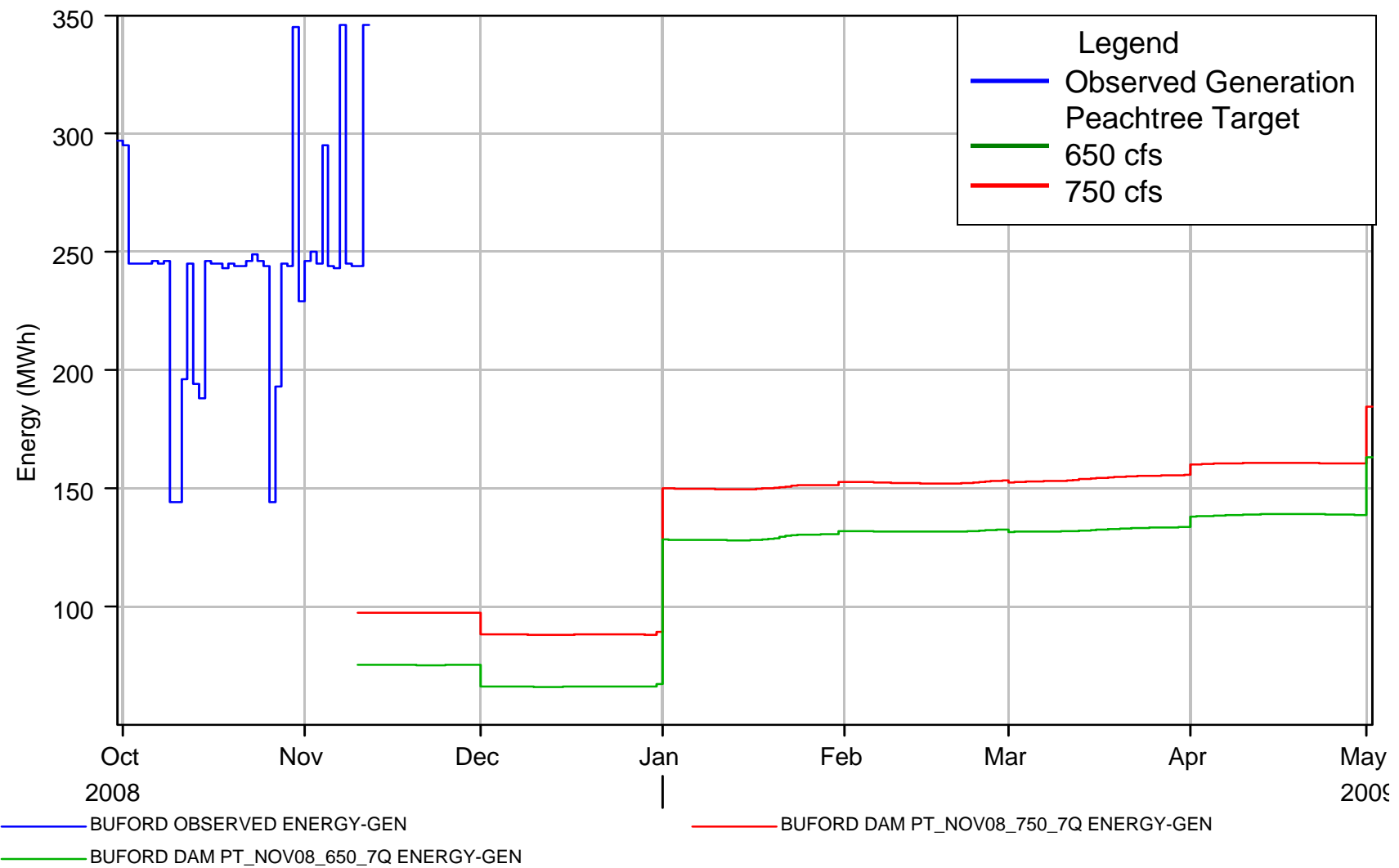
Jim Woodruff Elevation 7Q10 Hydrology



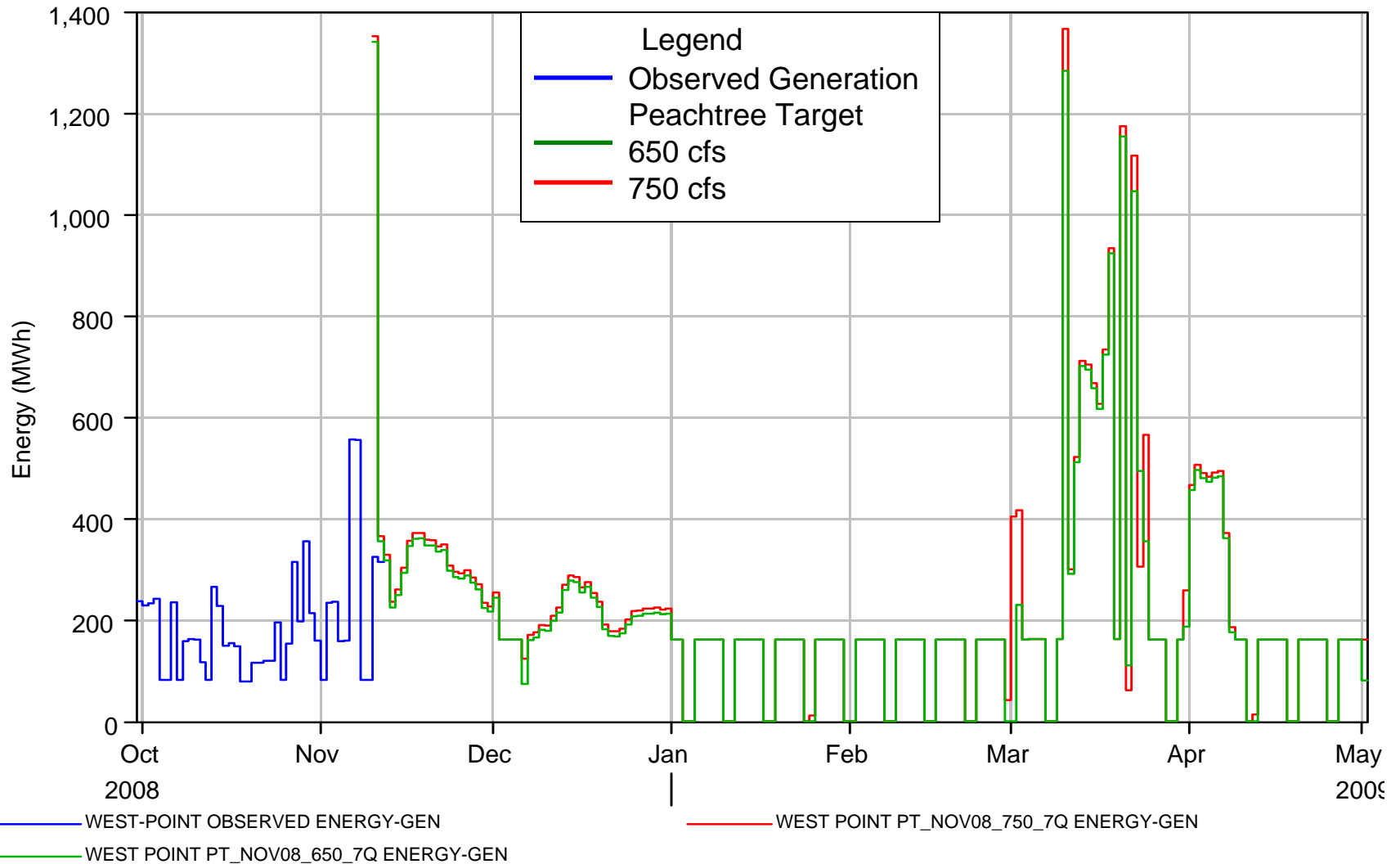
Atlanta Flow 7Q10 Hydrology



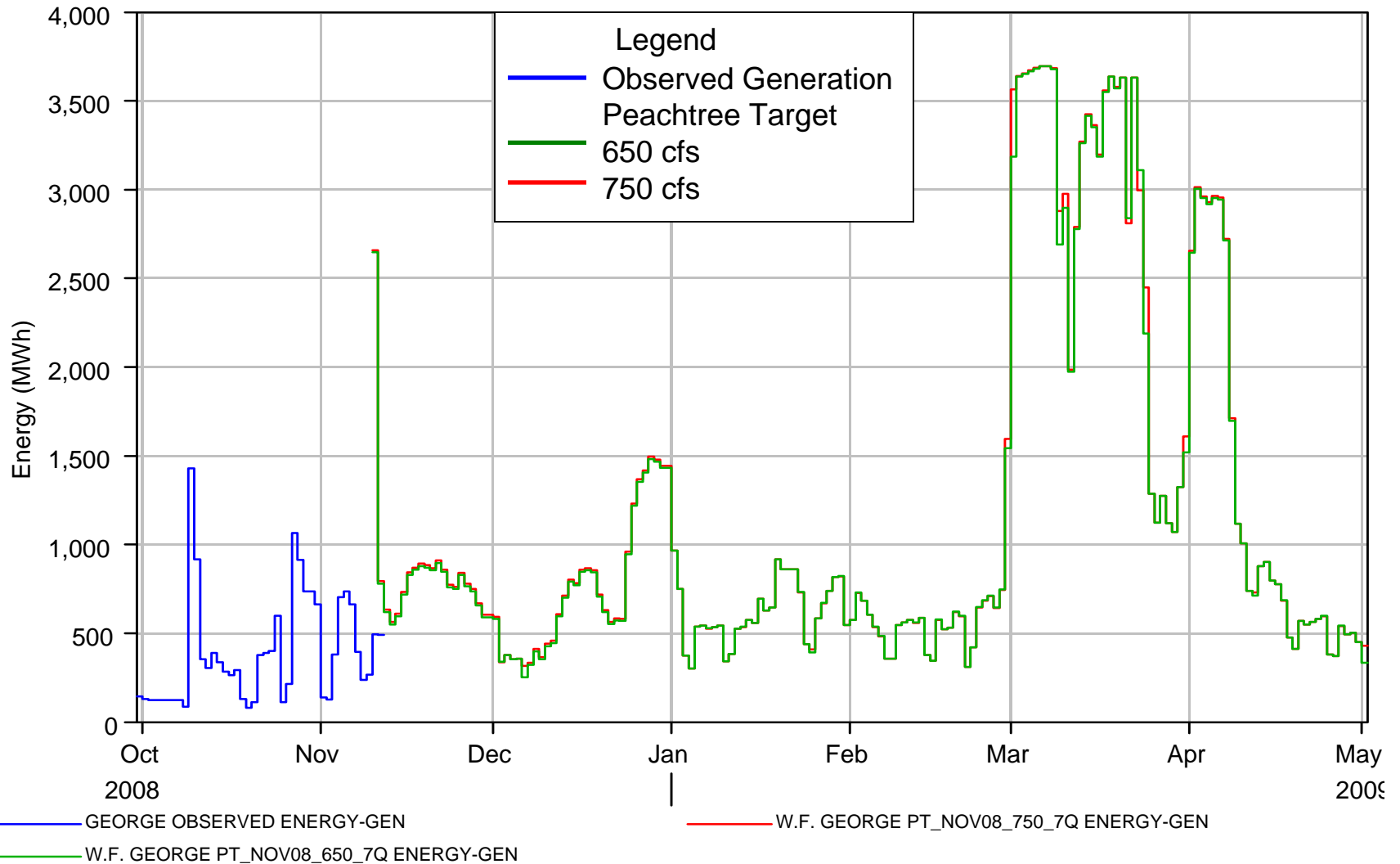
Buford Generation 7Q10 Hydrology



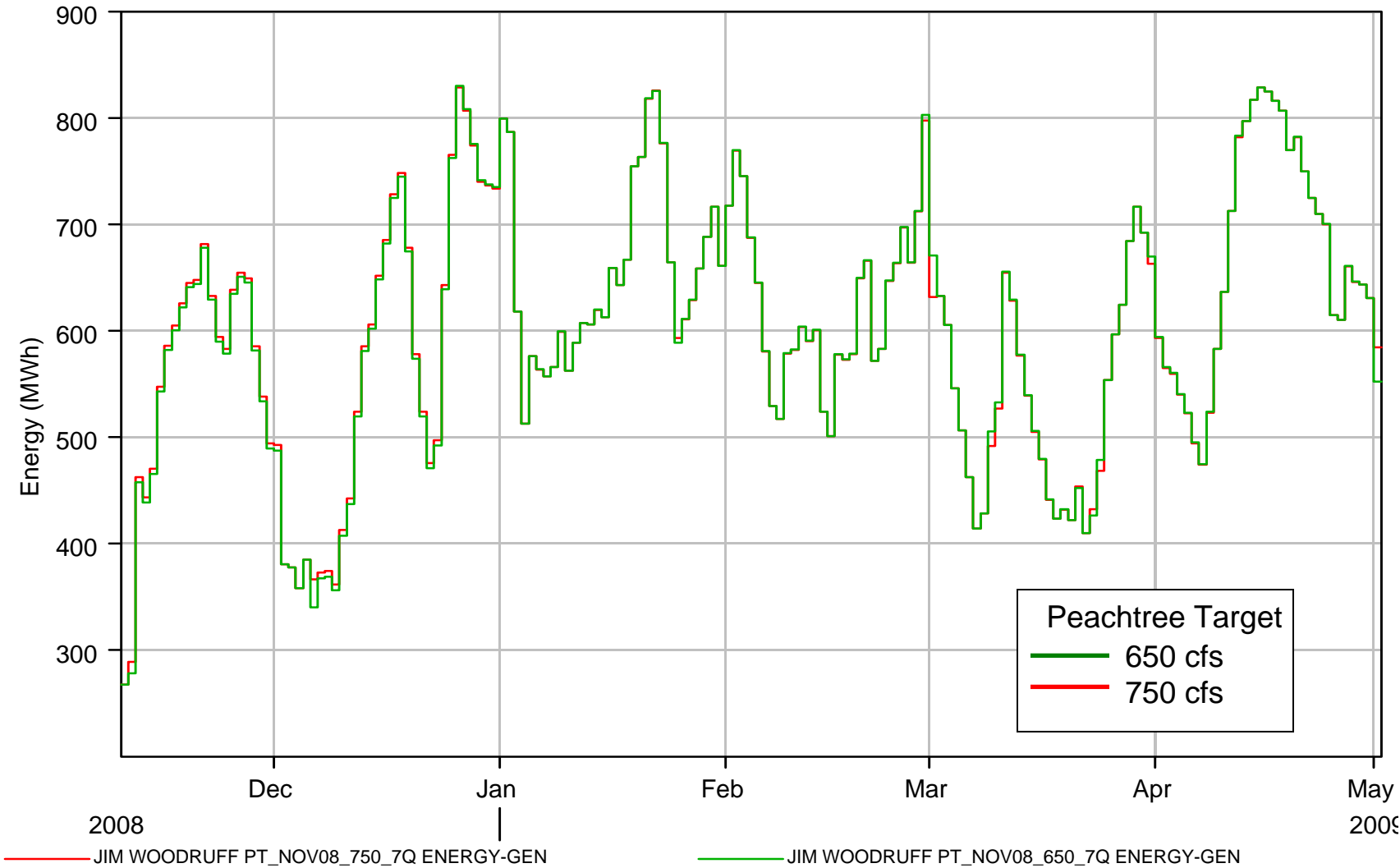
West Point Generation 7Q10 Hydrology



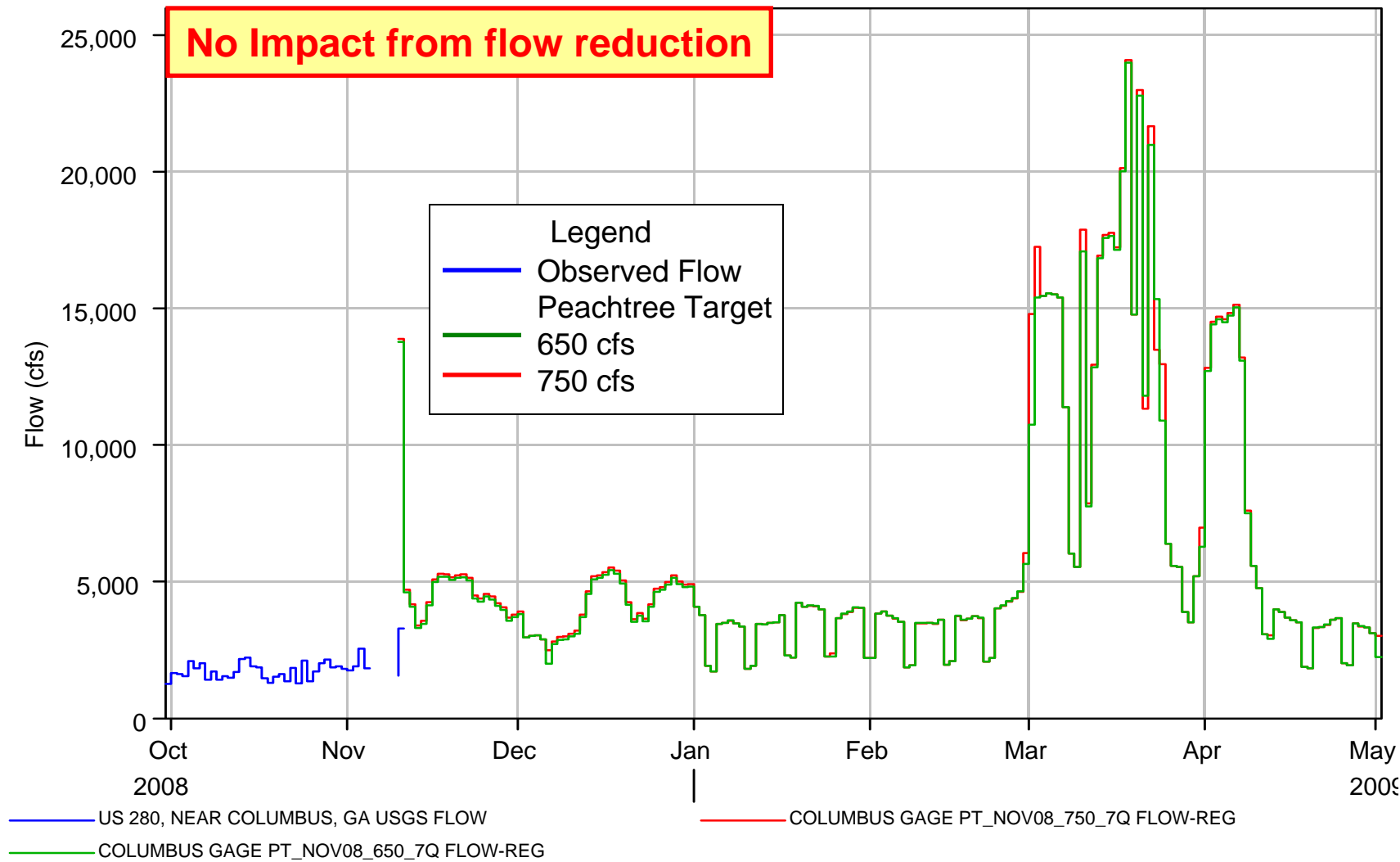
WF George Generation 7Q10 Hydrology



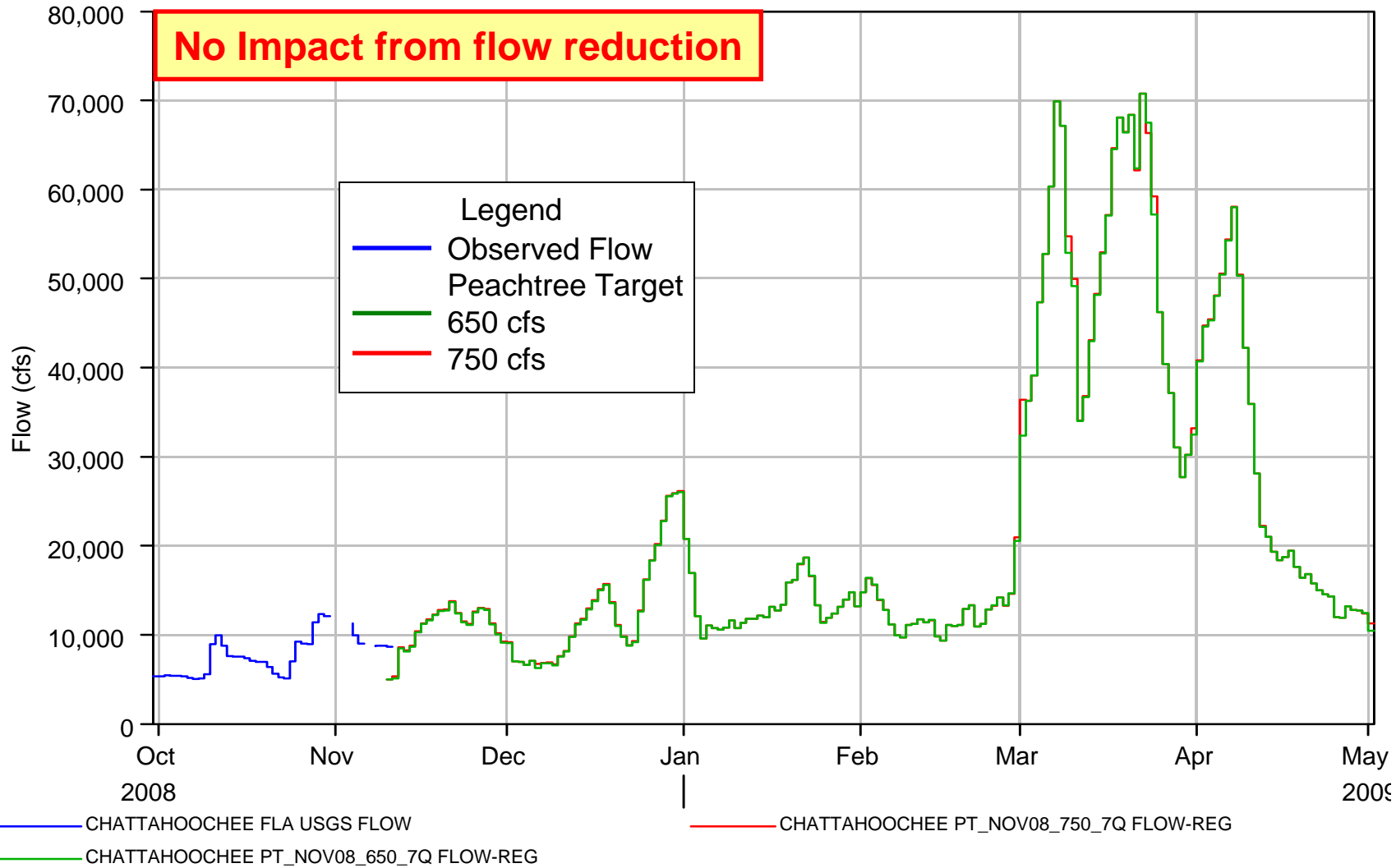
Jim Woodruff Generation 7Q10 Hydrology



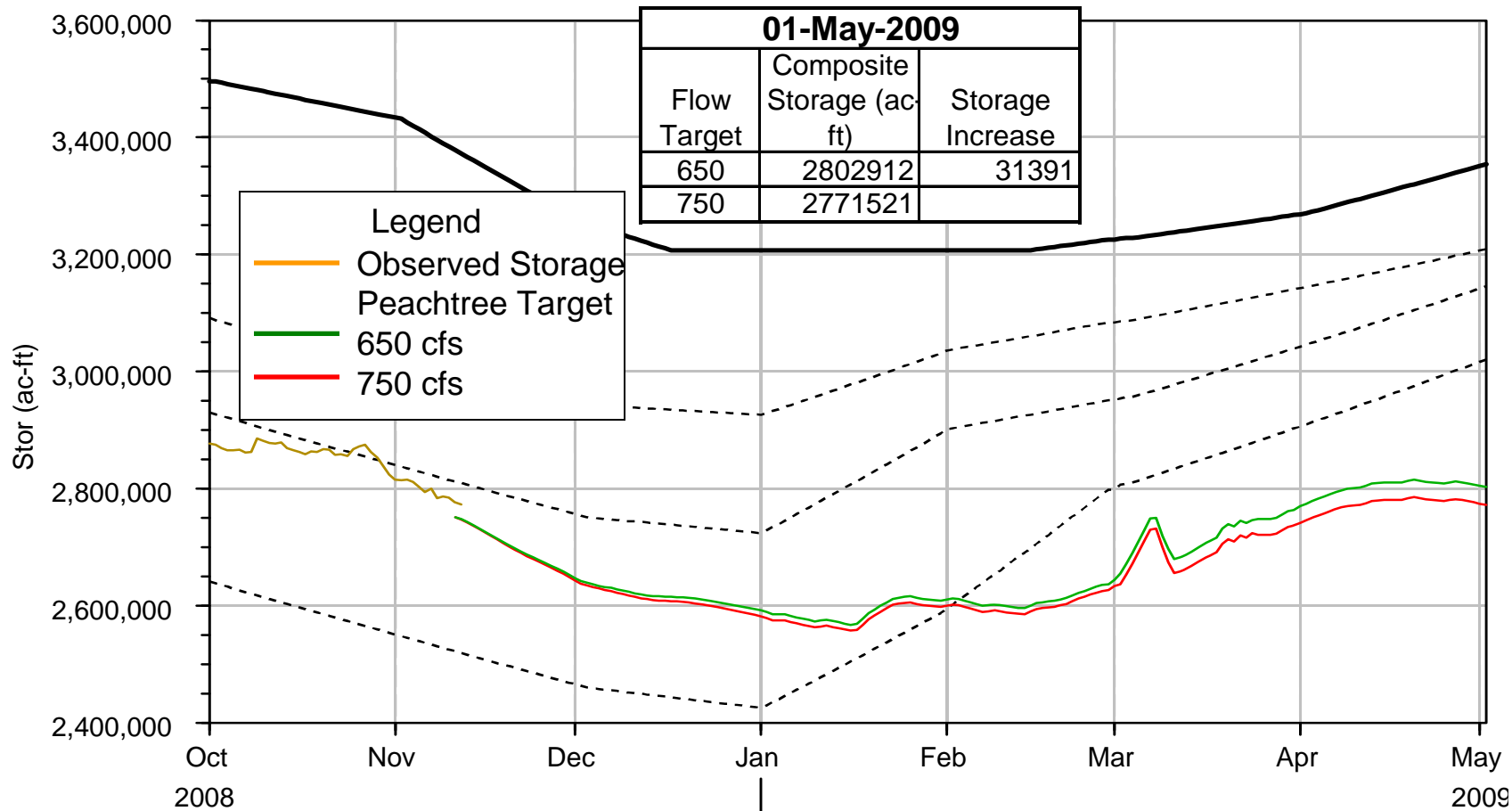
Columbus Flow 7Q10 Hydrology



Chattahoochee Flow 7Q10 Hydrology



Composite Storage 7Q10 Hydrology

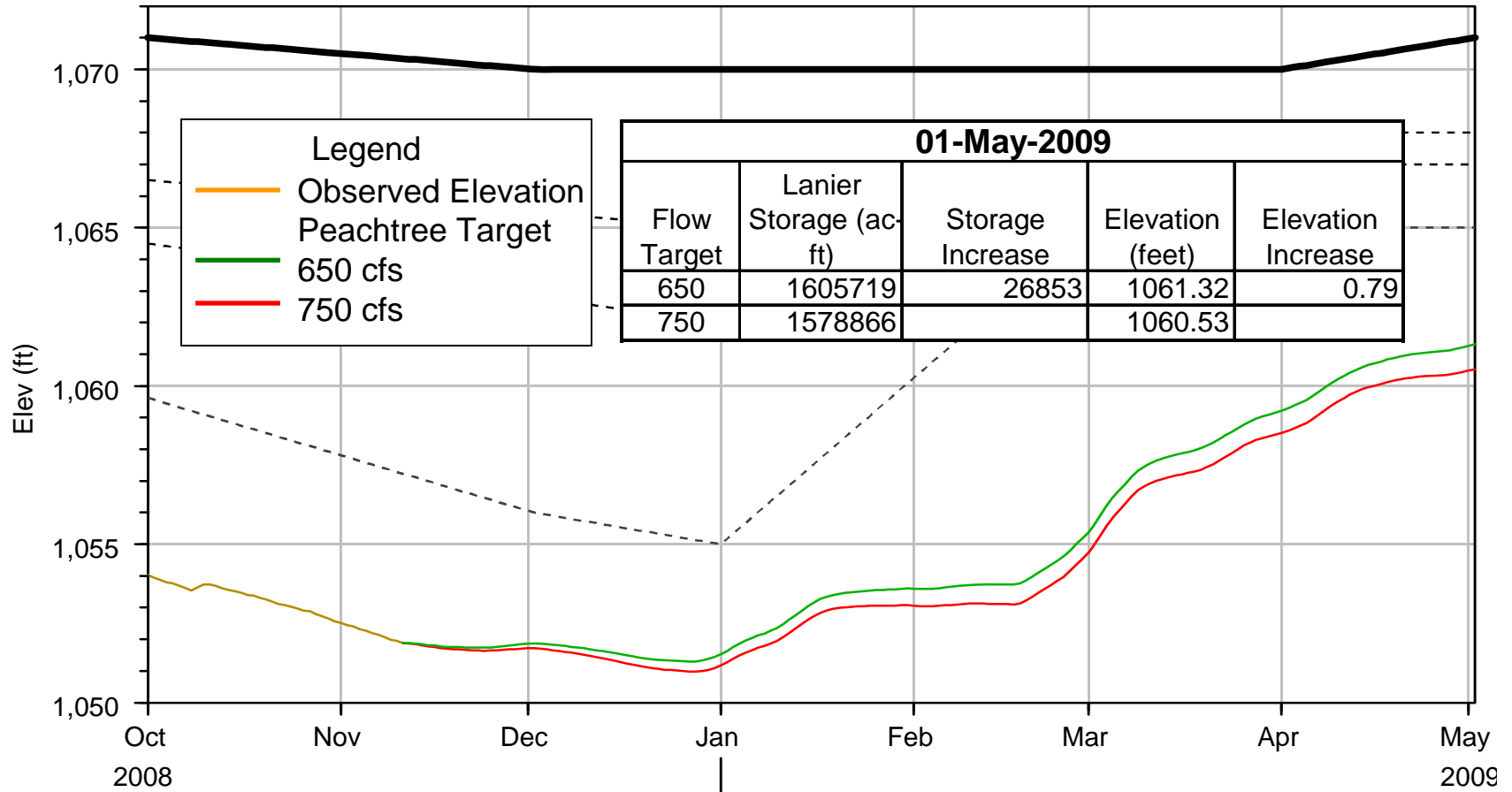


- COMPOSITE-STOR ZONE1 STOR-RES EOP
- - - - - COMPOSITE-STOR ZONE2 STOR-RES EOP
- - - - - COMPOSITE-STOR ZONE3 STOR-RES EOP
- - - - - COMPOSITE-STOR ZONE4 STOR-RES EOP
- COMPOSITE-STOR OBSERVED STOR-RES EOP
- COMPOSITE-STOR PT_NOV08_750_7Q STOR-RES EOP
- COMPOSITE-STOR PT_NOV08_650_7Q STOR-RES EOP

Model Results

1988-89 Hydrology

Buford Elevation 1988-89 Hydrology

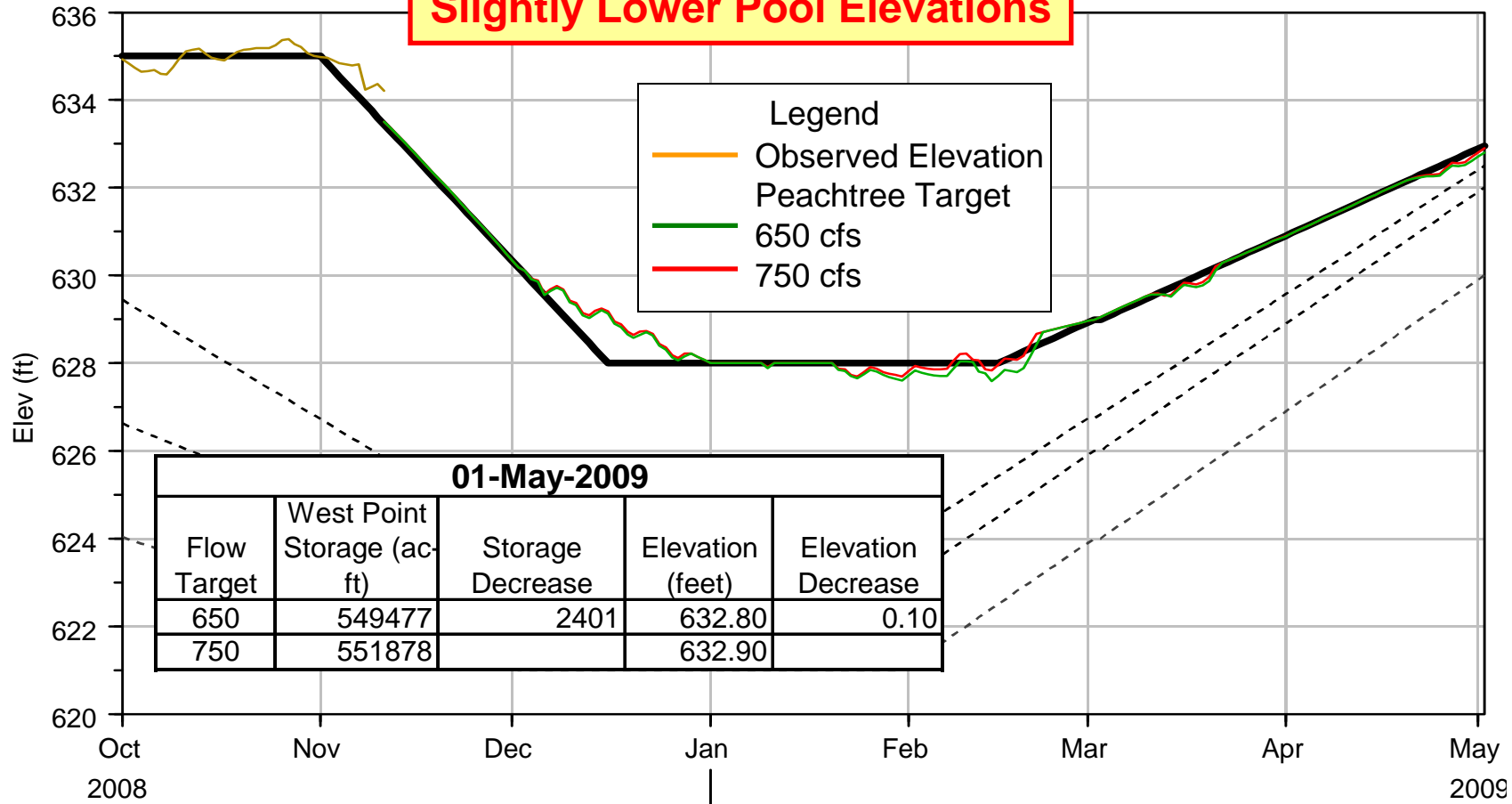


— BUFORD DAM ZONE1 ELEV
- - - - BUFORD DAM ZONE3 ELEV
— BUFORD OBSERVED ELEV
— BUFORD DAM PT_NOV08_650_88 ELEV

- - - - BUFORD DAM ZONE2 ELEV
- - - - BUFORD DAM ZONE4 ELEV
— BUFORD DAM PT_NOV08_750_88 ELEV

West Point Elevation 1988-89 Hydrology

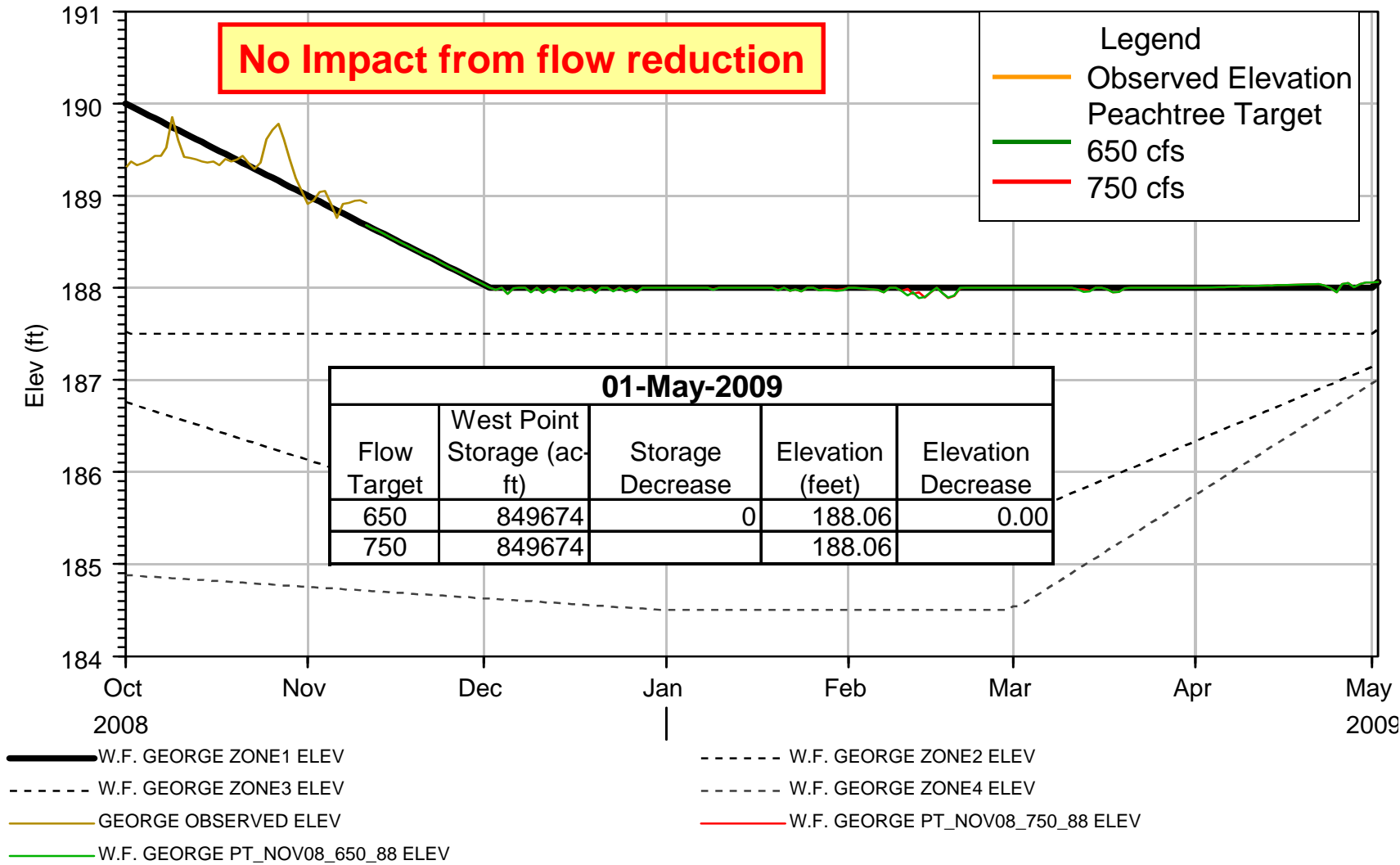
Slightly Lower Pool Elevations



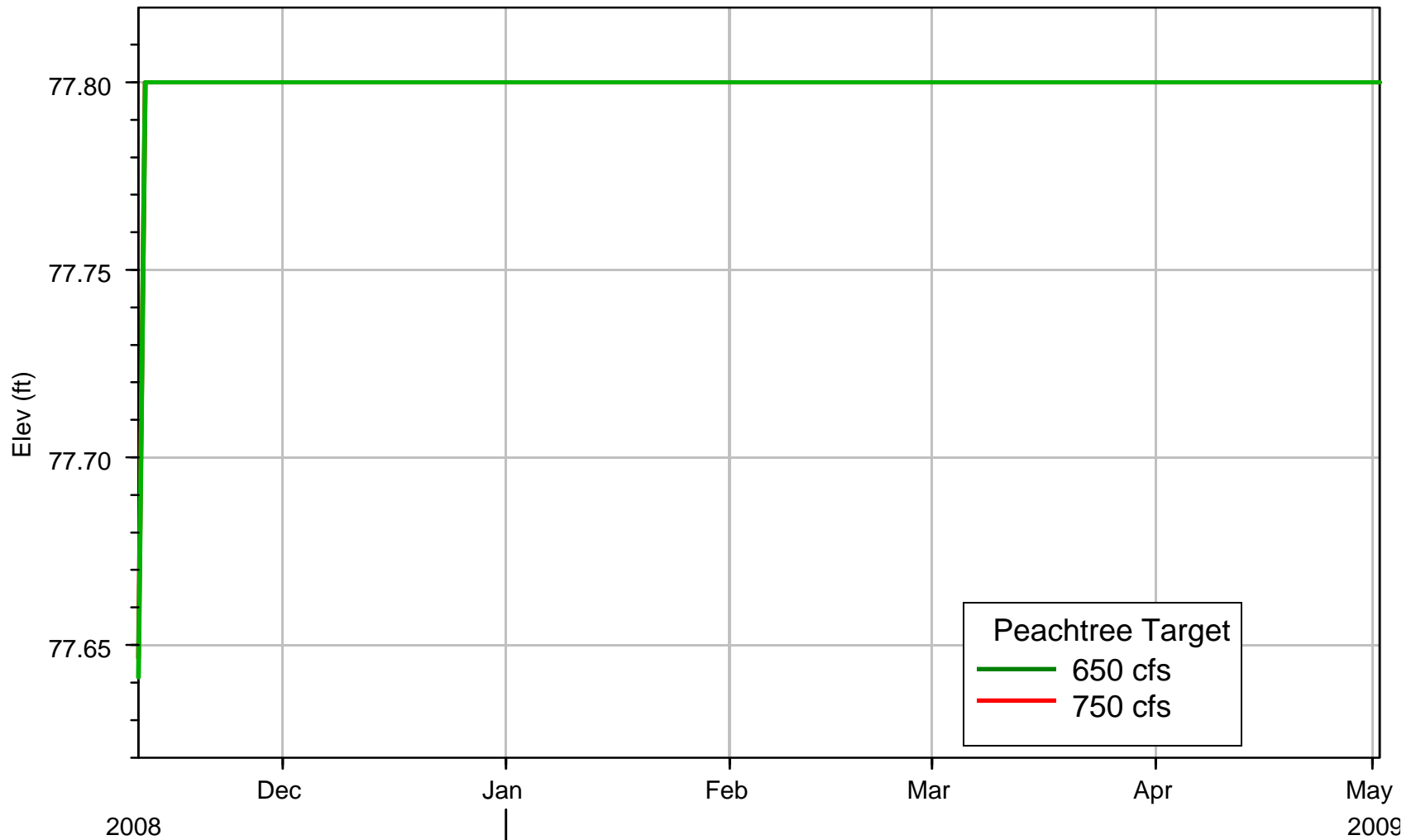
01-May-2009				
Flow Target	West Point Storage (ac-ft)	Storage Decrease	Elevation (feet)	Elevation Decrease
650	549477	2401	632.80	0.10
750	551878		632.90	

- WEST POINT ZONE1 ELEV
- - - - WEST POINT ZONE3 ELEV
- WEST-POINT OBSERVED ELEV
- WEST POINT PT_NOV08_650_88 ELEV
- - - - WEST POINT ZONE2 ELEV
- - - - WEST POINT ZONE4 ELEV
- WEST POINT PT_NOV08_750_88 ELEV

W.F. George Elevation 1988-89 Hydrology



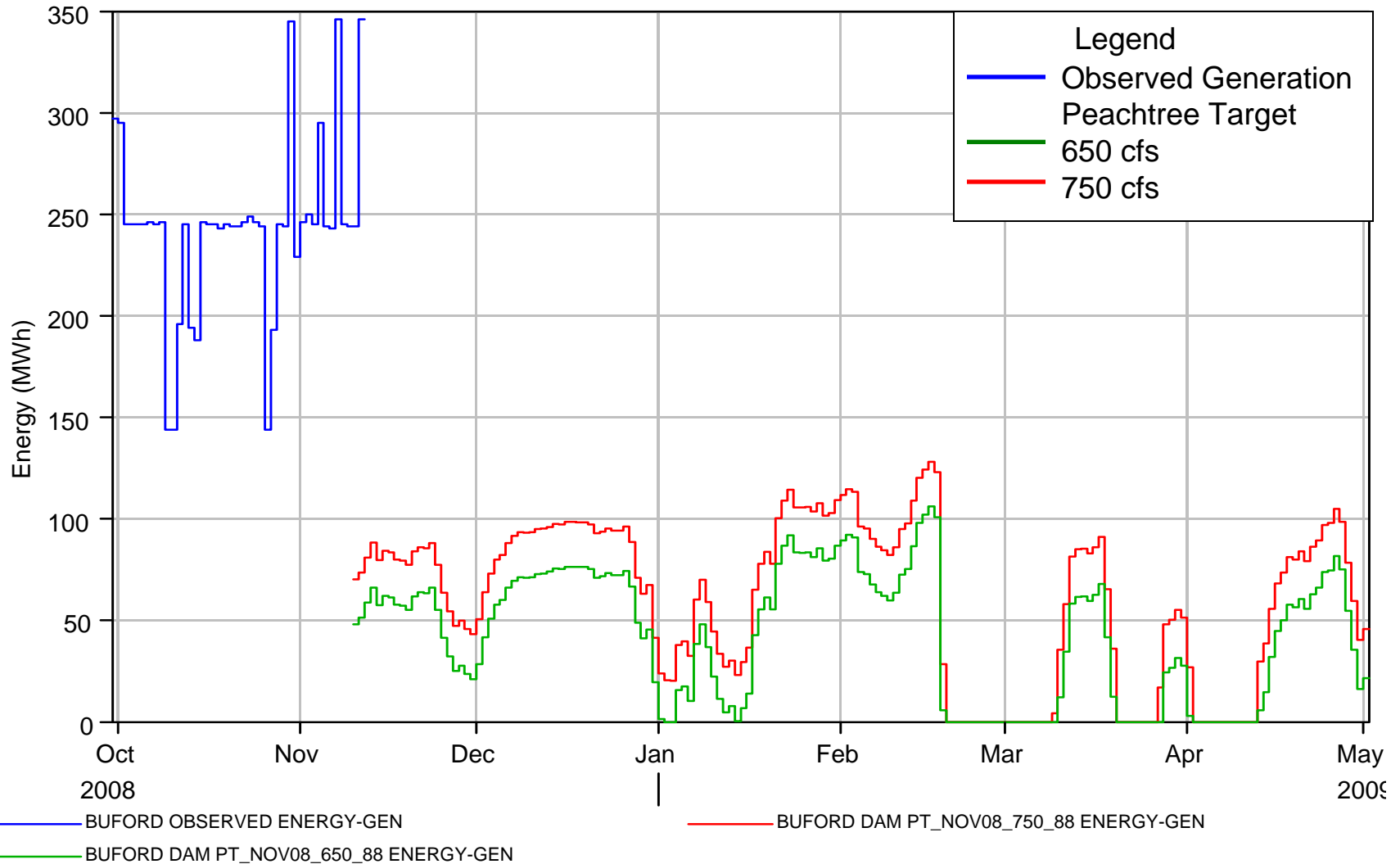
Jim Woodruff Elevation 1988-89 Hydrology



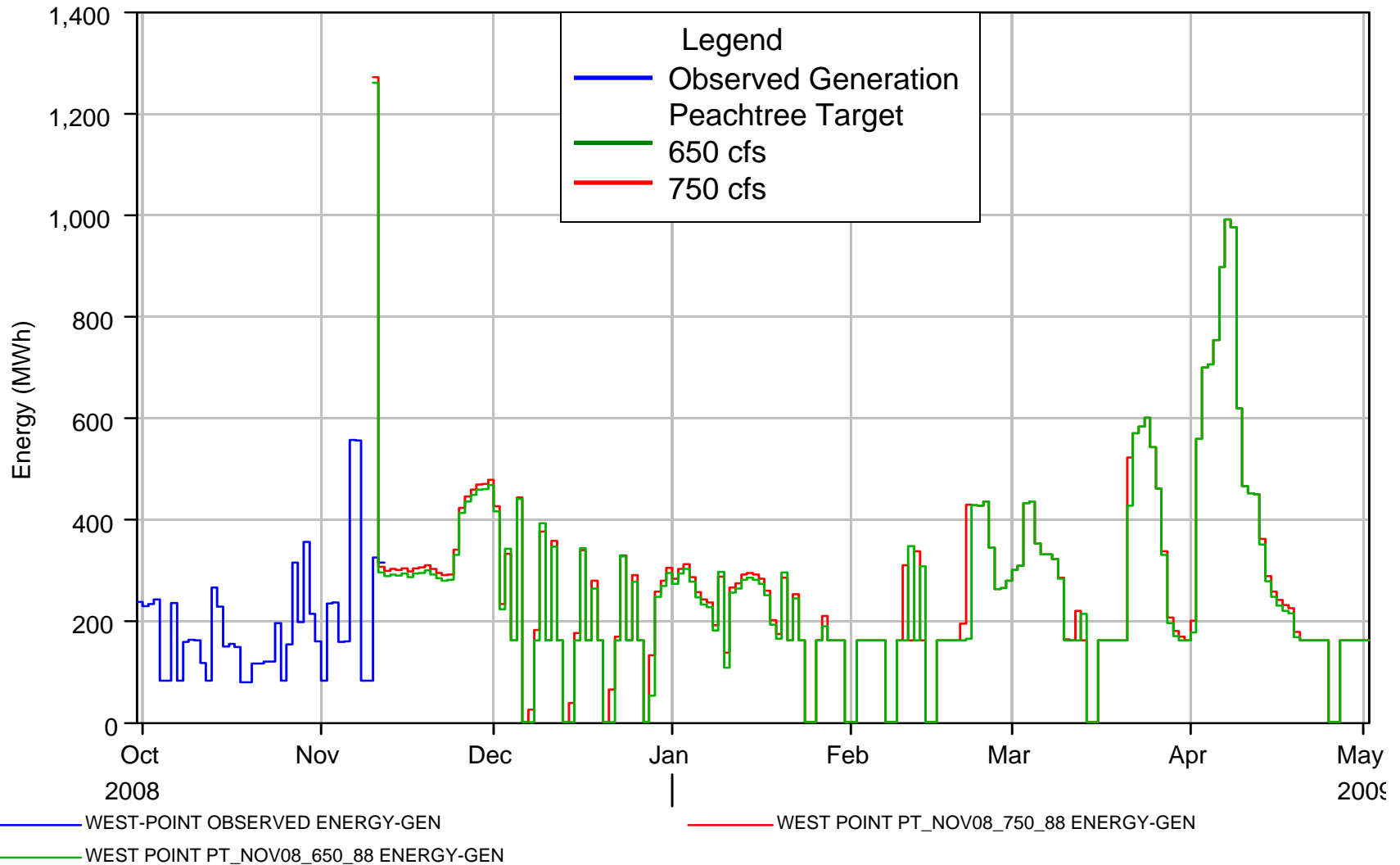
JIM WOODRUFF PT_NOV08_750_88 ELEV

JIM WOODRUFF PT_NOV08_650_88 ELEV

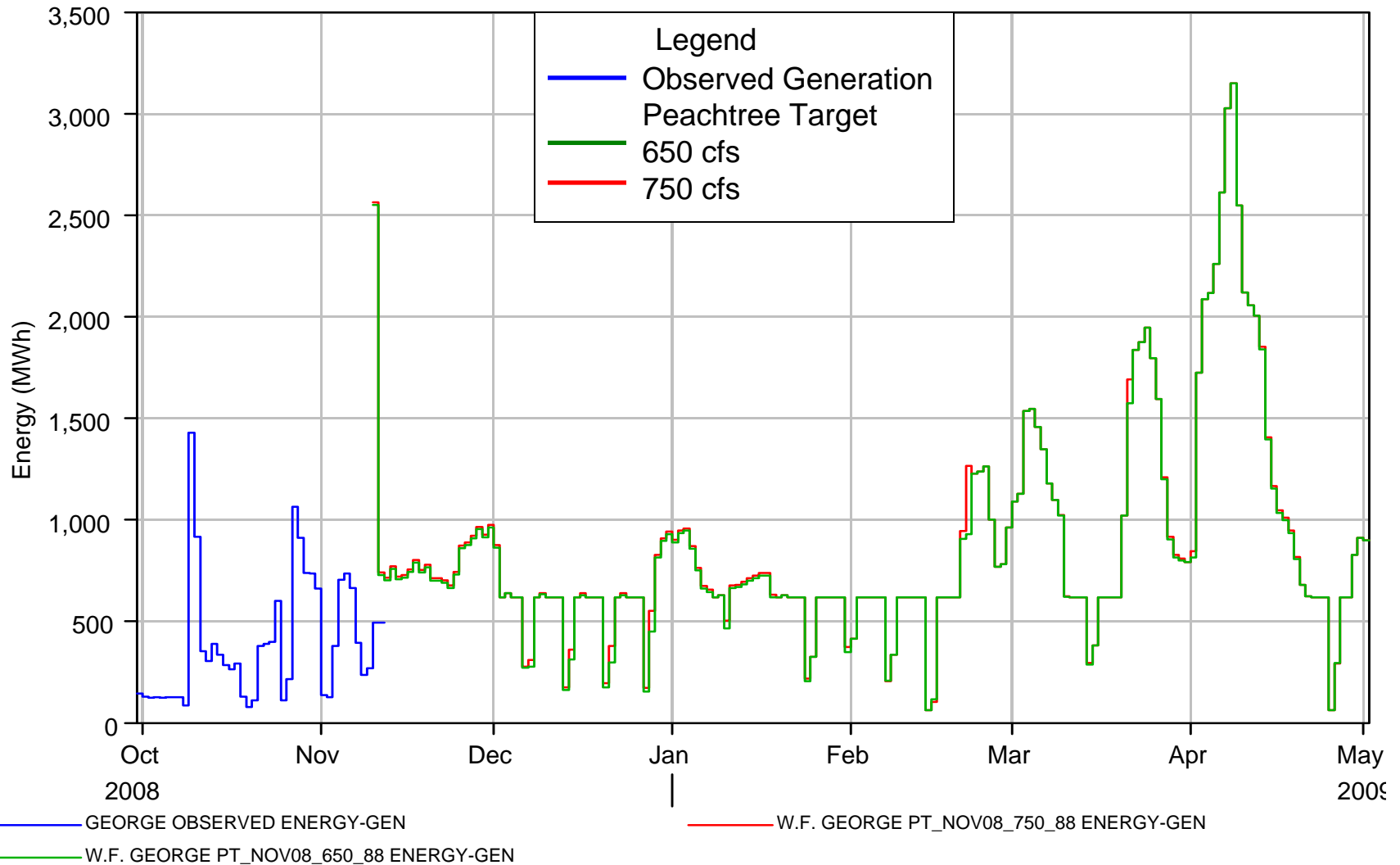
Buford Generation 1988-89 Hydrology



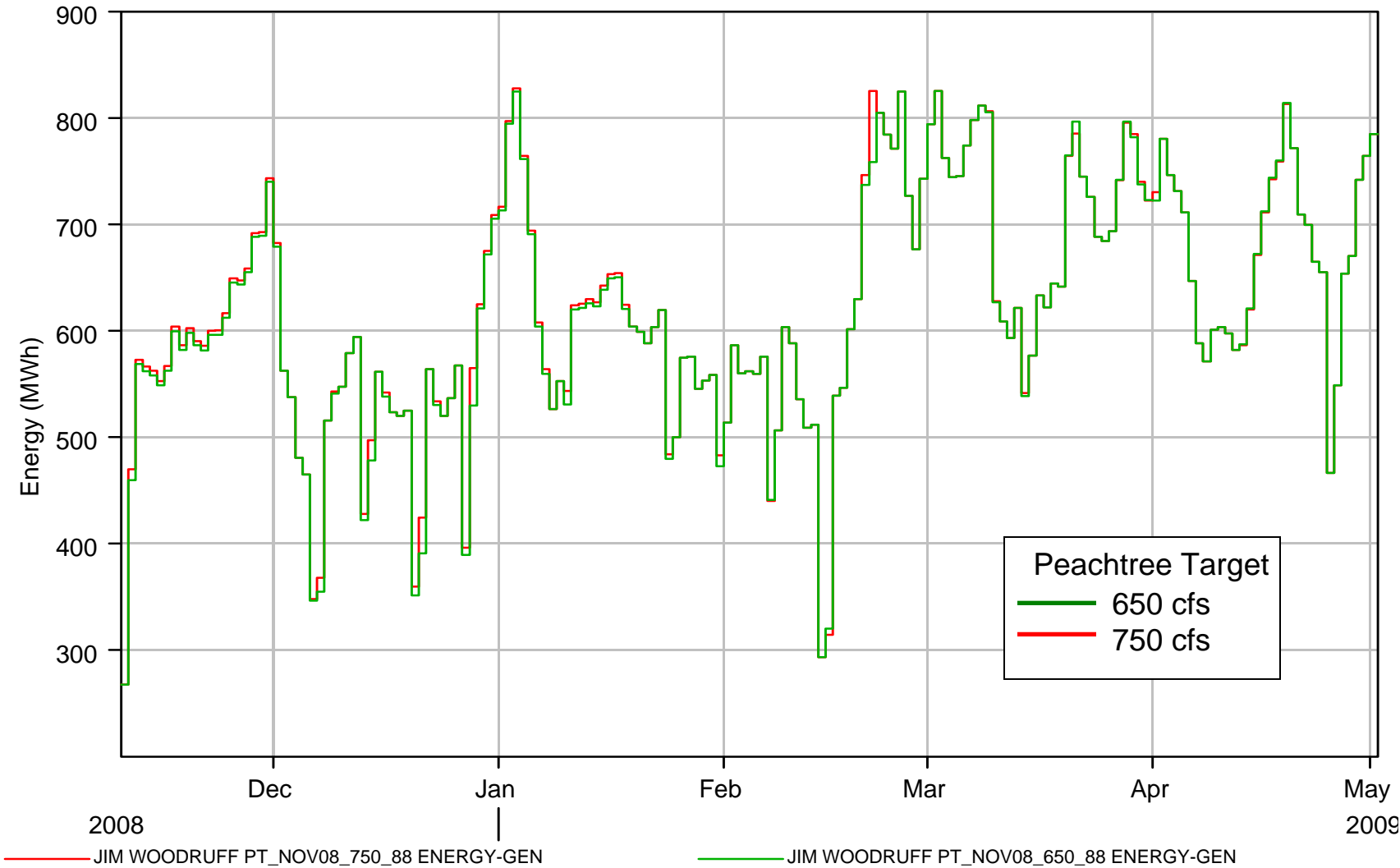
West Point Generation 1988-89 Hydrology



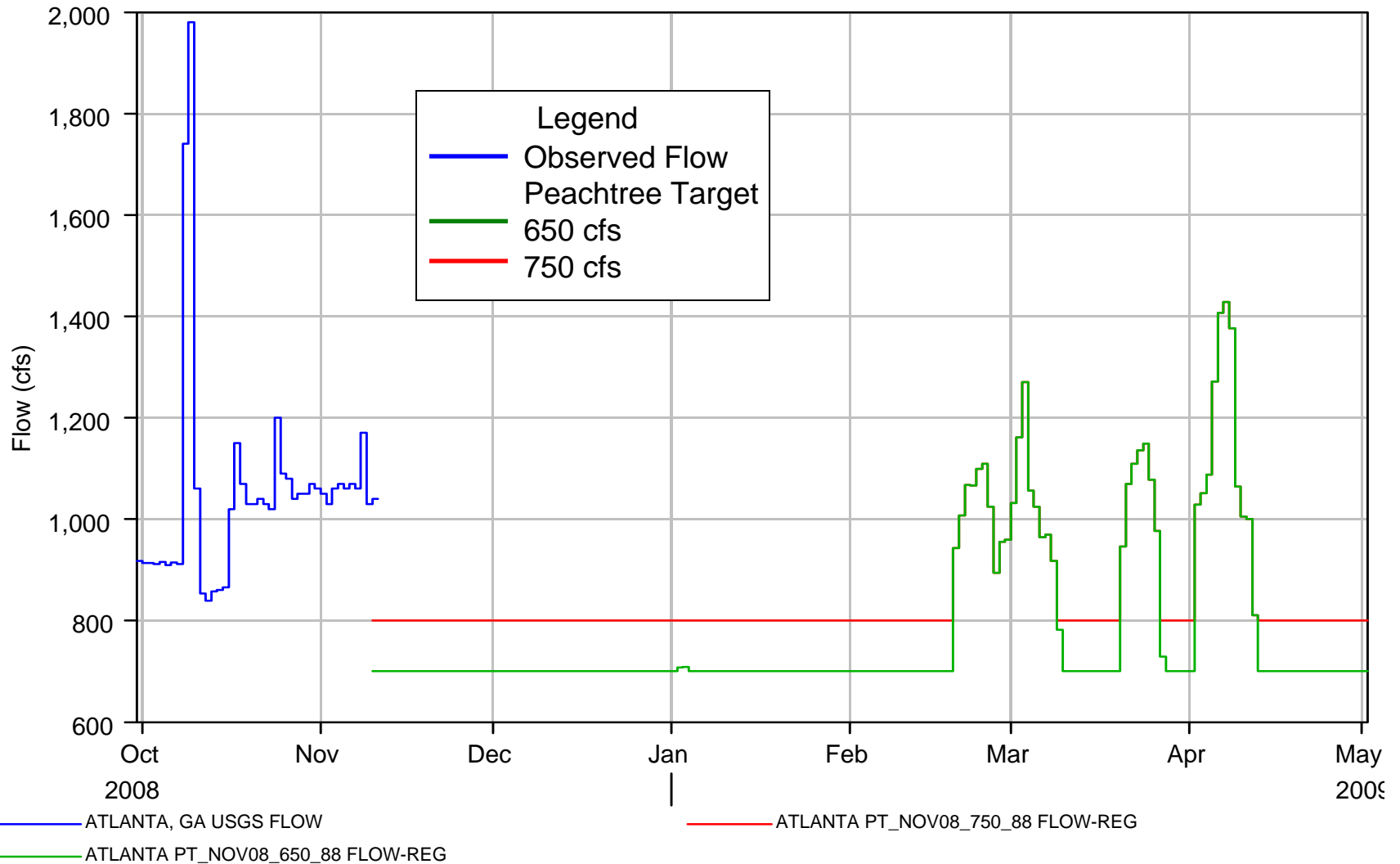
WF George Generation 1988-89 Hydrology



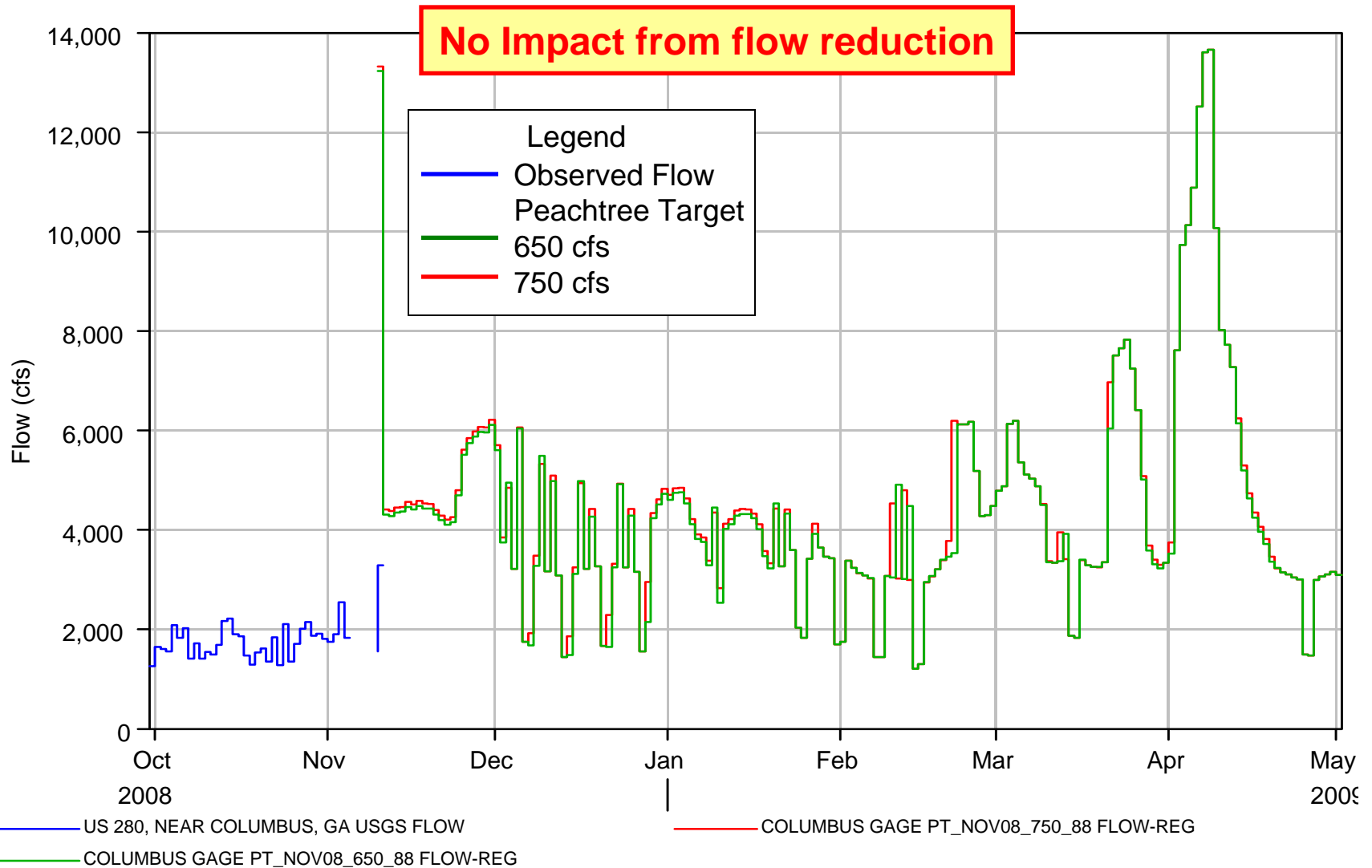
Jim Woodruff Generation 1988-89 Hydrology



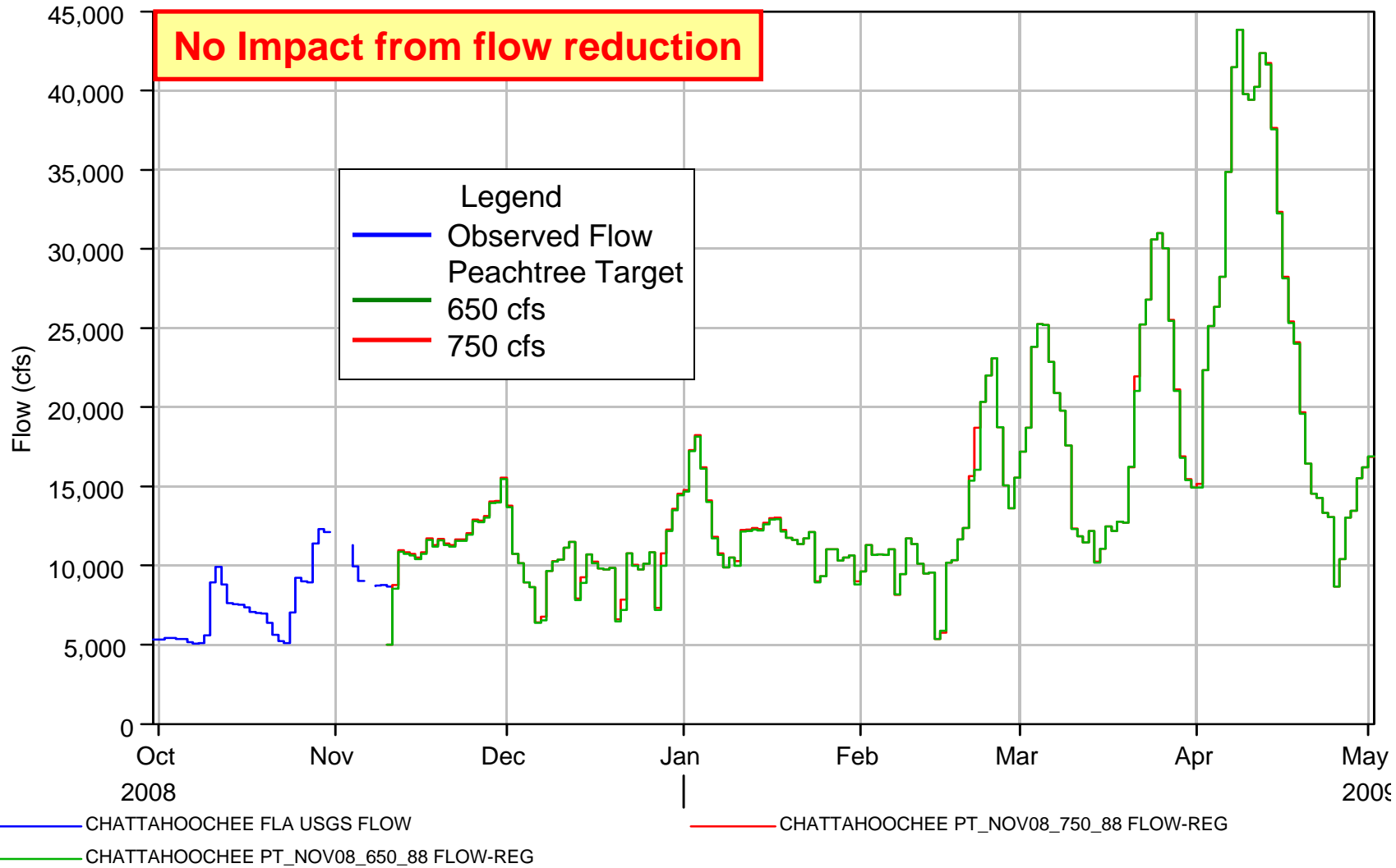
Atlanta Flow 1988-89 Hydrology



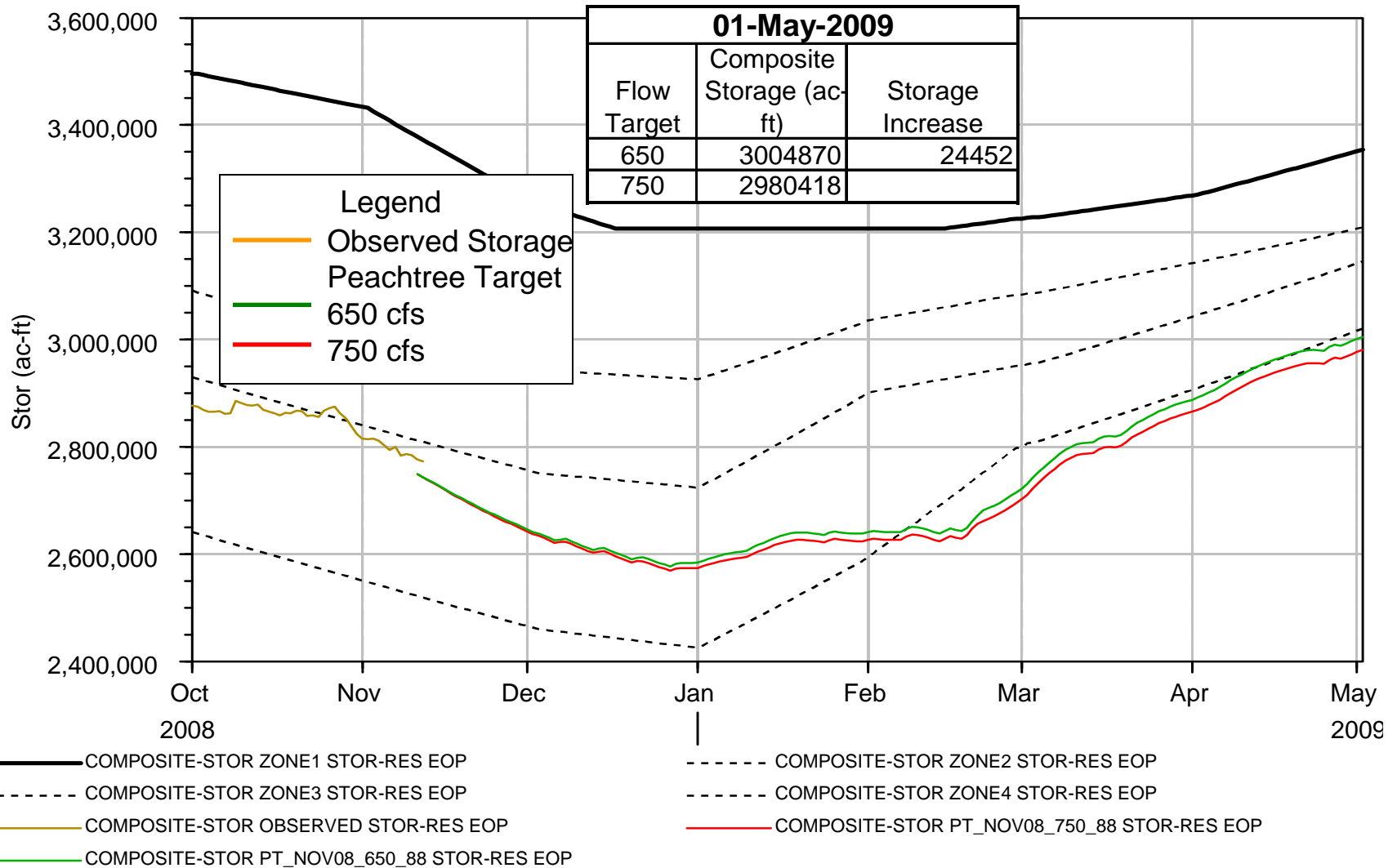
Columbus Flow 1988-89 Hydrology



Chattahoochee Flow 1988-89 Hydrology



Composite Storage 1988-89 Hydrology

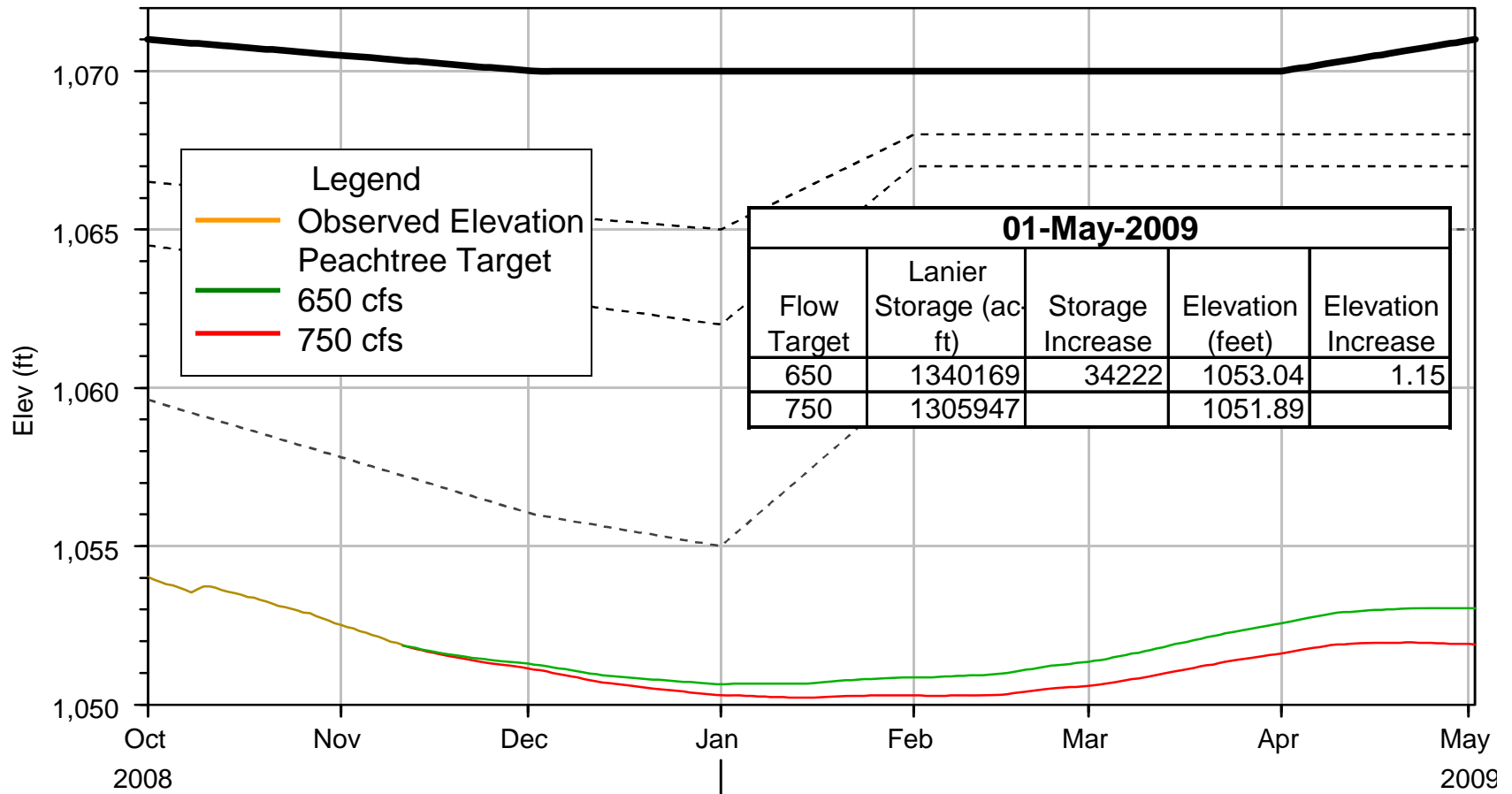


Model Results

10th Percentile Hydrology

Buford Elevation

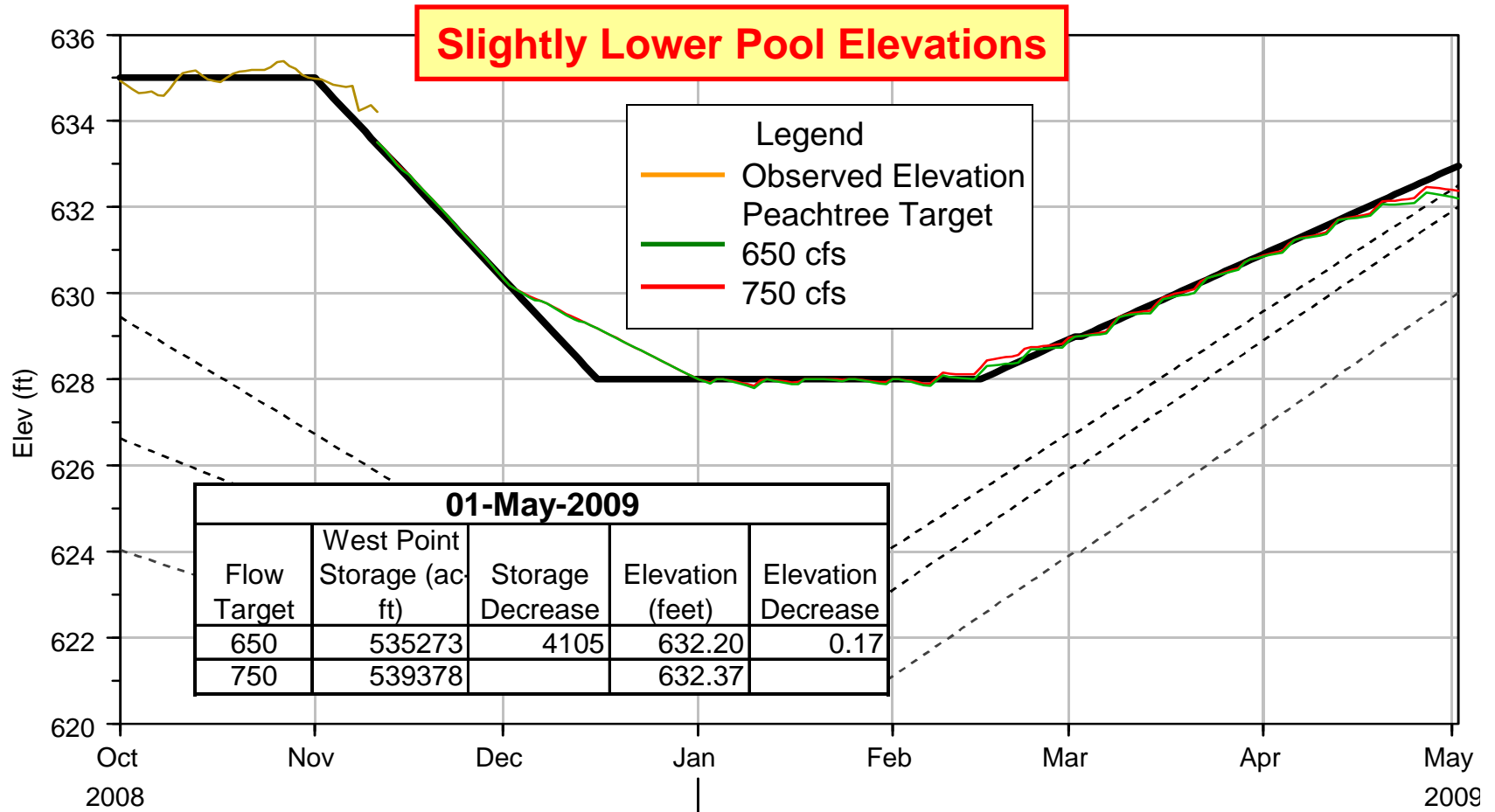
10th Percentile Hydrology



— BUFORD DAM ZONE1 ELEV
- - - - BUFORD DAM ZONE3 ELEV
— BUFORD OBSERVED ELEV
— BUFORD DAM PT_NOV08_650_10 ELEV

- - - - BUFORD DAM ZONE2 ELEV
- - - - BUFORD DAM ZONE4 ELEV
— BUFORD DAM PT_NOV08_750_10 ELEV

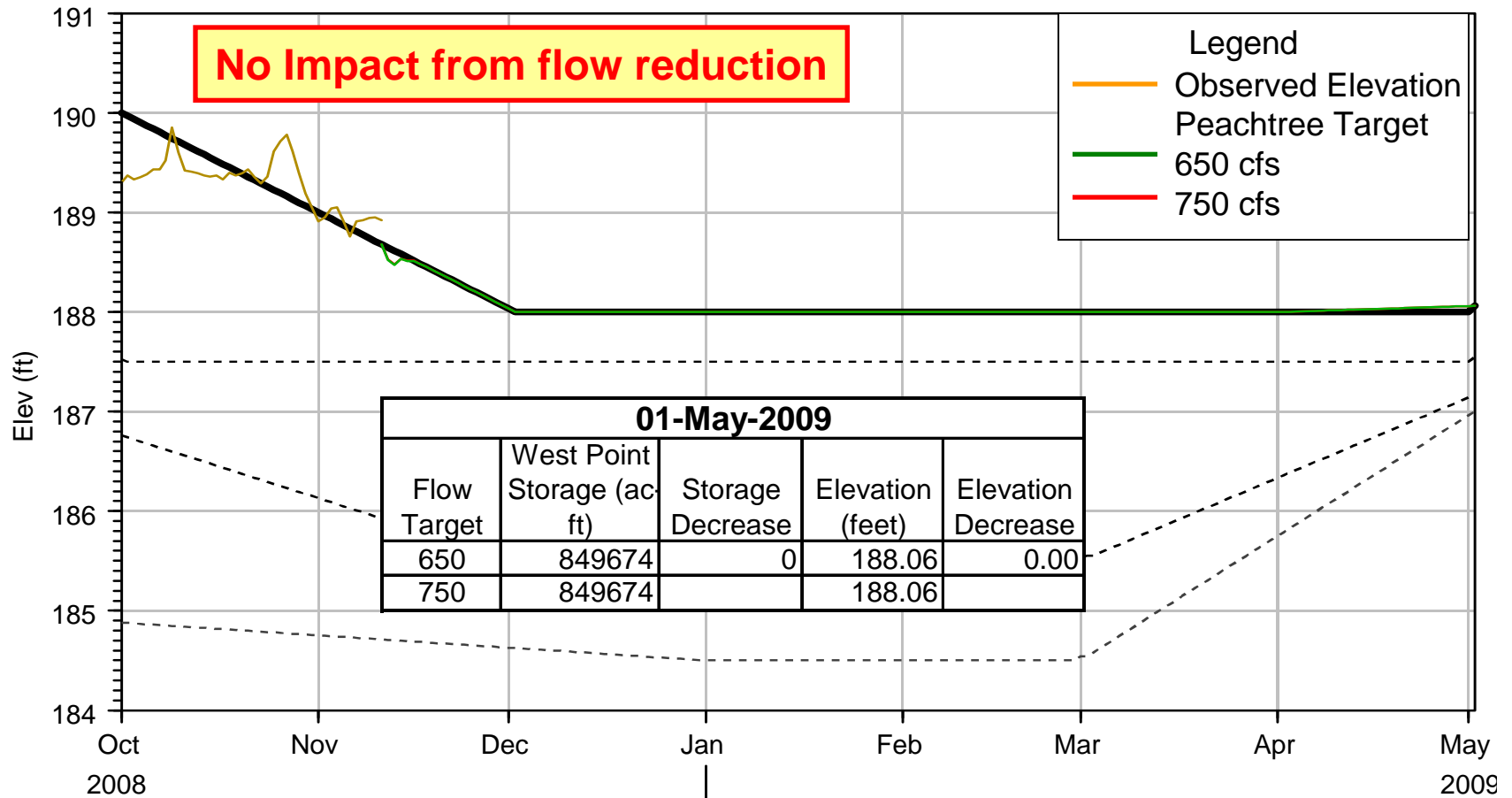
West Point Elevation 10th Percentile Hydrology



— WEST POINT ZONE1 ELEV
 - - - - - WEST POINT ZONE3 ELEV
 — WEST-POINT OBSERVED ELEV
 — WEST POINT PT_NOV08_650_10 ELEV

- - - - - WEST POINT ZONE2 ELEV
 - - - - - WEST POINT ZONE4 ELEV
 — WEST POINT PT_NOV08_750_10 ELEV

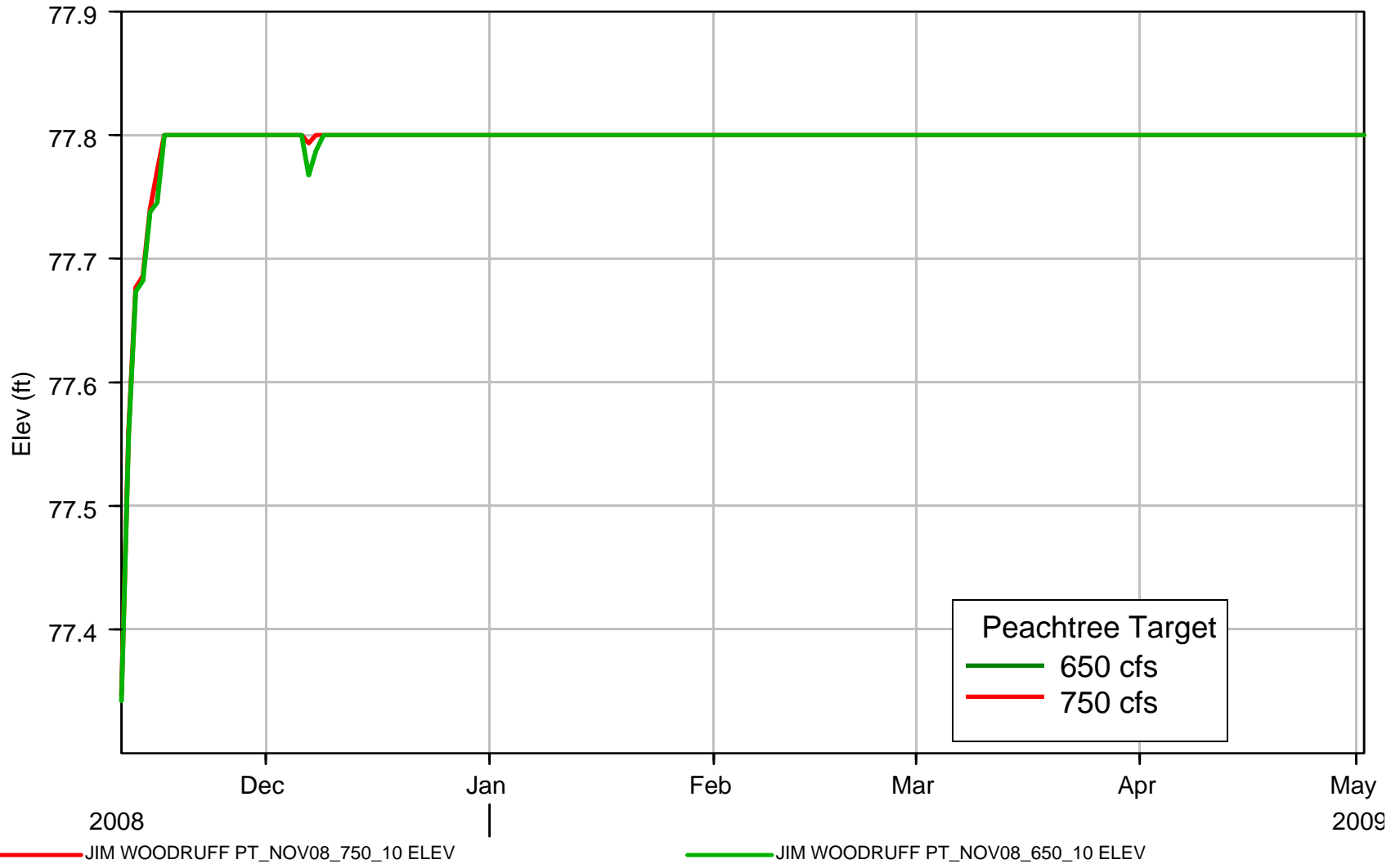
W.F. George Elevation 10th Percentile Hydrology



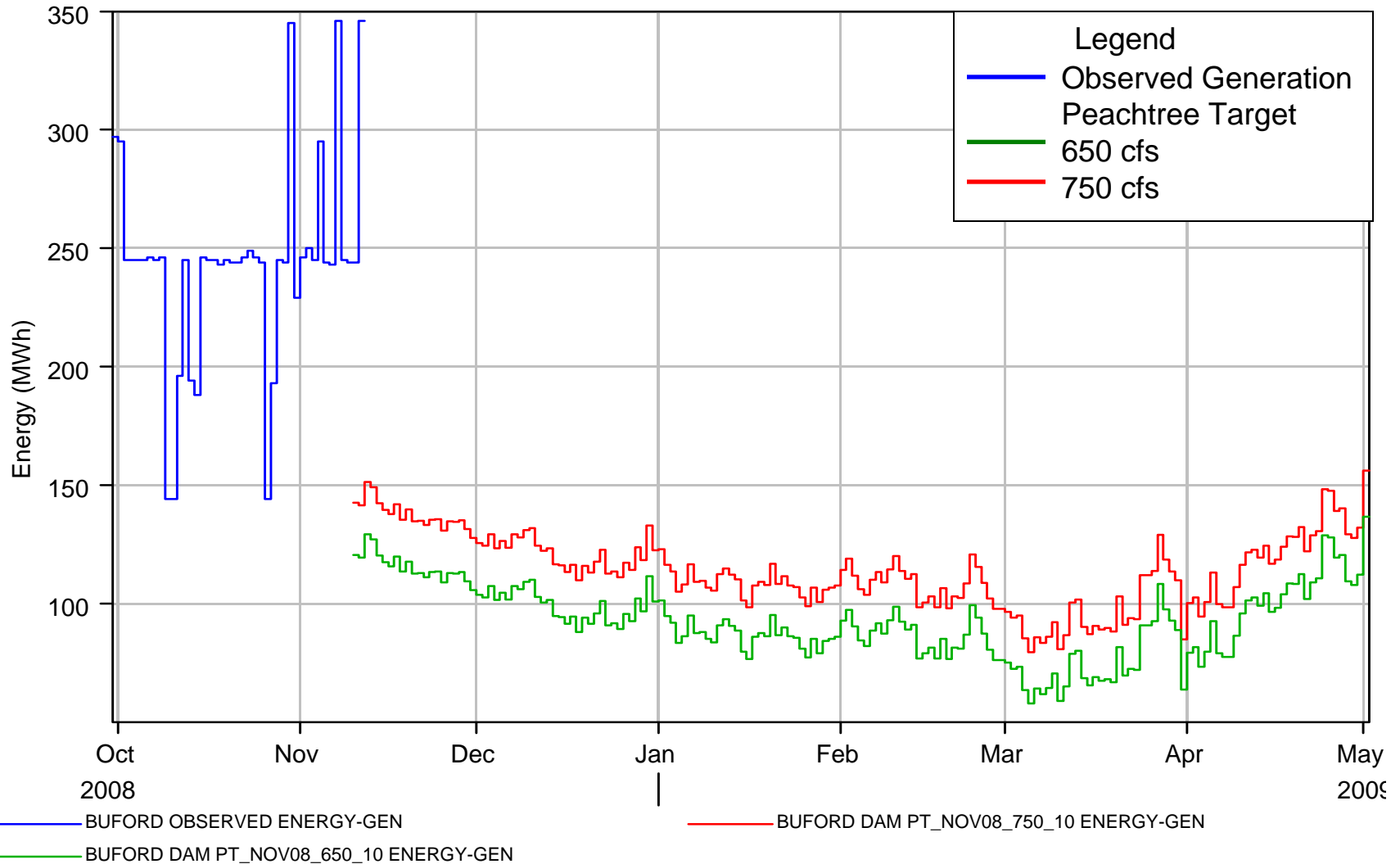
— W.F. GEORGE ZONE1 ELEV
 - - - - W.F. GEORGE ZONE3 ELEV
 — GEORGE OBSERVED ELEV
 — W.F. GEORGE PT_NOV08_650_10 ELEV

- - - - W.F. GEORGE ZONE2 ELEV
 - - - - W.F. GEORGE ZONE4 ELEV
 — W.F. GEORGE PT_NOV08_750_10 ELEV

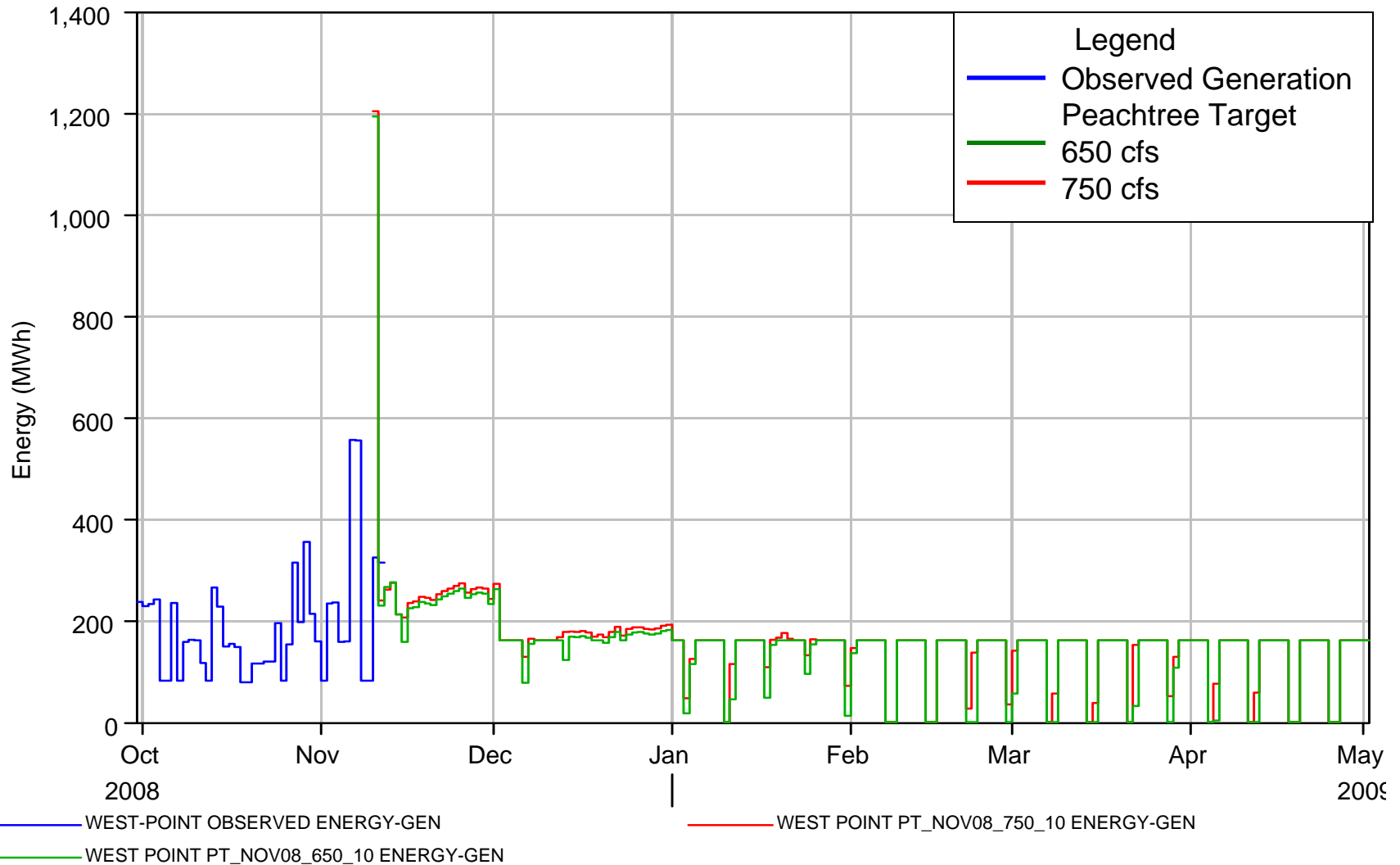
Jim Woodruff Elevation 10th Percentile Hydrology



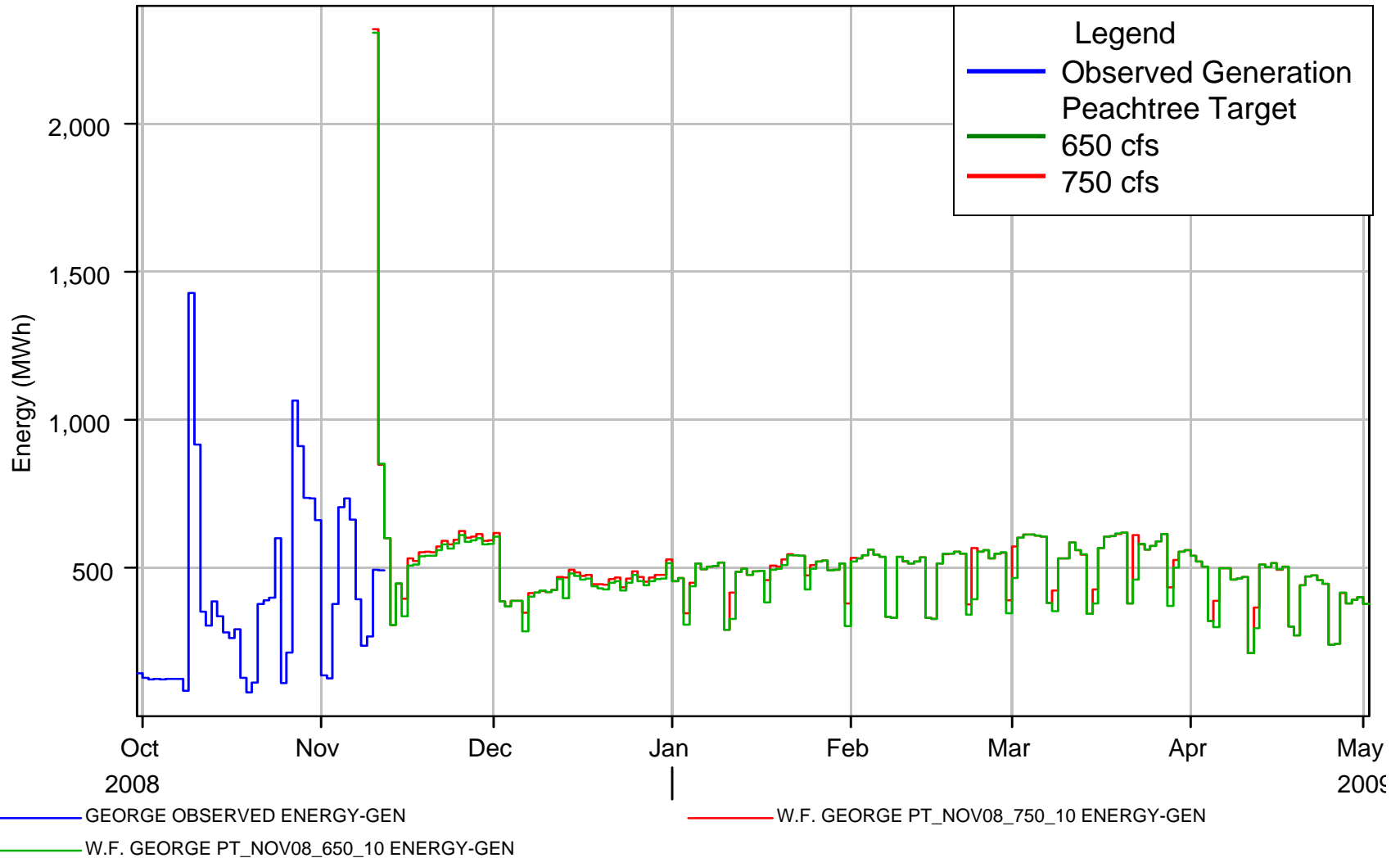
Buford Generation 10th Percentile Hydrology



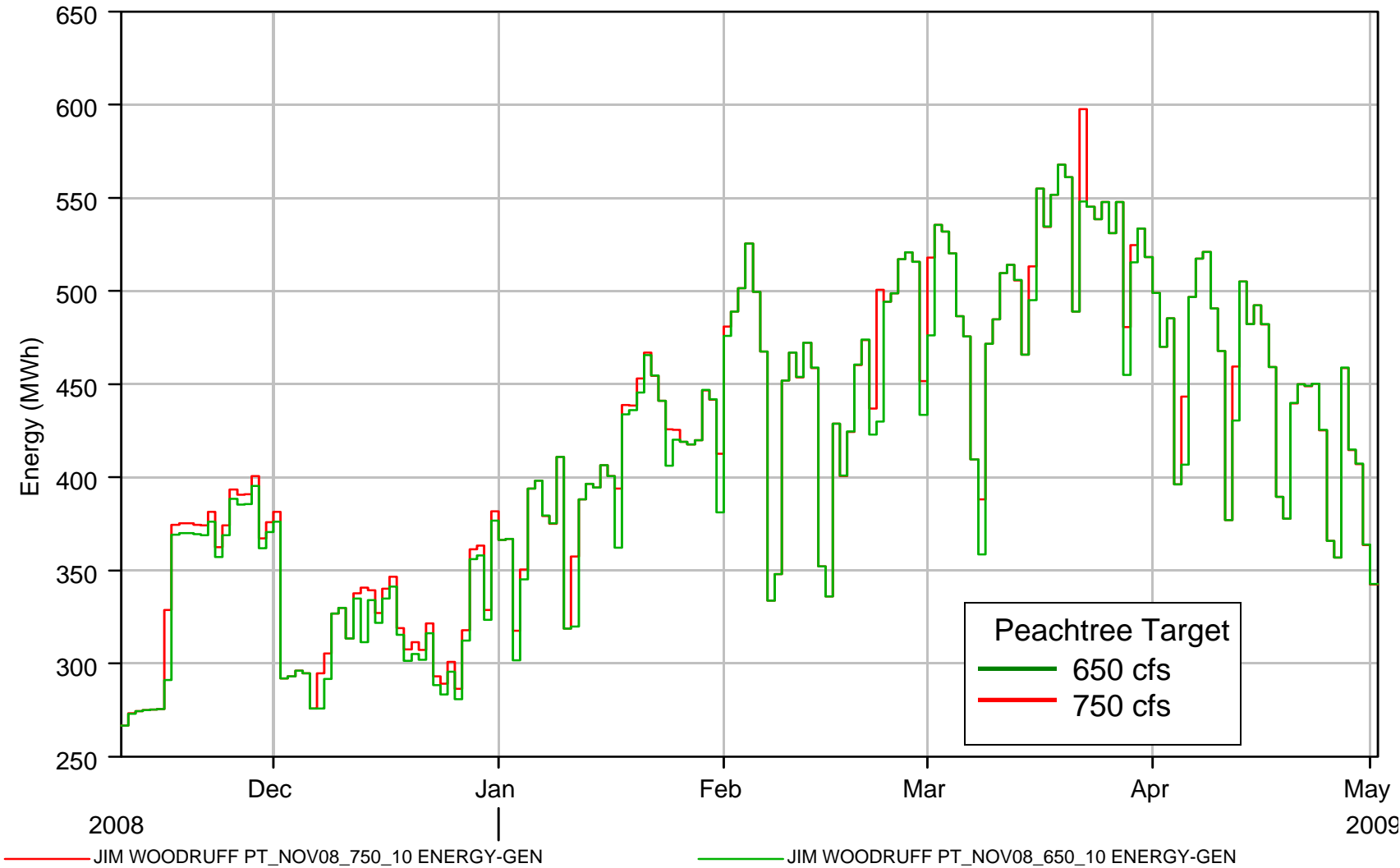
West Point Generation 10th Percentile Hydrology



WF George Generation 10th Percentile Hydrology

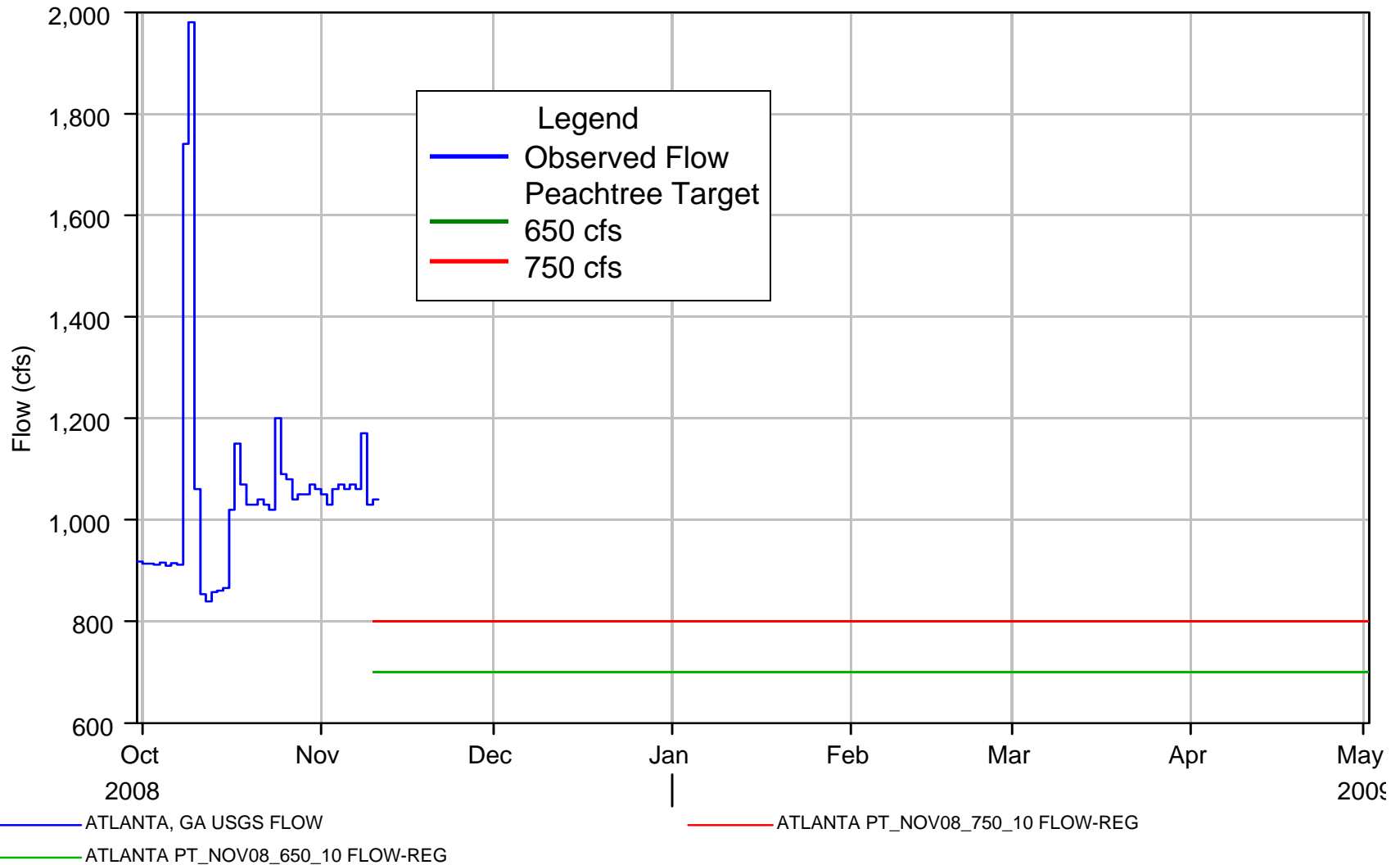


Jim Woodruff Generation 10th Percentile Hydrology



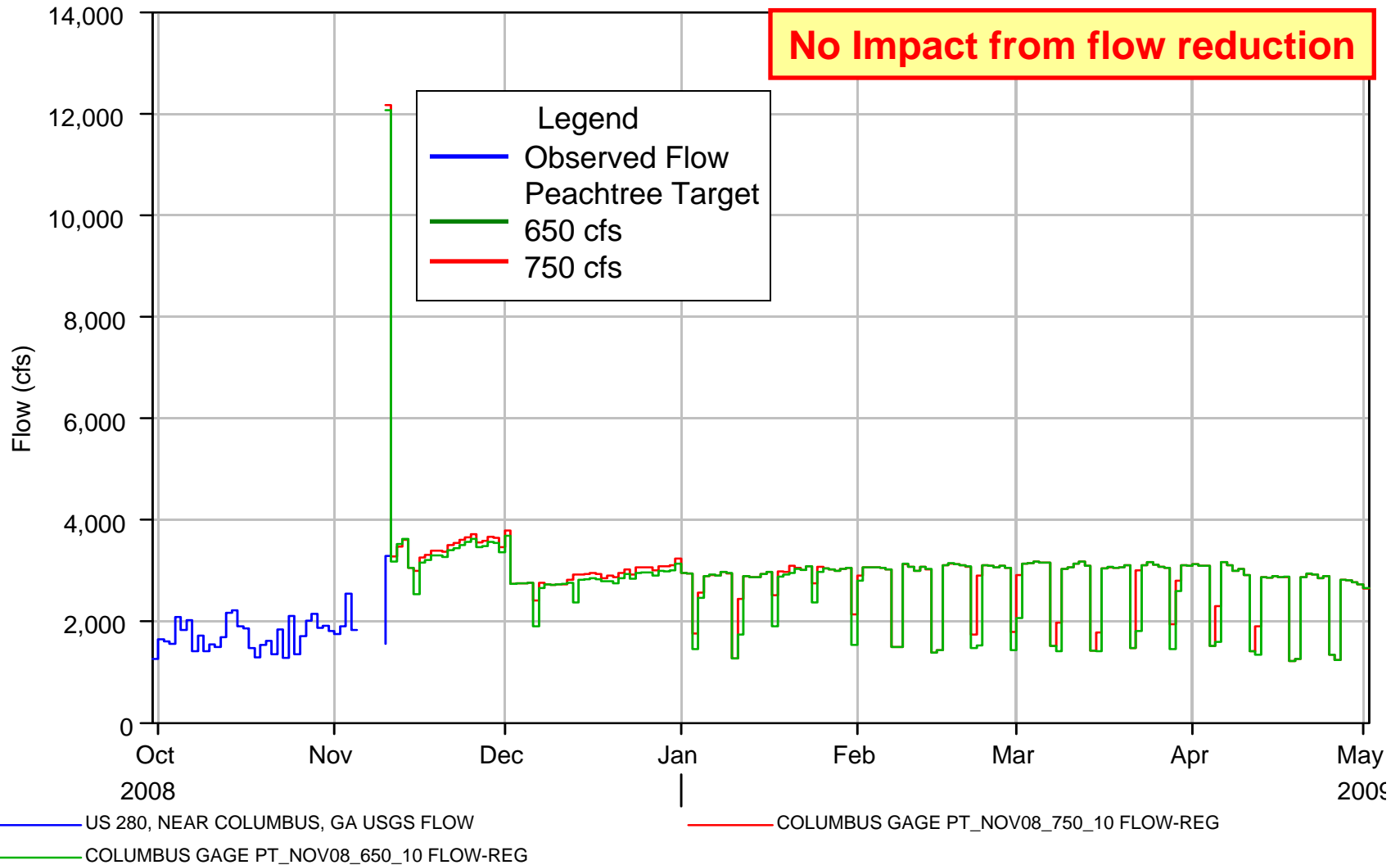
Atlanta Flow

10th Percentile Hydrology

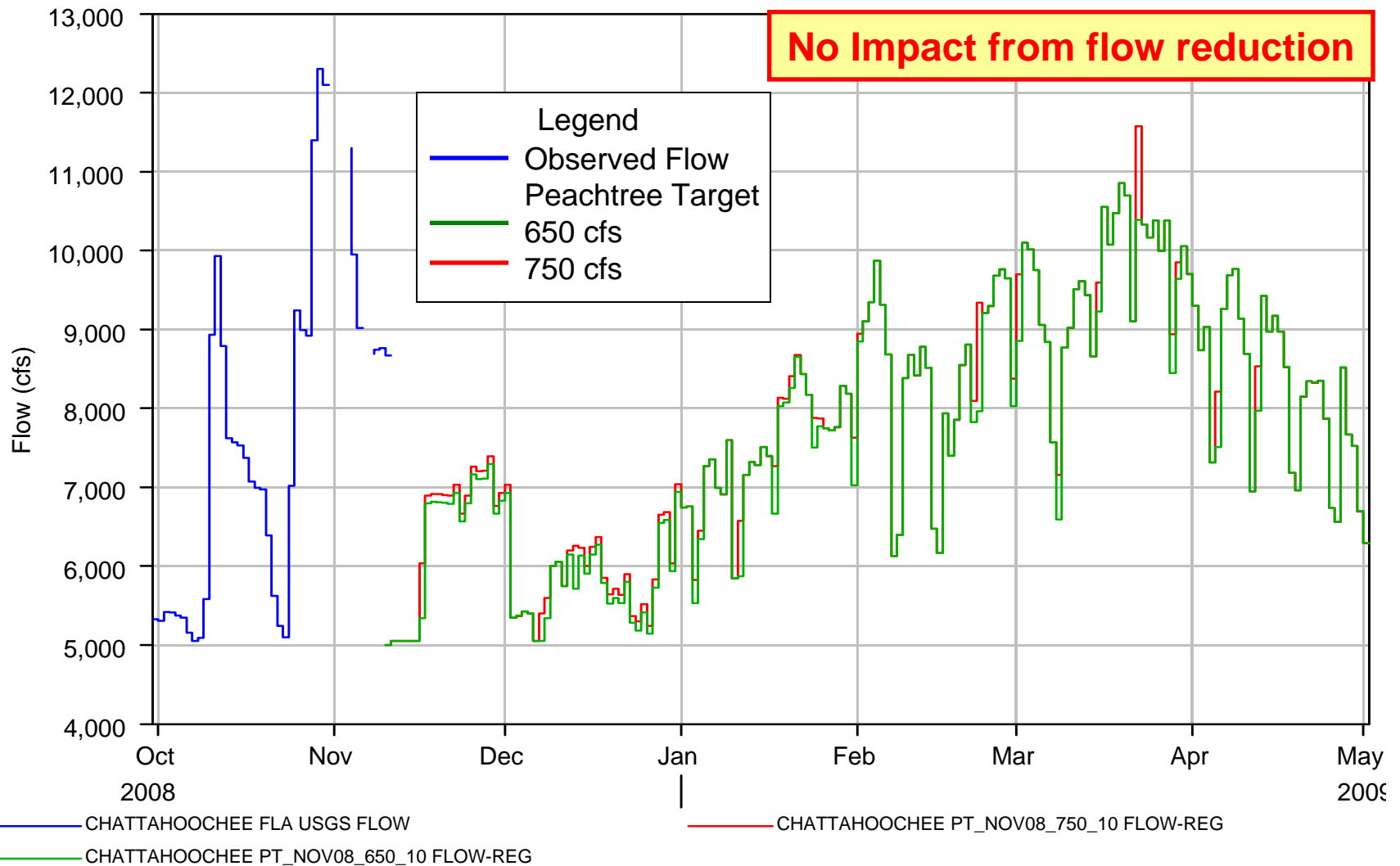


Columbus Flow

10th Percentile Hydrology

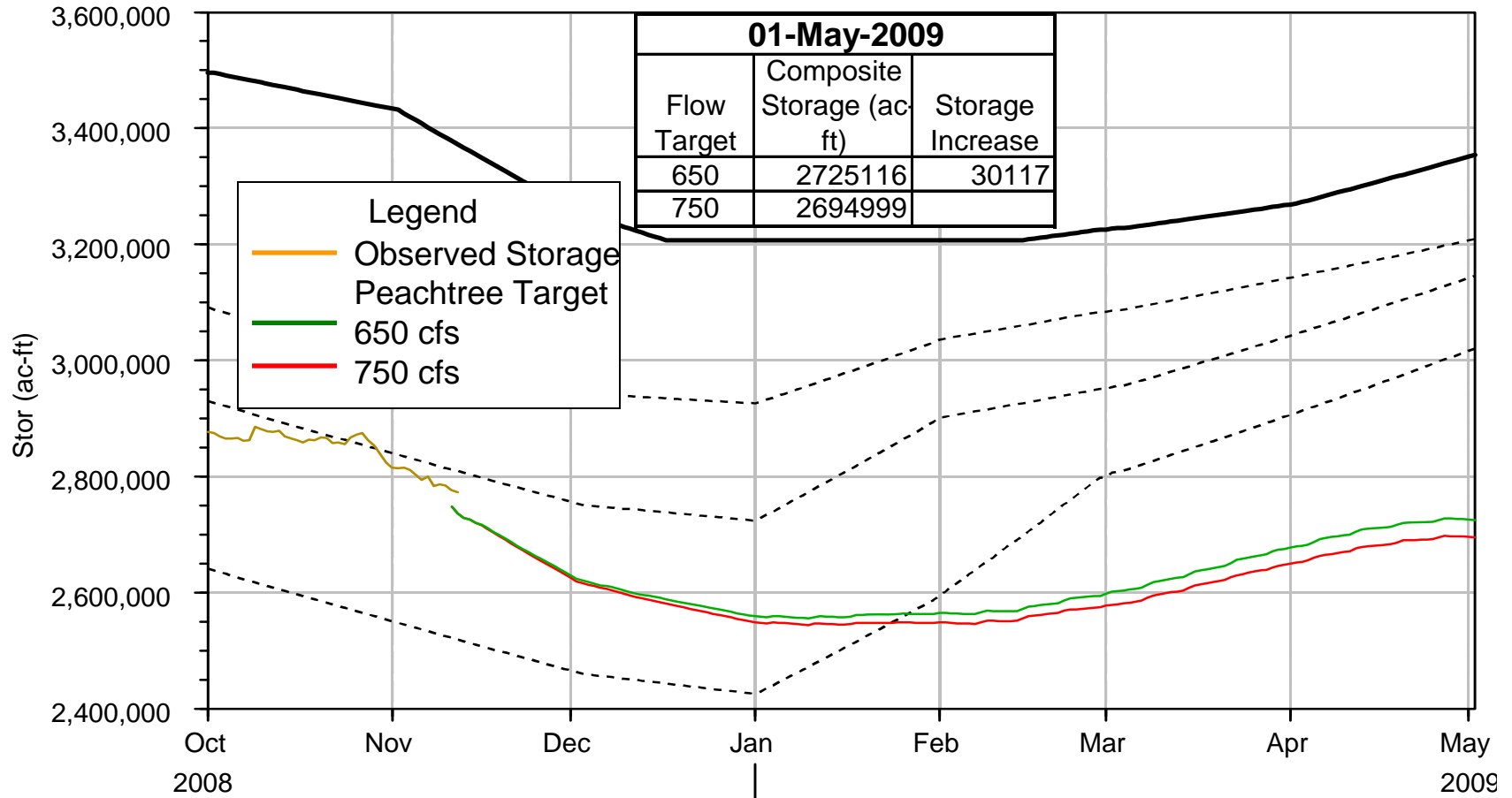


Chattahoochee Flow 10th Percentile Hydrology



Composite Storage

10th Percentile Hydrology



- COMPOSITE-STOR ZONE1 STOR-RES EOP
- - - - COMPOSITE-STOR ZONE2 STOR-RES EOP
- - - - COMPOSITE-STOR ZONE3 STOR-RES EOP
- - - - COMPOSITE-STOR ZONE4 STOR-RES EOP
- COMPOSITE-STOR OBSERVED STOR-RES EOP
- COMPOSITE-STOR PT_NOV08_750_10 STOR-RES EOP
- COMPOSITE-STOR PT_NOV08_650_10 STOR-RES EOP