

PRELIMINARY RESULTS, SUBJECT TO REVISIONS

South Delta Alternatives Analysis Study Using DSM2 Simulations

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December 17, 2008

South Delta Alternatives Analysis Study Using DSM2 Simulations

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South Delta Alternatives Analysis Study Using DSM2 Simulations

Approach:

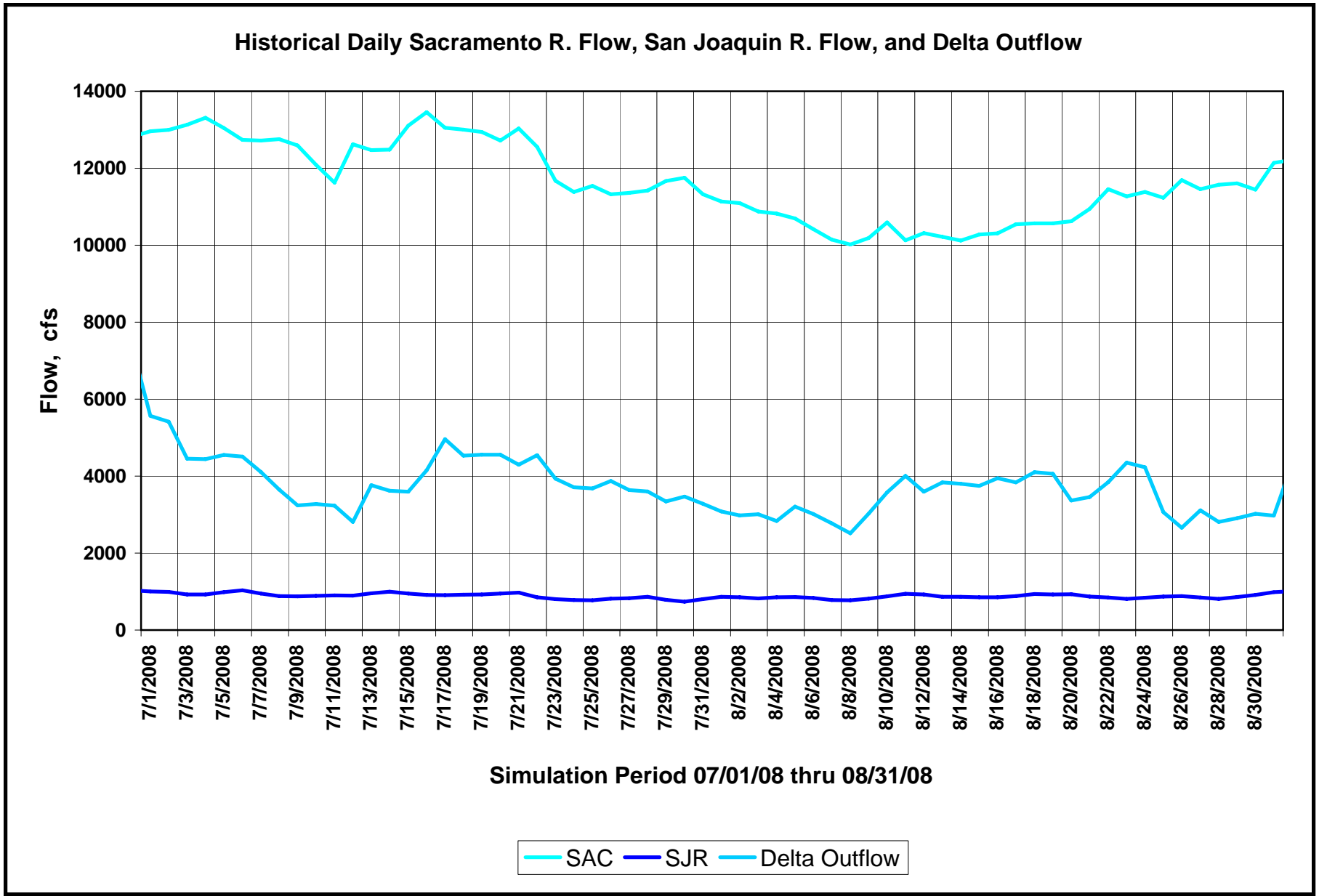
1. Develop a baseline run using July 1- August 31, 2008 historical data.
2. Refine the baseline by comparing with observed data (stage and flow) and by modifying south delta barrier characteristics if necessary.
3. Formulate alternative scenarios with elevation changes among barriers, with increased number of culverts in the barriers, etc.; and simulate these scenarios and evaluate results.
4. Formulate alternative scenarios with various levels of pumping from San Joaquin River to Paradise Cut assuming elevated initial EC levels in Paradise Cut; simulate these scenarios and evaluate results.

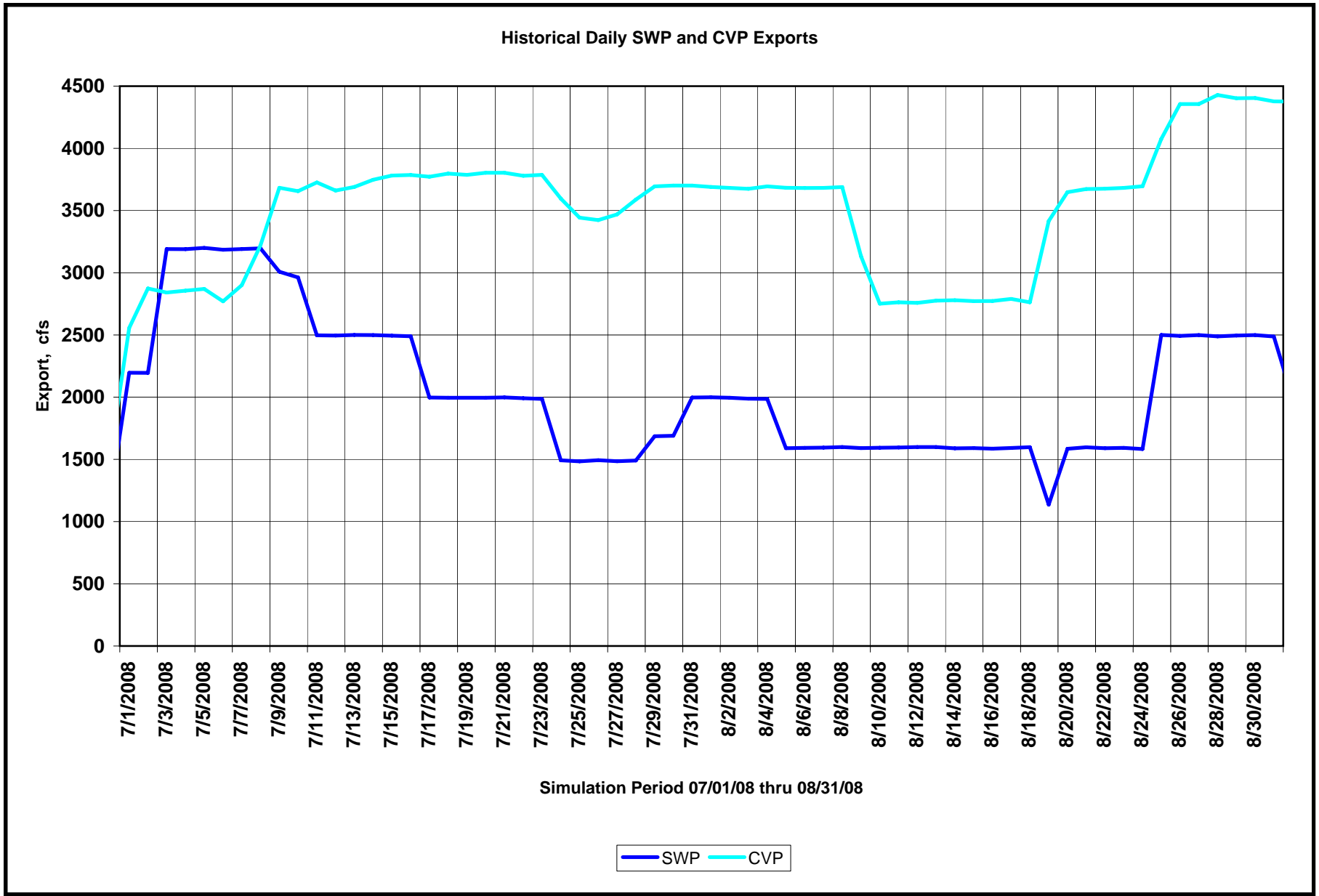
SUMMARY OF GATES OPERATIONS, FLOWS & EXPORTS

Summary of Gates Operations, Flows, and Exports

(July 1, 2008 – August 31, 2008)

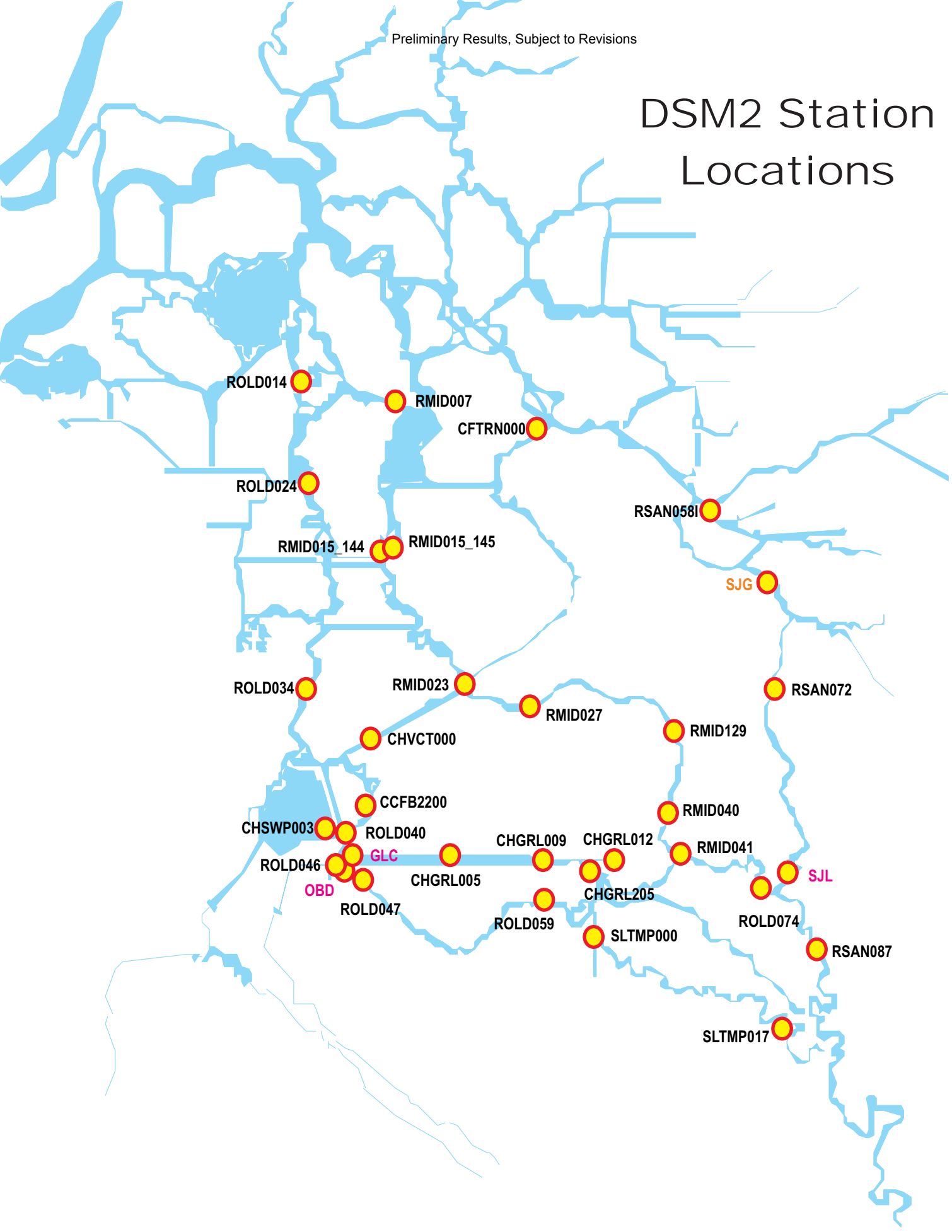
1. **Clifton Court Forebay Gates** were operating on a Priority 2 schedule from the beginning to the end of the period.
2. **Delta Cross Channel Gates** remained open from the beginning to the end of the period.
3. All three **agricultural barriers** were in place and were operating as follows
 - **MR Flapgates:**
 - 7/1/08 – 8/31/08: All six MR flapgates untied (operating tidally).
 - **ORT Flapgates:**
 - 7/1/08 - 7/8/08: All nine ORT flapgates tied open.
 - 7/9/08 - 8/3/08: Six of nine ORT flapgates untied (operating tidally) and three tied open.
 - 8/4/08 - 8/5/08: Three of nine ORT flapgates untied (operating tidally) and six tied open.
 - 8/6/08 - 8/13/08: Six of nine ORT flapgates untied (operating tidally) and three tied open.
 - 8/14/08 - 8/31/08: Three of nine ORT flapgates untied (operating tidally) and six tied open.
 - **GLC Flapgates:**
 - 7/1/08 - 7/28/08: All six GLC flapgates tied open.
 - 7/29/08 - 8/31/08: All six GLC flapgates untied (operating tidally).
4. Suisun Marsh salinity control flashboards were removed and the boatlock was closed. The Suisun Marsh salinity control gates were open from the beginning to the end of the period.
5. San Joaquin River flow at Vernalis varied between 750 cfs and 1,050 cfs over the period.
6. Sacramento River flow at Freeport varied between 10,000 cfs and 13,500 cfs over the period.
7. Clifton Court Forebay intake varied between 1,100 cfs and 3,200 cfs over the period.
8. Jones pumping varied between 2,500 cfs and 4,400 cfs over the period.



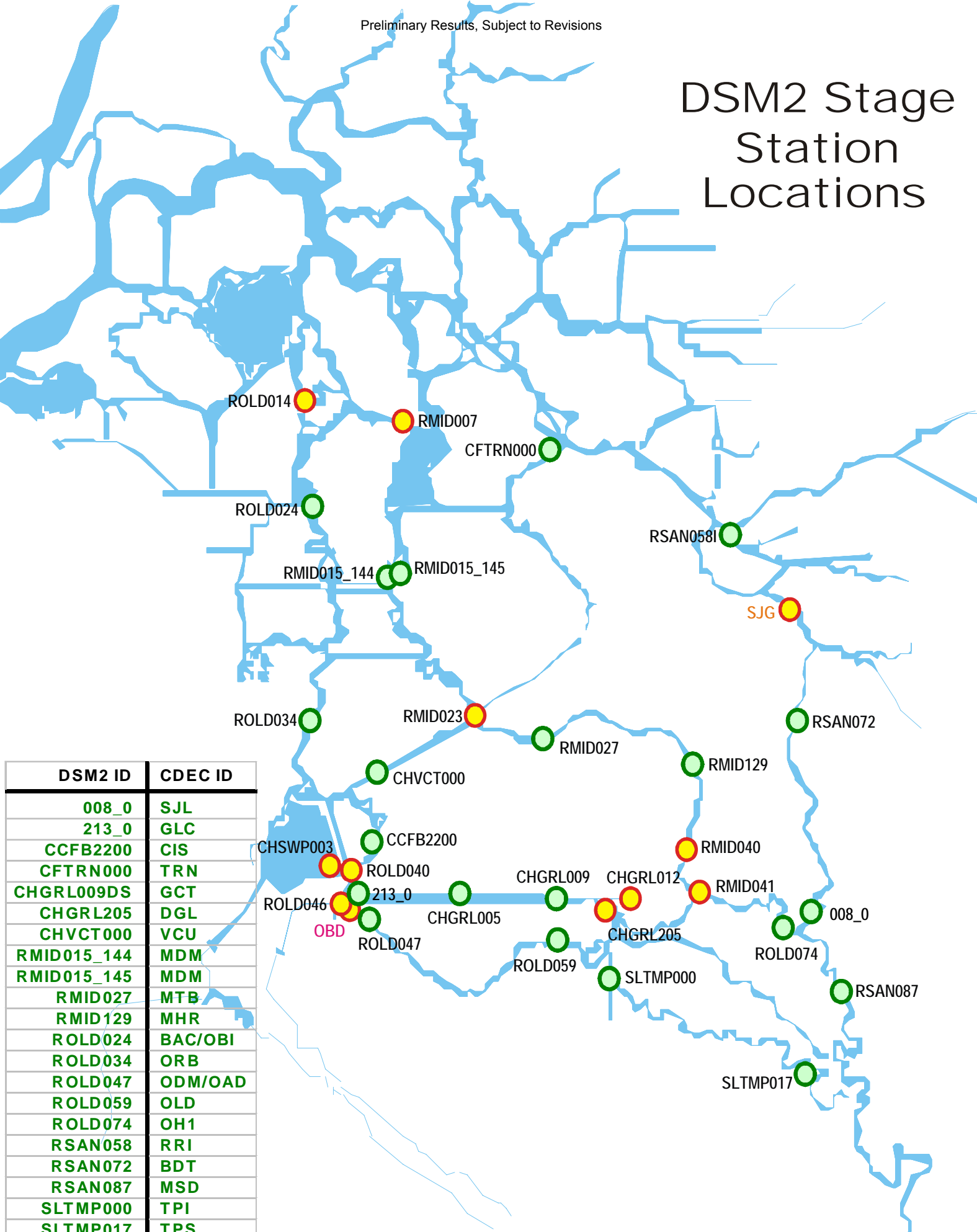


DSM2 LOCATIONS MAPS & TABLE

DSM2 Station Locations

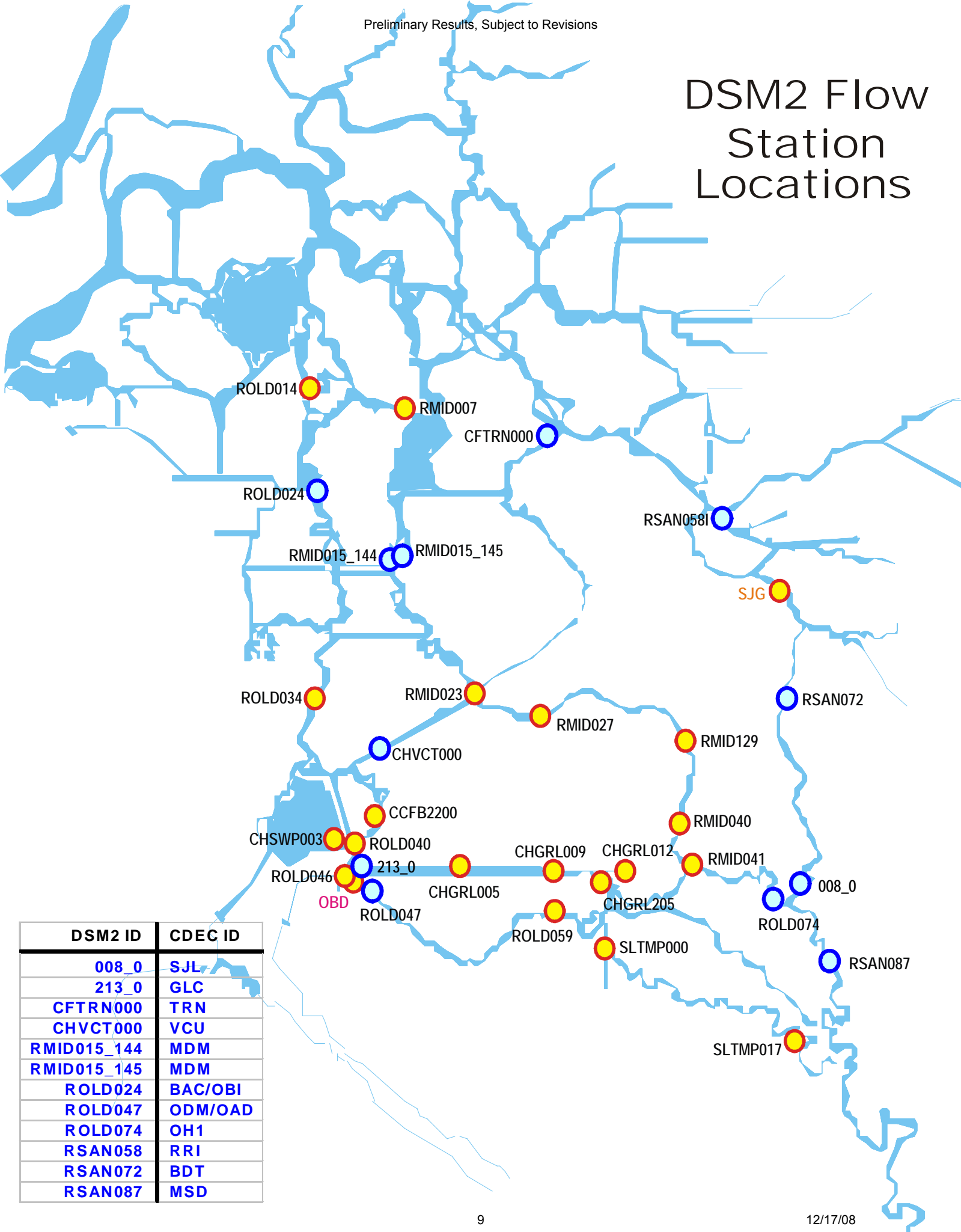


DSM2 Stage Station Locations



DSM2 ID	CDEC ID
008_0	SJL
213_0	GLC
CCFB2200	CIS
CFTRN000	TRN
CHGRL009DS	GCT
CHGRL205	DGL
CHVCT000	VCU
RMID015_144	MDM
RMID015_145	MDM
RMID027	MTB
RMID129	MHR
ROLD024	BAC/OBI
ROLD034	ORB
ROLD047	ODM/OAD
ROLD059	OLD
ROLD074	OH1
RSAN058	RRI
RSAN072	BDT
RSAN087	MSD
SLTMP000	TPI
SLTMP017	TPS

DSM2 Flow Station Locations



DSM2 ID	CDEC ID
008_0	SJL
213_0	GLC
CFTRN000	TRN
CHVCT000	VCU
RMID015_144	MDM
RMID015_145	MDM
ROLD024	BAC/OBI
ROLD047	ODM/OAD
ROLD074	OH1
RSAN058	RRI
RSAN072	BDT
RSAN087	MSD

DSM2 LOCATIONS FOR SOUTH DELTA ALTERNATIVES ANALYSIS

Sl. No	DSM2 ID	DSM2 Channel (Length)	DSM2 Node	Data Definition	CDEC Name	Stage	(CDEC Sensor) /Time Resol.	Flow	(CDEC Sensor) /Time Resol.	EC	(CDEC Sensor) /Time Resol.	Comments
MIDDLE RIVER												
1	RMID007	Channel 248 (665)		Middle R.								
2	RMID015_144	Channel 144 (838)		Middle R. near Middle R.	USGS/MDM	Yes	(1) 15M	Yes	(20/41) 15M/1D	No	N/A	Calc = 144 minus 145
3	RMID015_145	Channel 145 (214)		Middle R. near Middle R.	USGS/MDM	Yes	(1) 15M	Yes	(20/41) 15M/1D	No	N/A	Calc = 144 minus 145
4	CHVCT000	Channel 229 (0)	Node 190	Victoria Canal near Byron	VCU	Yes	(1) 15M	Yes	(20) 15M	Yes	(100) 15M	Need mean daily flow and daily EC.
5	RMID023	Channel 135 (719)		Middle R. @ Borden Highway. VIC=Victoria Island.	VIC	No	N/A	No	N/A	Yes	(5) 15M/1H/1D	
6	134_length	Channel 134 (length)		Middle R. Barrier (downstream)	N/A							
7	RMID027	Channel 133 (3641)		Middle R. @ Tracy Blvd.	MTB	Yes	(1) 15M	No	N/A	Yes	(100) 15M/1H/1D	
8	133_0	Channel 133 (0)		Middle R. Barrier (upstream)	N/A							
9	RMID129	Channel 129 (3000)		Middle R. @ Howard Road Bridge	MHR	Yes	(1) 15M	No	N/A	Yes	(100) 15M	Need daily EC.
10	RMID040	Channel 126 (3951)		Middle R. @ Mowery Bridge	N/A							
11	RMID041	Channel 125 (1700)		Middle R. @ Old R. (Middle R. East of Union Island)	UNI	No	N/A	No	N/A	Yes	(5) 15M/1H/1D	
OLD RIVER												
12	ROLD014	Channel 118 (0)		Old R. @ Holland Cut	HLL	No	N/A	No	N/A	Yes	(5) 15M/1H/1D	
13	ROLD024	Channel 106 (2718)		Old R. @ Bacon Island (near CCC)	USGS/BAC	Yes	(1) 15M	Yes	USGS	Yes	(100) 15M/1H/1D	BAC doesn't have flow data.
14	ROLD024	Channel 106 (2718)		Old R. @ Bacon Island (near CCC)	USGS/OBI	Yes	(1) 15M	Yes	(20/41) 15M/1D	Yes	(100) 15M	Need daily EC.
15	ROLD034	Channel 90 (3021)		Old R. near Byron	ORB	Yes	(1) 15M	No	N/A	No	N/A	
16	CCFB2200	Channel 218 (2200)		West of Union Island (Old R. @ Coney Island)	CIS	Yes	(1) 15M	No	N/A	No	N/A	No data although CDEC has sensors for EC.
17	CHSWP003	Channel 82 (length)		Clifton Court Forebay (Gates)	CLC	No	N/A	No	N/A	Yes	(100) 15M/1D	
18	ROLD040	Channel 82 (2609)		Old R. @ Clifton Court Ferry	N/A							
19	80_length	Channel 80 (length)		Old R. Barrier (downstream)	N/A							
20	ROLD046	Channel 80 (1431)		Old R.	N/A							
21	ROLD047 ??	Channel 79 (2766) ??		Old R. near DMC below Dam	OBD	Yes	(1) 15M	No	N/A	Yes	(100) 15M	Need daily EC.
22	ROLD047 ??	Channel 79 (2766) ??		Old R. near DMC	ODM	Yes	(1) 15M	Yes	(20) 15M	No	N/A	Need mean daily flow.
23	ROLD047 ??	Channel 79 (2766) ??		Old R. near DMC above Dam	OAD	Yes	(1) 15M	No	N/A	Yes	(100) 15M	Need daily EC.
24	79_0	Channel 79 (0)		Old R. Barrier (upstream)	N/A							
25	ROLD059	Channel 71 (3116)		Old R. @ Tracy Road	OLD	Yes	(1) 15M	No	N/A	Yes	(100) 15M/1D	
26	ROLD074	Channel 54 (735)		Old R. @ Head	OH1	Yes	(1) 15M	Yes	(20/41) 15M/1D	No	N/A	

DSM2 LOCATIONS FOR SOUTH DELTA ALTERNATIVES ANALYSIS

Sl. No	DSM2 ID	DSM2 Channel (Length)	DSM2 Node	Data Definition	CDEC Name	Stage	(CDEC Sensor) /Time Resol.	Flow	(CDEC Sensor) /Time Resol.	EC	(CDEC Sensor) /Time Resol.	Comments
TOM PAINE SLOUGH												
27	SLTMP000	Channel 194 (1946)		Tom Paine Slough Intake (above intake structure???)	TPI	Yes	(1) 15M	No	N/A	No	N/A	
28	SLTMP017	Channel 185 (0)		Tom Paine Slough (above the mouth???)	TPS	Yes	(1) 15M	No	N/A	No	N/A	
PARADISE CUT												
29	61_length	Channel 61 (length)		Old R. downstream of Paradise Cut Channel 61 Downstream	N/A							
30	61_0	Channel 61 (0)		Old R. downstream of Paradise Cut = Channel 61 Upstream	N/A							
31	199_0	Channel 199 (0)		Paradise Cut Channel 199 Upstream	N/A							
32	198_length	Channel 198 (length)		Paradise Cut Channel 198 Downstream	N/A							
33	198_0	Channel 198 (0)		Paradise Cut Channel 198 Upstream	N/A							
34	197_0	Channel 197 (0)		Paradise Cut Channel 197 Upstream	N/A							
35	196_0	Channel 196 (0)		Paradise Cut Channel 196 Upstream	N/A							
36	195_0	Channel 195 (0)		Paradise Cut Channel 195 Upstream	N/A							
GRANTLINE CANAL												
37	213_0	Channel 213 (0)		Downstream end of Grantline Canal	GLC	Yes	(1) 15M	Yes	(20) 15M	Yes	(100) 15M	Need mean daily flow and daily EC.
38	CHGRL005	Channel 211 (1585)		Grantline Canal (West Position)	N/A							OR IS IT Channel 210 (Length)???
39	207_length	Channel 207 (length)		Grantline Canal Barrier (downstream)	N/A							
40	CHGRL009DS	Channel 207 (36)		Grantline Canal downstream of Barrier (East Position). GCT=GLC at Tarcy Rd Brdige	GCT	Yes	(1) 15M	No	N/A	Yes	(100) 15M	Need daily EC.
41	206_0	Channel 206 (0)		Grantline Canal Barrier (upstream)	N/A							
42	CHGRL012	Channel 204 (1672)		Head of Grantline Canal	N/A							
43	CHGRL205	Channel 205 (3000)		Doughty Cut above Grantline Canal	DGL	Yes	(1) 15M	No	N/A	Yes	(100) 15M/1D	
SAN JOAQUIN RIVER												
44	CFTRN000	Channel 172 (727)		Turner Cut near holt (downstream of 172)	TRN	Yes	(1) 15M	Yes	(20) 15M	Yes	(100) 15M	Need mean daily flow and daily EC.
45	RSAN058	Channel 20 (2520)		San Joaquin R. @ Stockton Ship Channel/Rough & Ready island	RRI	Yes	(1) 15M	Yes	(20) 15M	Yes	(100) 15M/1D	Need mean daily flow.
46	RSAN072	Channel 10 (9400)		San Joaquin R. @ Brandt Bridge	BDT	Yes	(1) 15M	Yes	(20) 15M	Yes	(100) 15M/1D	Need mean daily flow.
47	8_0	Channel 8 (0)		San Joaquin R. below Head of Old R. near Lathrop	SJL	Yes	(1) 15M	Yes	(20/41) 15M/1D	Yes	(100) 15M	Need daily EC.
48	RSAN087	Channel 6 (3930)		San Joaquin R. @ Mossdale	MSD	Yes	(1) 15M	Yes	(20) 15M	Yes	(100) 15M/1D	Need mean daily flow.

SUMMARY OF RESULTS

South Delta Alternatives Analysis Study Using DSM2 Simulations

Summary of Results from Analysis:

A. Simulation of Historical Water Level and Flow Conditions

DSM2 is able to reasonably accurately simulate historical water level and water flow conditions in the Delta for the period July 1 through August 31.

B. Impacts of Changes in Barrier Operations (Scenarios F, G, H, and I)

Scenario	Change in Barrier Operations	Impacts of Barrier Operations on Period Average Flow (CFS) as Compared to		
		Old River at Tracy	Middle River	Grant Line Canal
F	ORT Elv -0.5'; GLC Elv +0.5'	+25	+ 10	-90
H	"F" + MR Elv +0.5 & npipes 8	+30	-15	-85
G	ORT Elv -1.0'; GLC Elv +1.0'	+80	+ 5	-150
I	"G" + MR Elv +1.0 & npipes 10	+95	-50	-140

C. Impacts of Pumping from San Joaquin River to Paradise Cut

1. The decrease in flow (10 to 20 cfs) in San Joaquin River due to pumping into Paradise Cut results in a similar decrease in flow at Old River at Head, as well as in channels of Old River upstream of Old River-Paradise Cut junction.
2. Downstream of Paradise Cut, the flow in Old River is about the same for the various alternative levels of pumping from San Joaquin River to Paradise Cut. This happens because due to pumping, there is a decrease in flow from San Joaquin River and there is a similar increase in flow from Paradise Cut.
3. The initial elevated EC values (3,000 mmhos/cm) in the channels of Paradise Cut decrease to 500-600 mmhos/cm within two weeks or so for all the alternatives
4. There appears to be little or no significant impact on EC levels in the channels of Paradise Cut under the different alternatives for the period of analysis.
5. There also appears to be no impact on EC levels in Old River channels as a result of pumping from San Joaquin River to Paradise Cut under the different alternatives for the period of analysis.
6. It appears that further analysis needs to be conducted with continuous sources of EC into Paradise Cut and for an extended period of simulation to more completely evaluate the impacts of pumping from San Joaquin River to Paradise Cut.

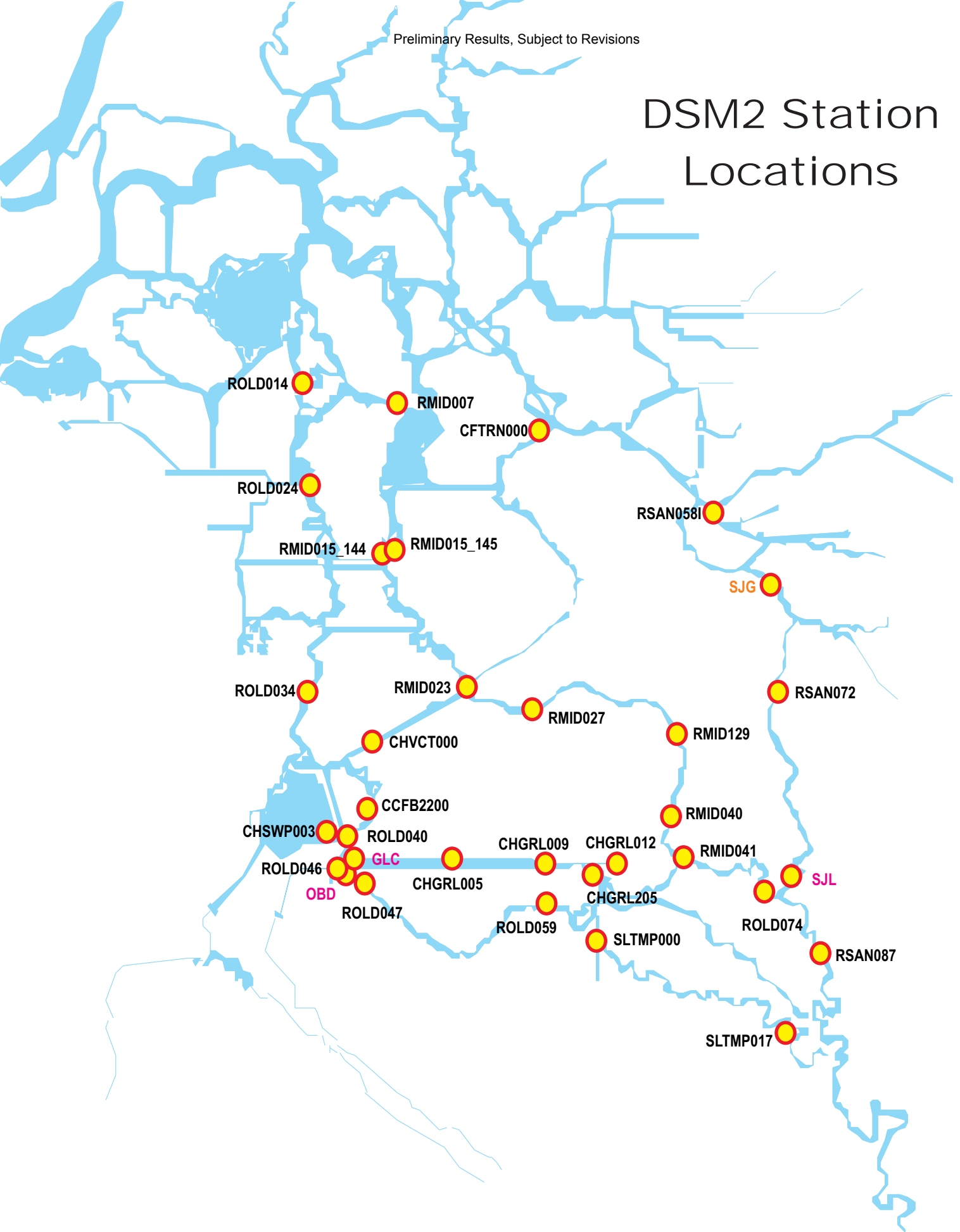
**COMPARISON OF RESULTS
UNDER BASELINE AND
ALTERNATIVE BARRIER
OPERATIONS**

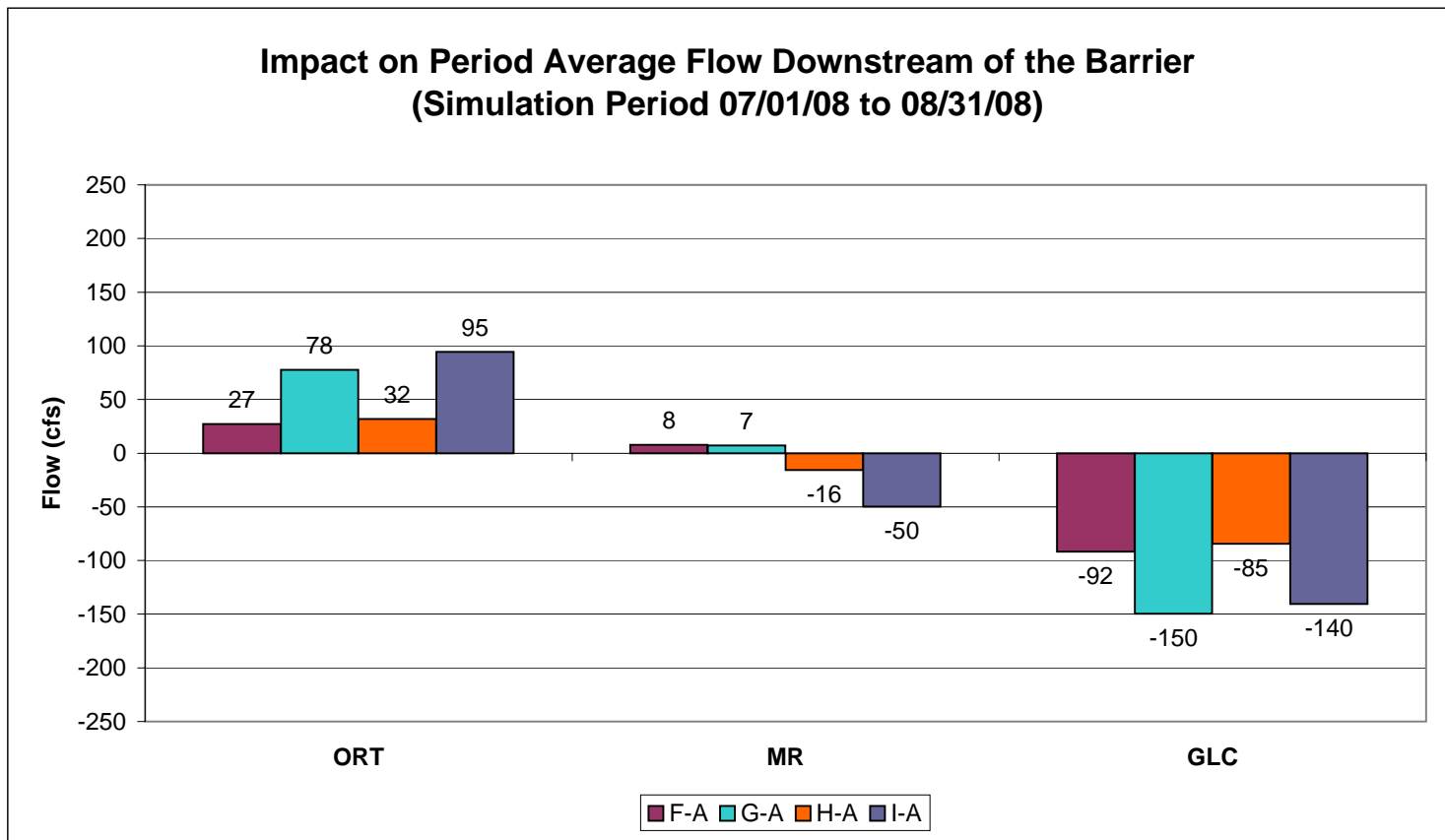
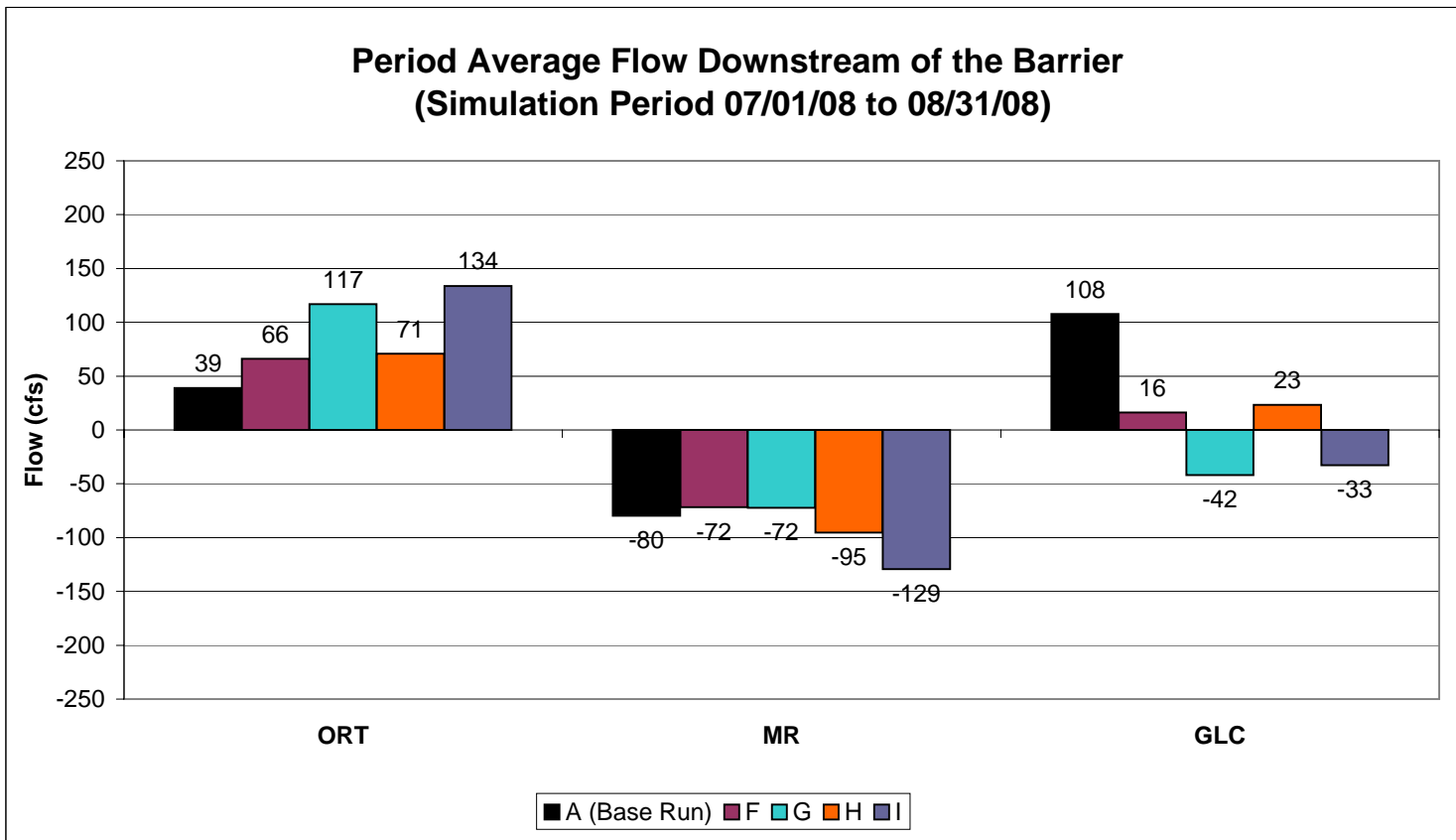
South Delta Alternatives Analysis Study Using DSM2 Simulations

South Delta Barrier Operations Alternatives Analyzed:

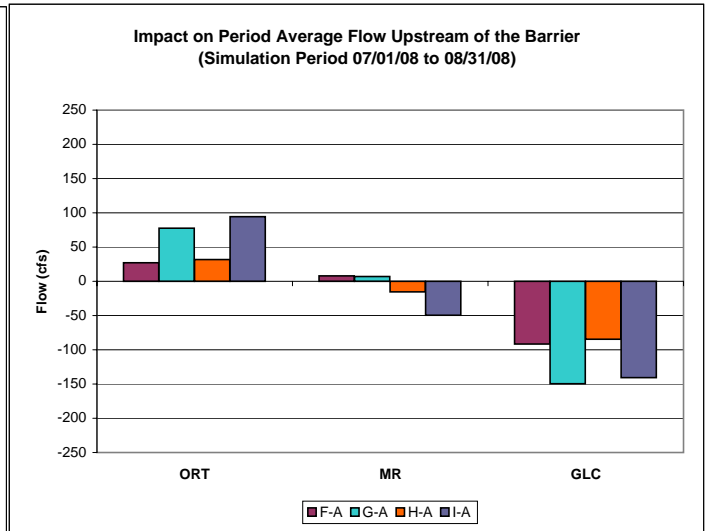
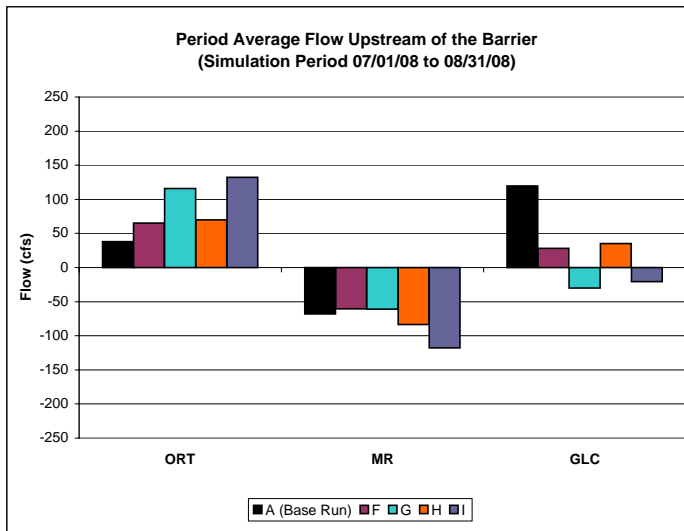
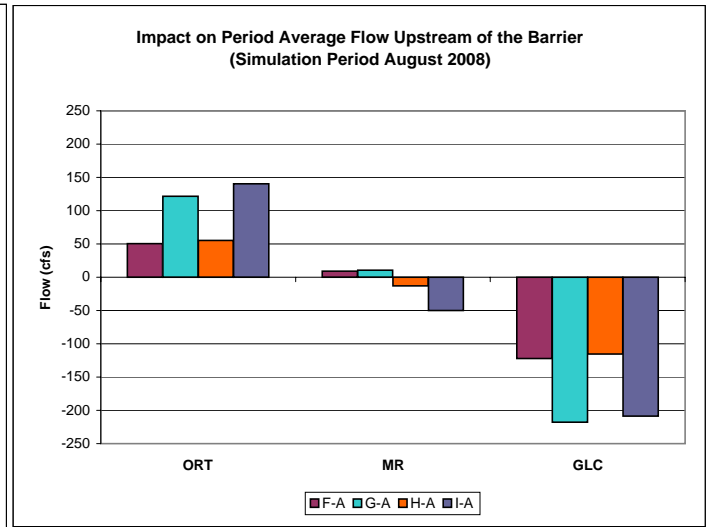
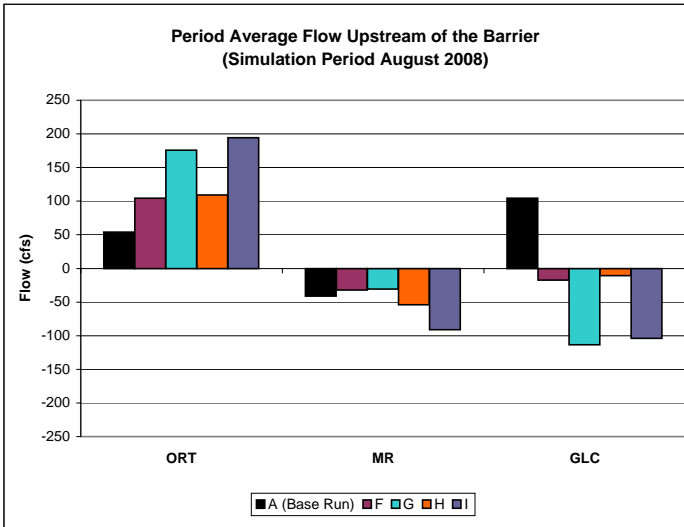
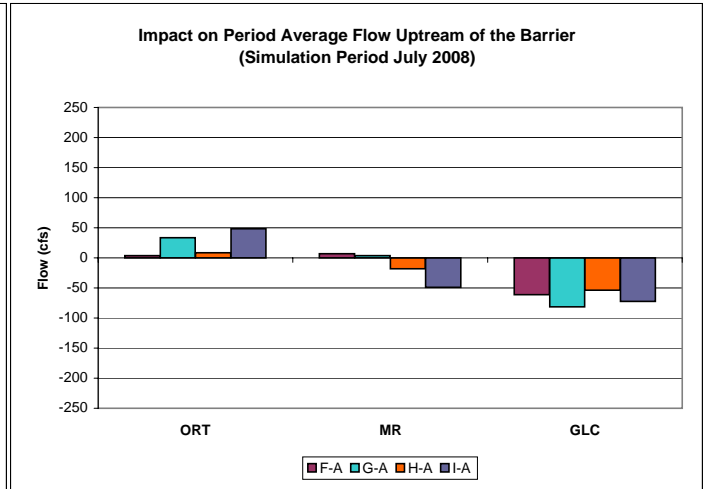
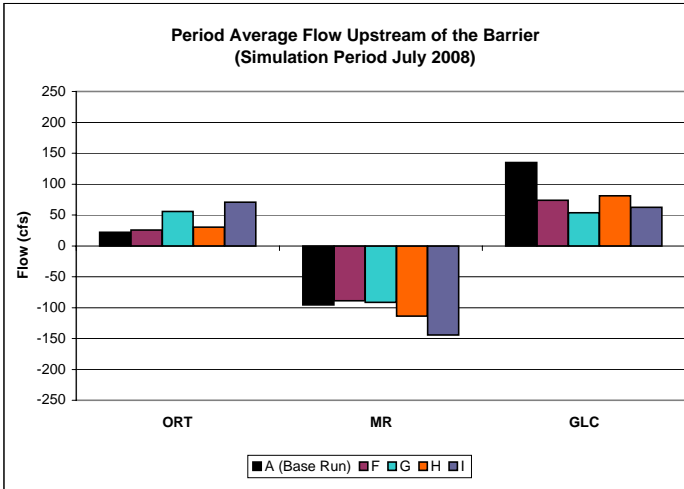
1. Scenario A: Baseline run based on historical data.
2. Scenario B: Increase Middle River (MR) barrier elevation by 0.5 feet.
3. Scenario C: Increase Middle River (MR) barrier elevation by 1.0 feet.
4. Scenario D: Increase the number of culverts in Middle River (MR) barrier from 6 to 8.
5. Scenario E: Increase the number of culverts in Middle River (MR) barrier from 6 to 10.
6. Scenario F: Decrease Old River at Tracy (ORT) barrier elevation by 0.5 feet and increase Grantline Canal (GLC) barrier elevation by 0.5 feet.
7. Scenario G: Decrease Old River at Tracy (ORT) barrier elevation by 1.0 feet and increase Grantline Canal (GLC) barrier elevation by 1.0 feet.
8. Scenario H: Scenario B plus Scenario D plus Scenario F.
9. Scenario I: Scenario C plus Scenario E plus Scenario G.

DSM2 Station Locations

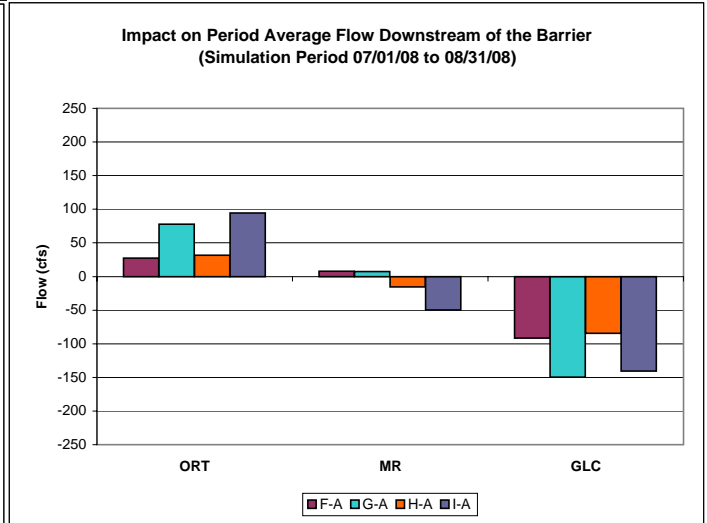
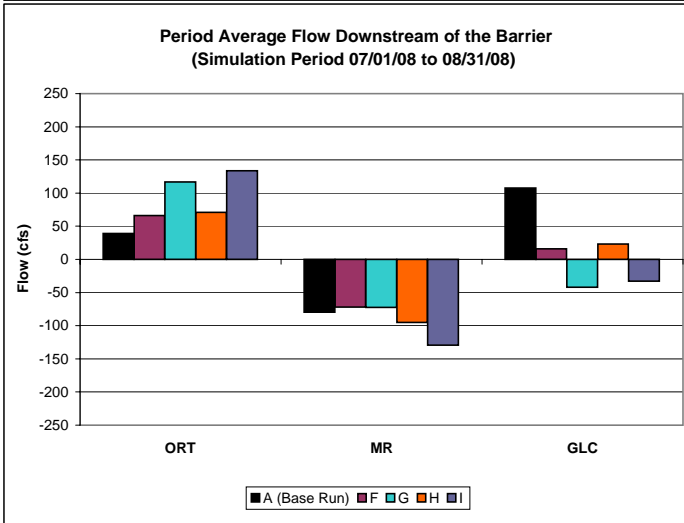
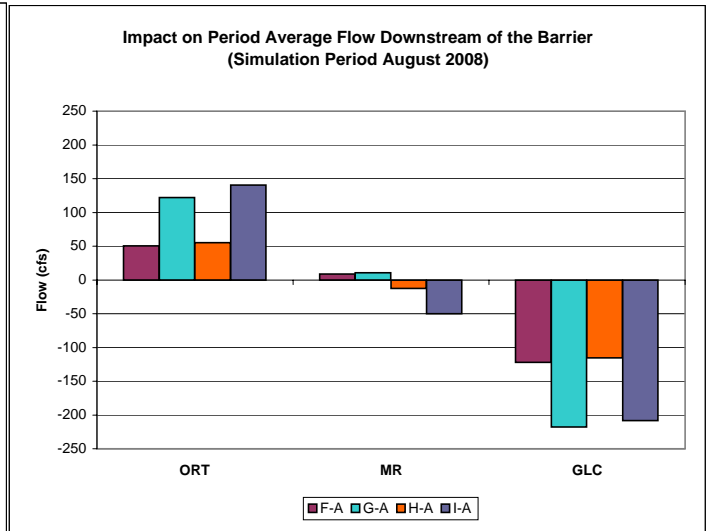
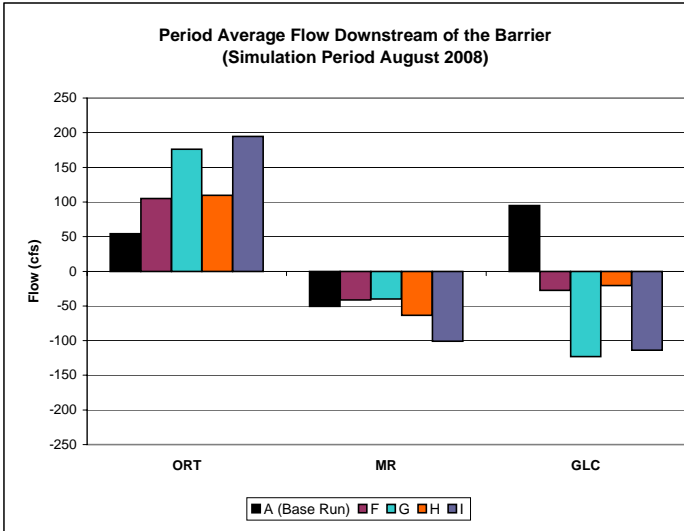
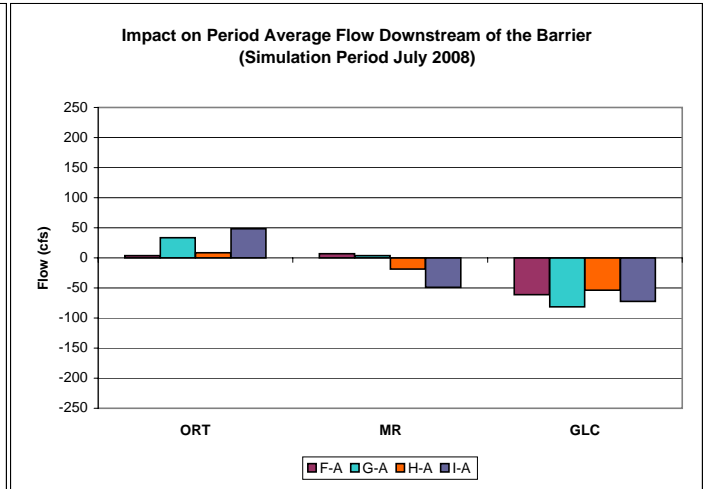
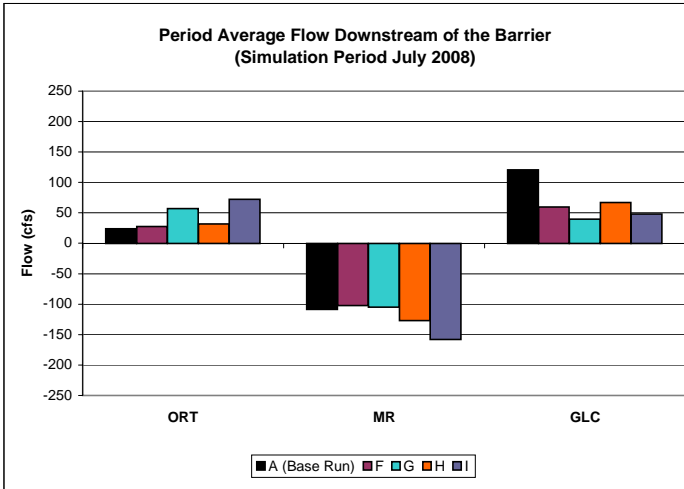




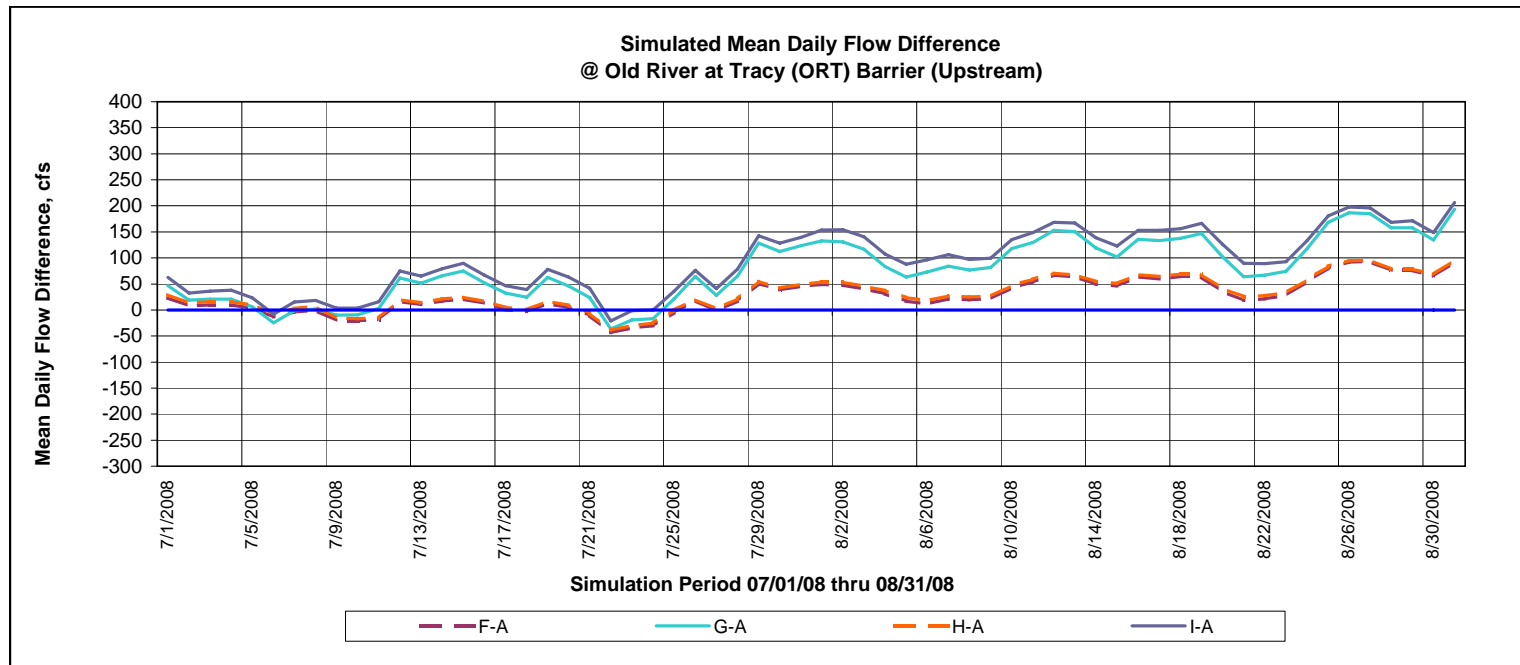
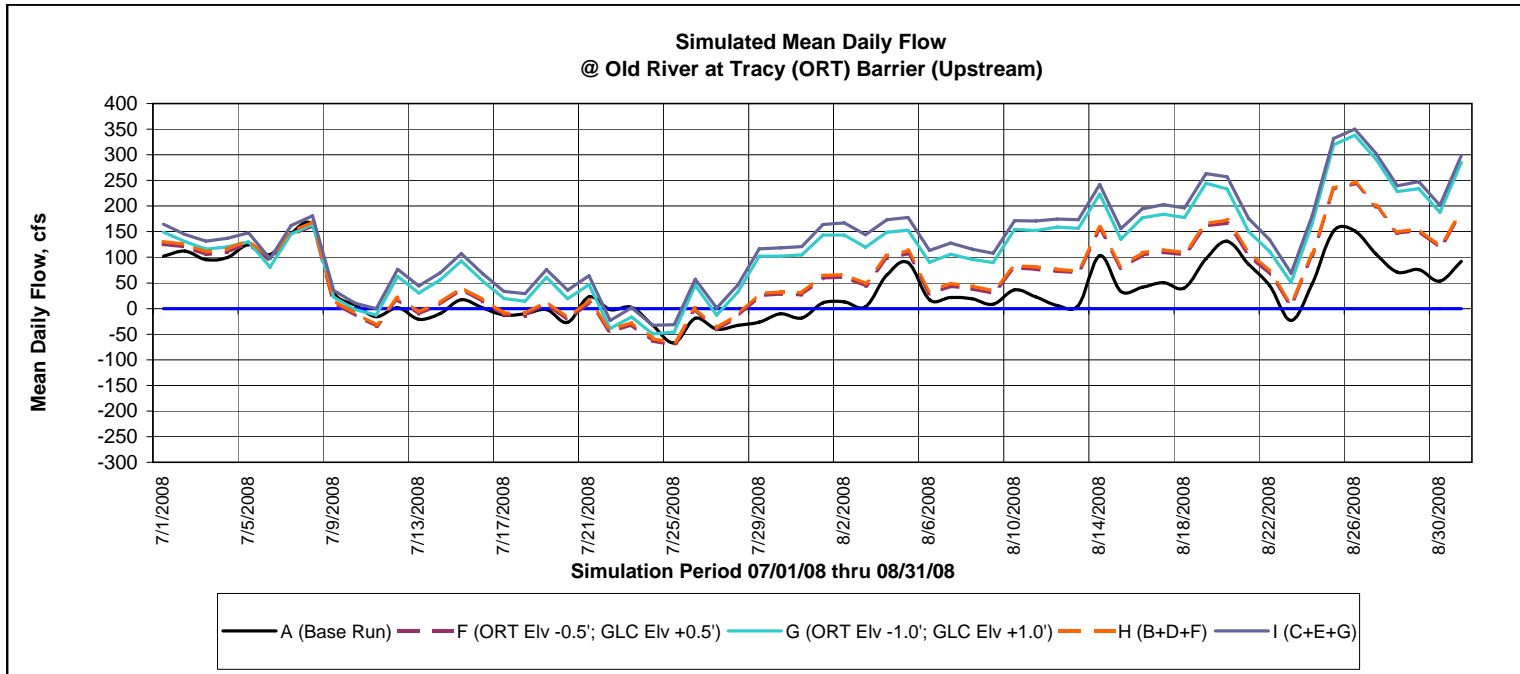
B = (MR Elv +0.5')	C = (MR Elv +1.0')	D = (MR Npipes 8)	E = (MR Npipes 10)
F = (ORT Elv -0.5'; GLC Elv +0.5')	G = (ORT Elv -1.0'; GLC Elv +1.0')	H = (B+D+F)	I = (C+E+G)

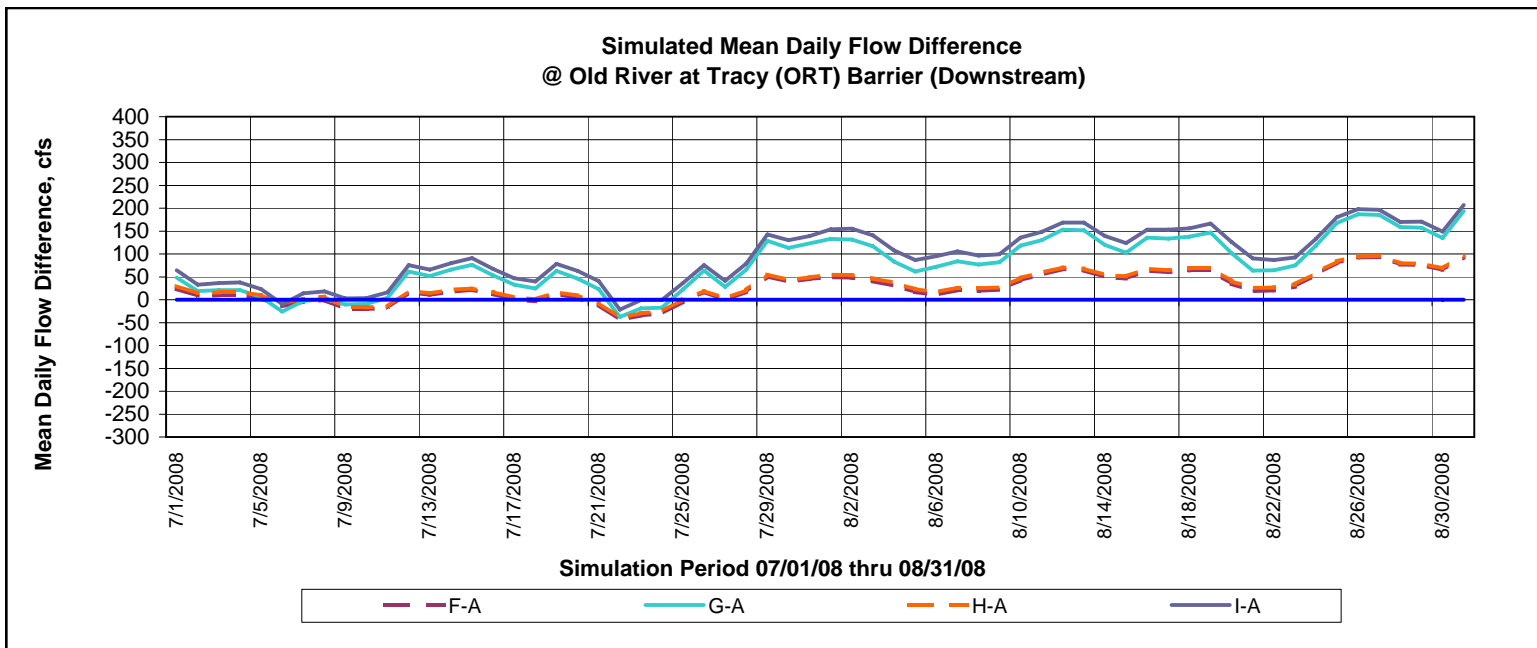
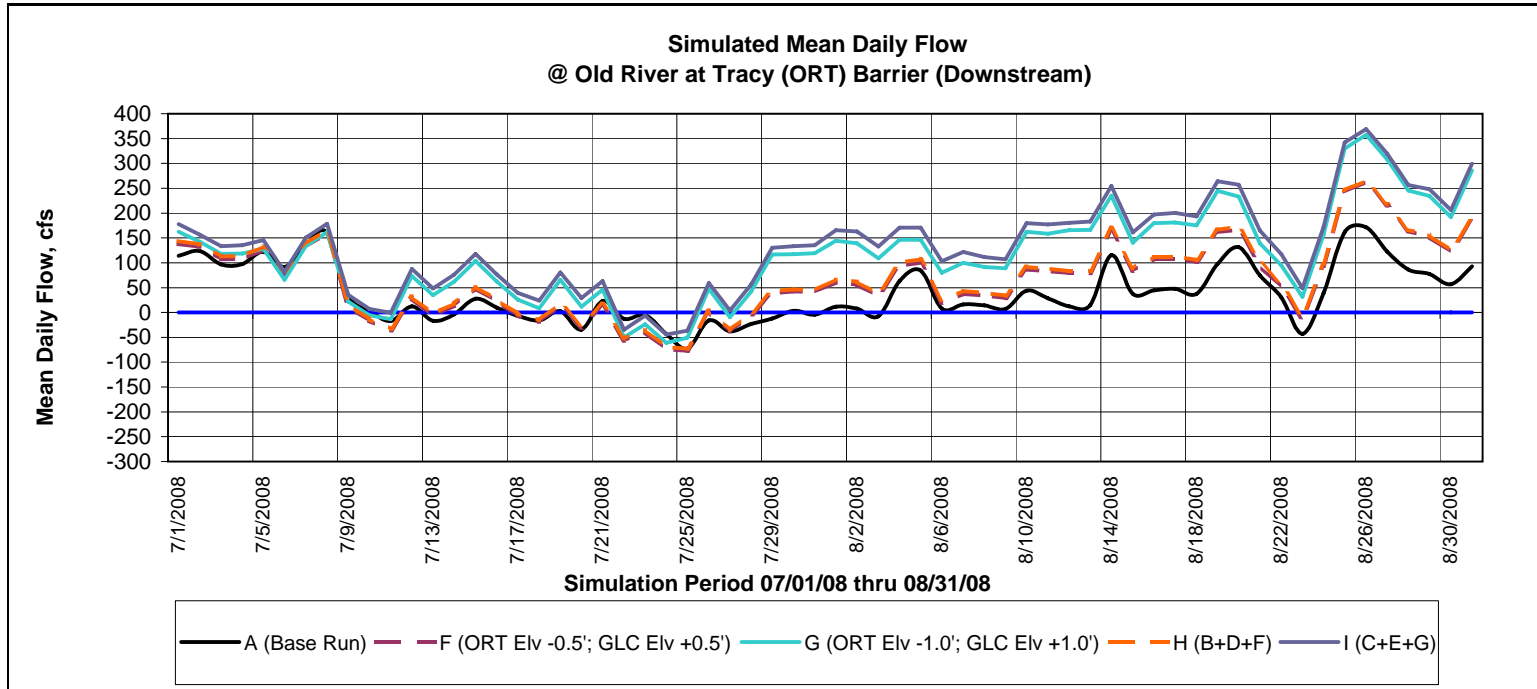


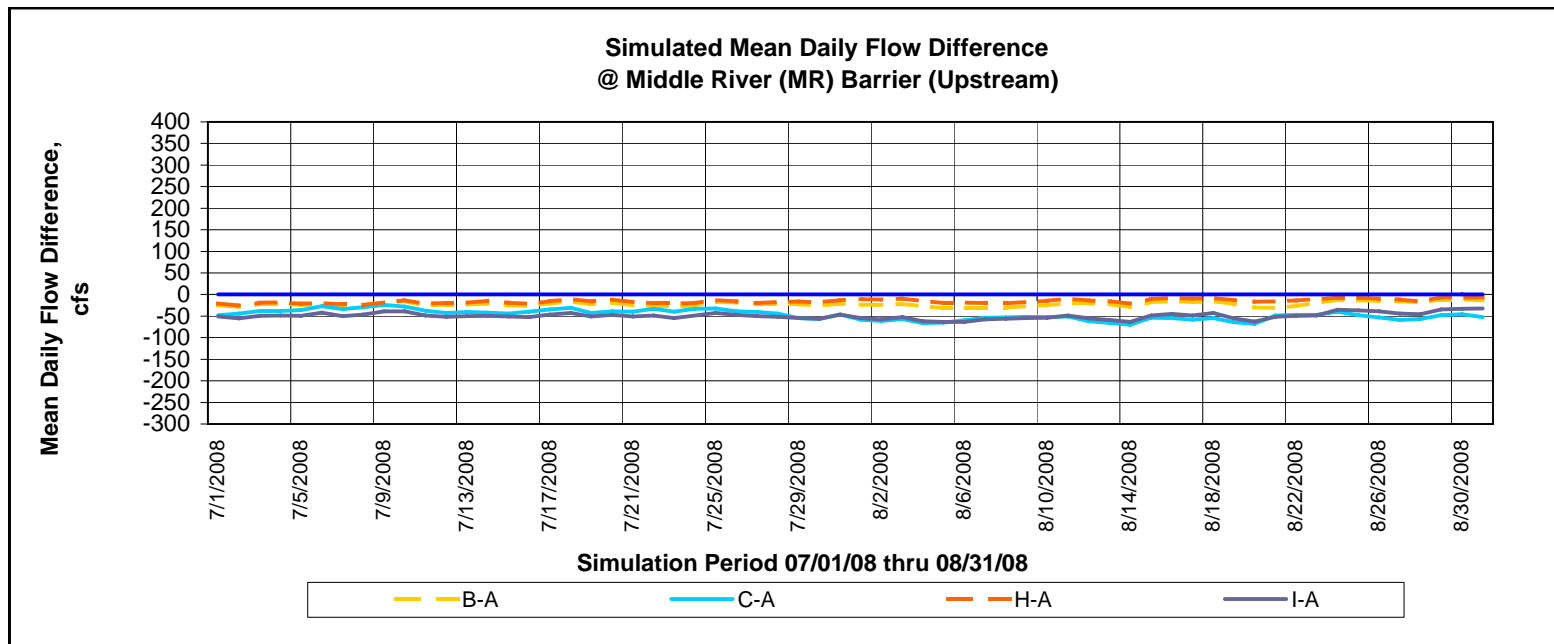
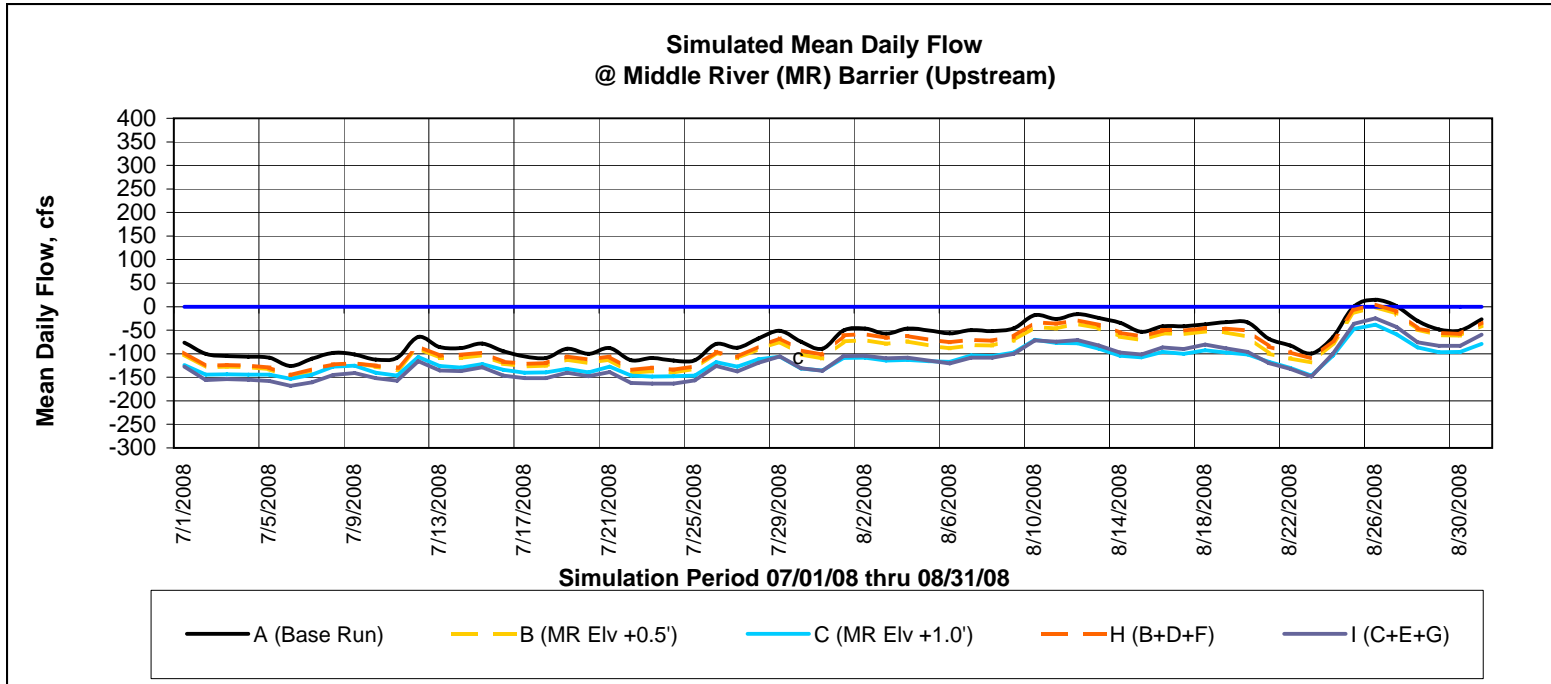
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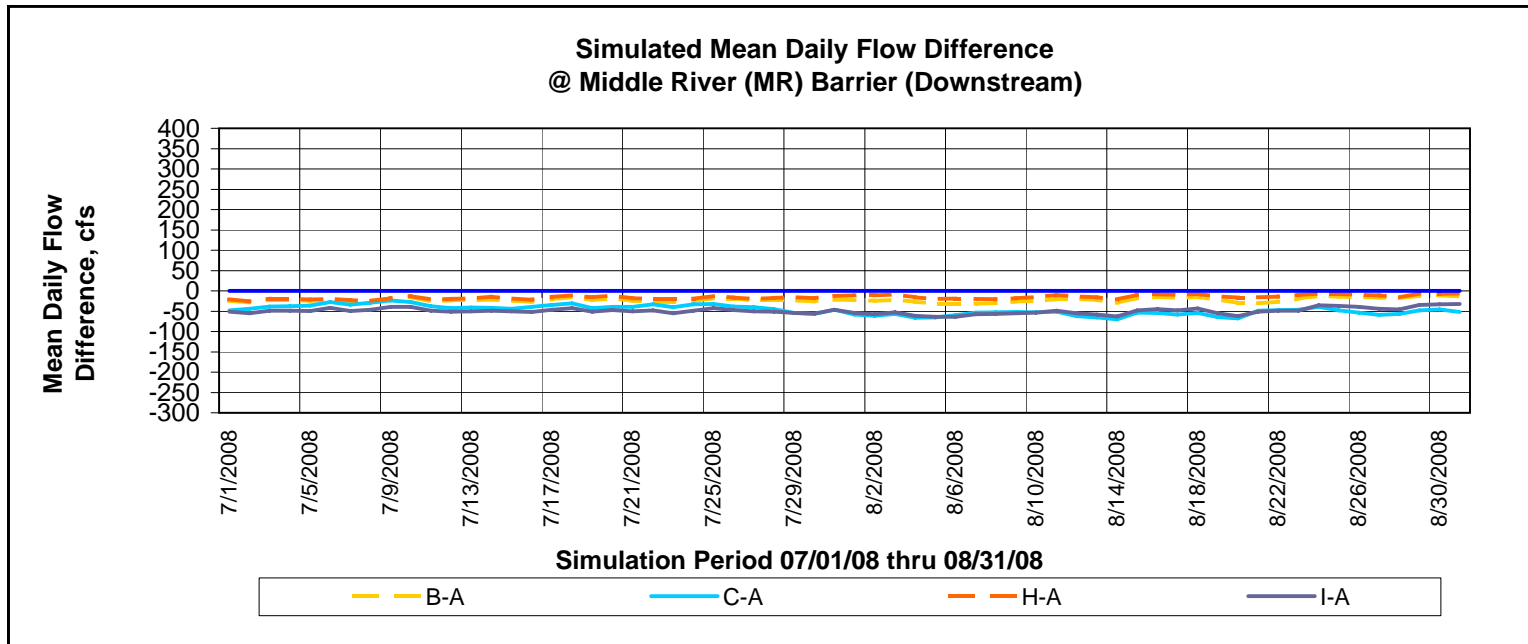
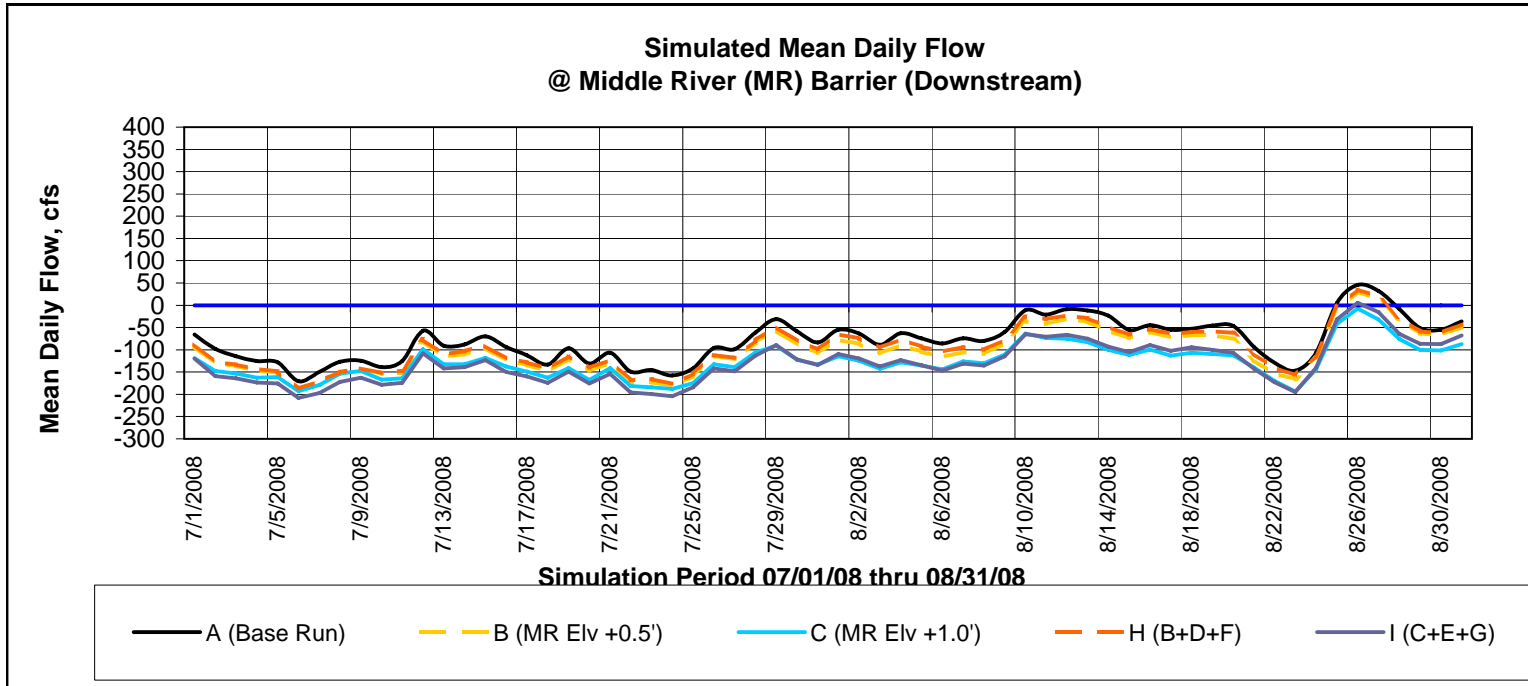


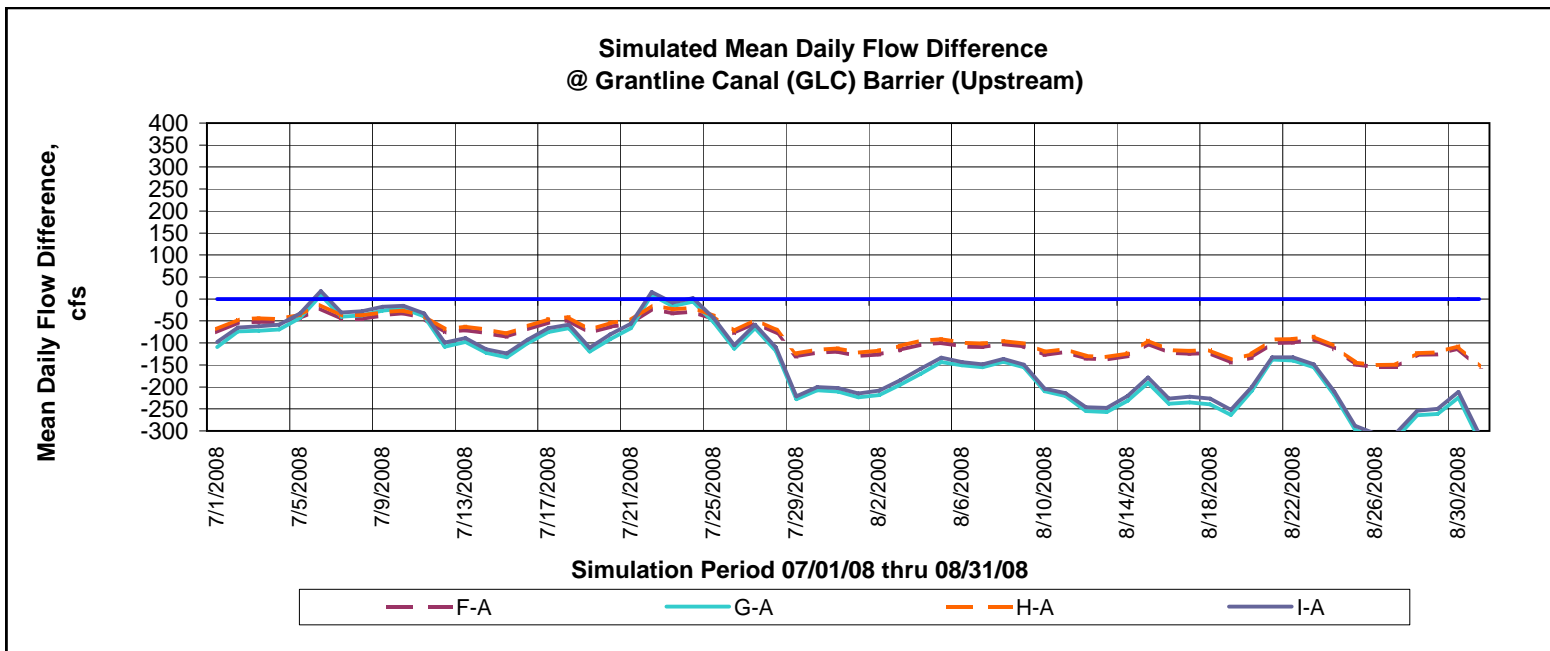
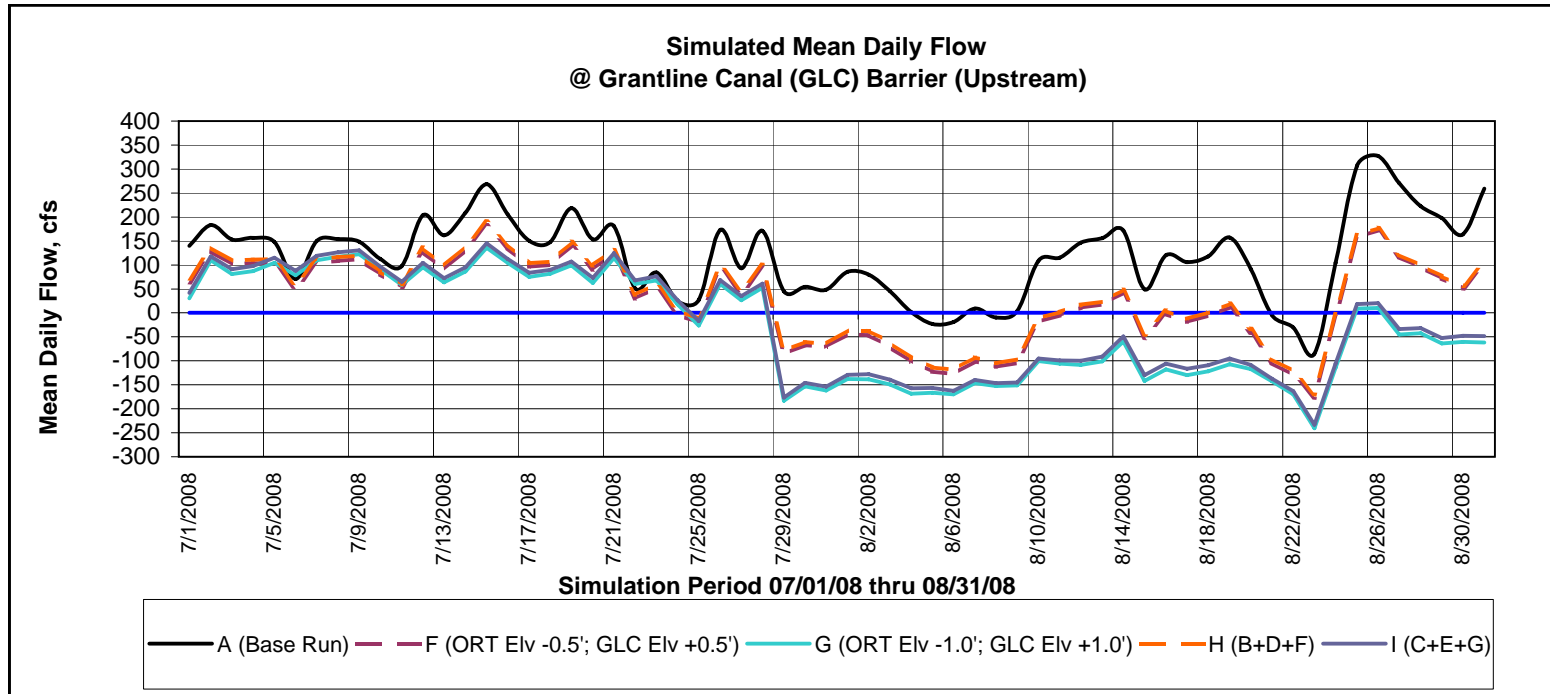
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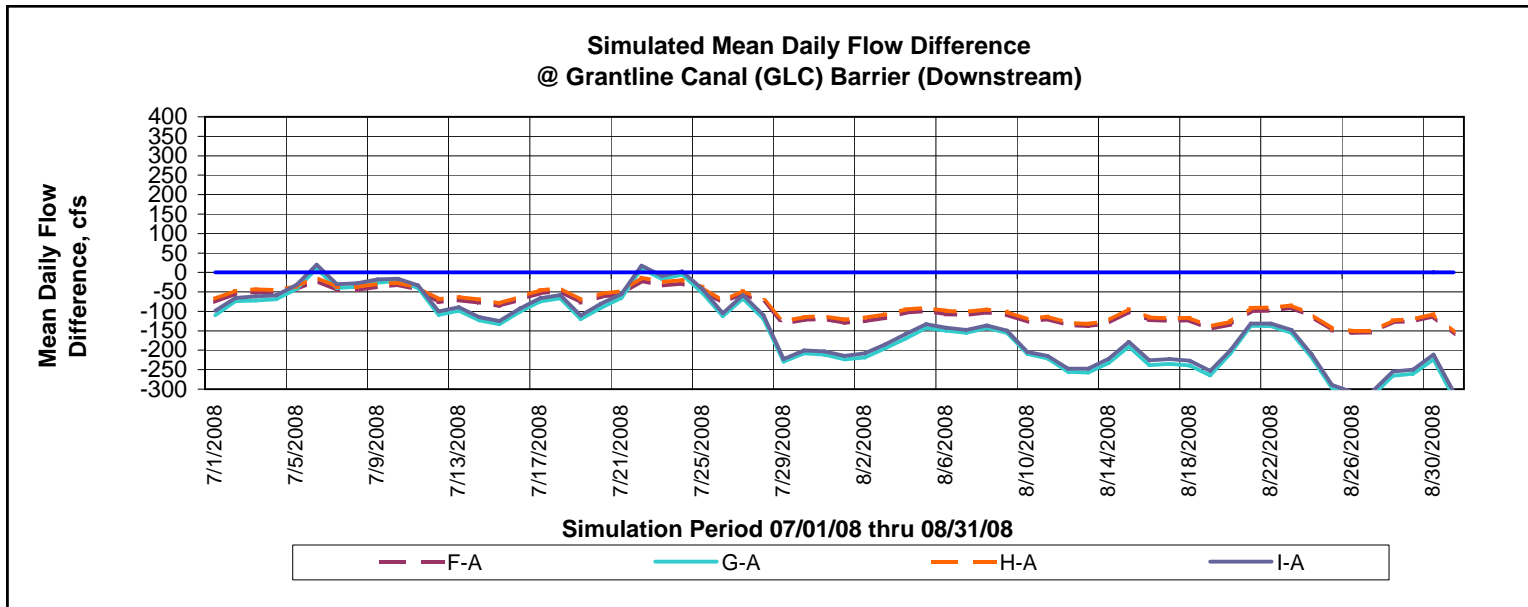
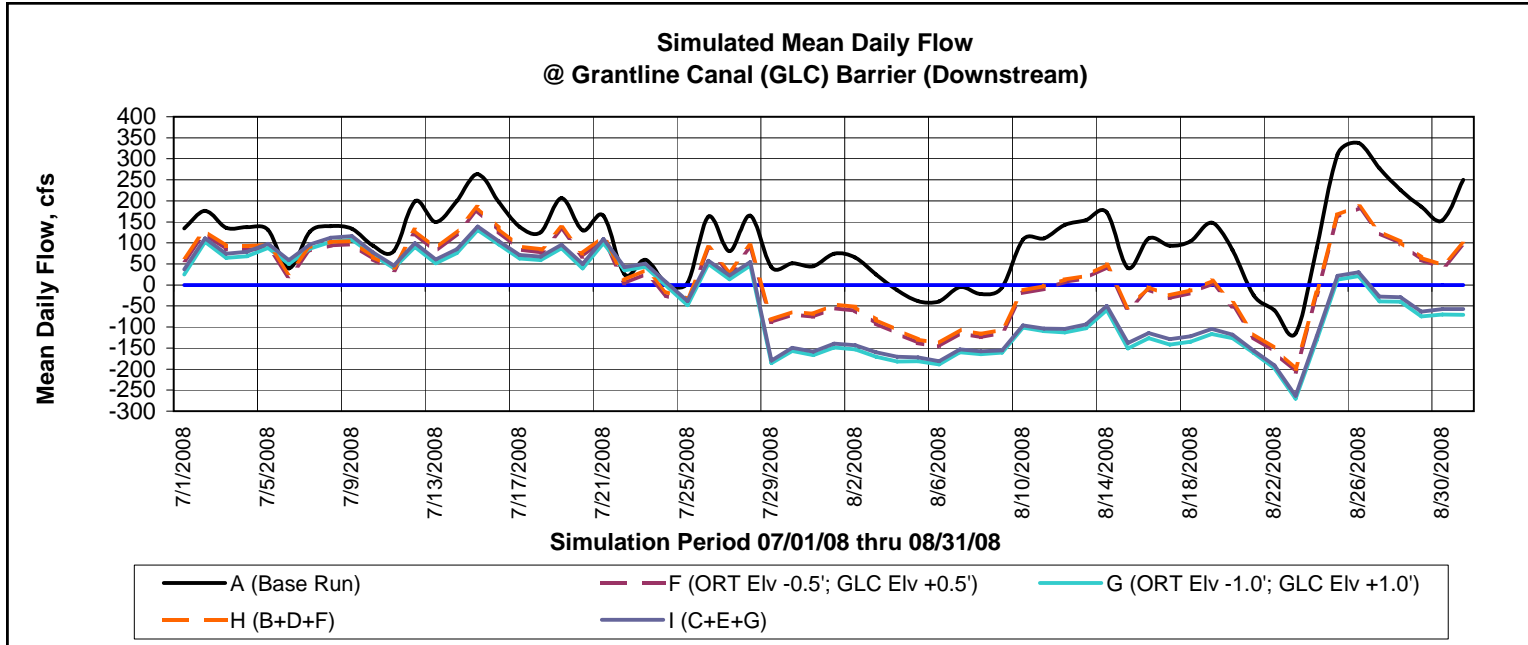


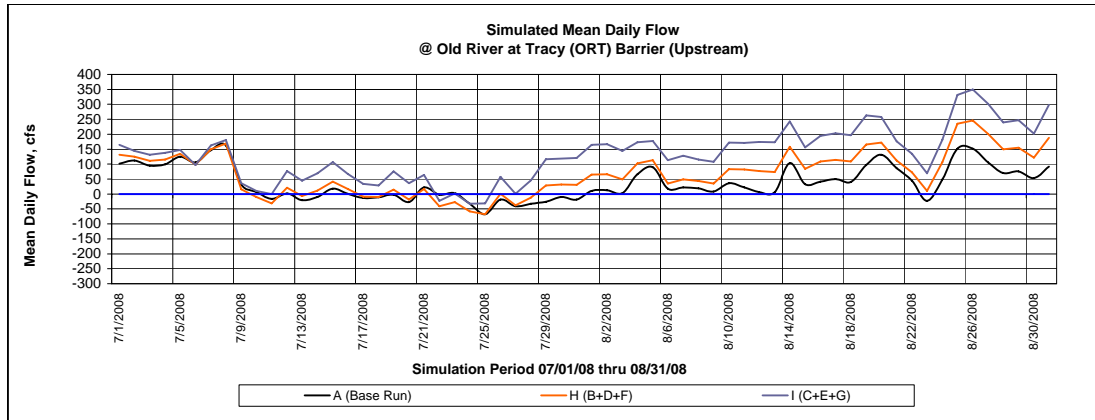
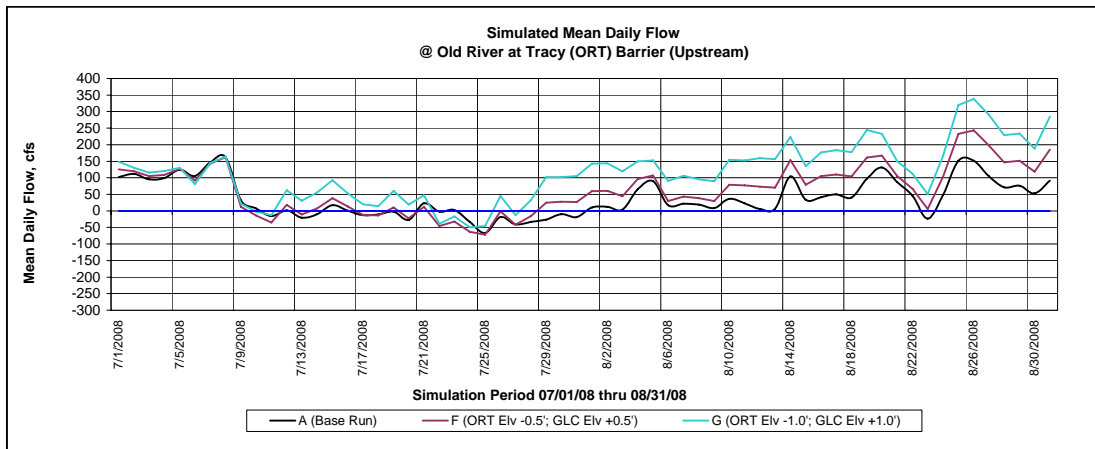
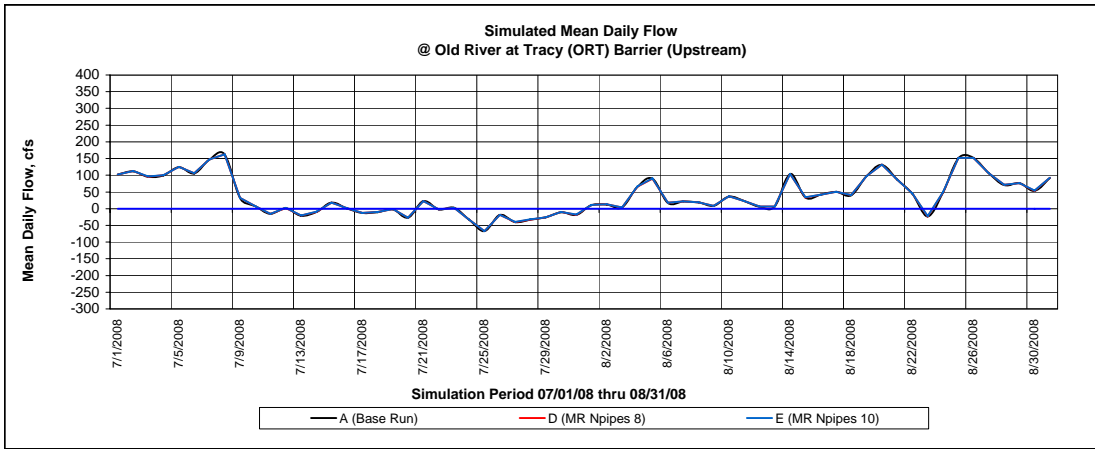
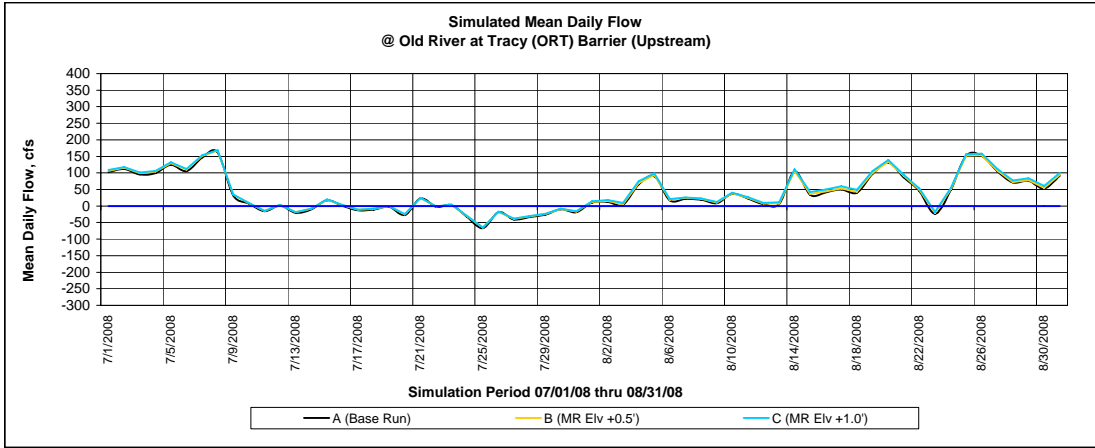


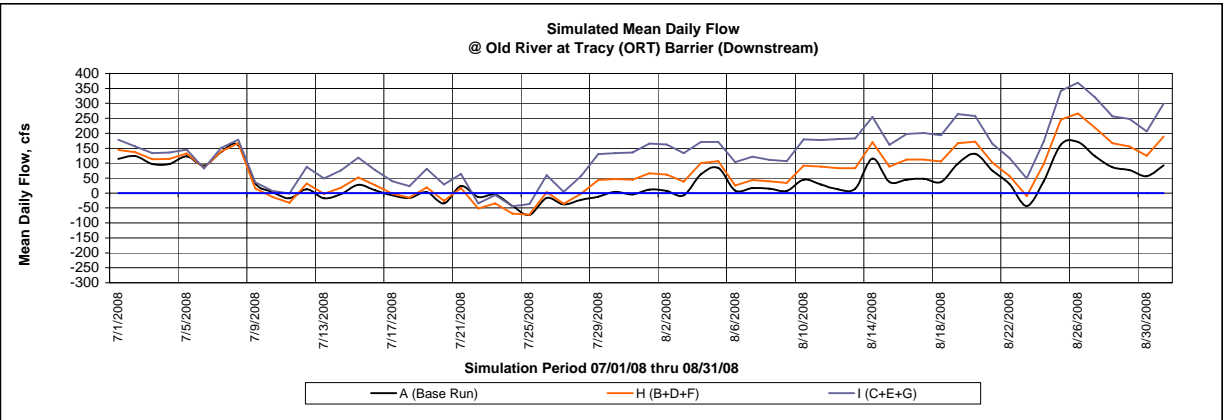
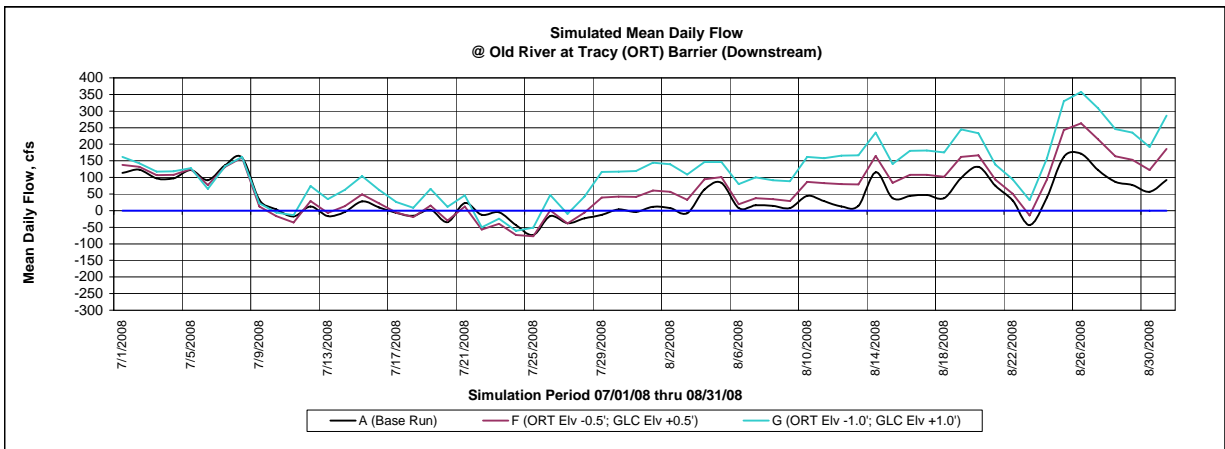
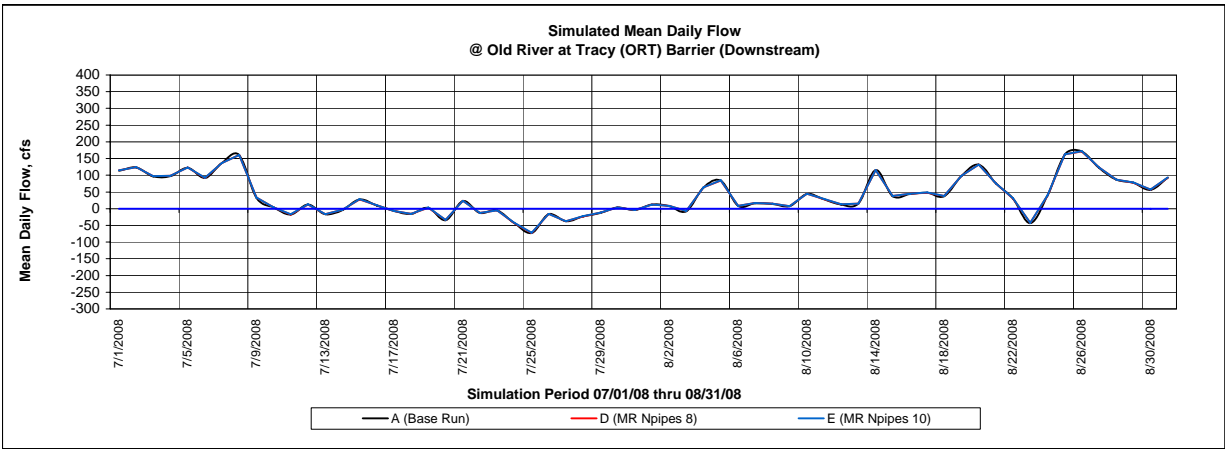
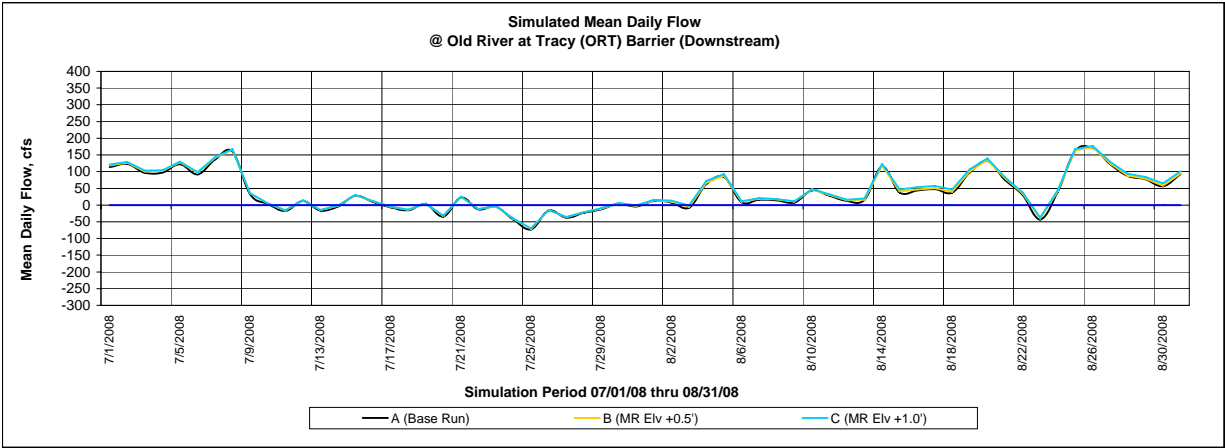


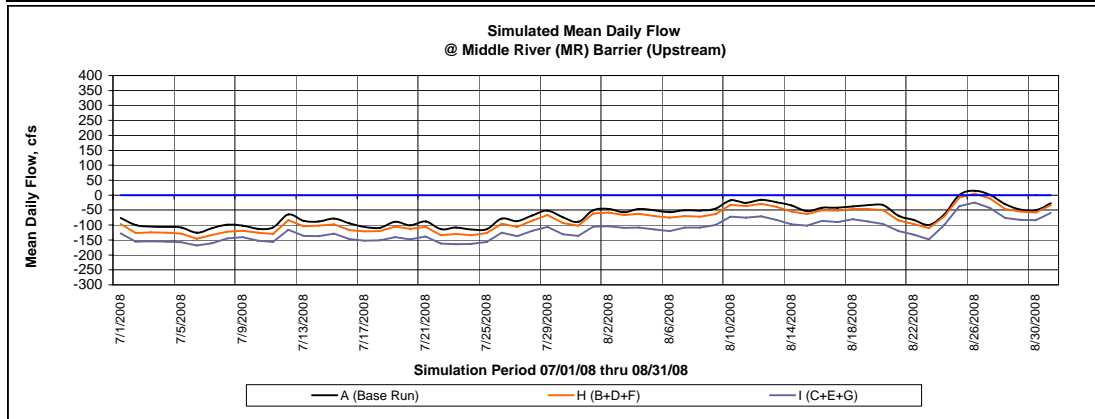
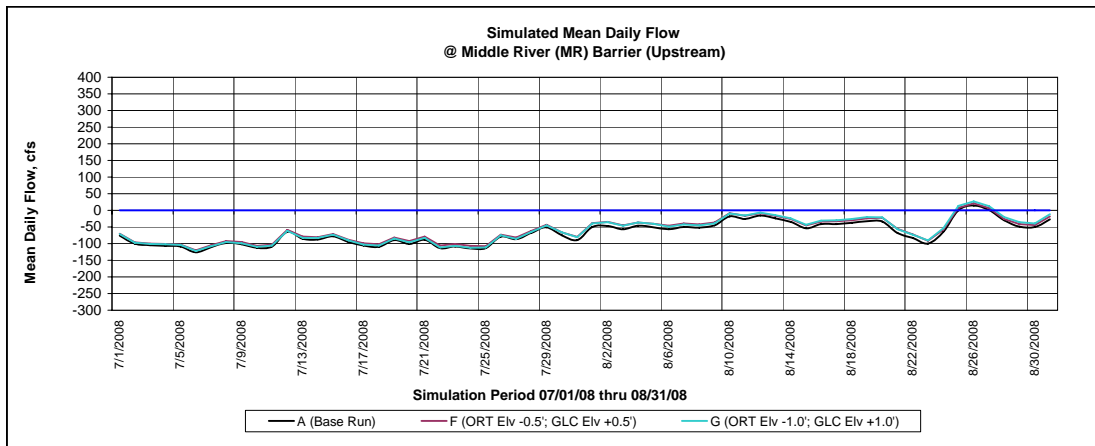
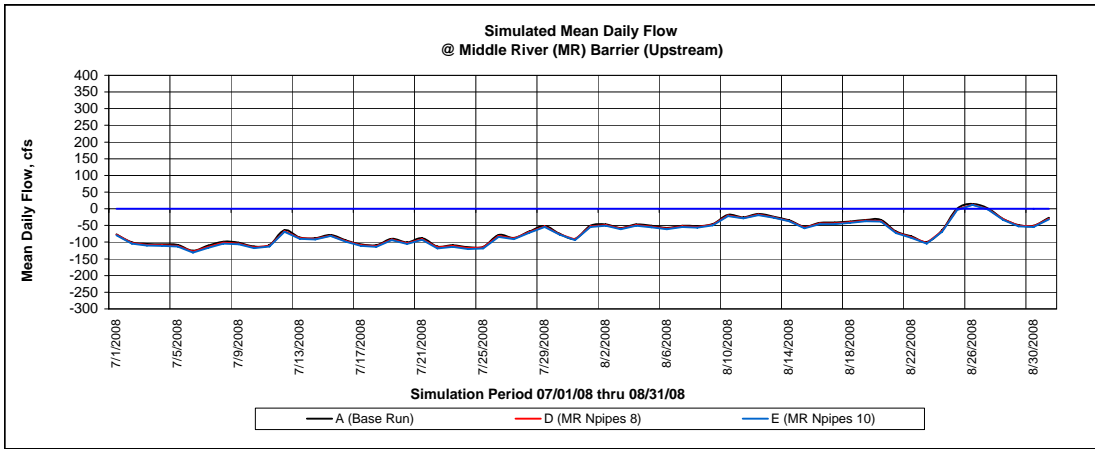
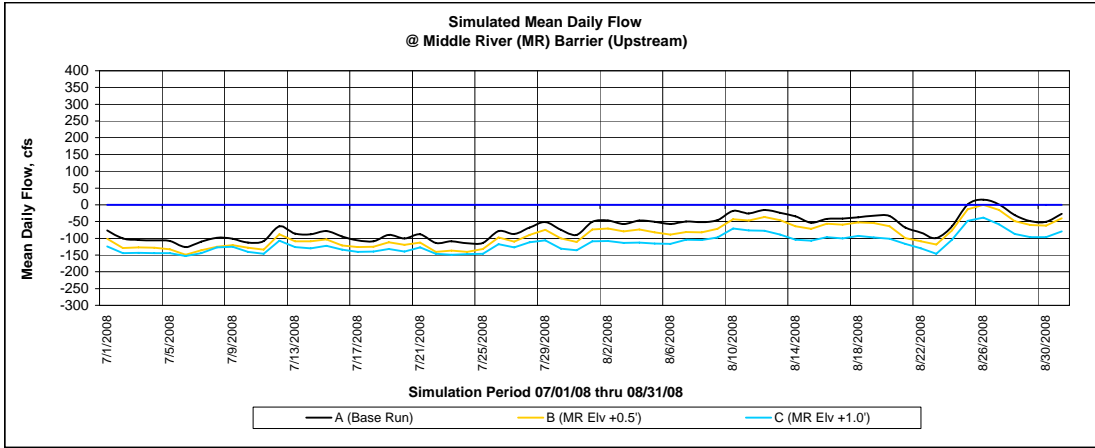


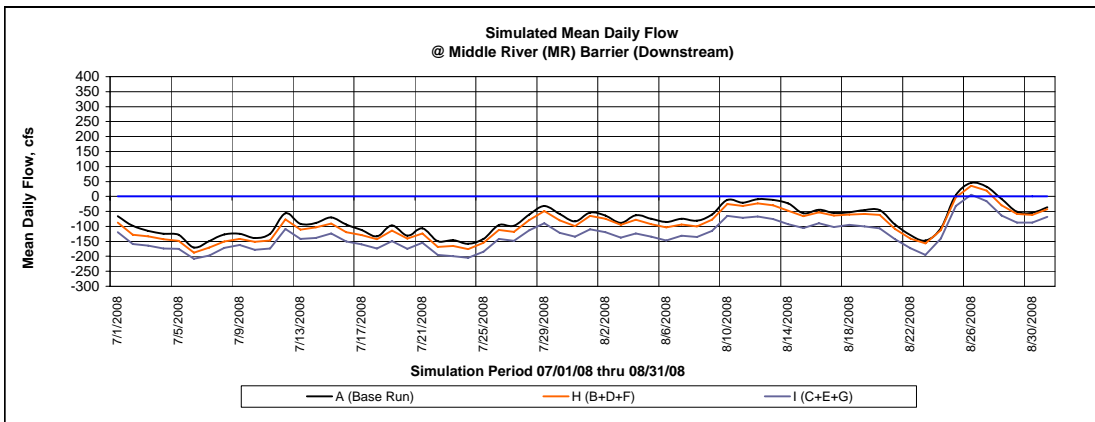
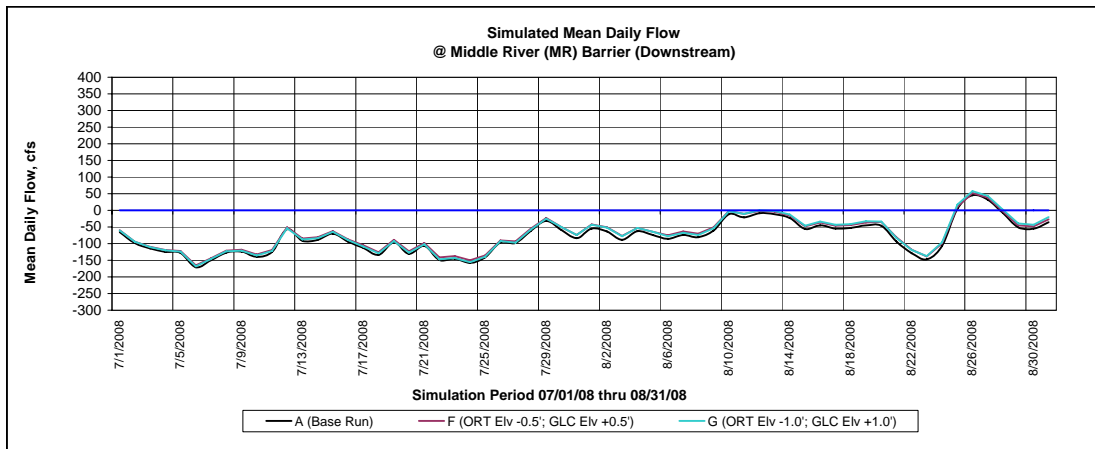
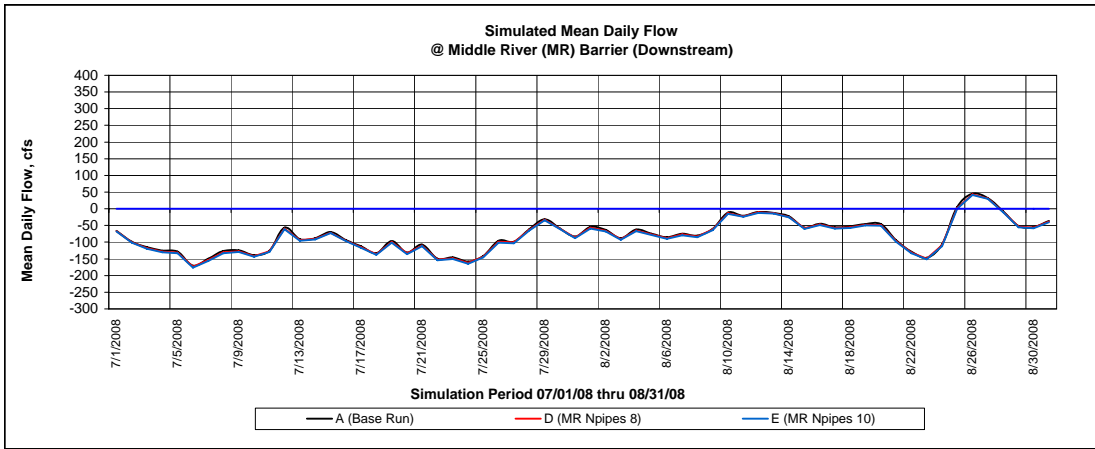
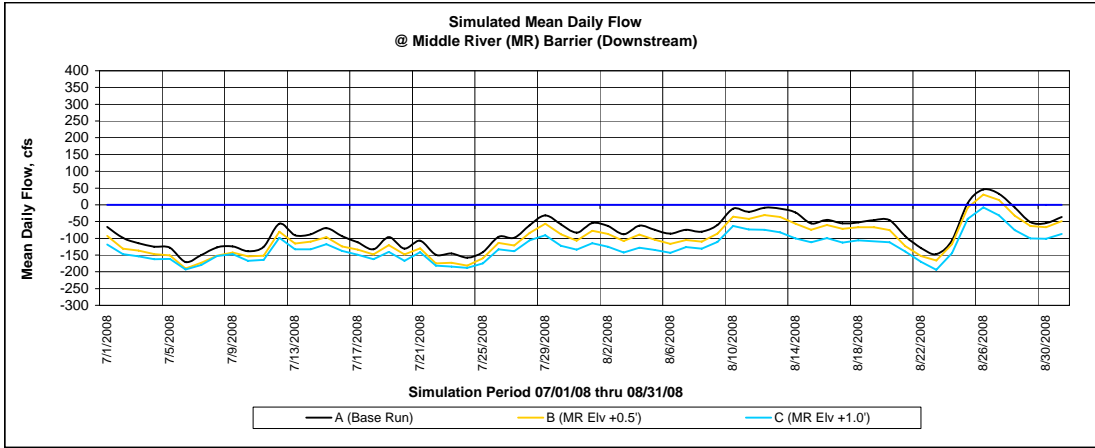


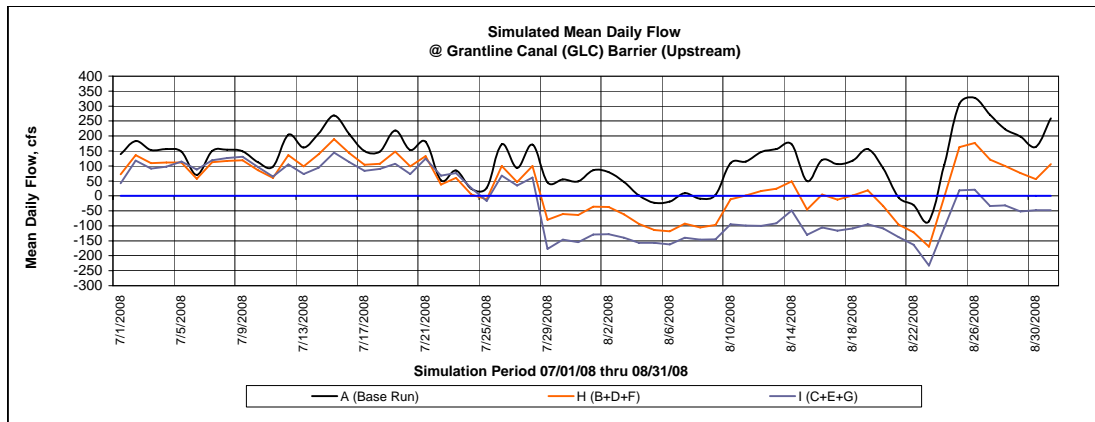
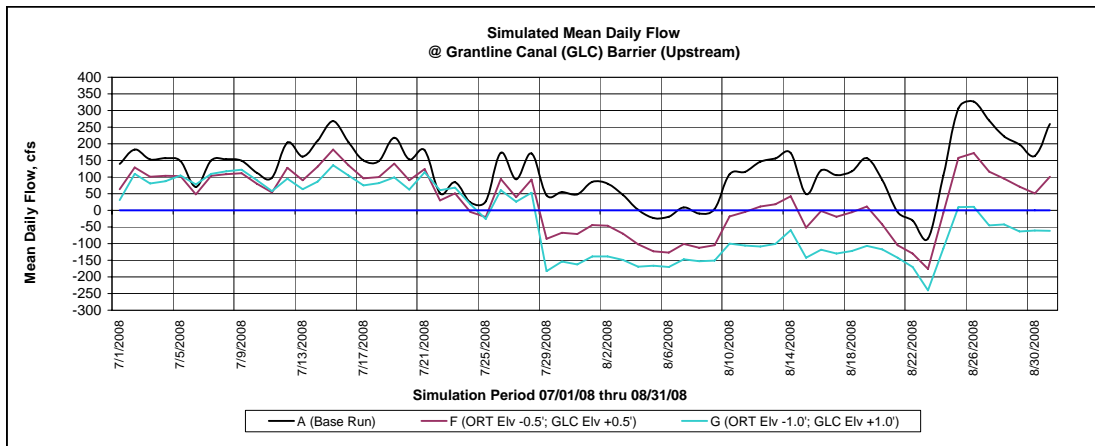
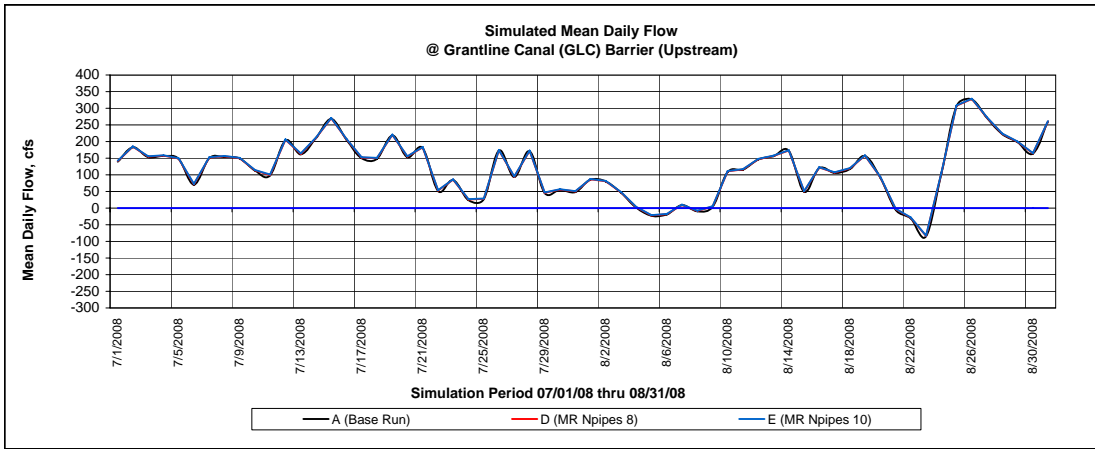
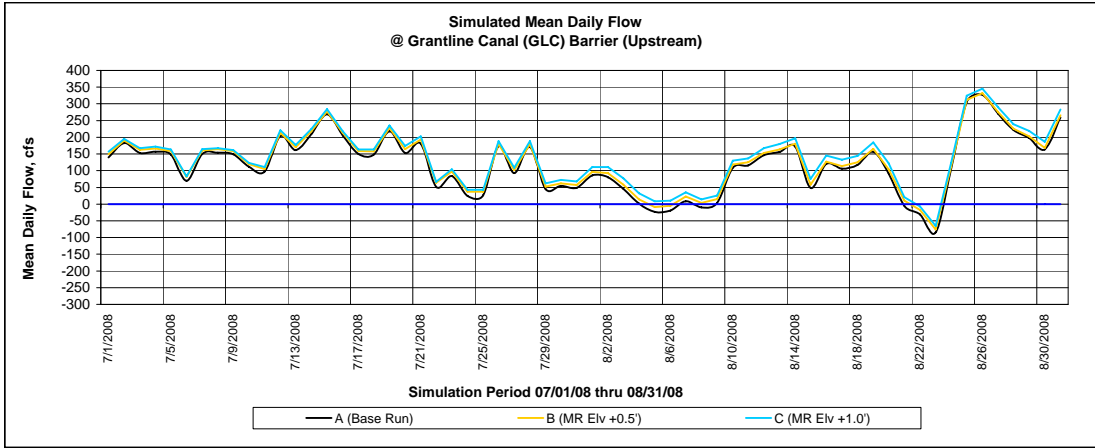


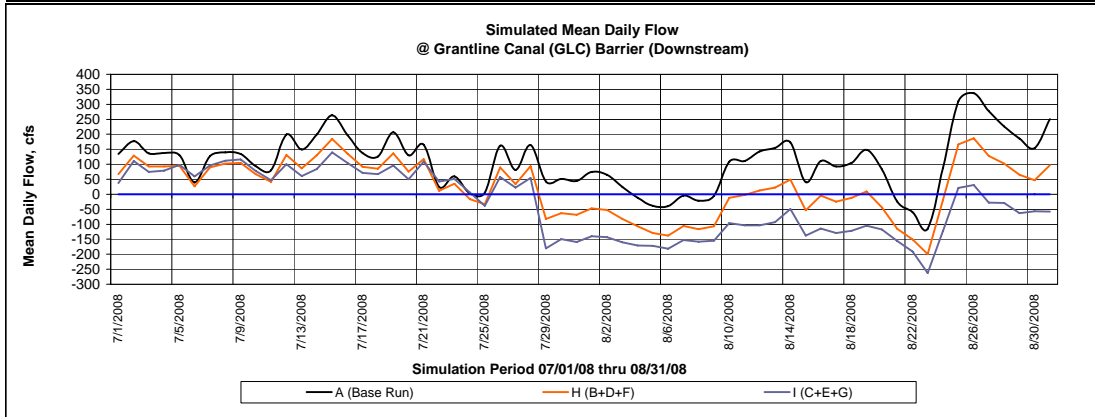
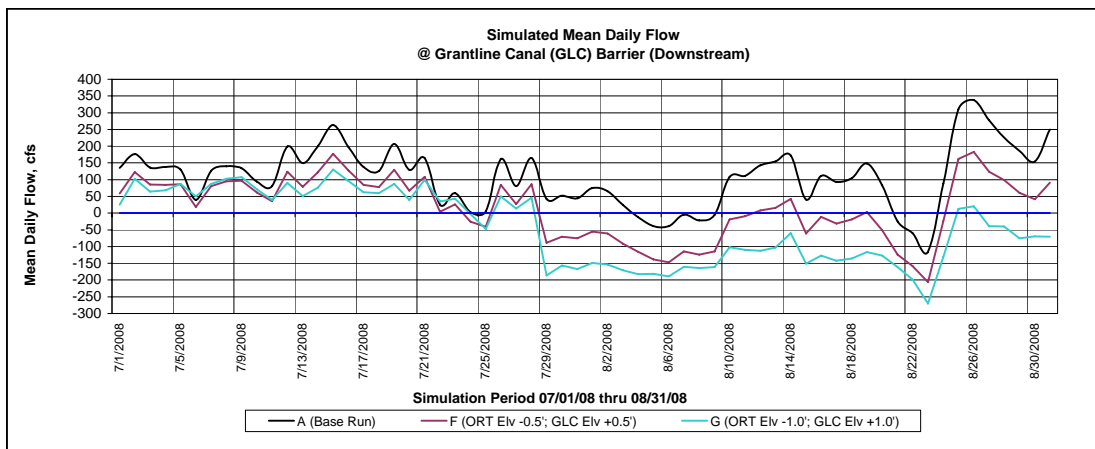
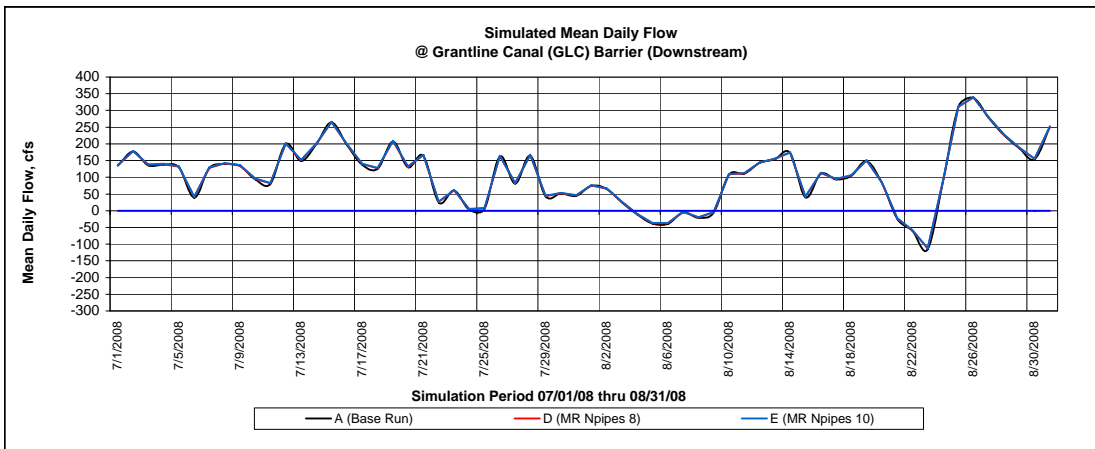
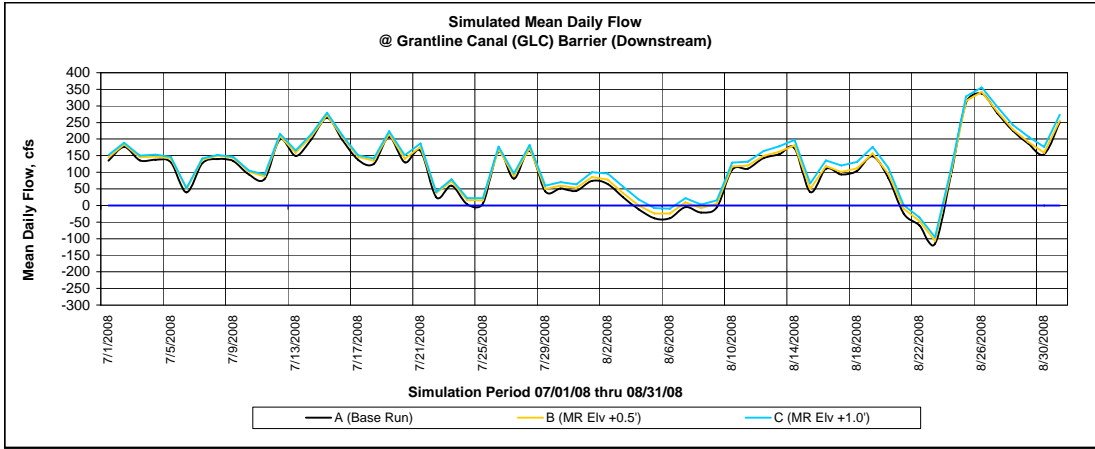












**COMPARISON OF RESULTS
UNDER BASELINE AND
ALTERNATIVE LEVELS OF
PUMPING FOR SJ RIVER TO
PARADISE CUT**

South Delta Alternatives Analysis Study Using DSM2 Simulations

Paradise Cut Alternatives Analyzed:

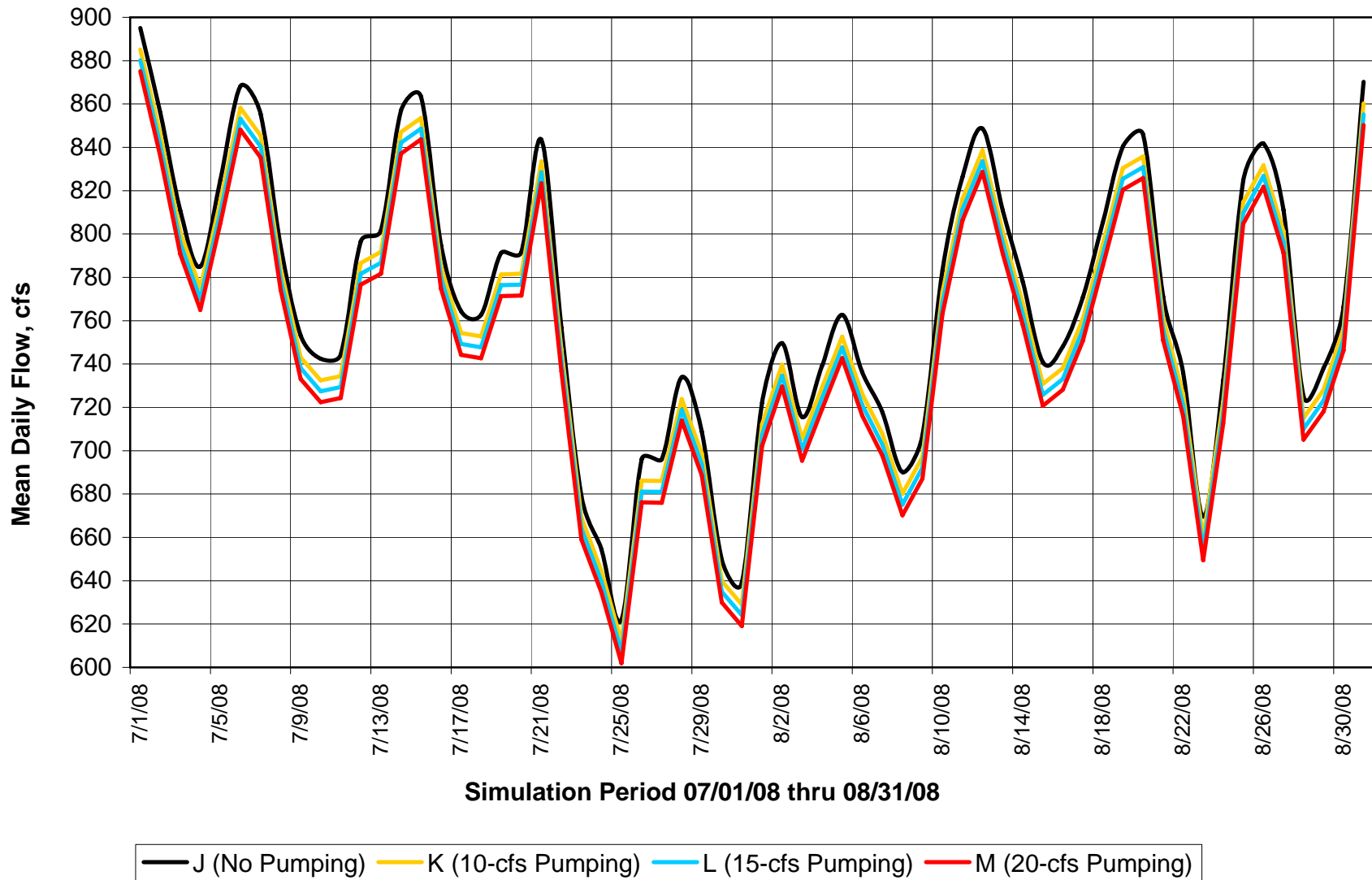
1. Scenario J: Baseline run based on historical data. No pumping from San Joaquin River to Paradise Cut.
2. Scenario K: 10 cfs pumping from San Joaquin River to Paradise Cut.
2. Scenario L: 15 cfs pumping from San Joaquin River to Paradise Cut.
2. Scenario M: 20 cfs pumping from San Joaquin River to Paradise Cut.

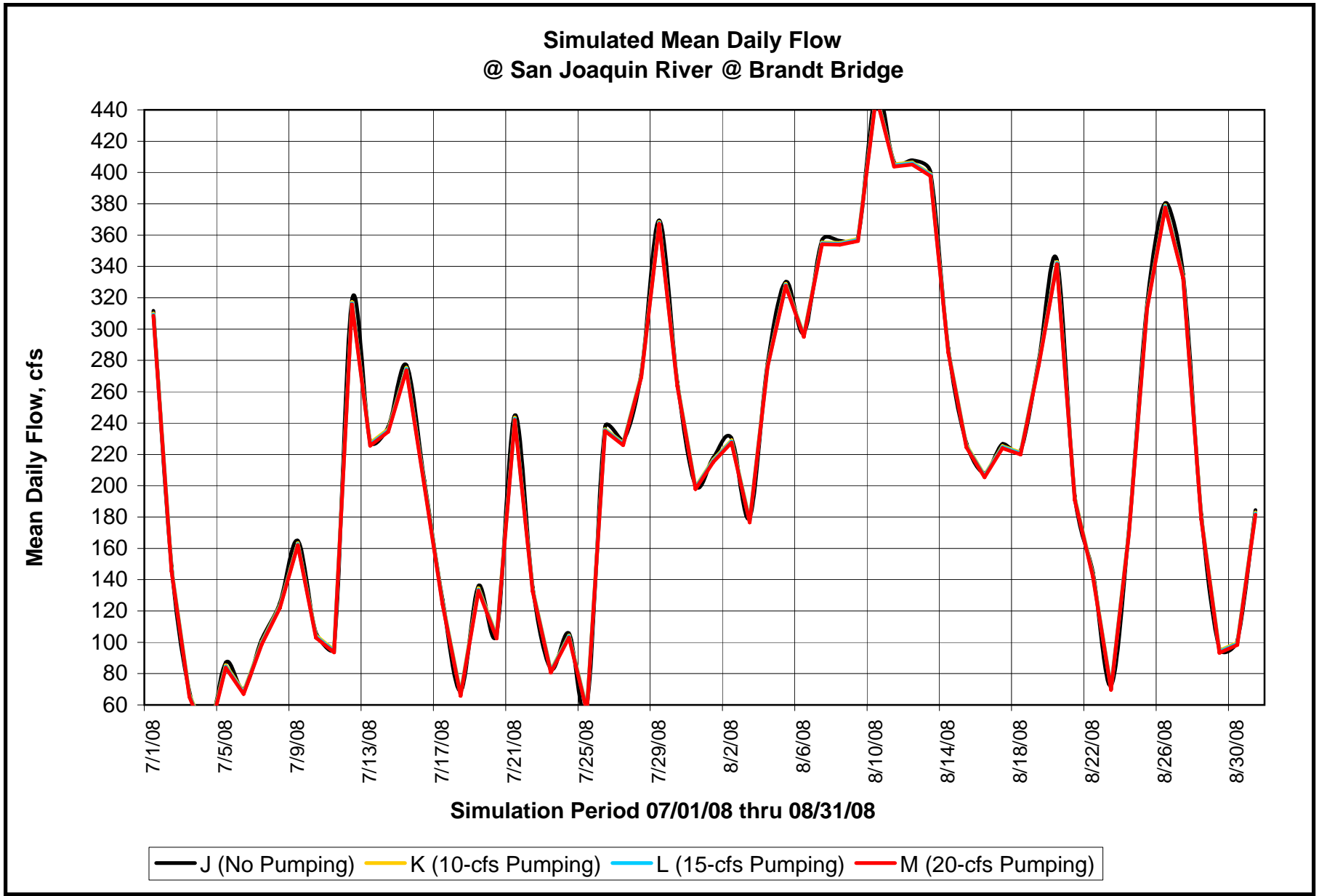
DSM2 Station Locations

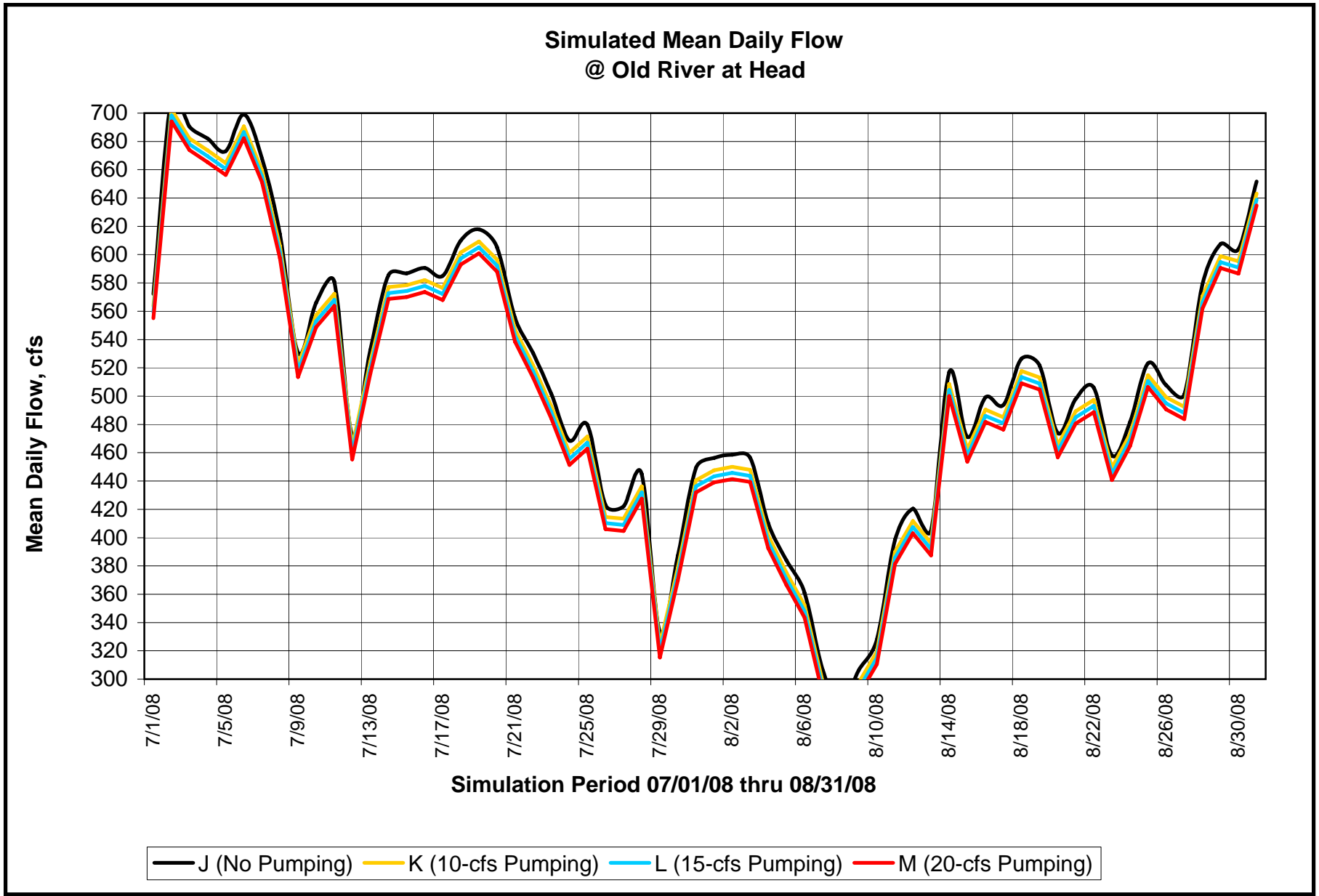
DSM2 ID	Description
RSAN087	San Joaquin River @ Mossdale
RSAN072	San Joaquin River near Brandt Bridge
ROLD074	Old River @ Head
RMID041	Middle River near Old River
ROLD059	Old River @ Tracy Road
ROLD047	Old River @ Delta Mendota Canal
60_5875	Old River upstream of Paradise Cut
61_6003	Old River downstream of Paradise Cut
199_6662	Paradise Cut just upstream of Old River
198_7231	Paradise Cut 20% upstream of Old River
197_7205	Paradise Cut mid upstream of Old River
196_8526	Paradise Cut 80% upstream of Old River
195_3045	Paradise Cut most upstream of Old River

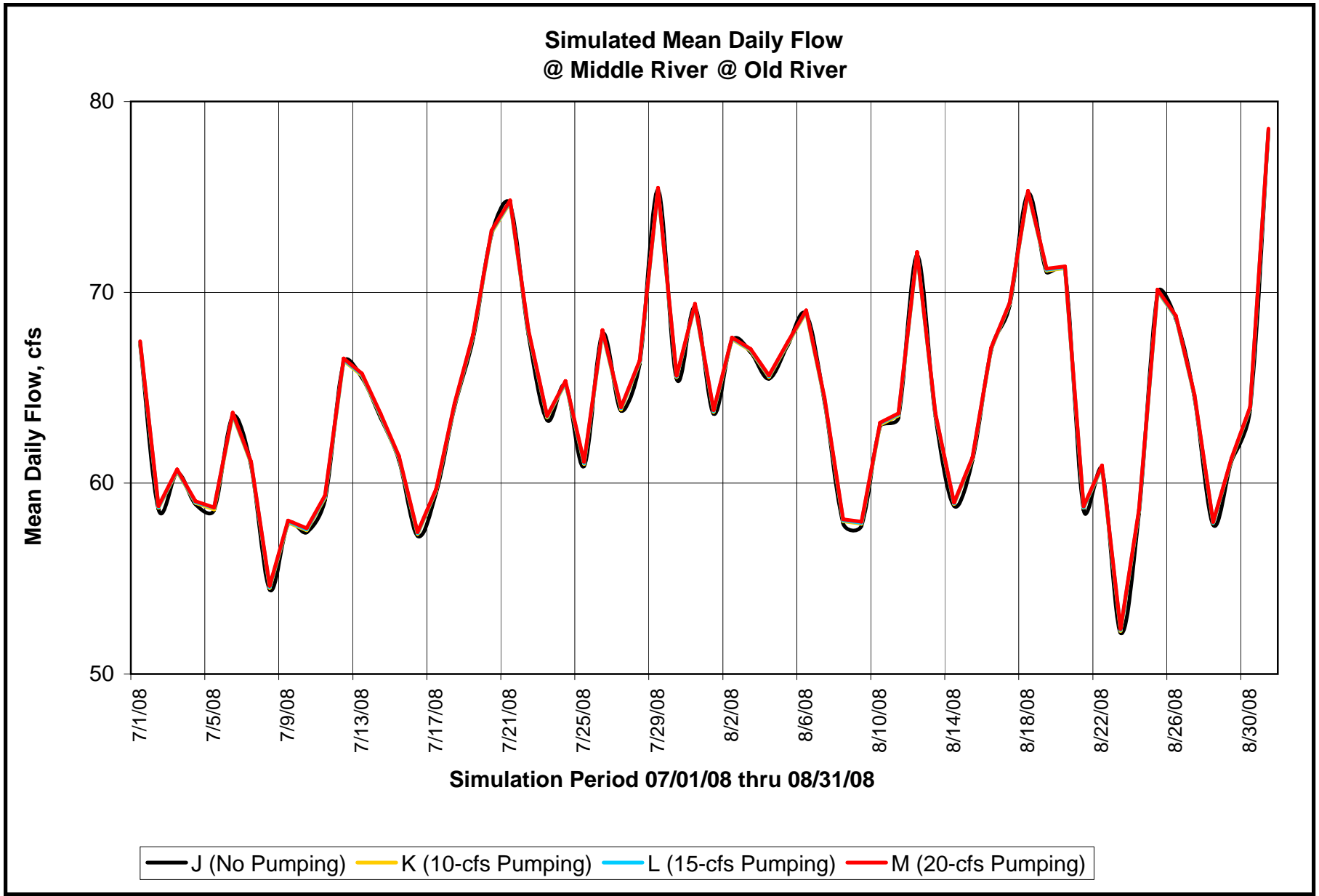


Simulated Mean Daily Flow @ San Joaquin River @ Mossdale

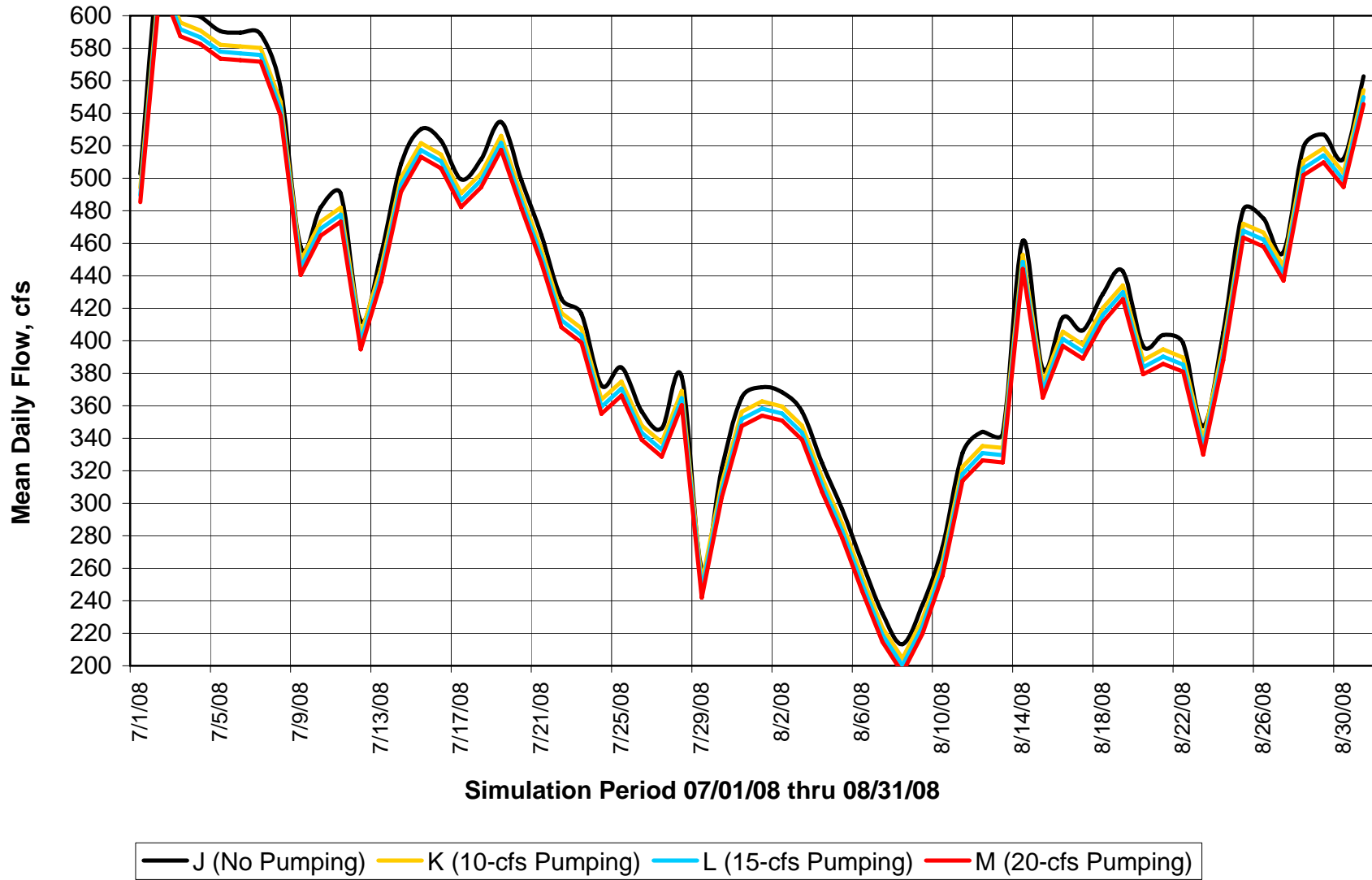


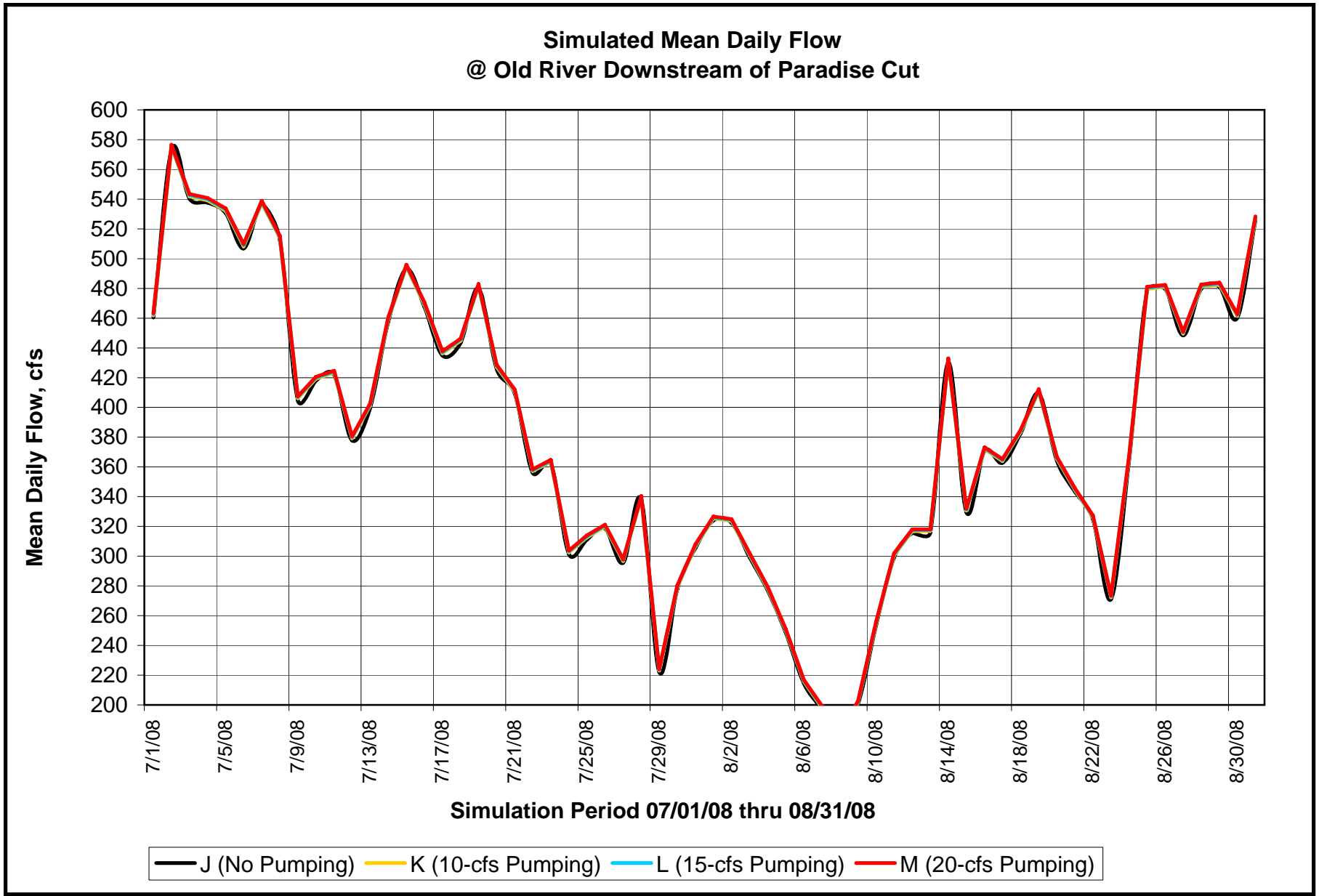


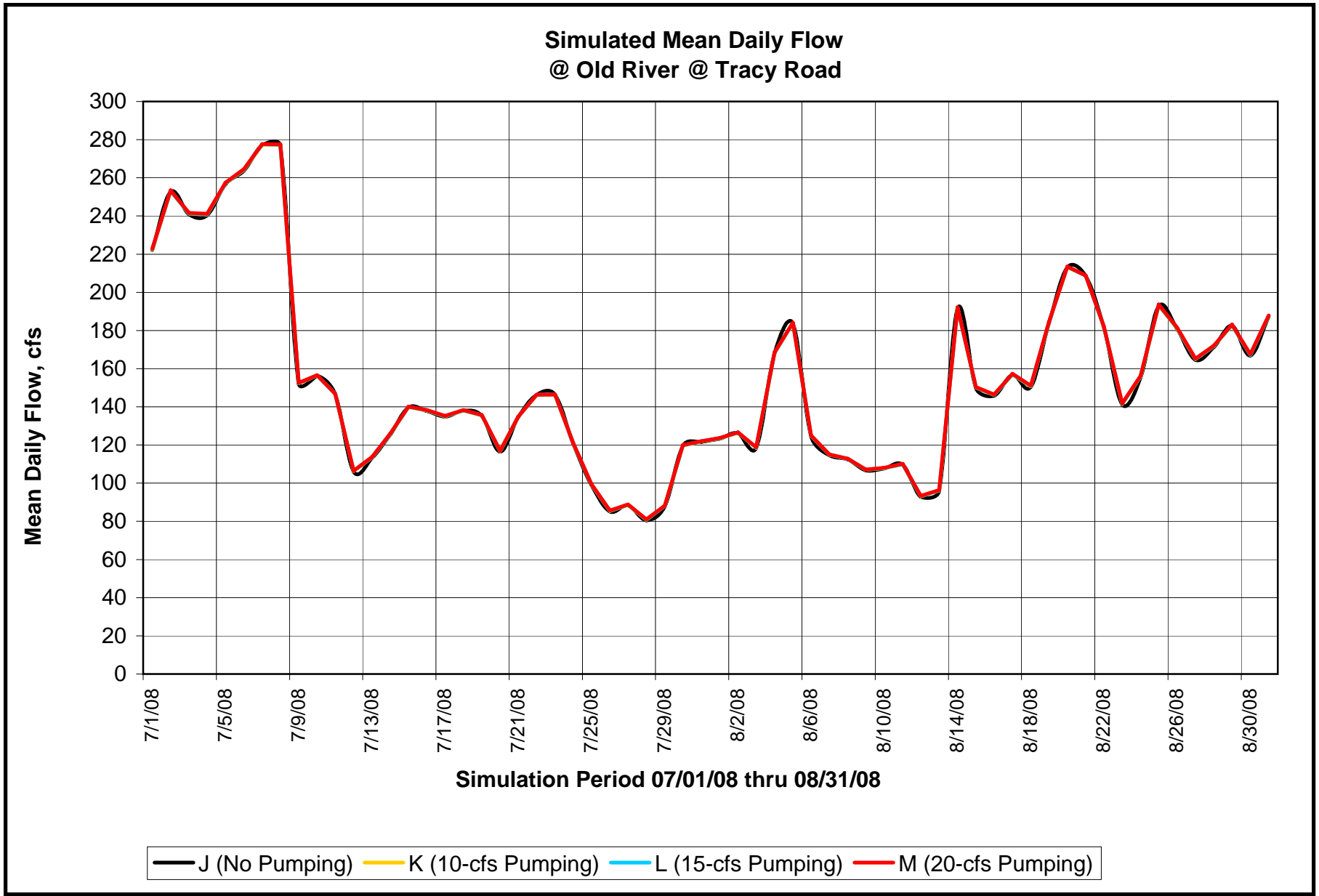


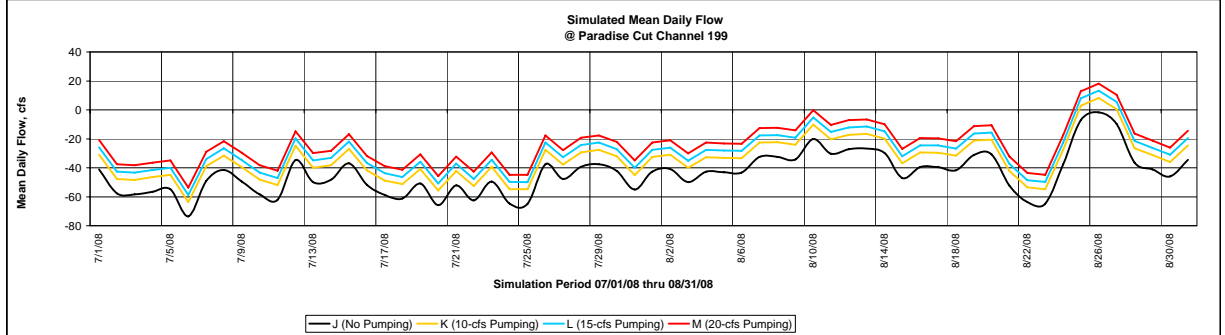
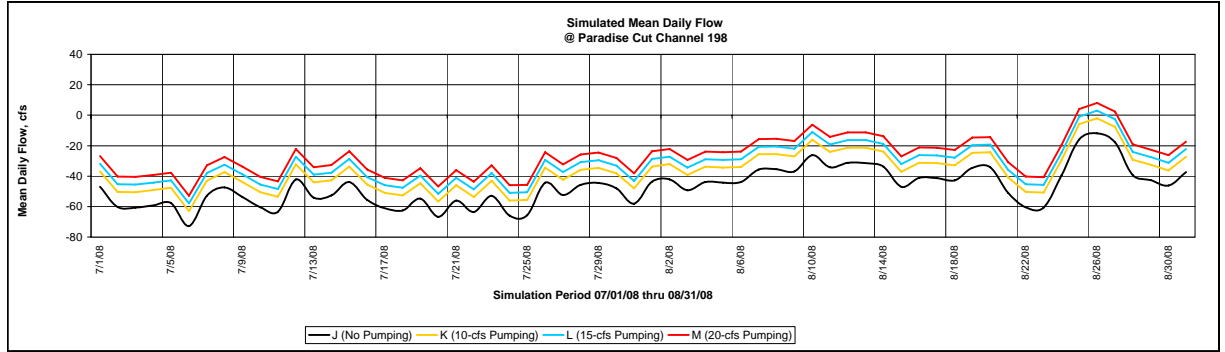
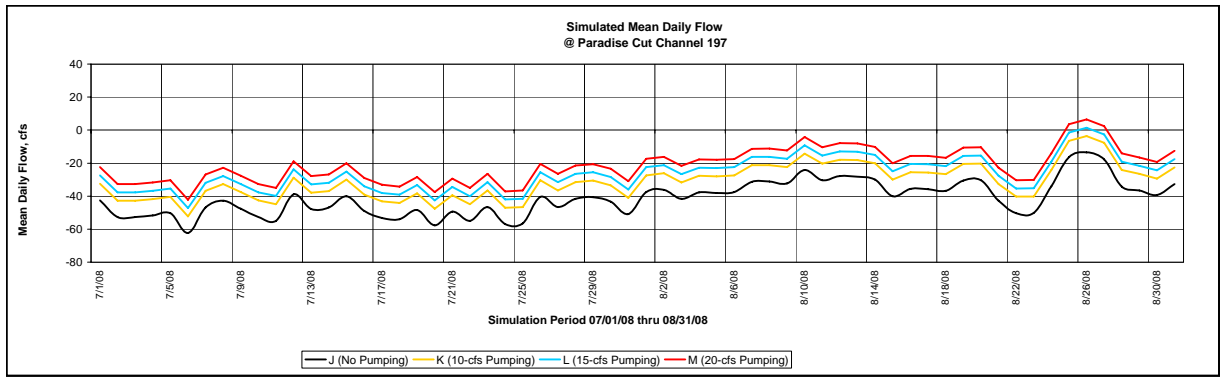
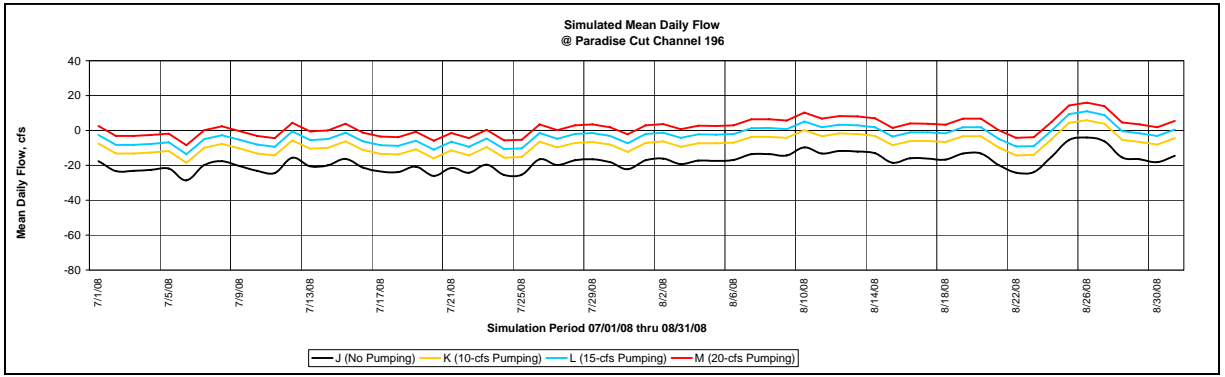
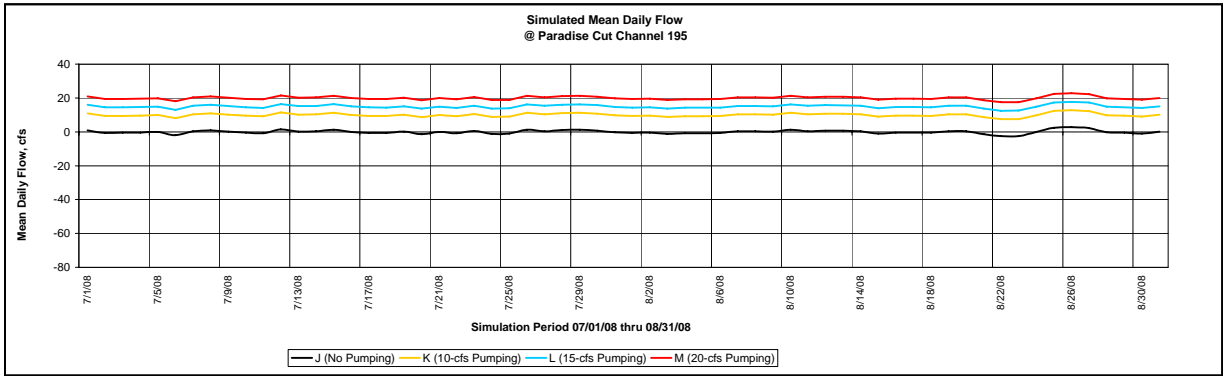


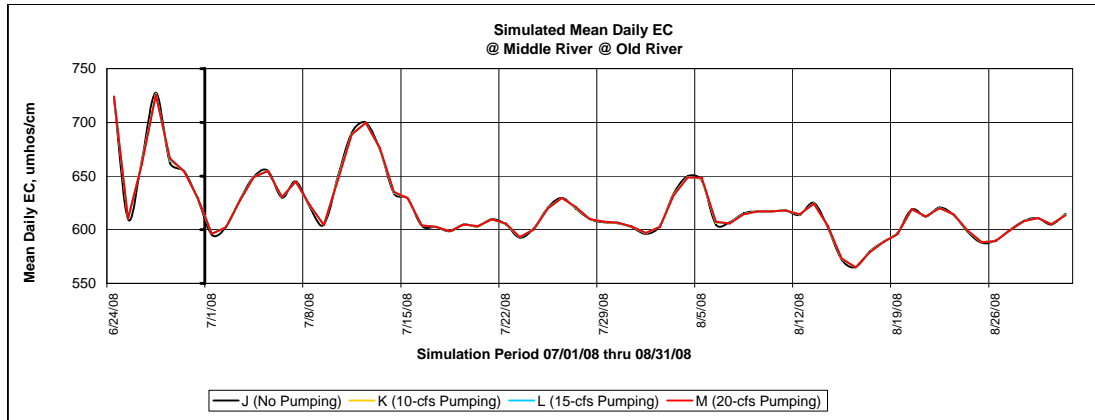
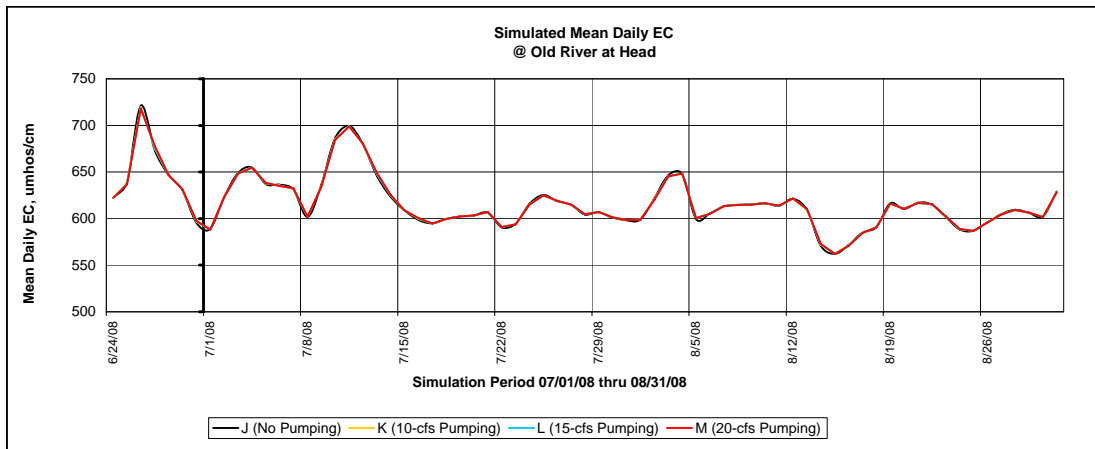
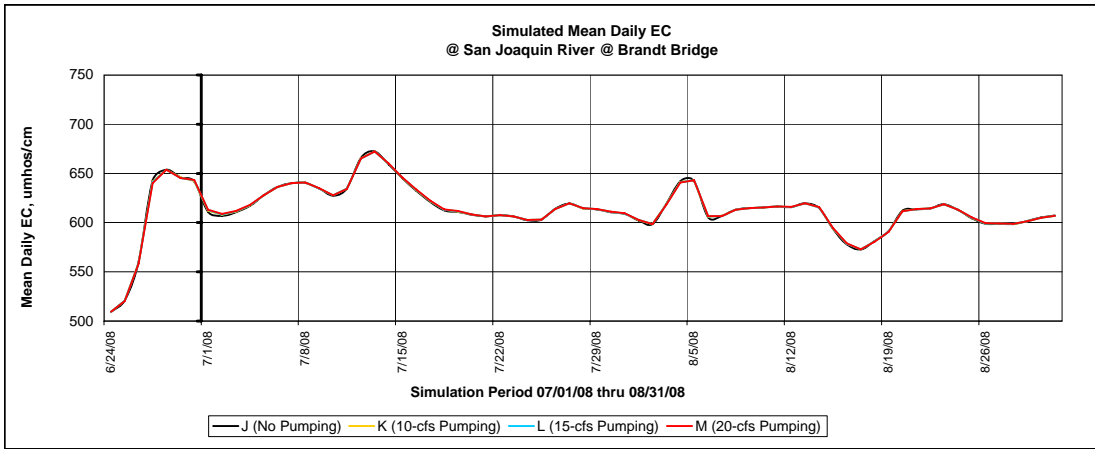
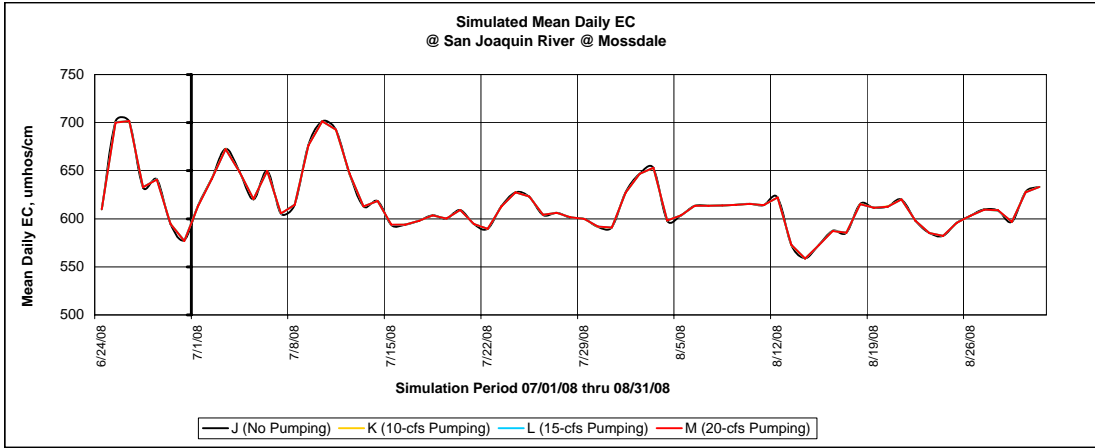
Simulated Mean Daily Flow @ Old River Channel 60

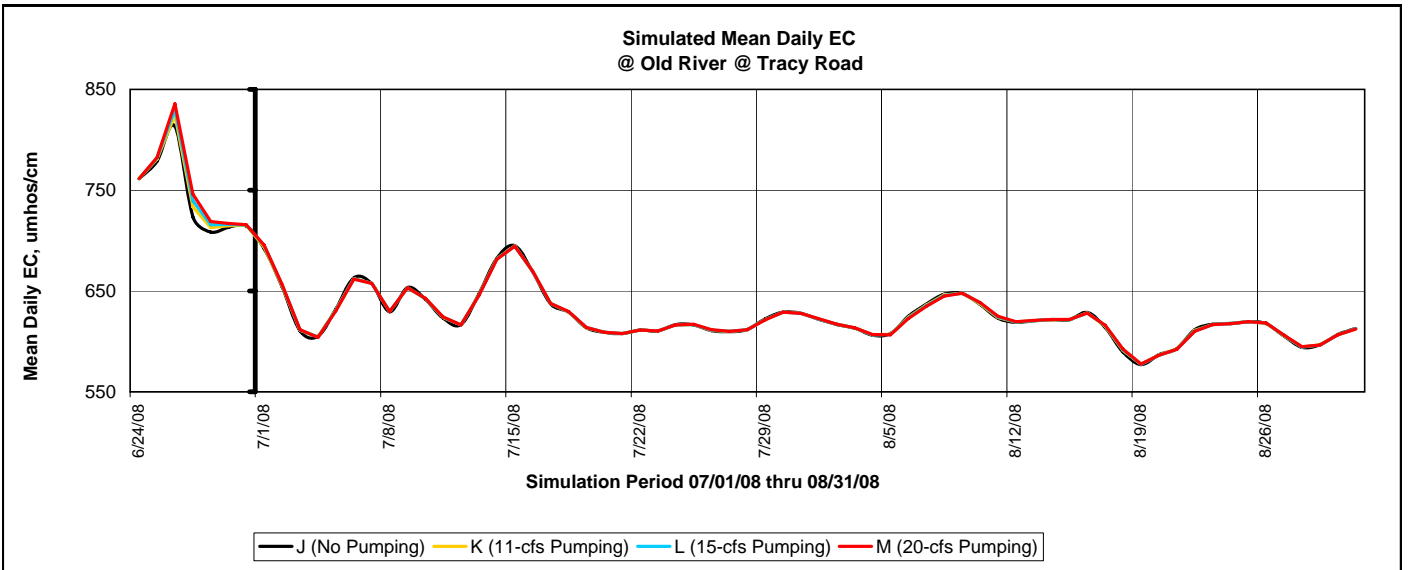
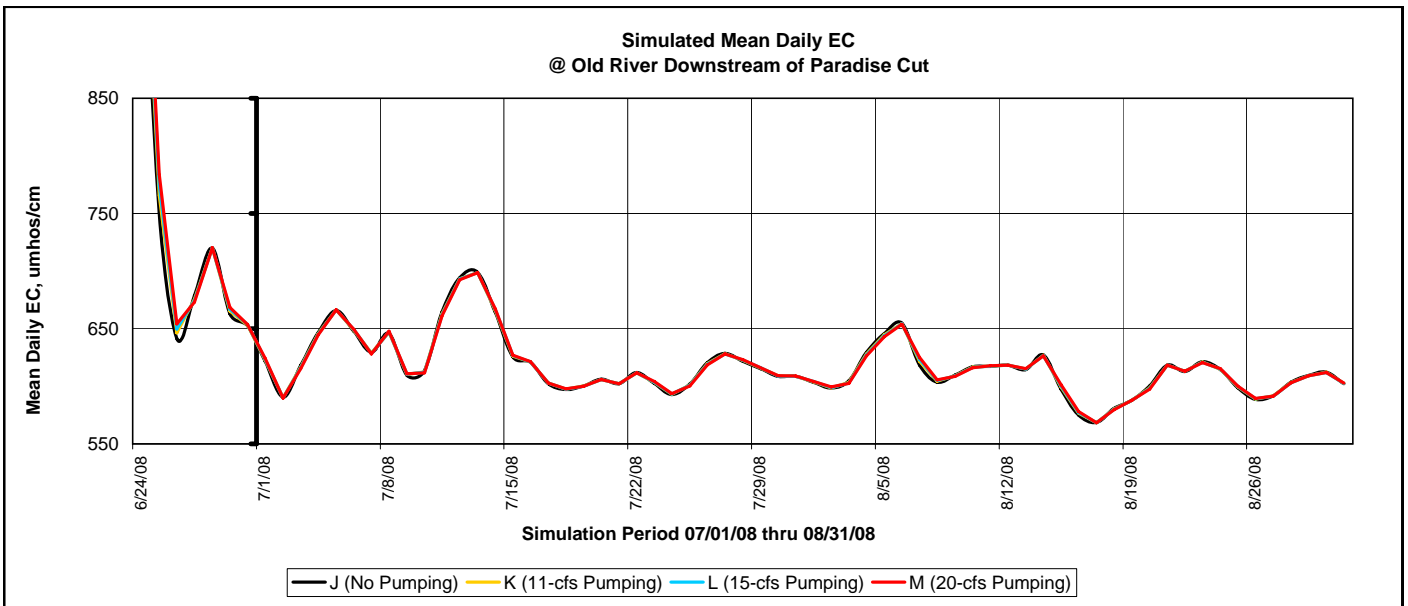
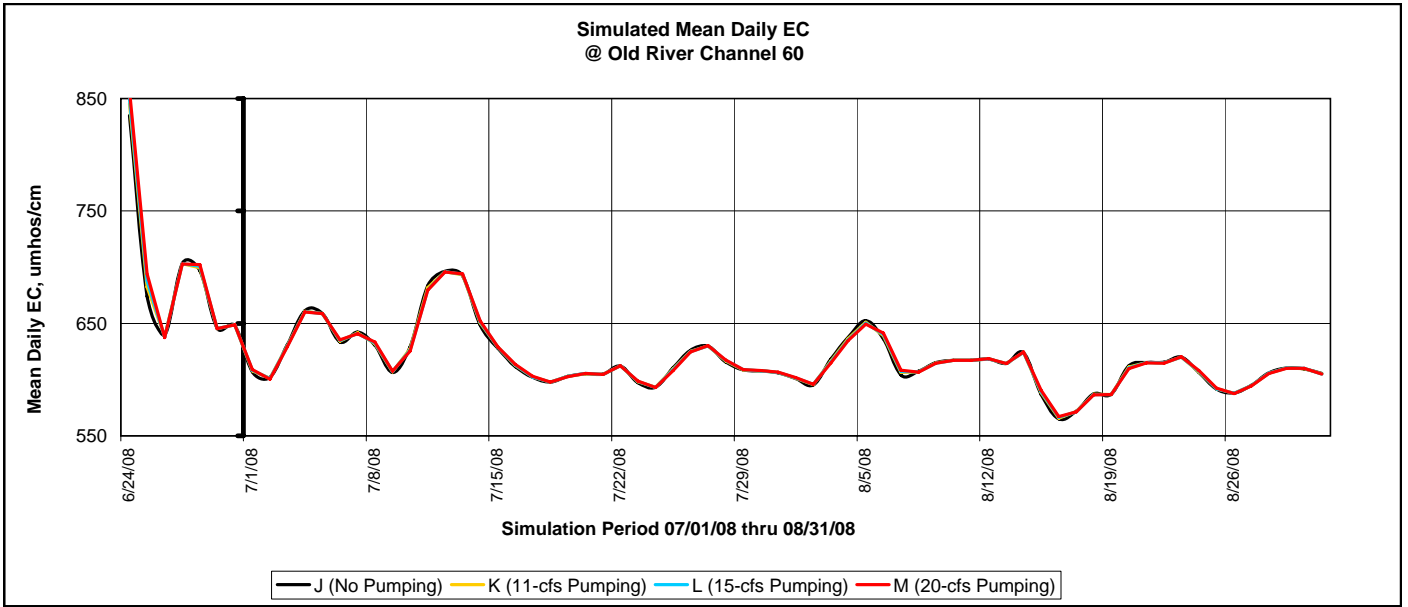


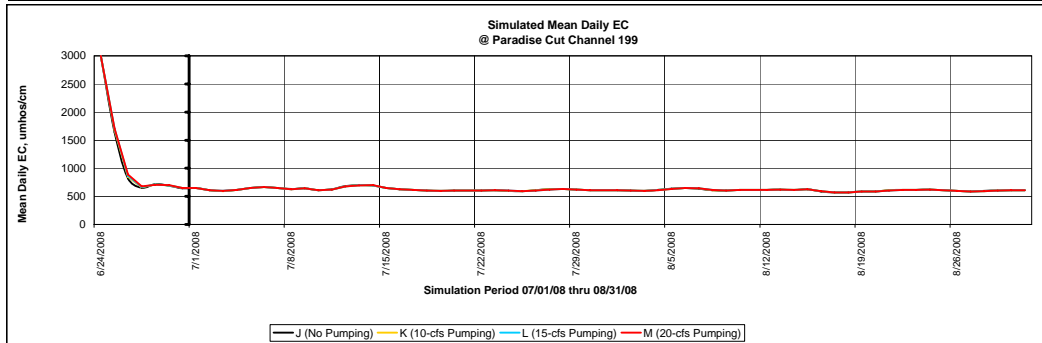
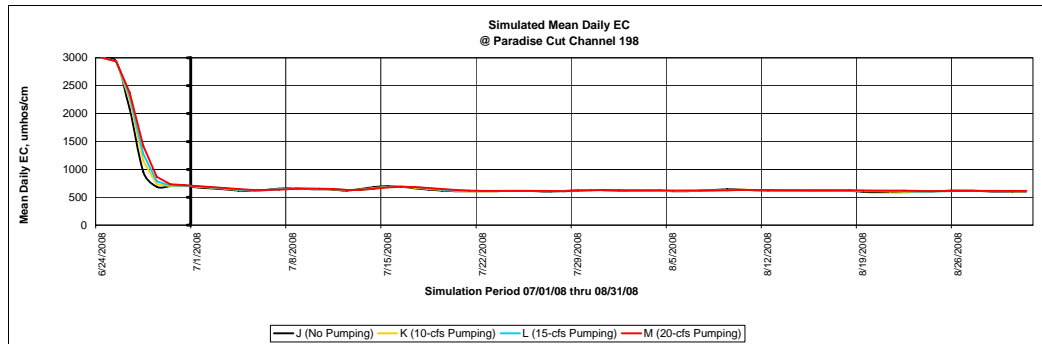
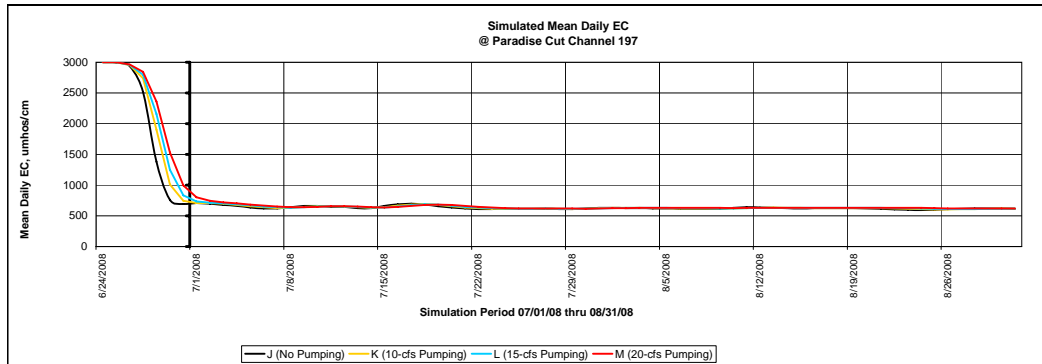
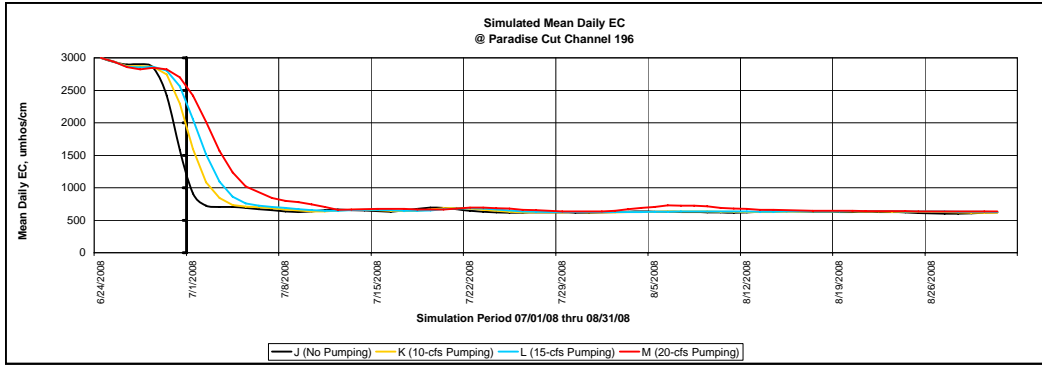
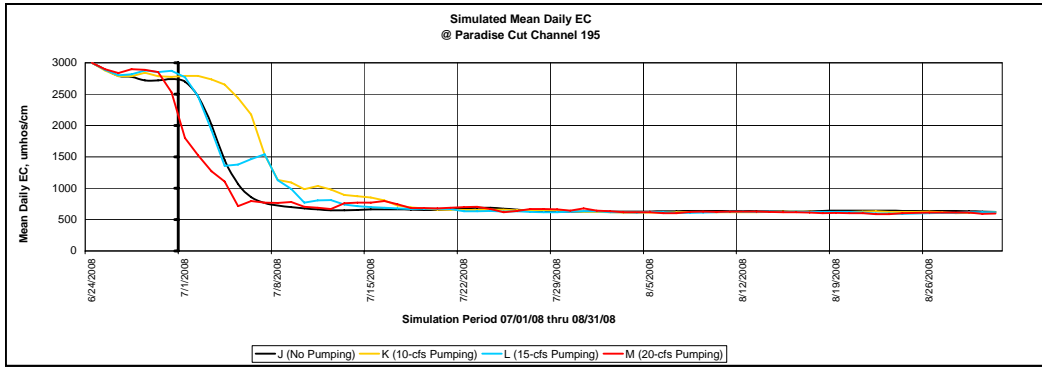


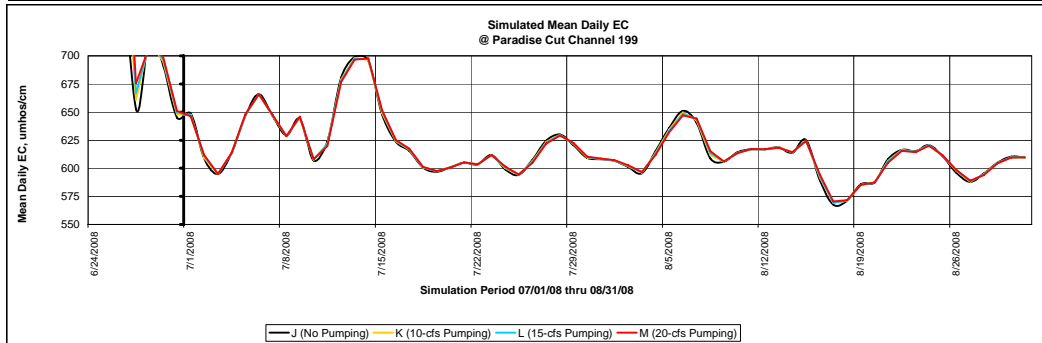
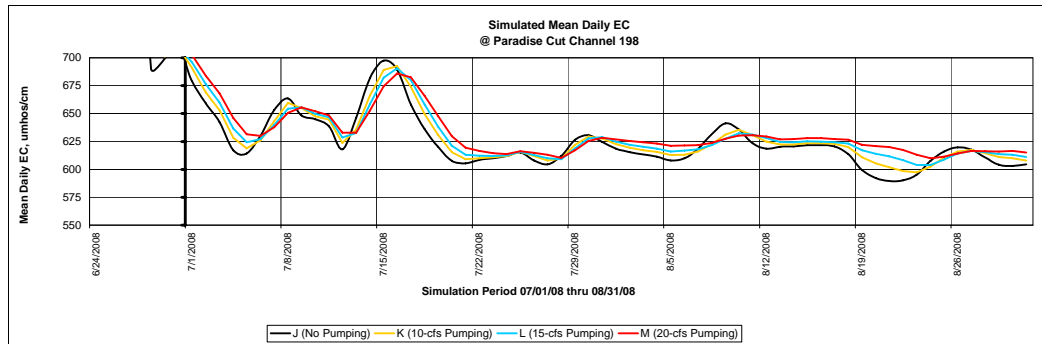
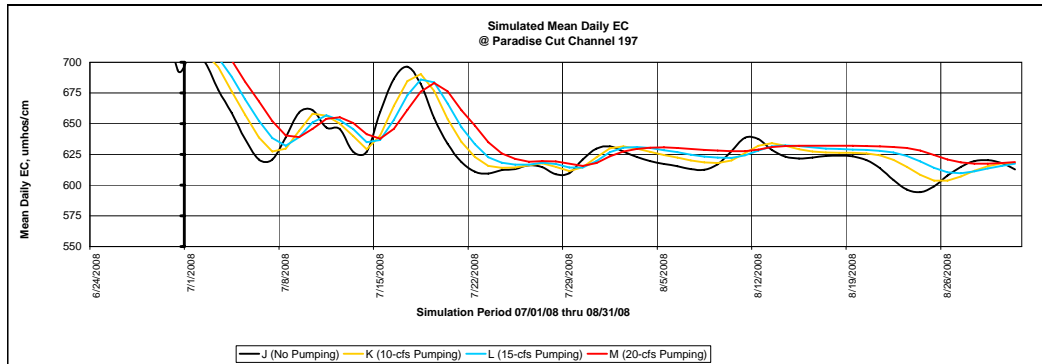
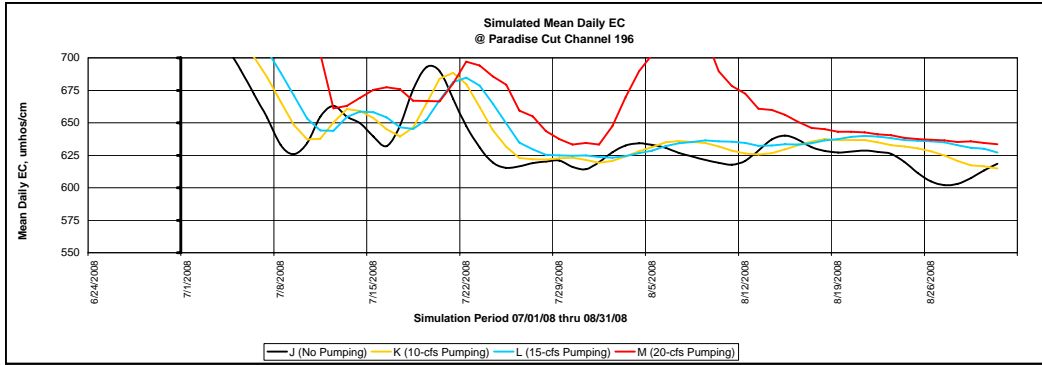
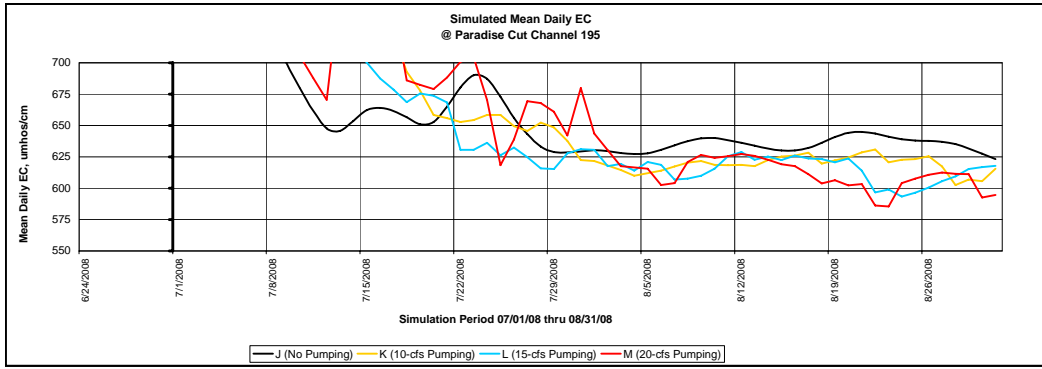






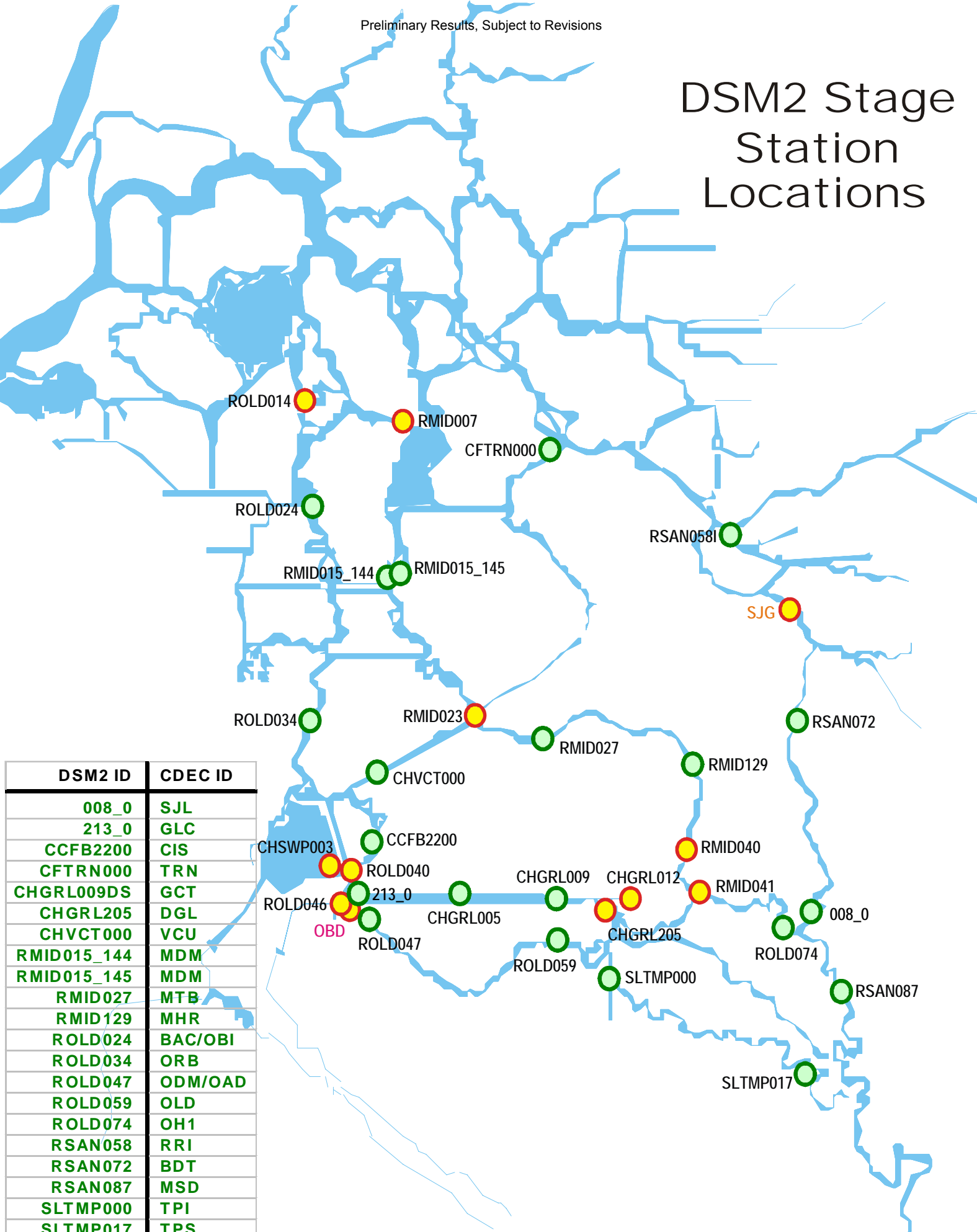






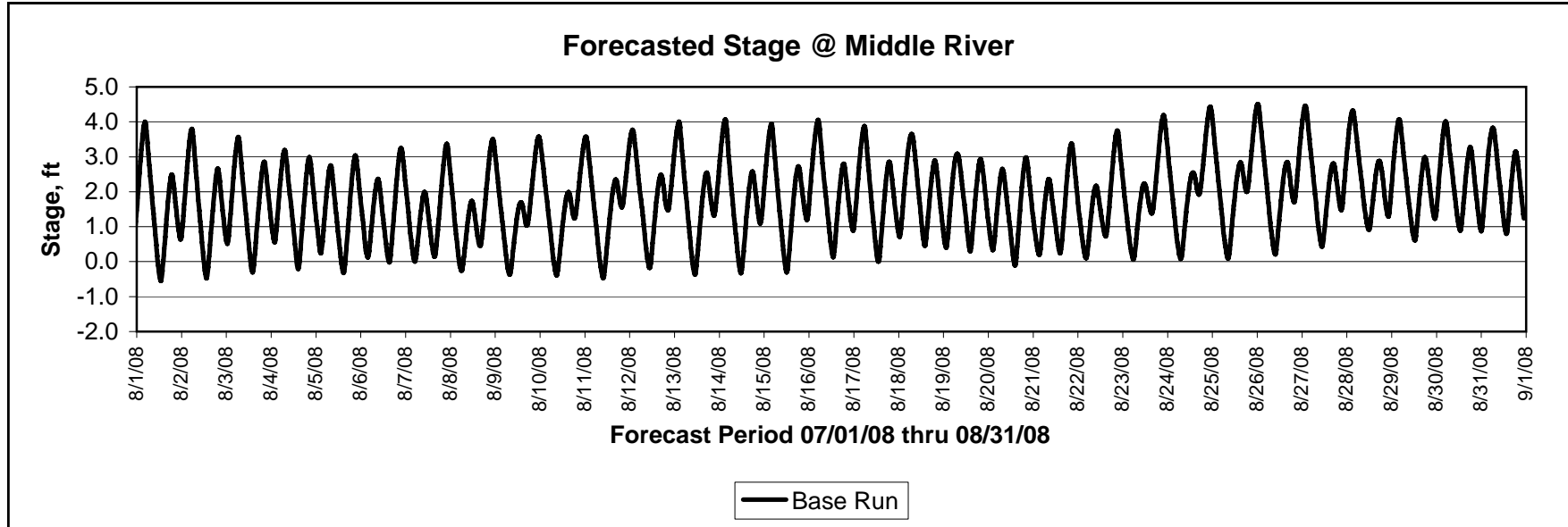
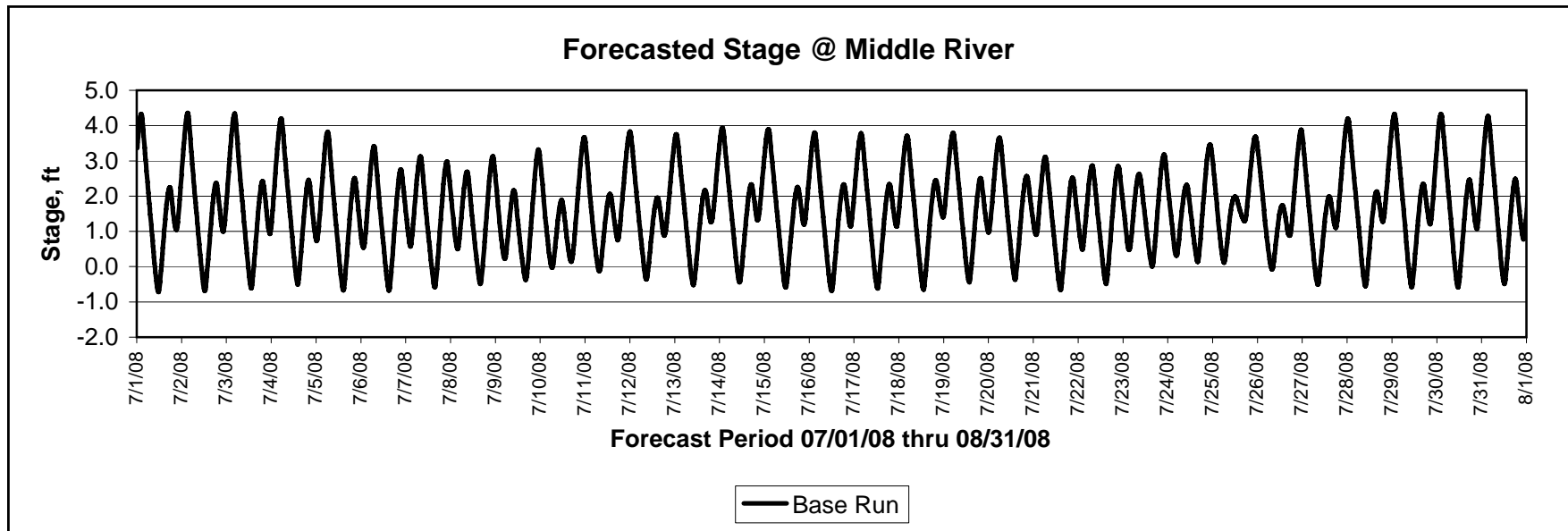
**COMPARISON OF BASELINE &
HISTORICAL STAGE
(15-MINUTE)**

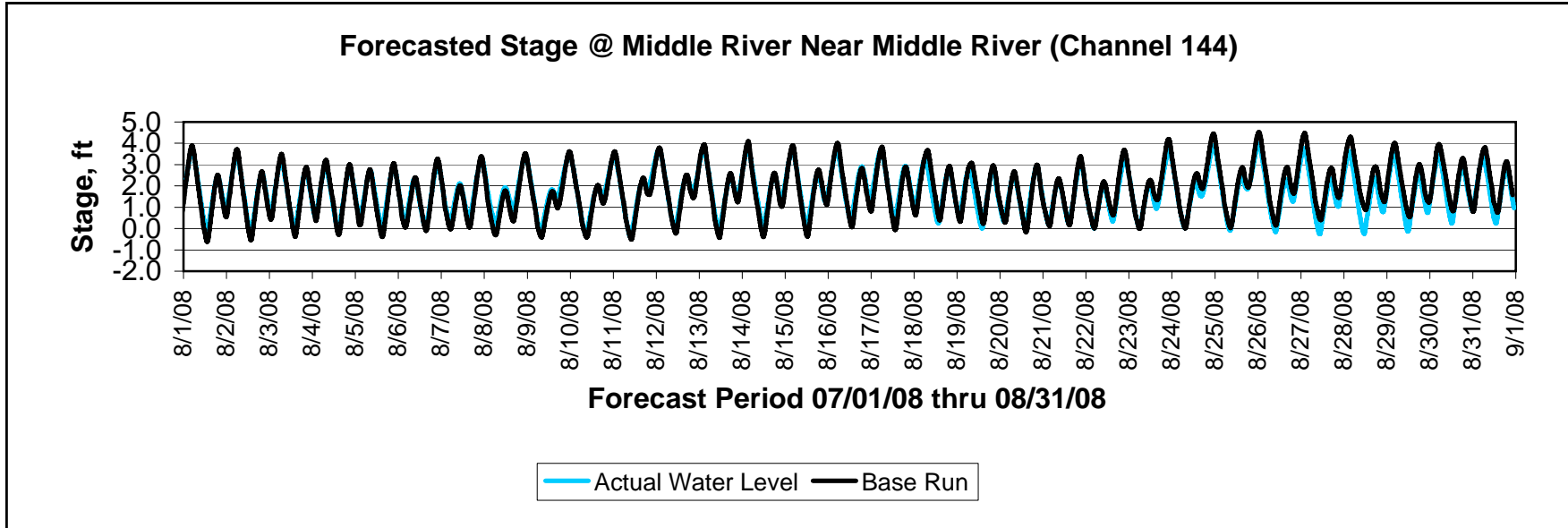
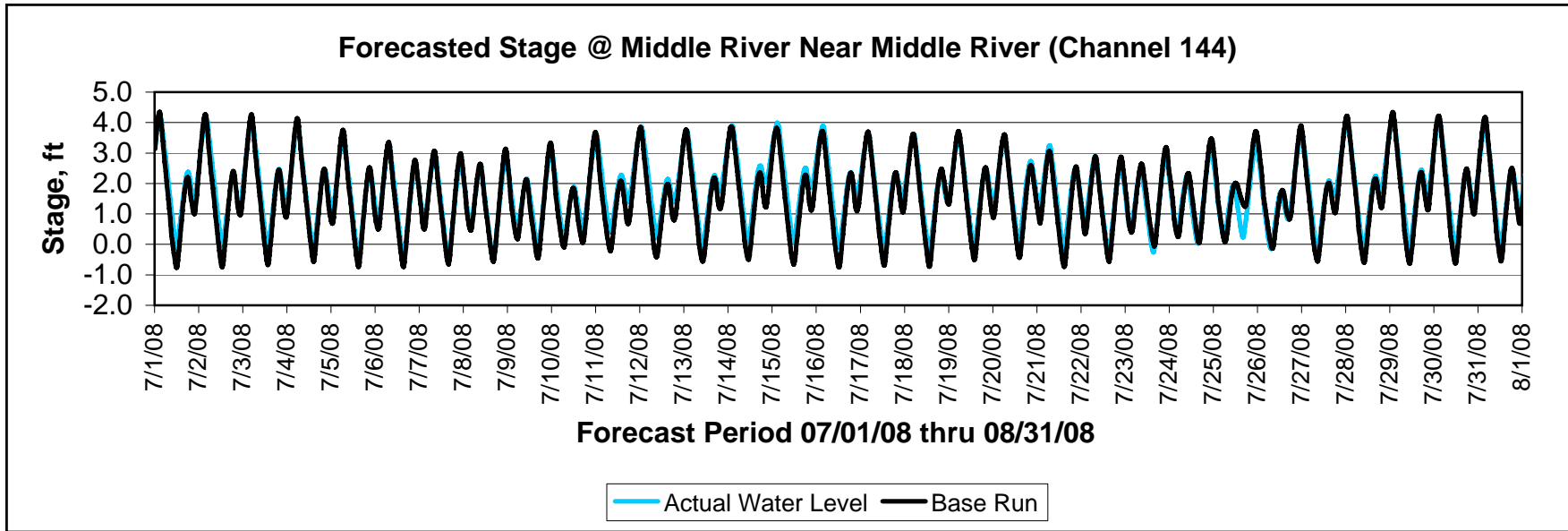
DSM2 Stage Station Locations

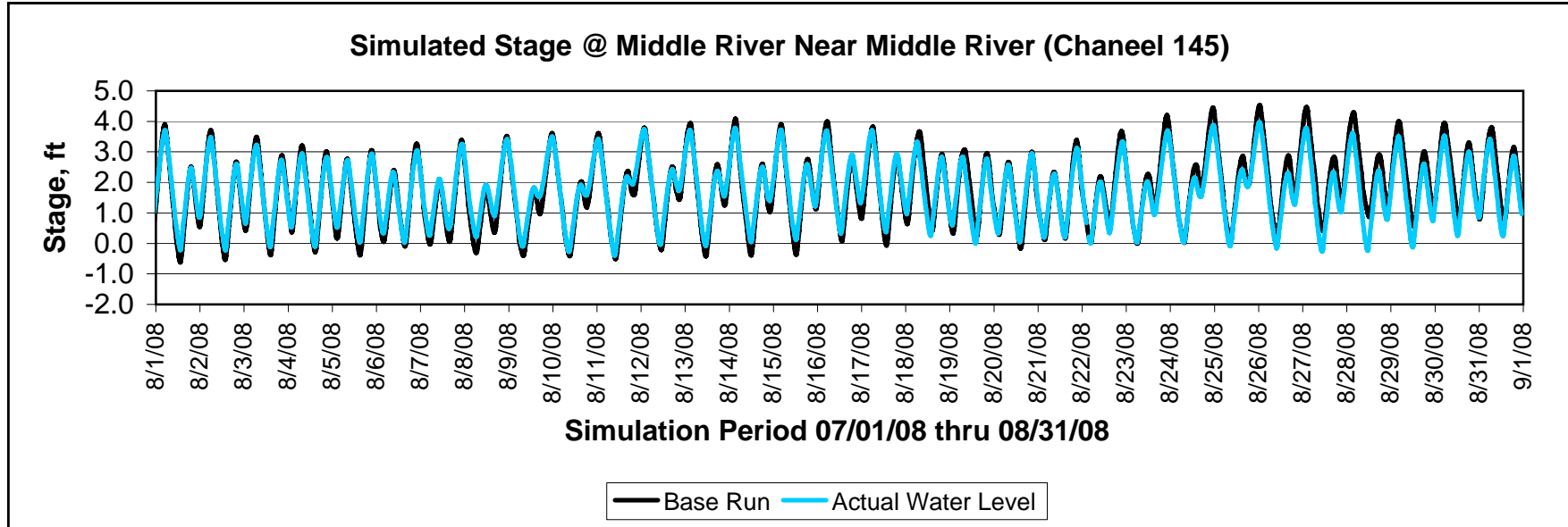
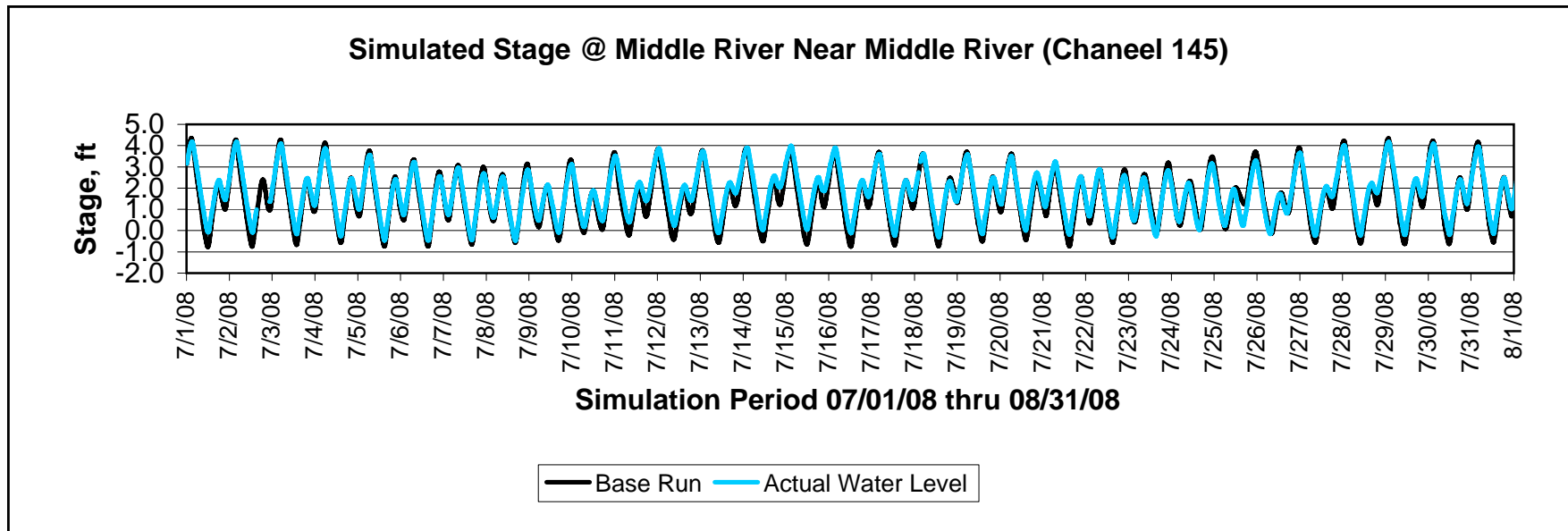


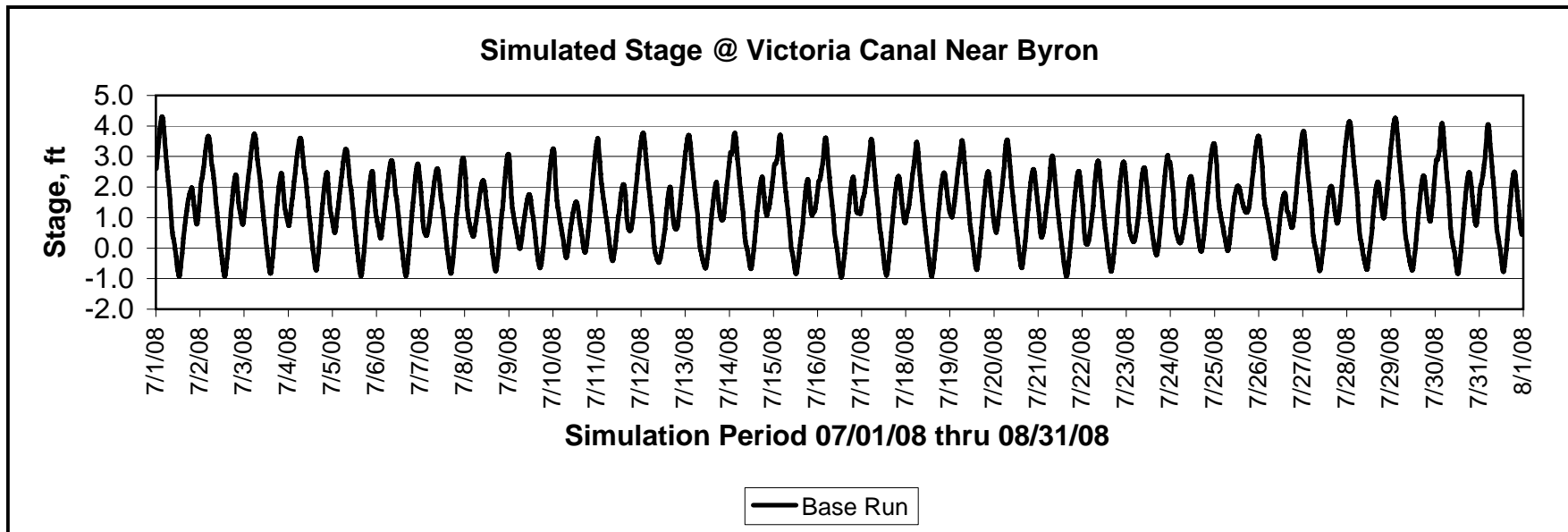
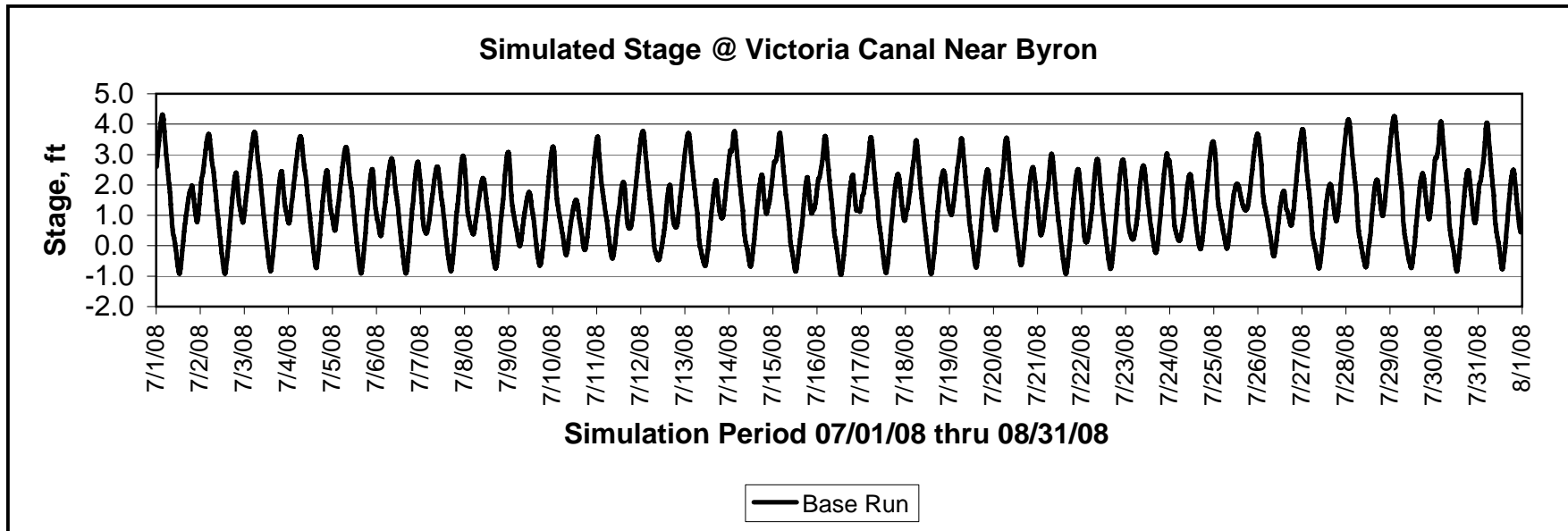
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213_0	GLC
CCFB2200	CIS
CFTRN000	TRN
CHGRL009DS	GCT
CHGRL205	DGL
CHVCT000	VCU
RMID015_144	MDM
RMID015_145	MDM
RMID027	MTB
RMID129	MHR
ROLD024	BAC/OBI
ROLD034	ORB
ROLD047	ODM/OAD
ROLD059	OLD
ROLD074	OH1
RSAN058	RRI
RSAN072	BDT
RSAN087	MSD
SLTMP000	TPI
SLTMP017	TPS

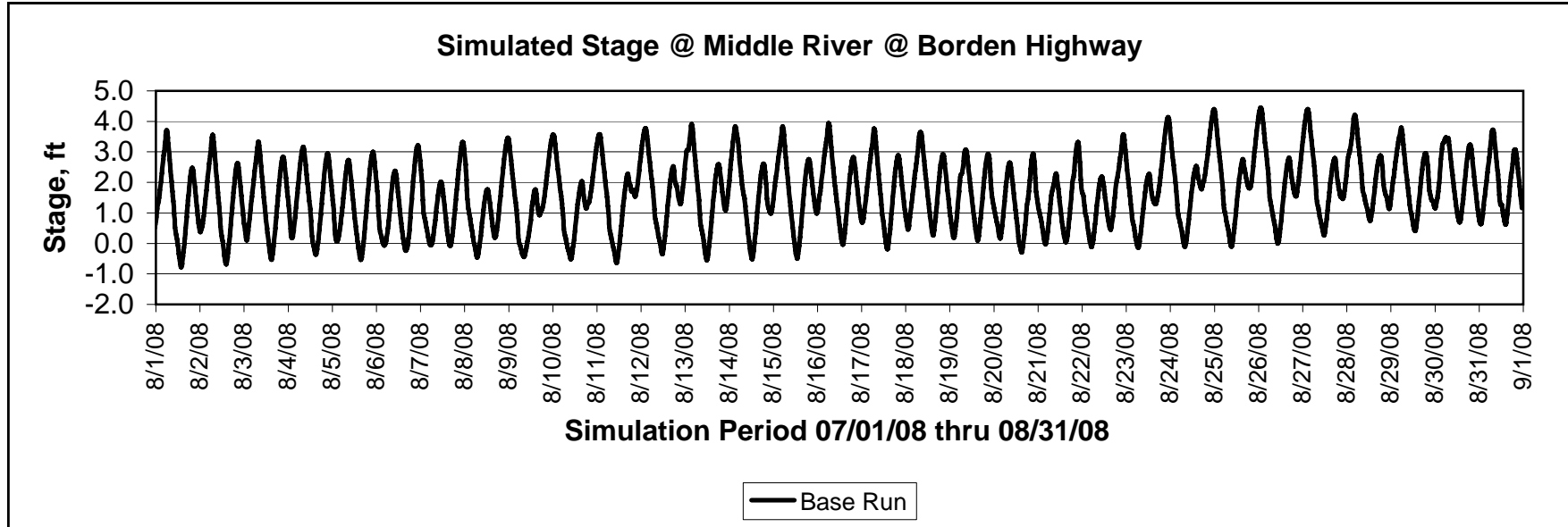
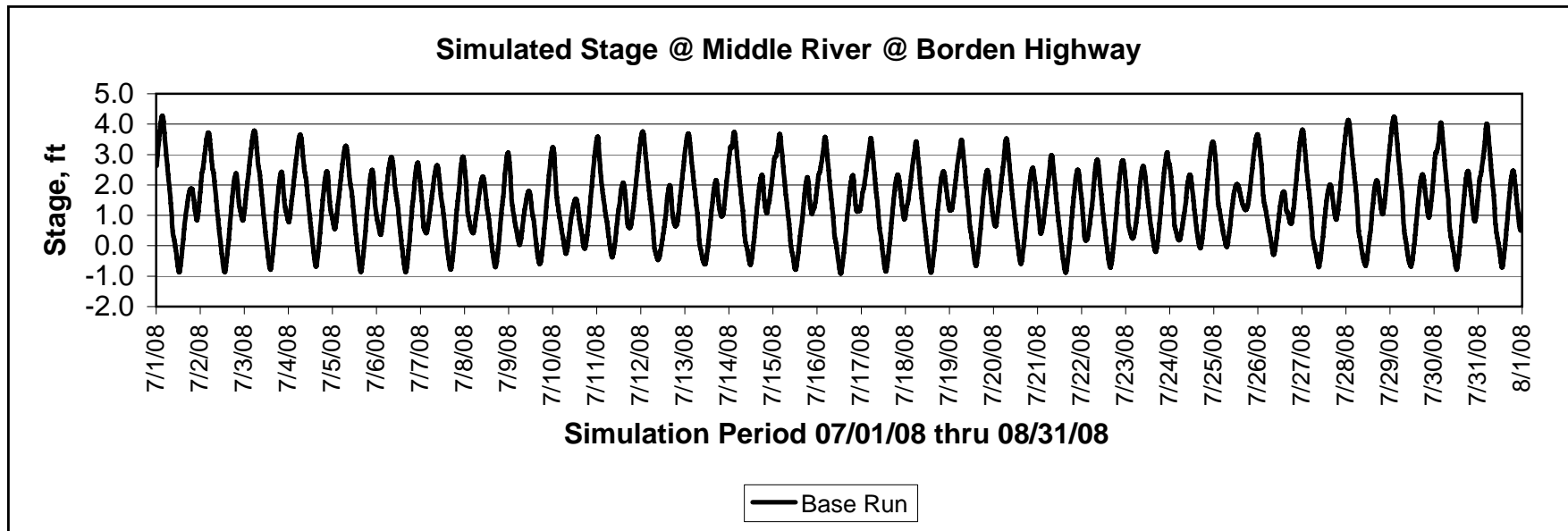
MIDDLE RIVER - STAGE

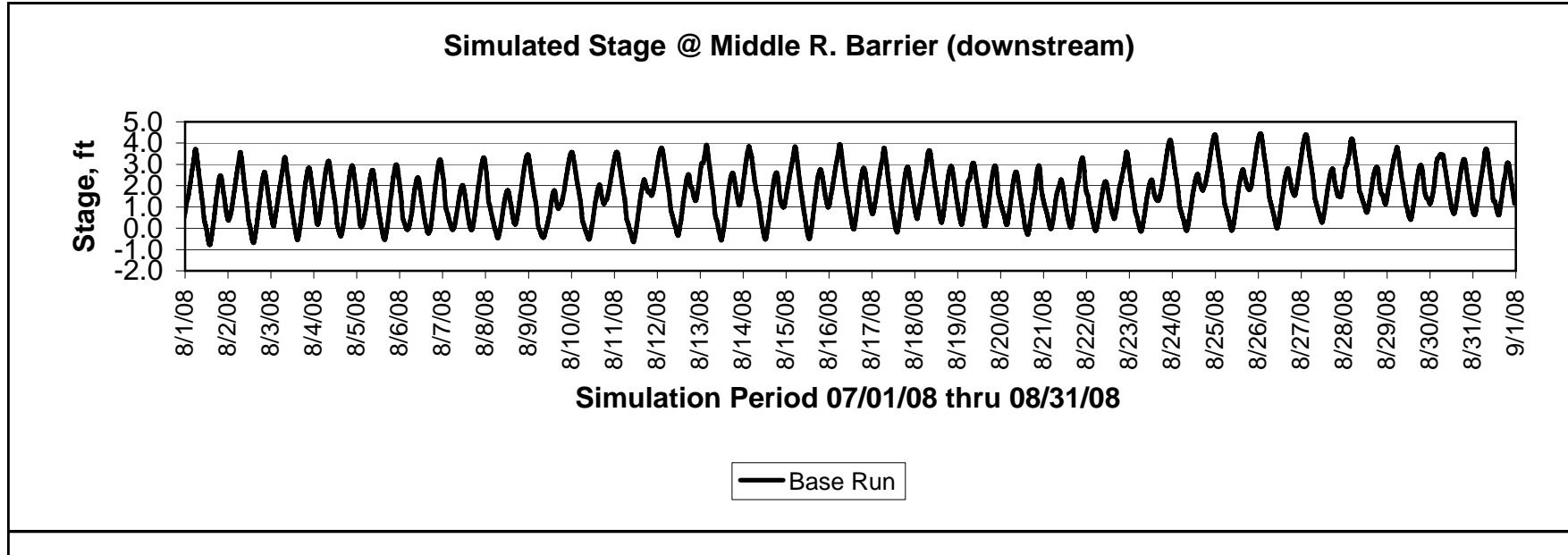
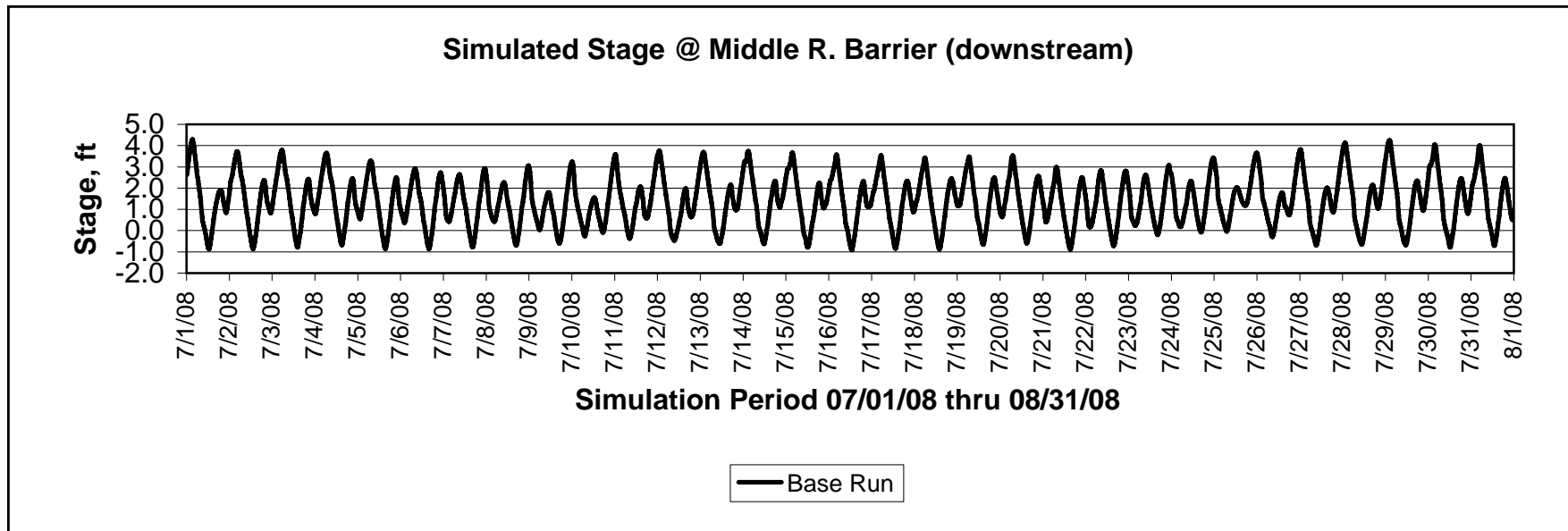


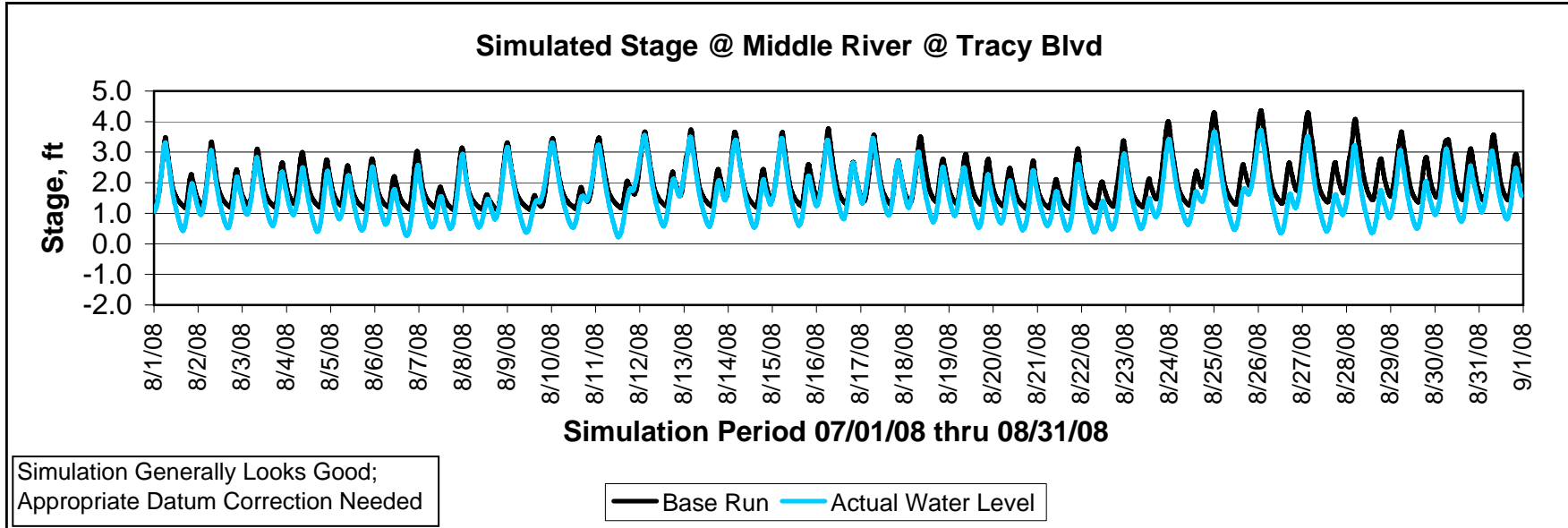
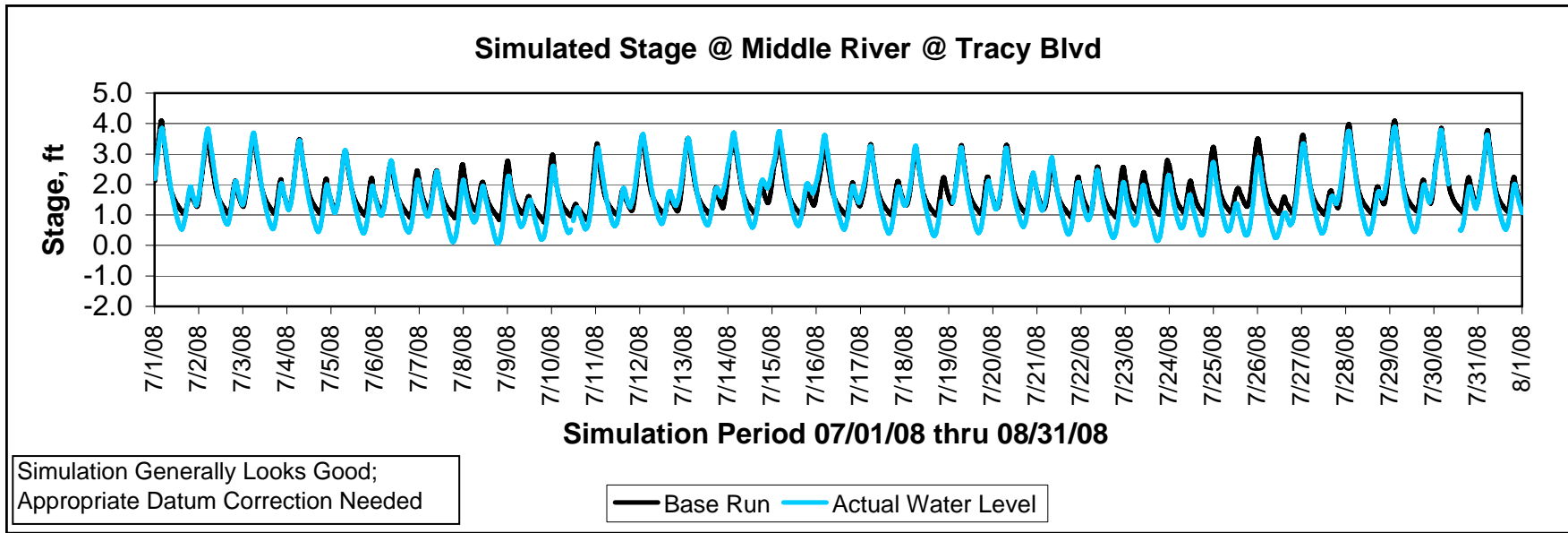


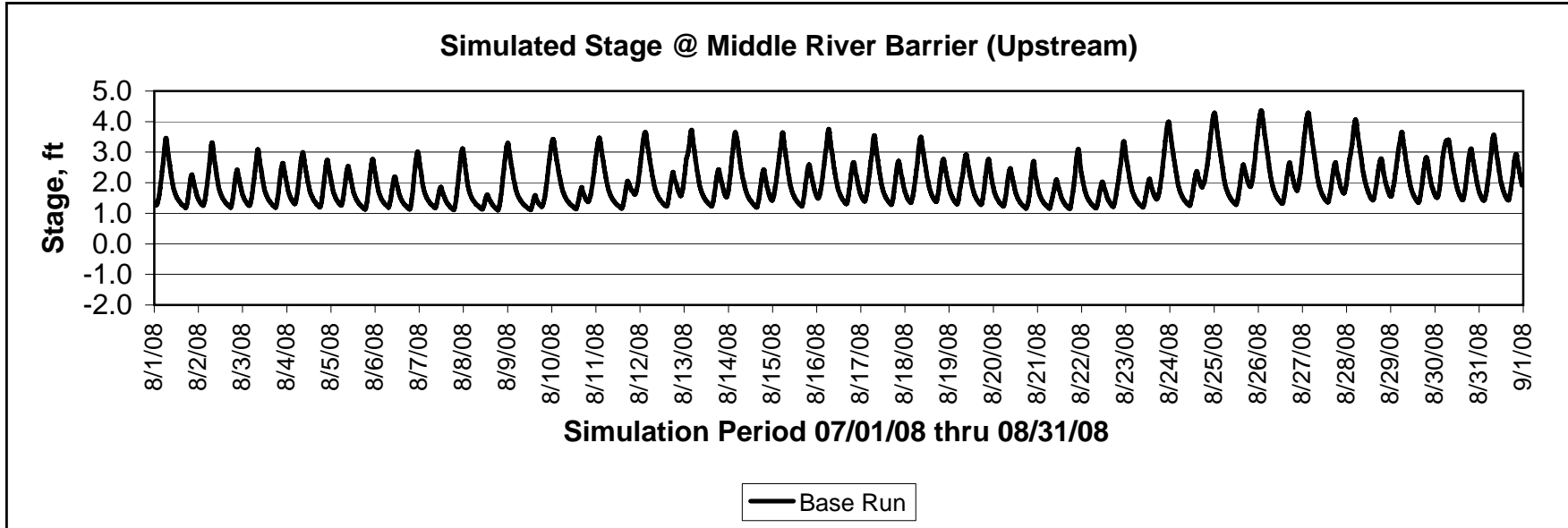
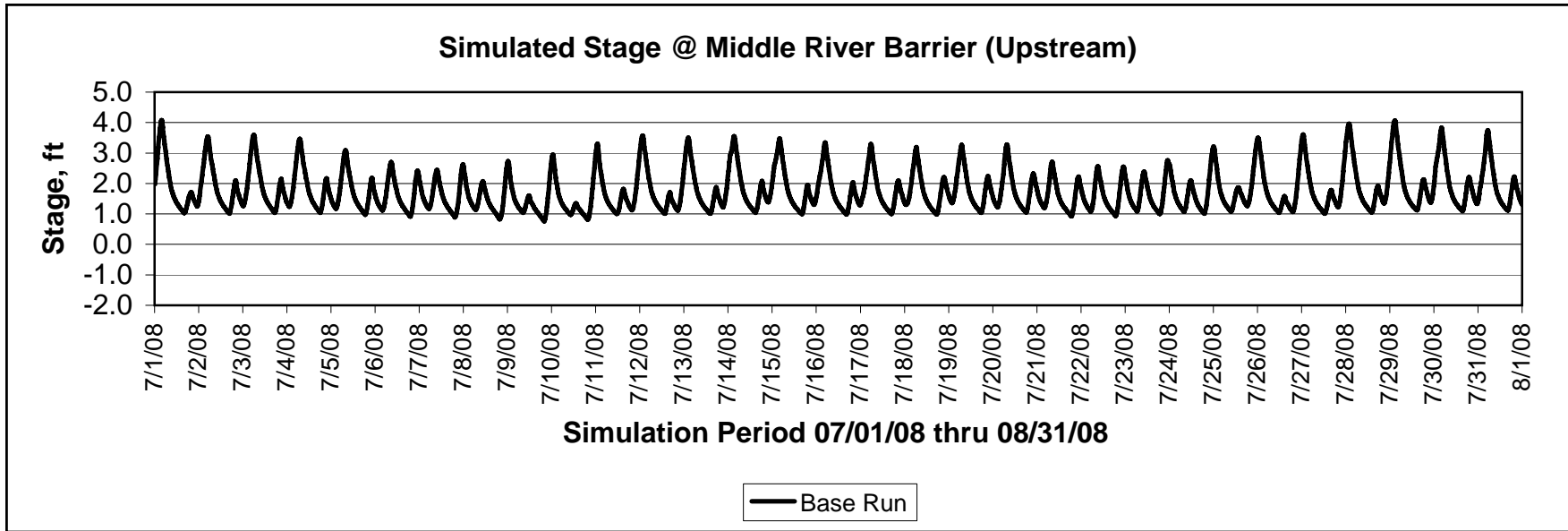


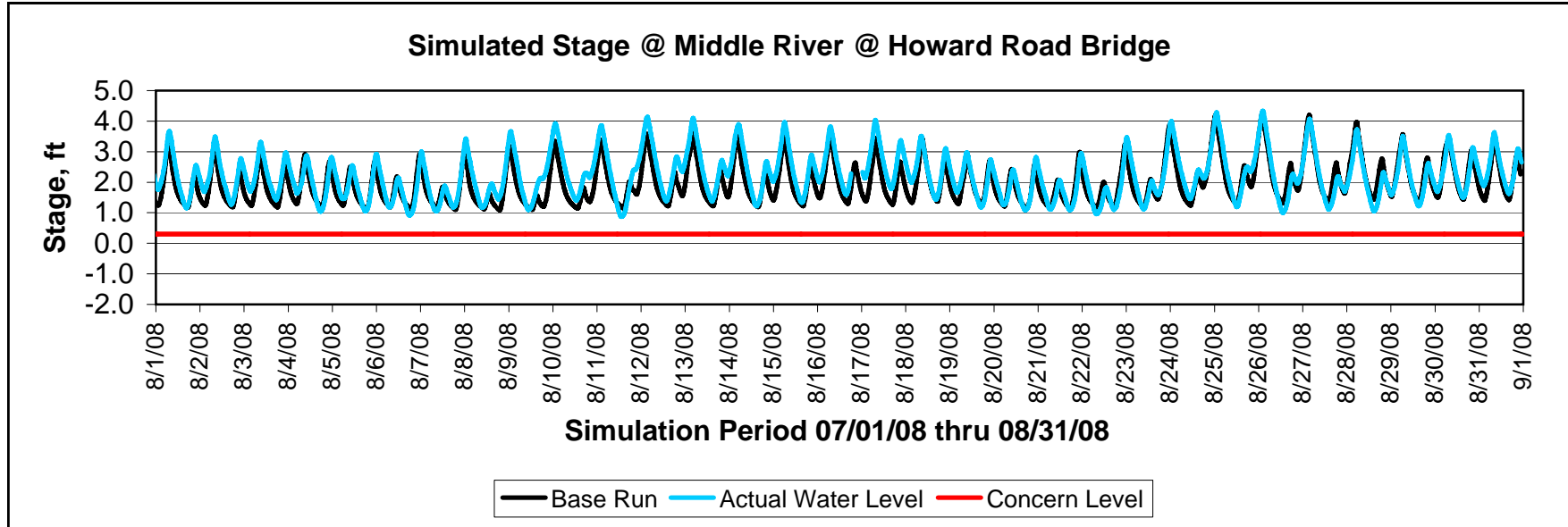
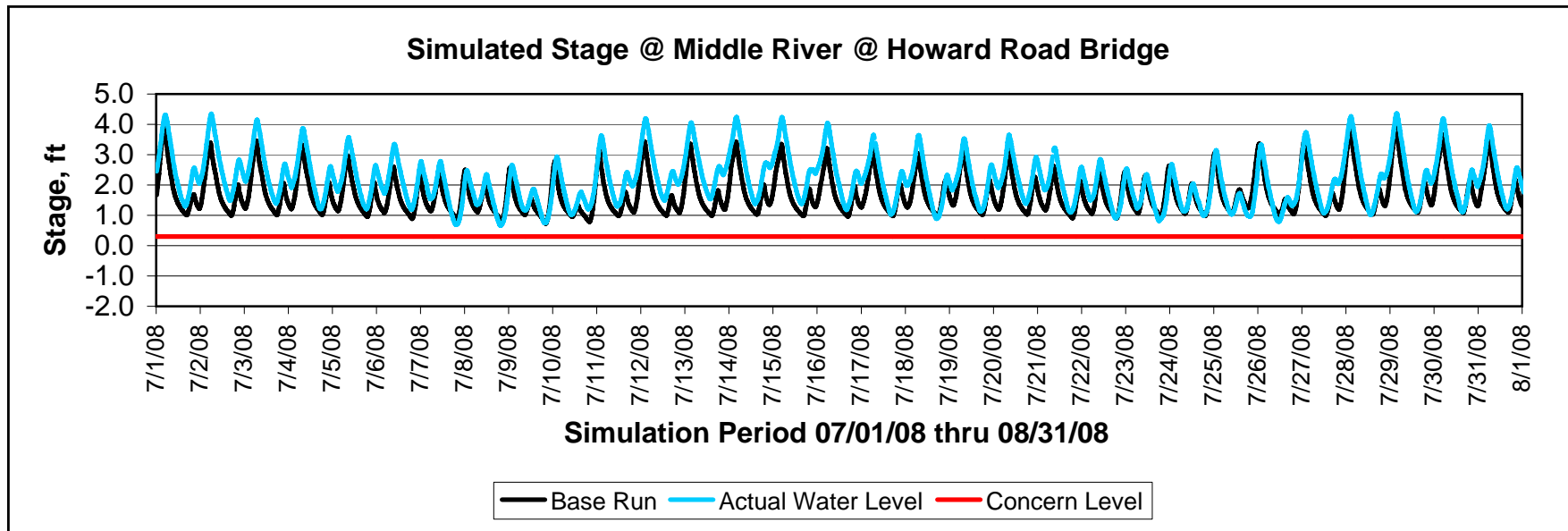


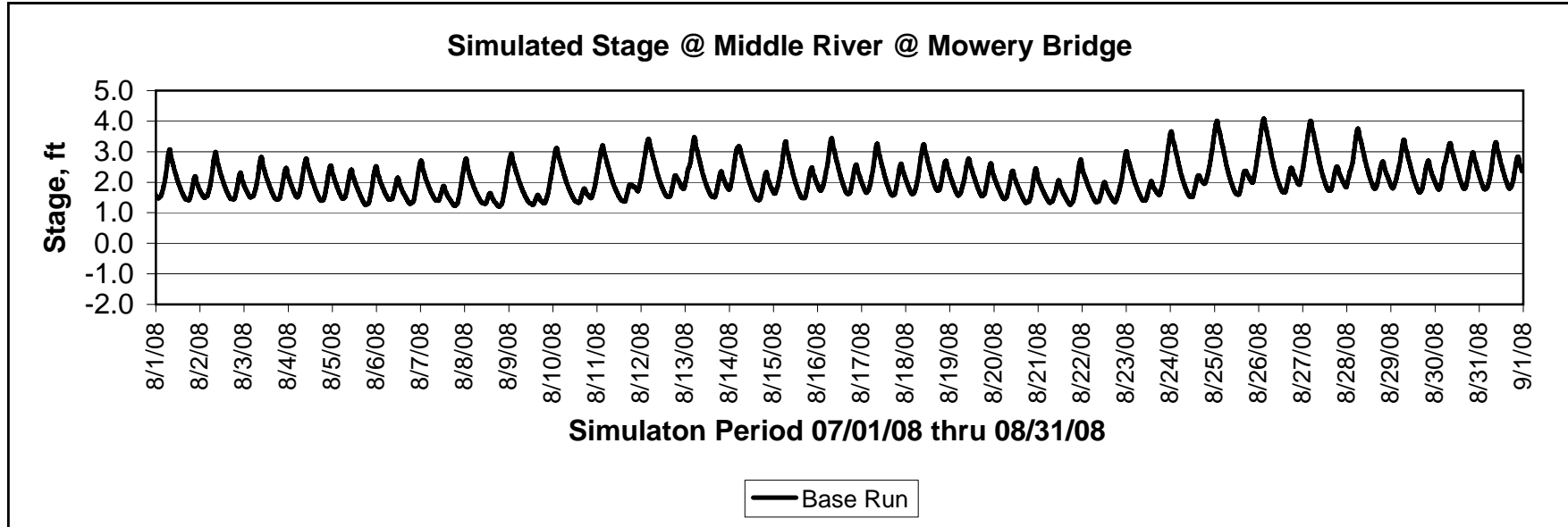
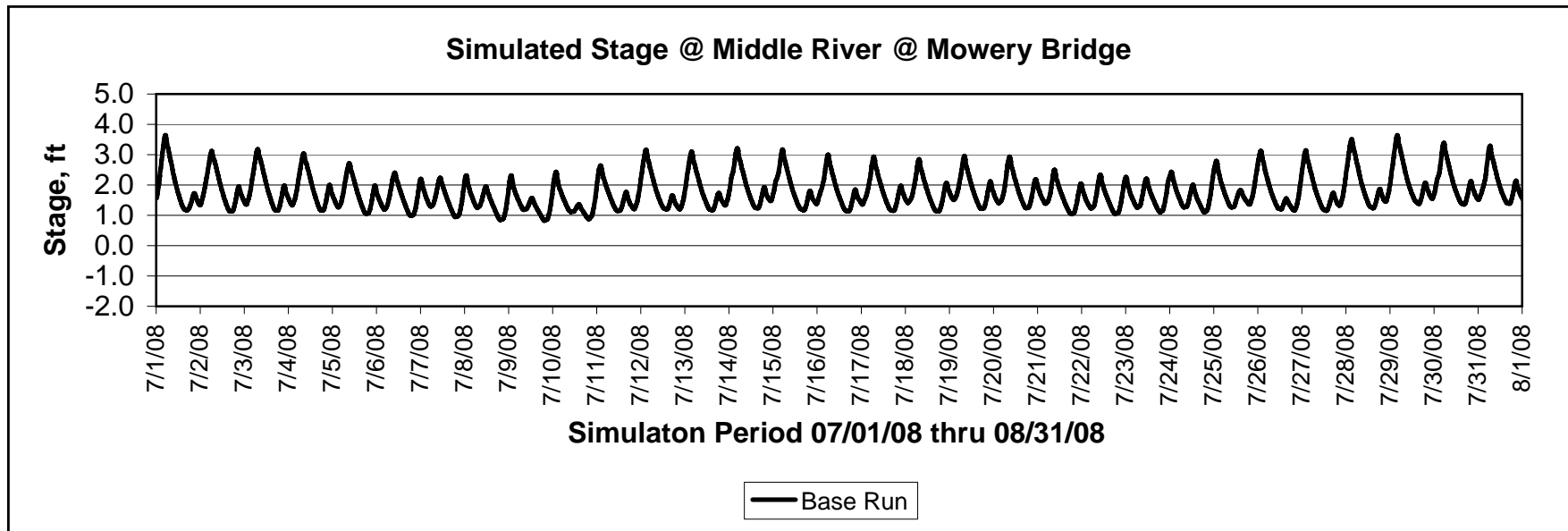


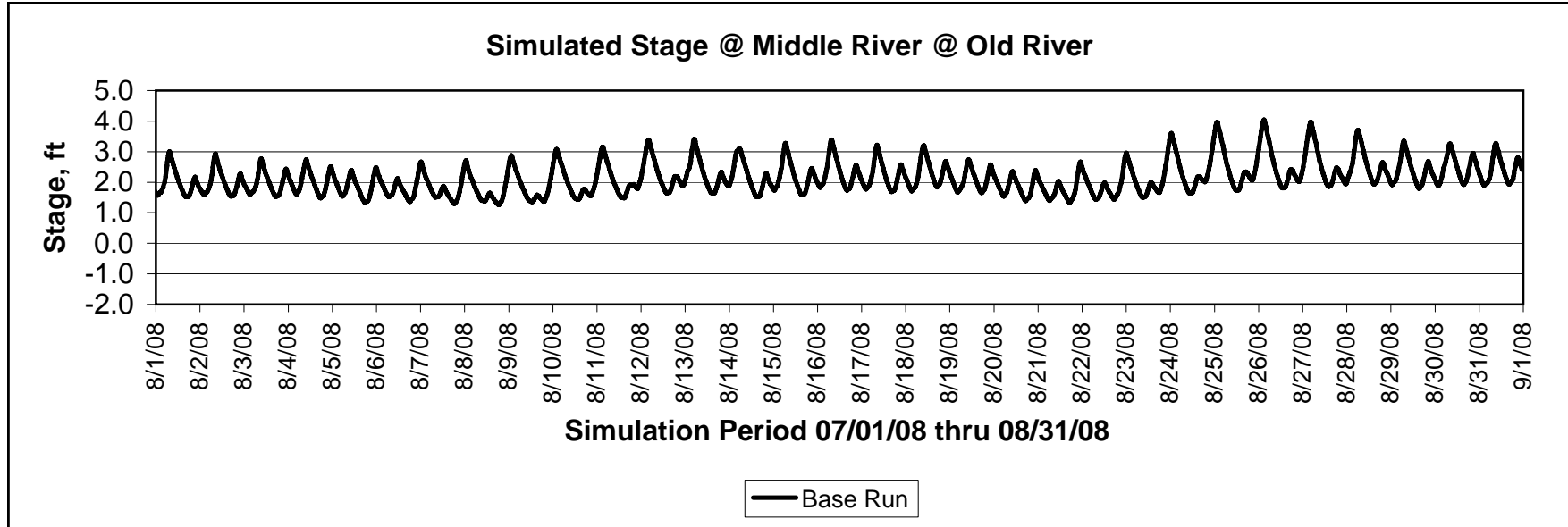
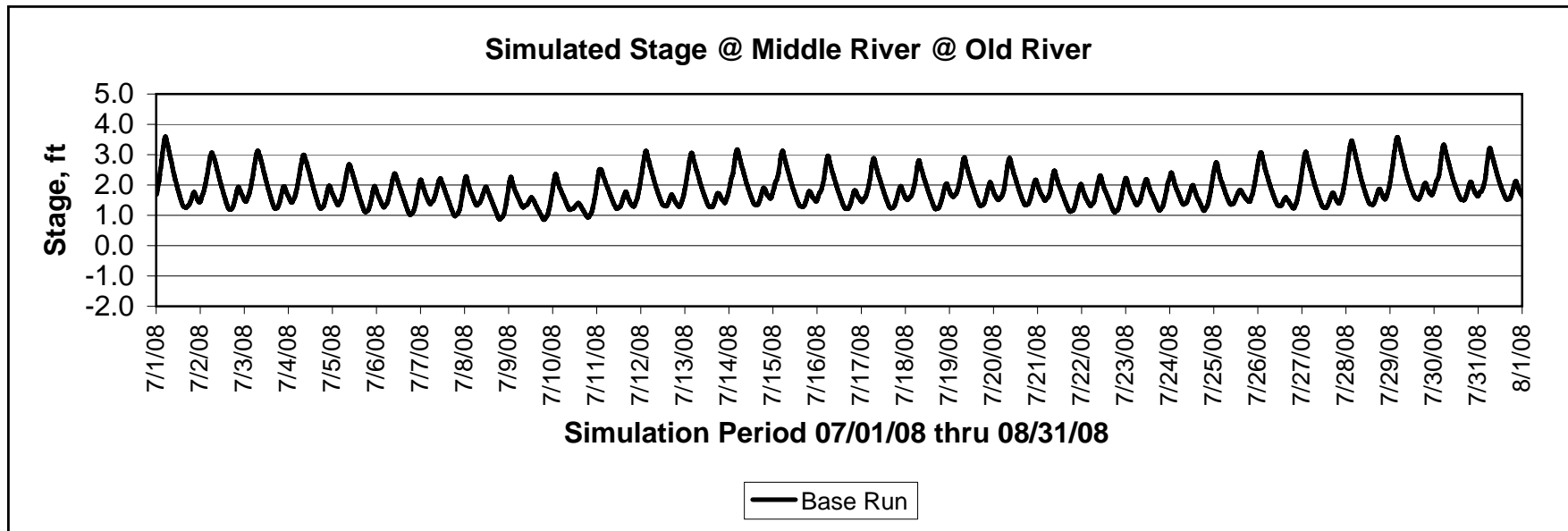




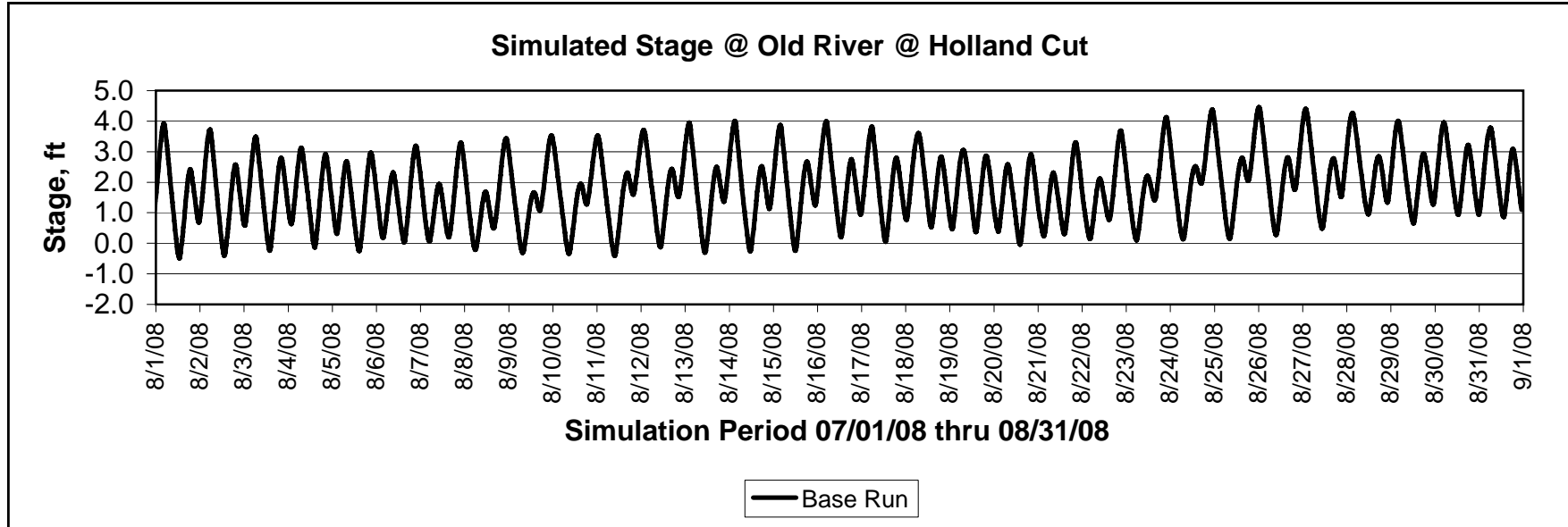
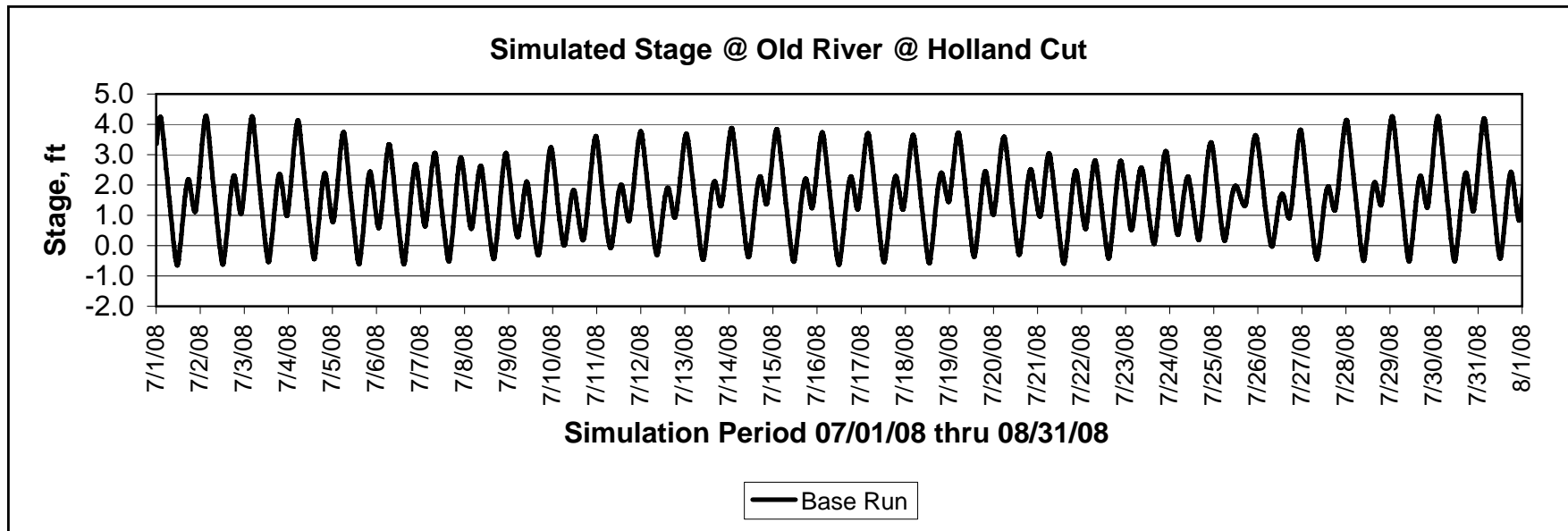


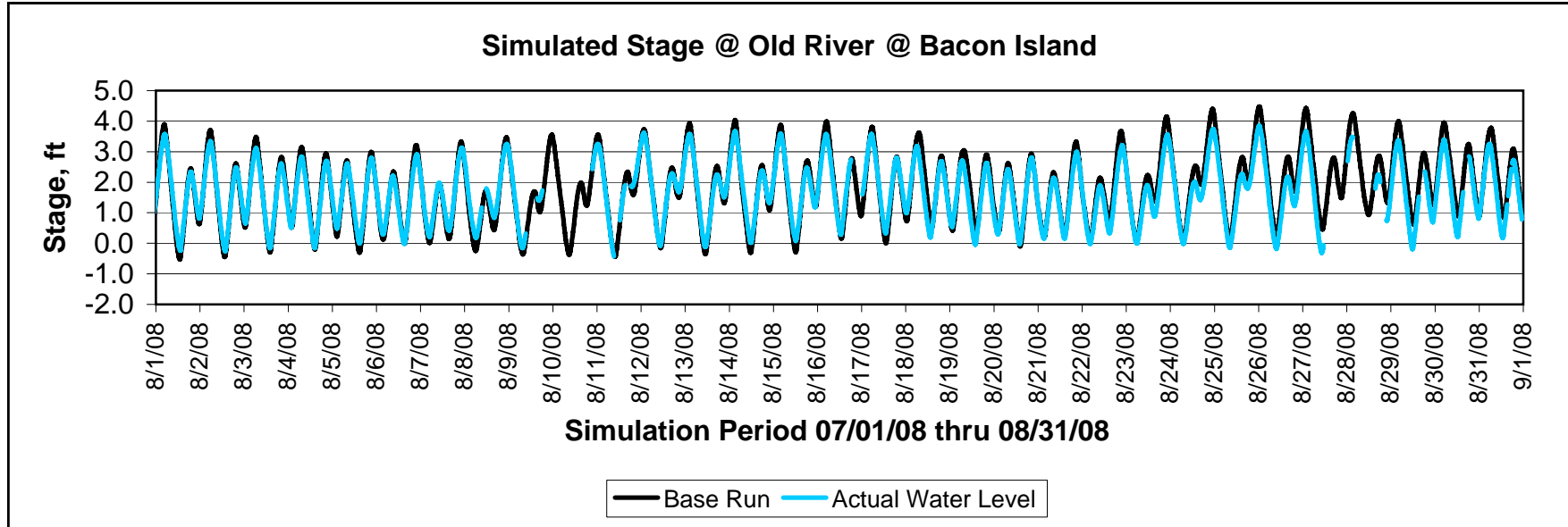
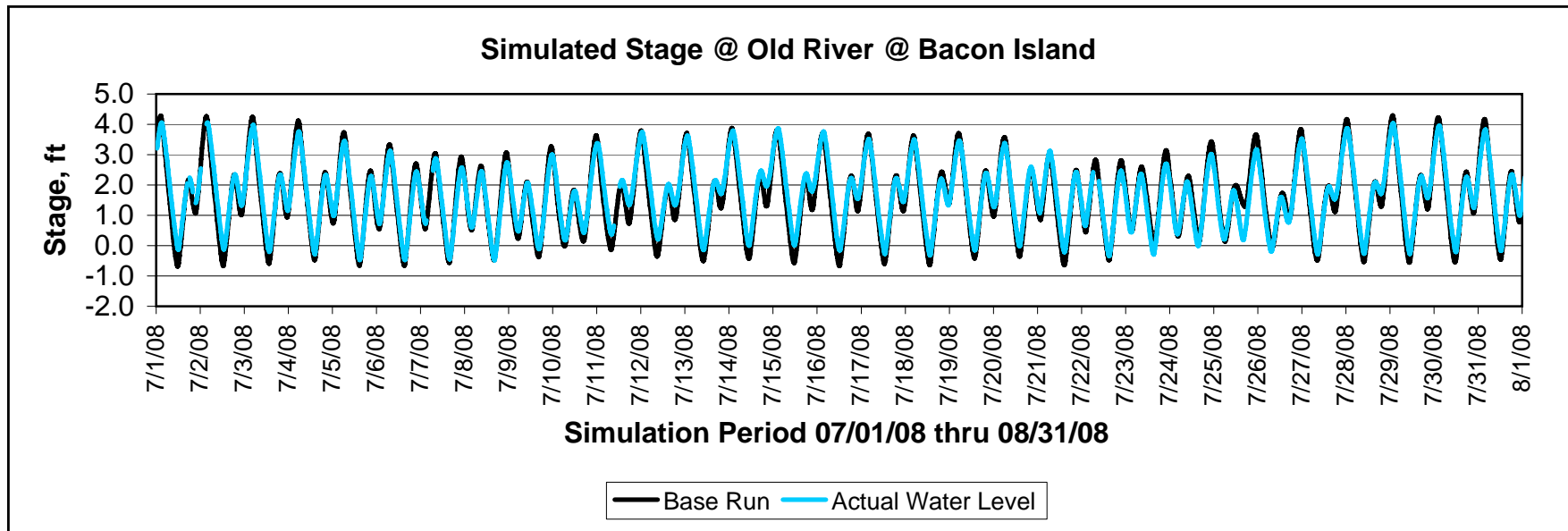


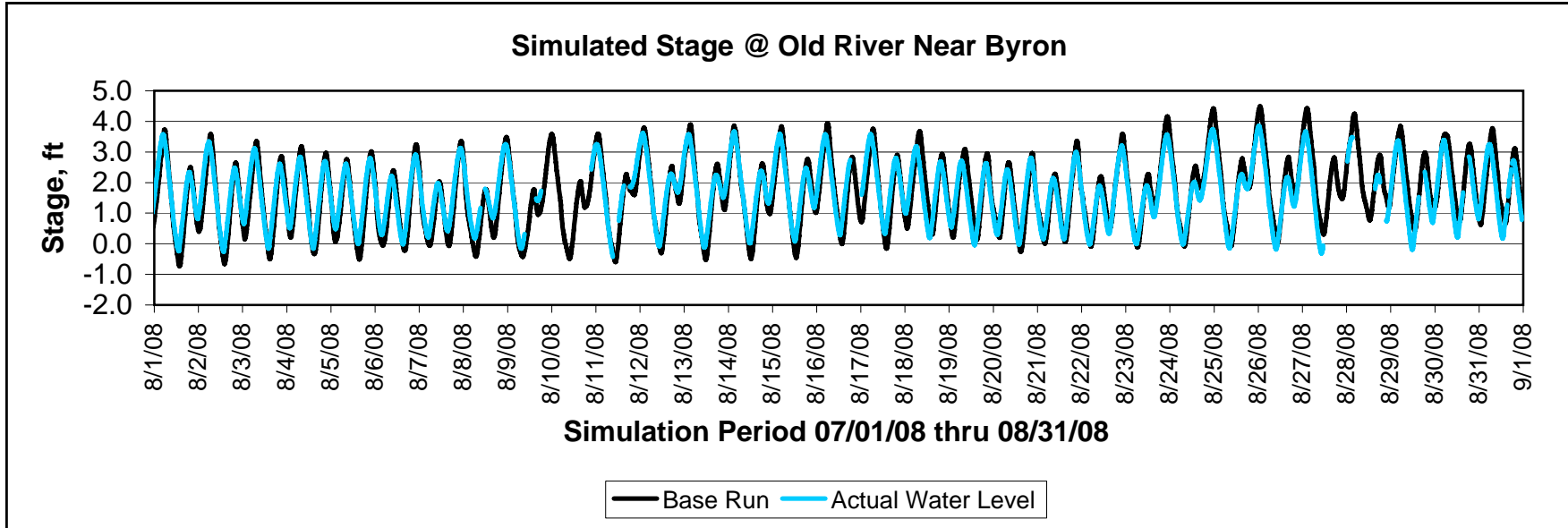
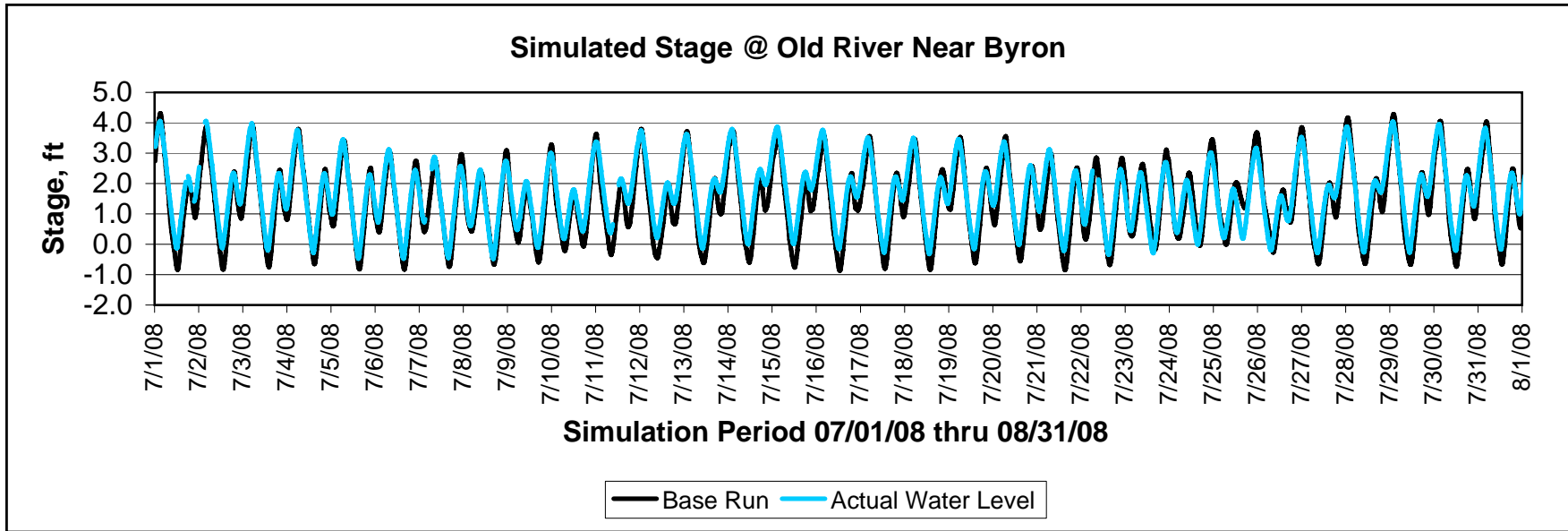


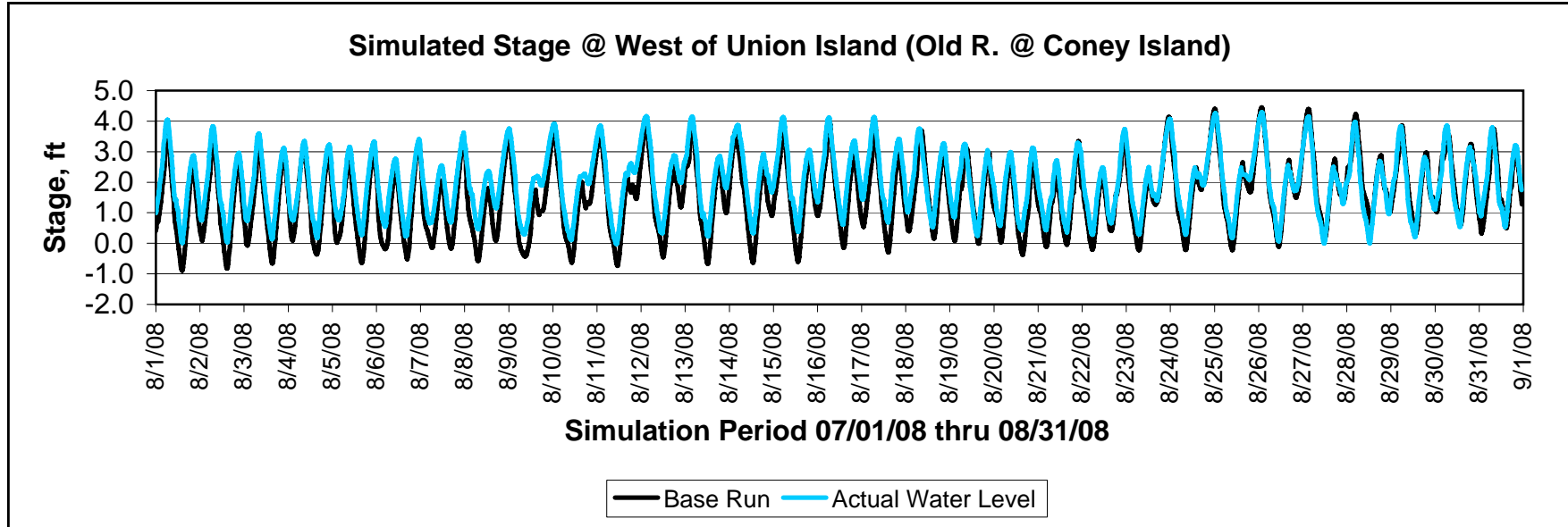
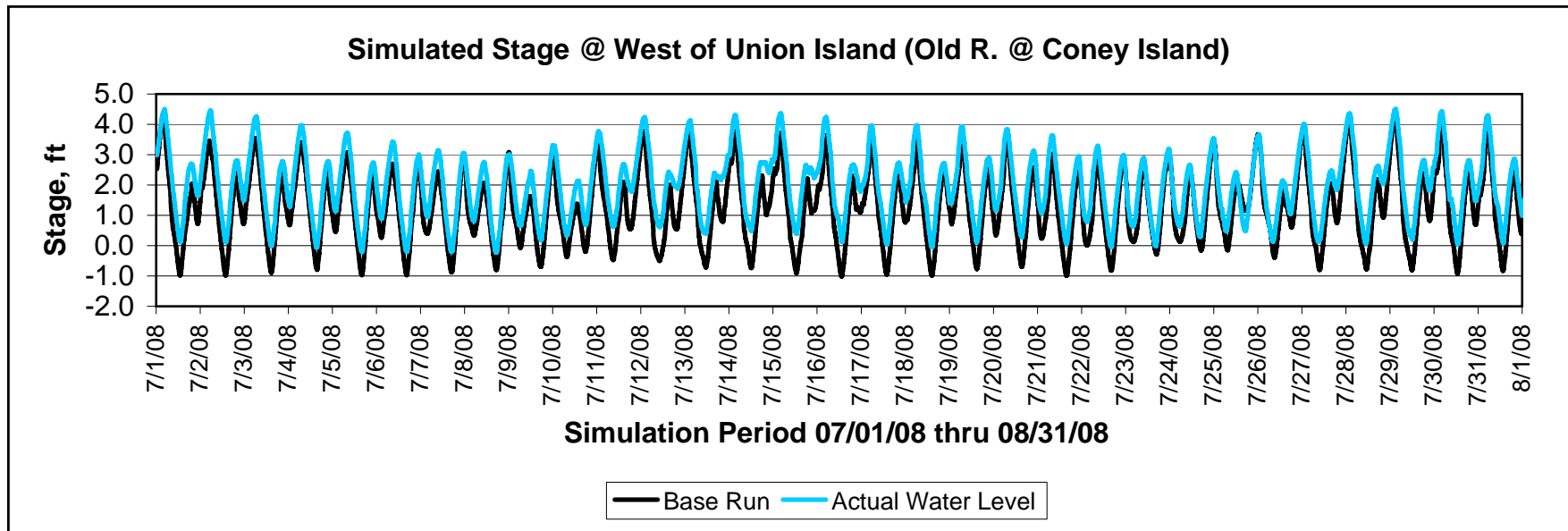


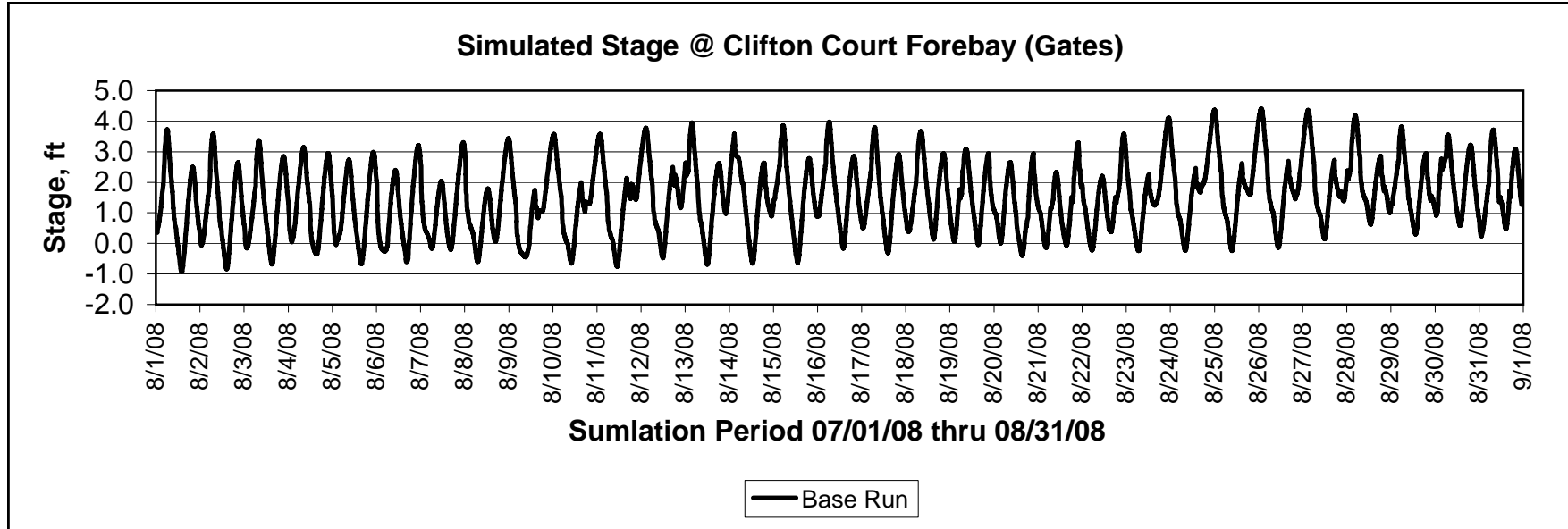
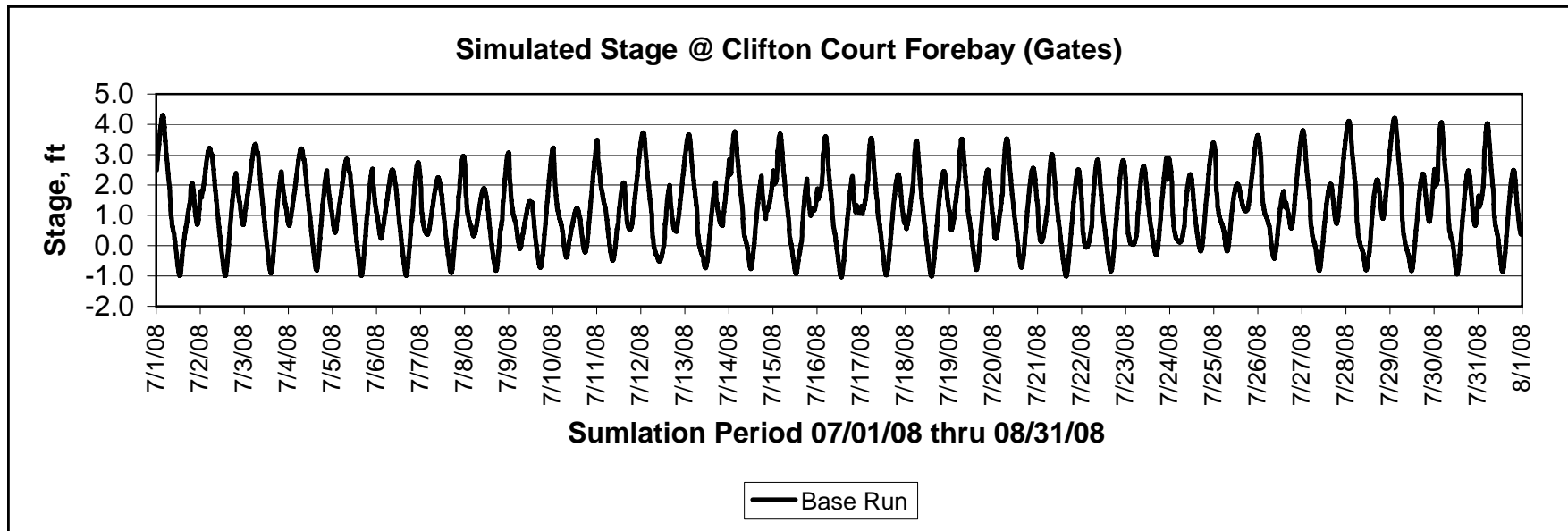
OLD RIVER - STAGE

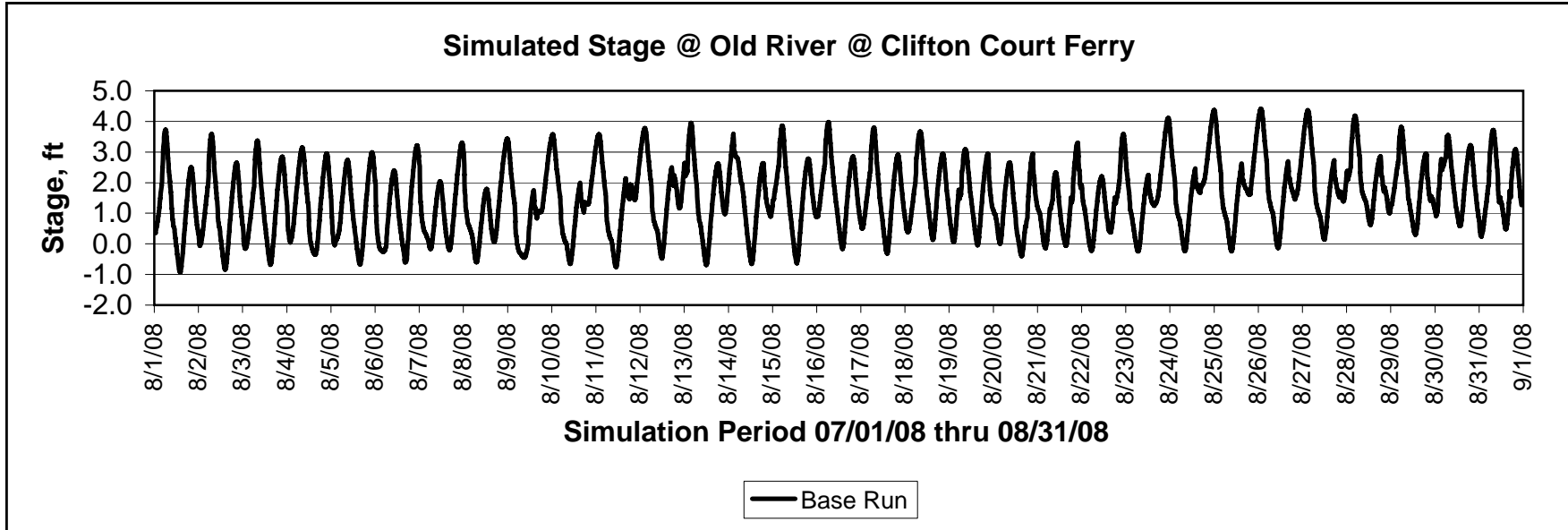
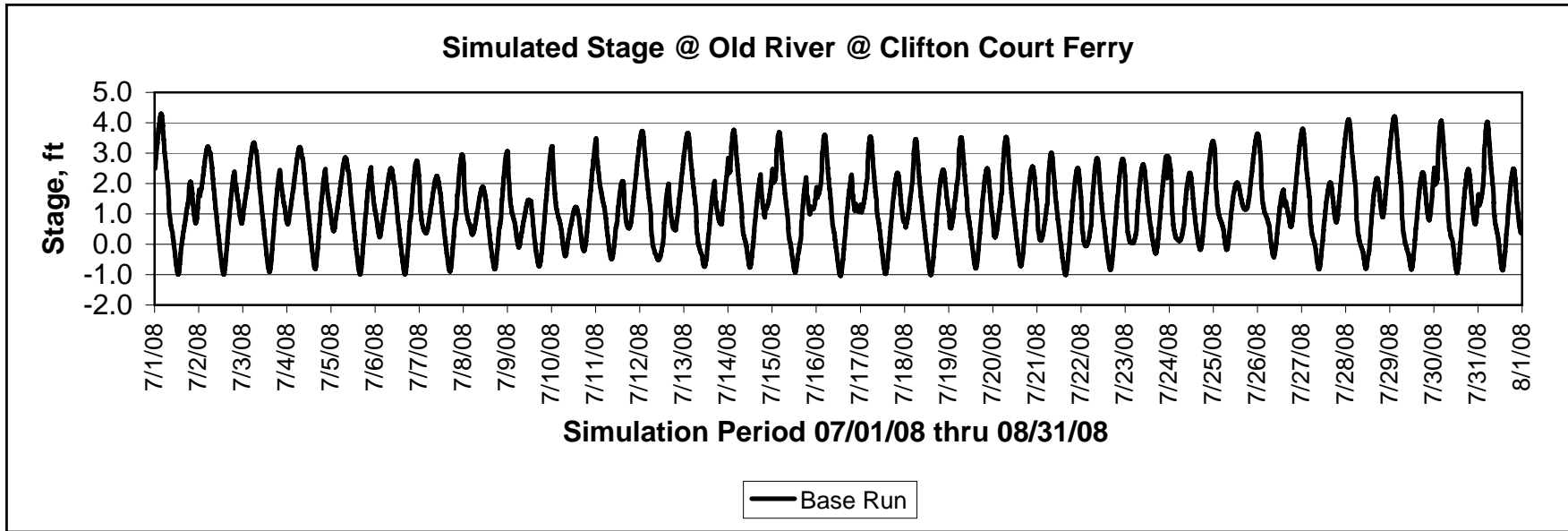


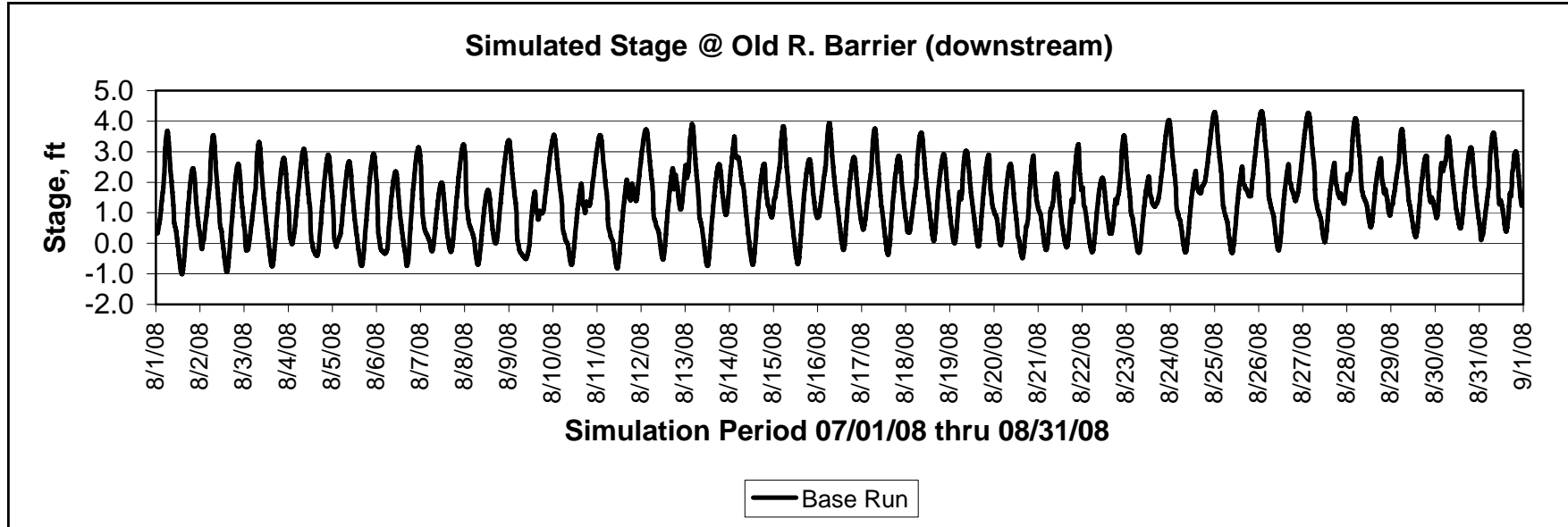
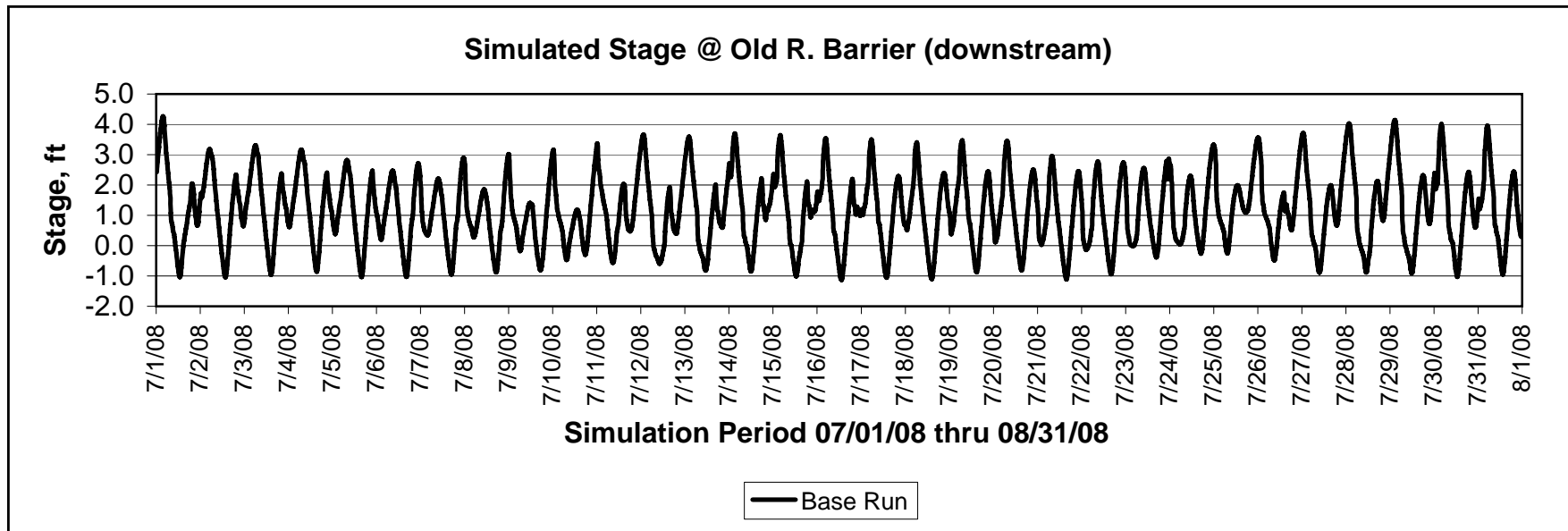


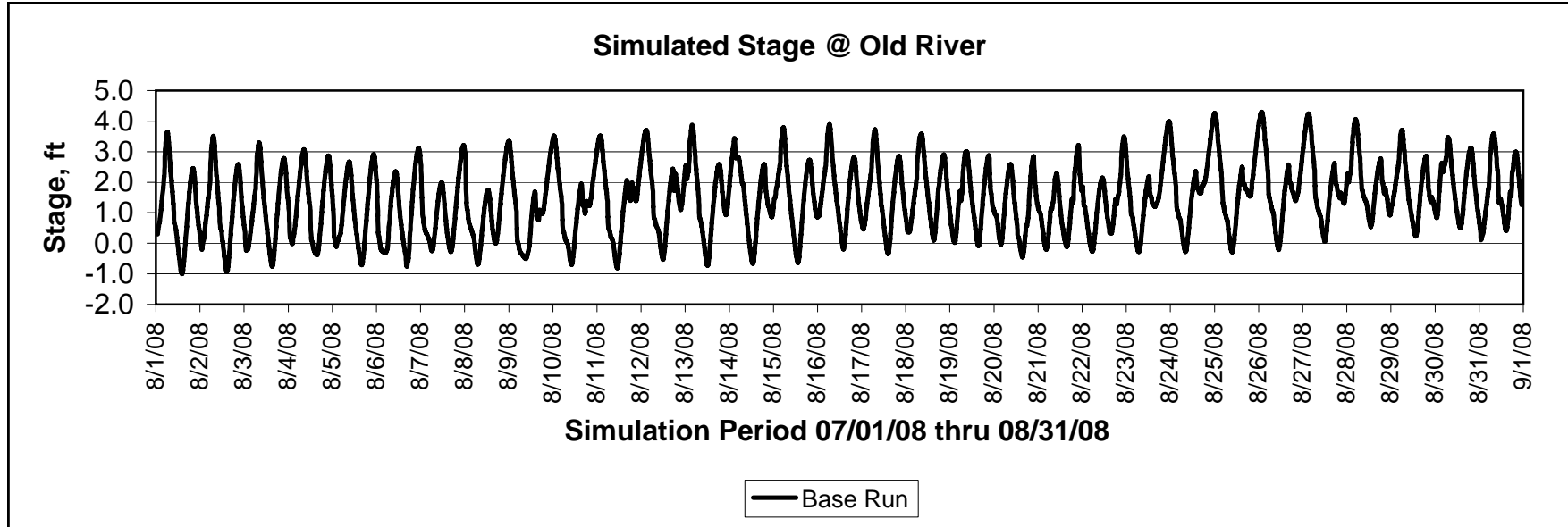
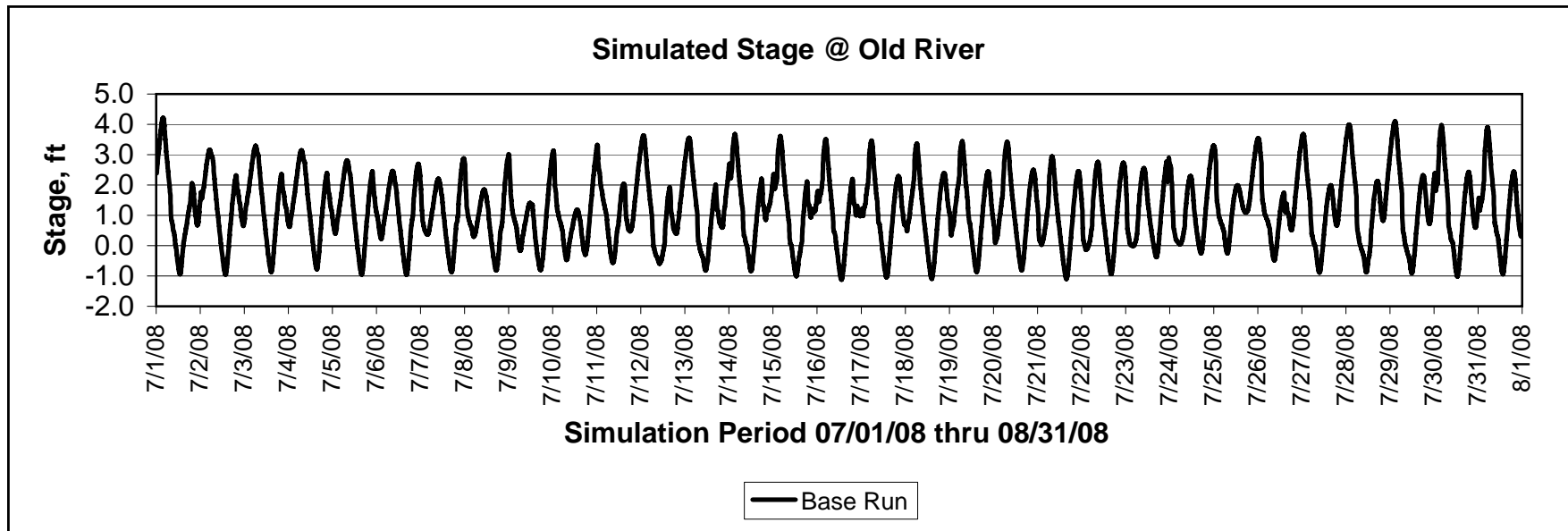


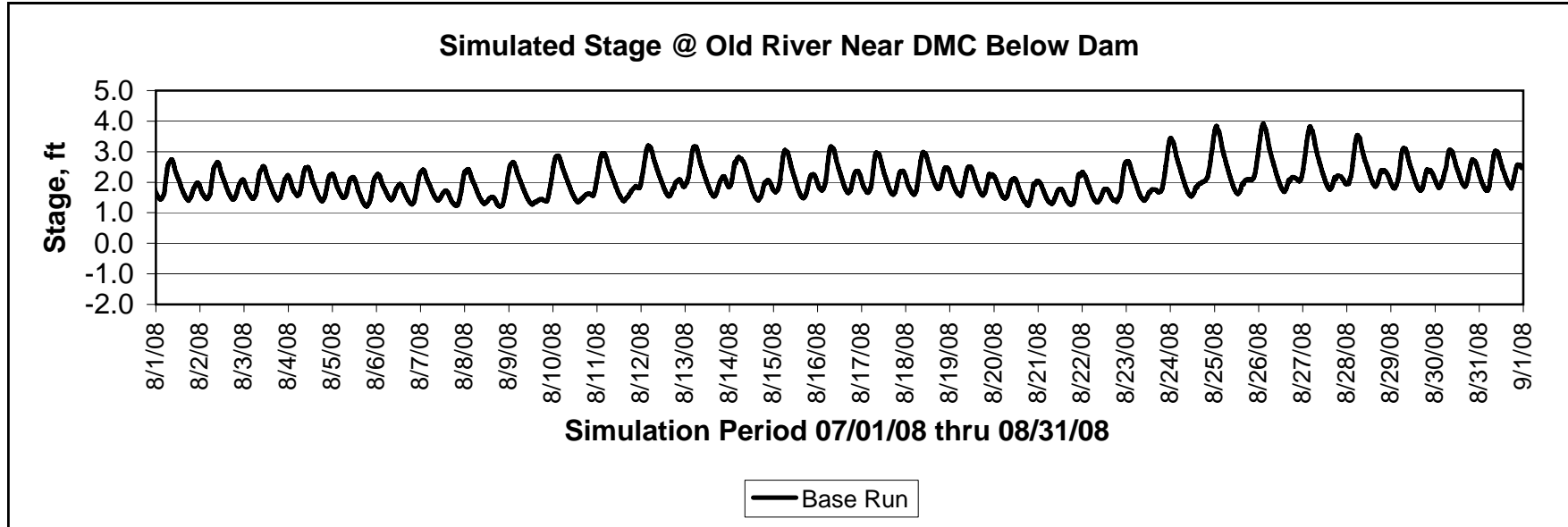
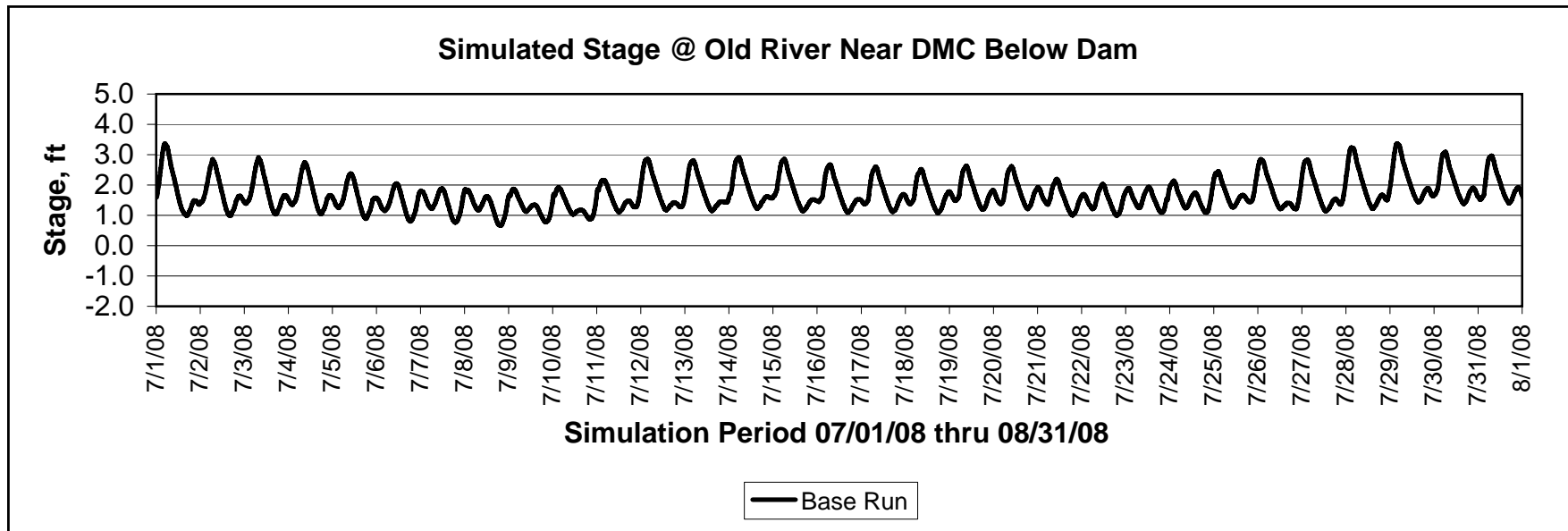


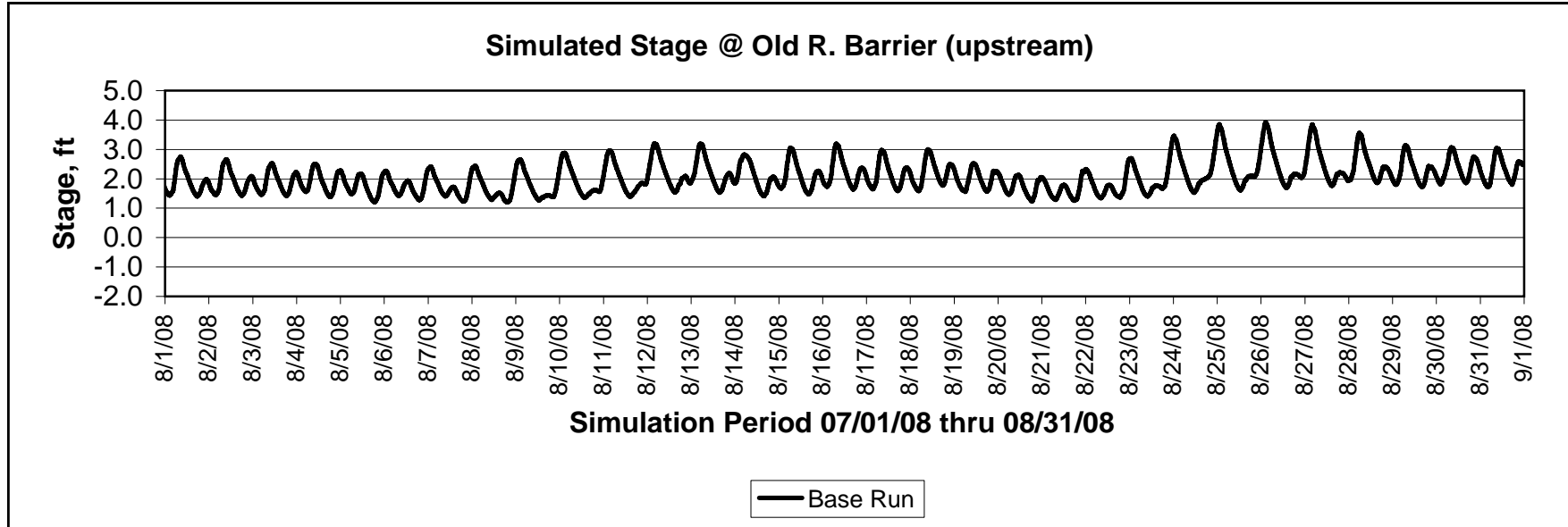
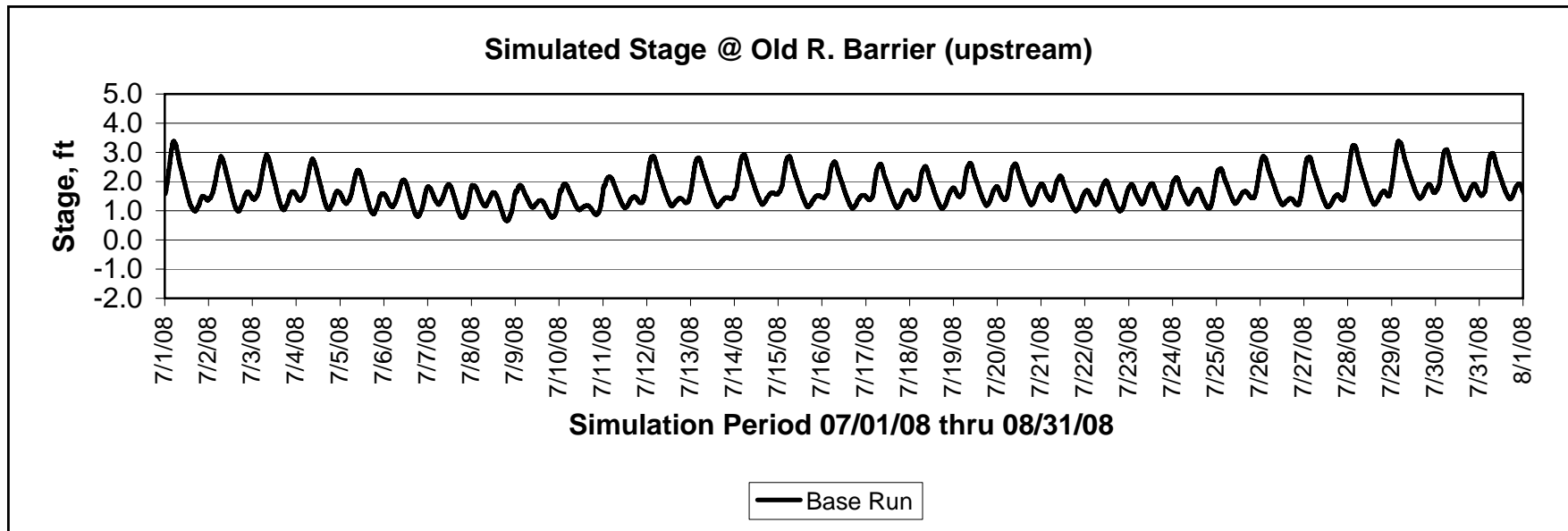


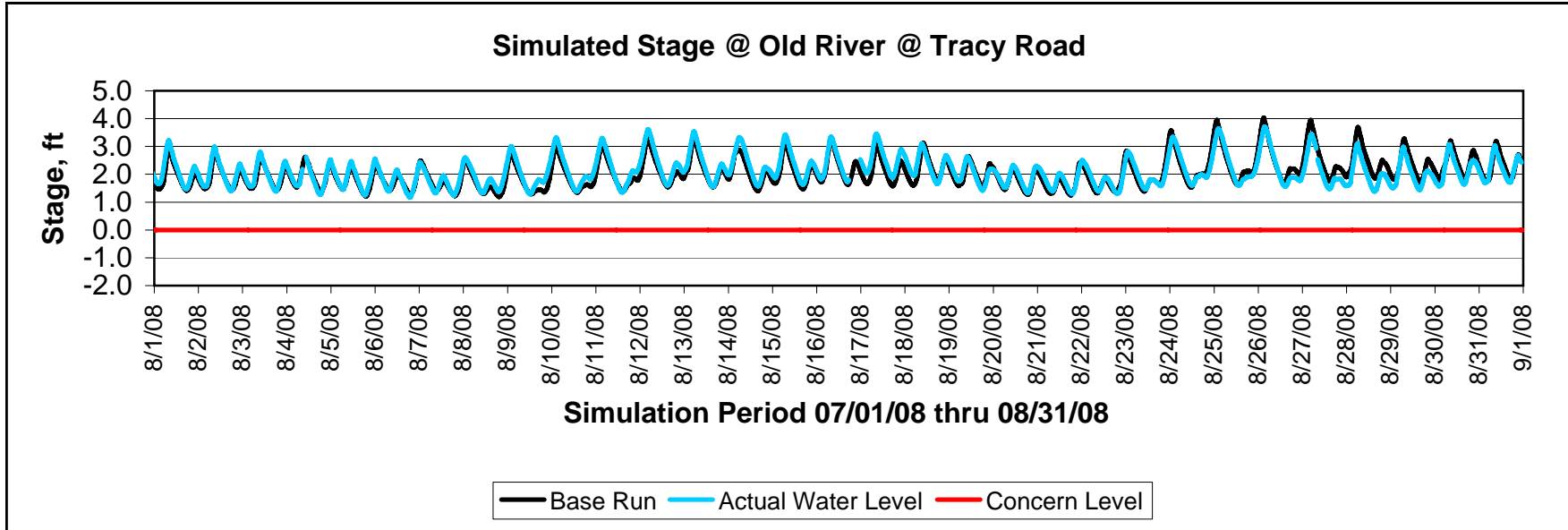
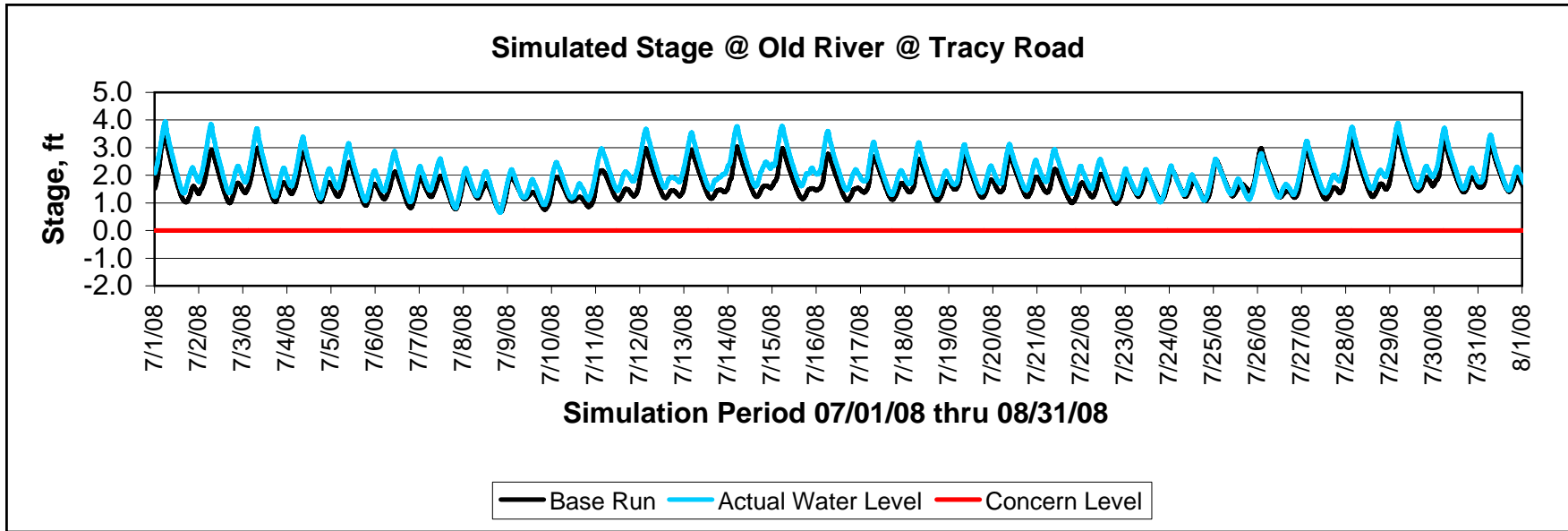


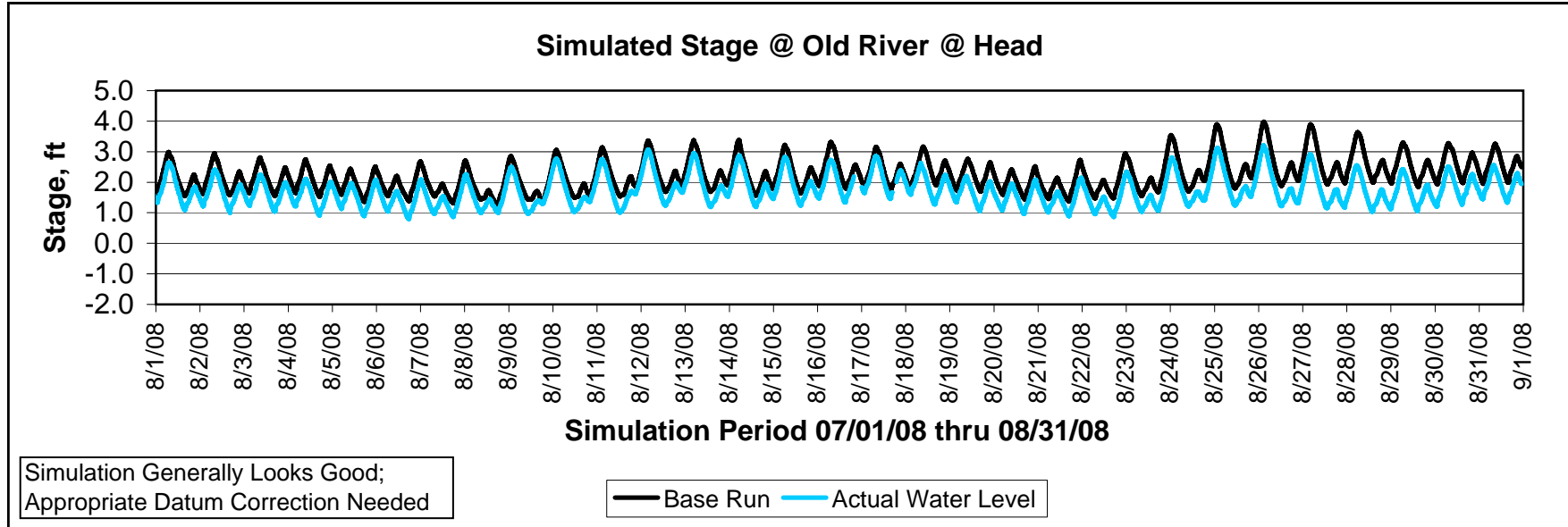
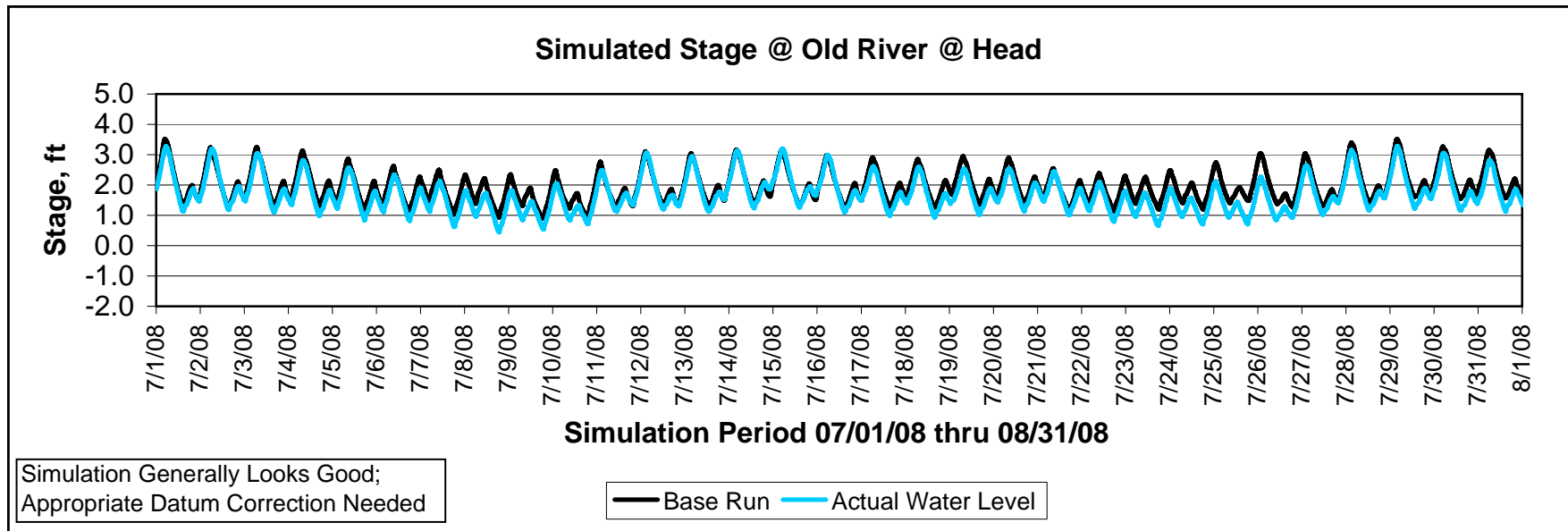


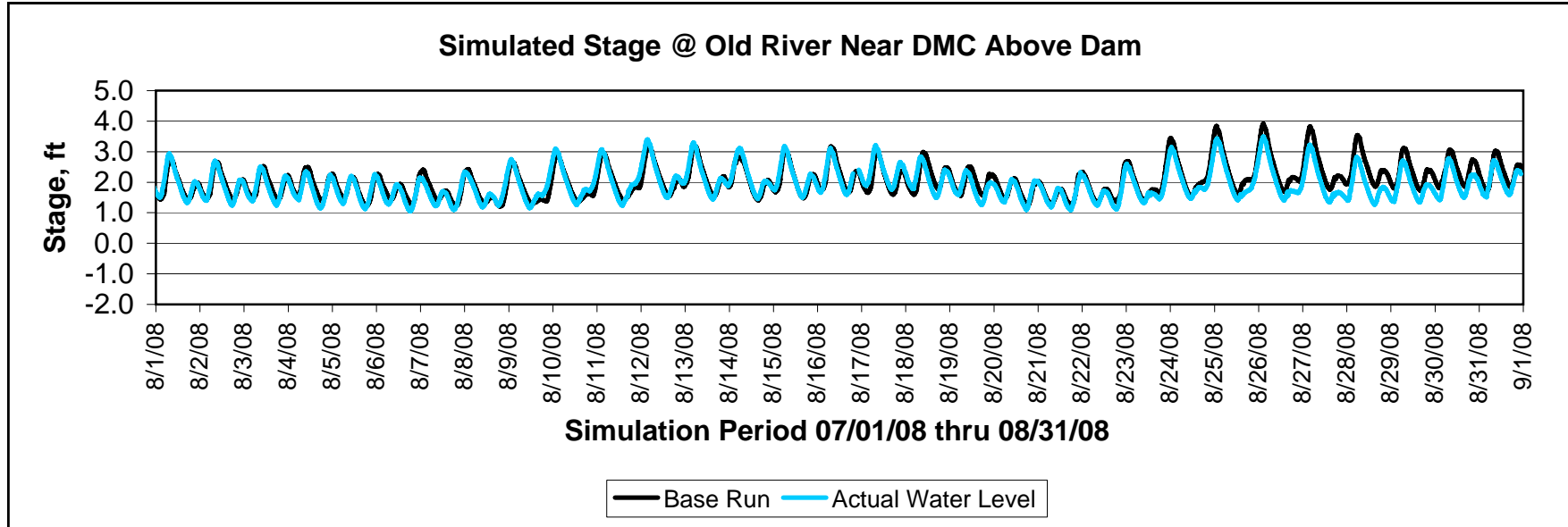
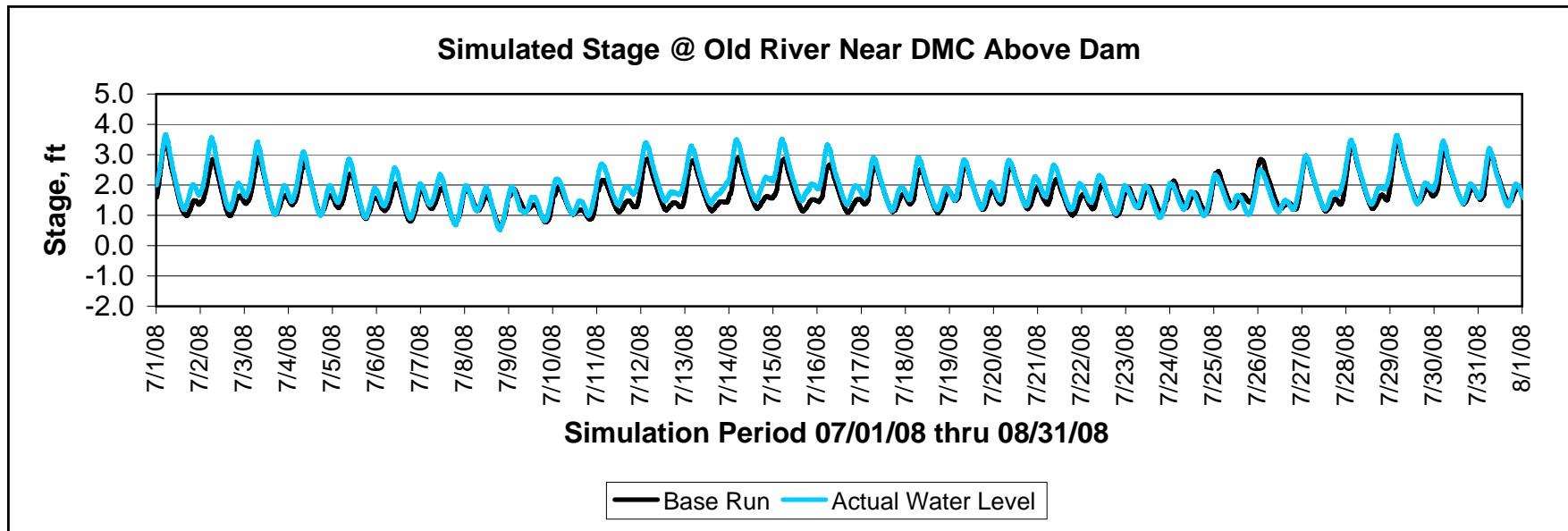


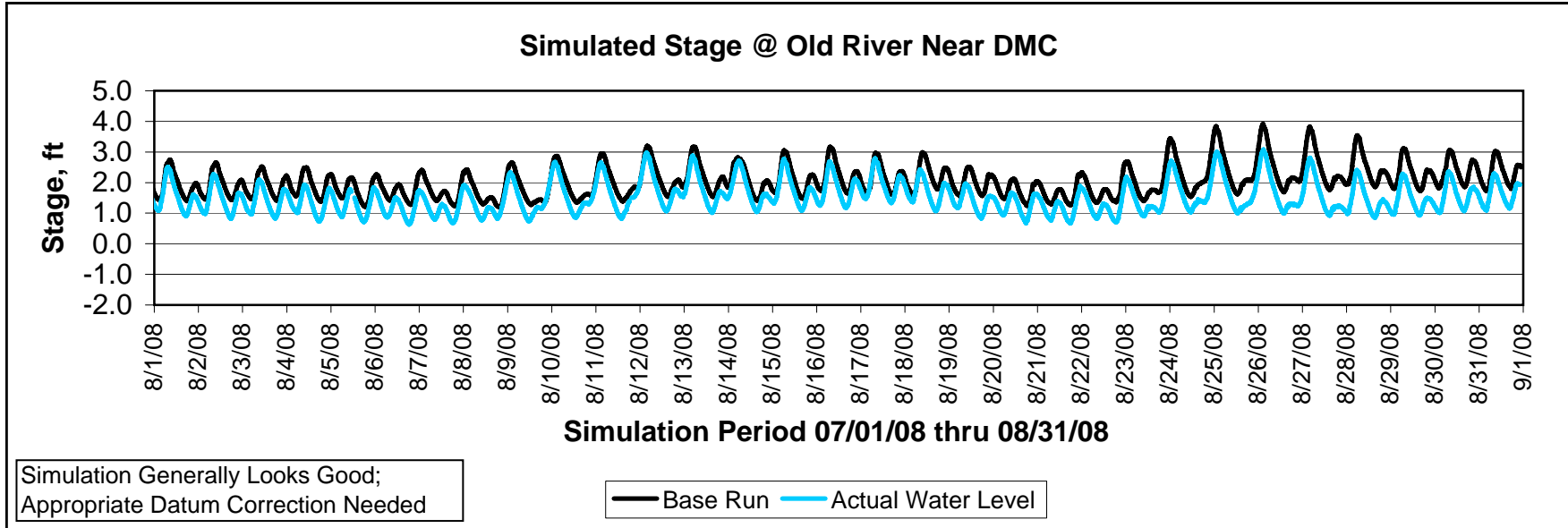
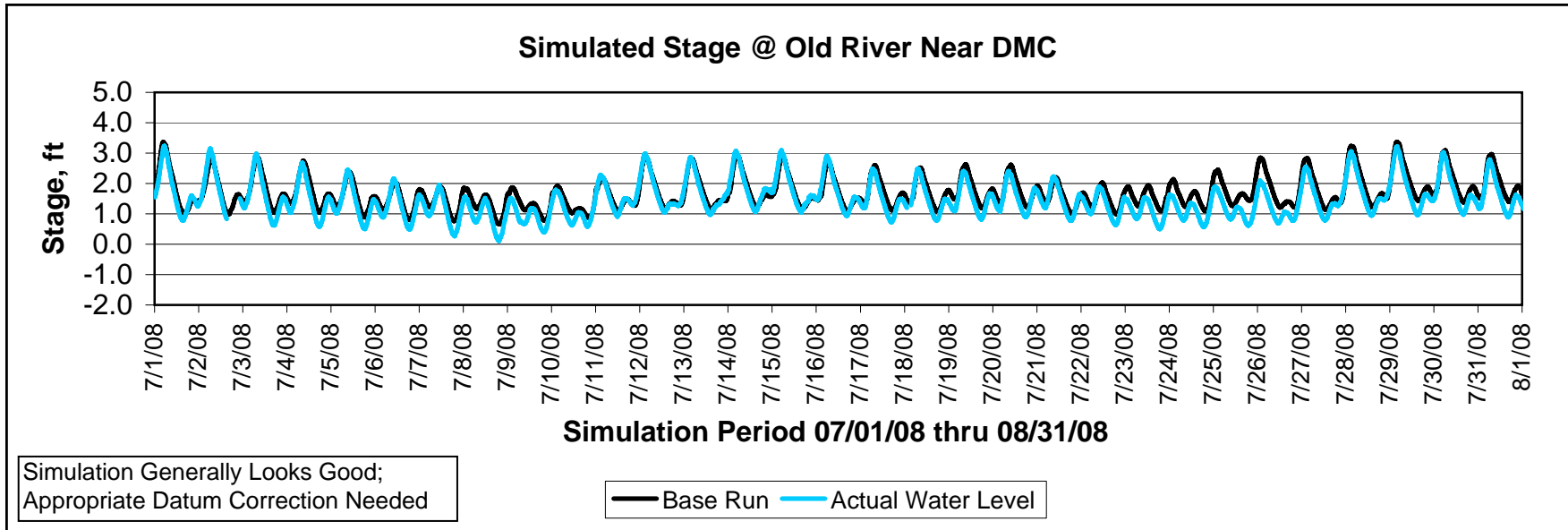




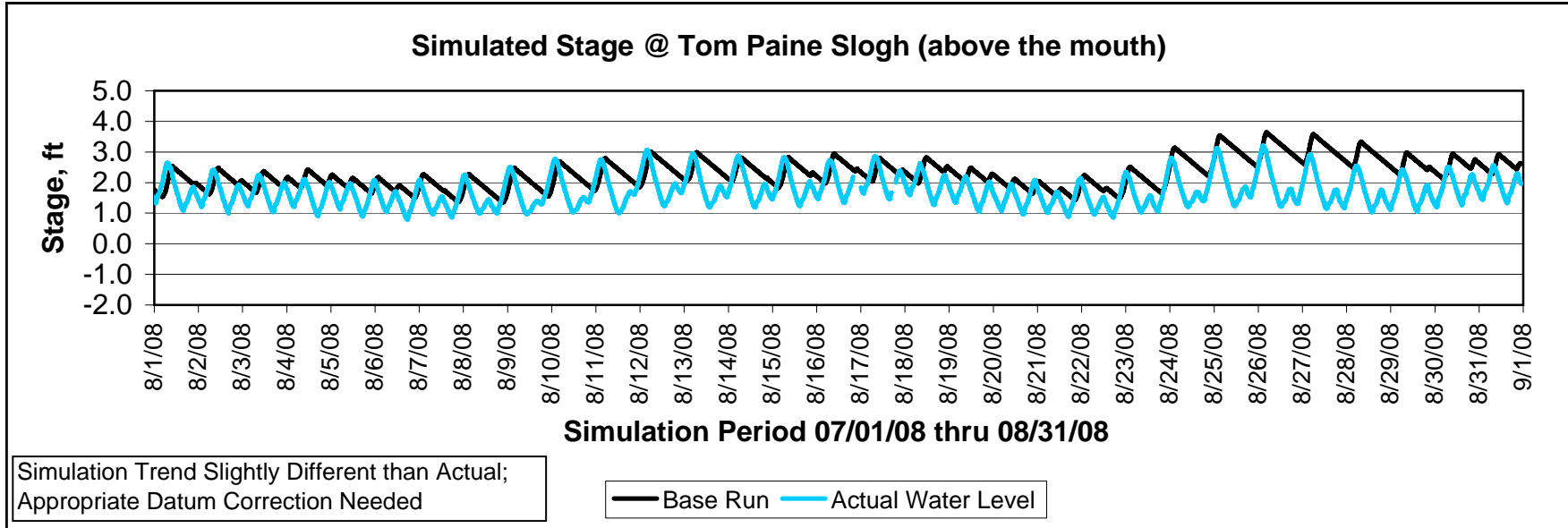
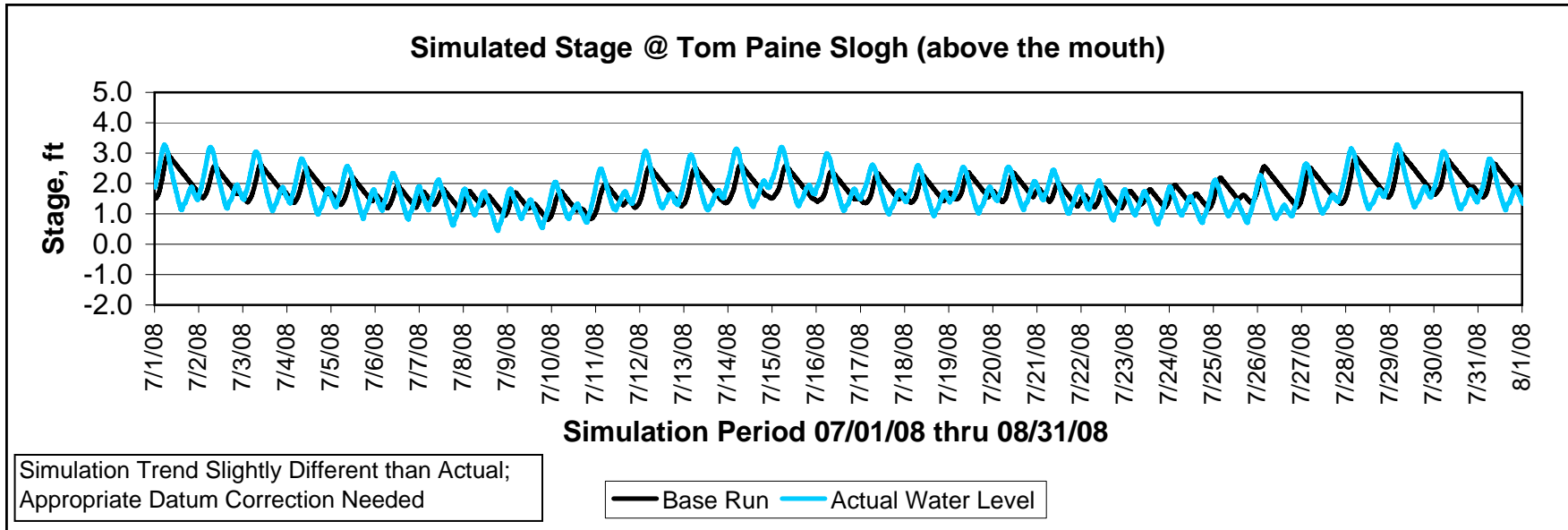


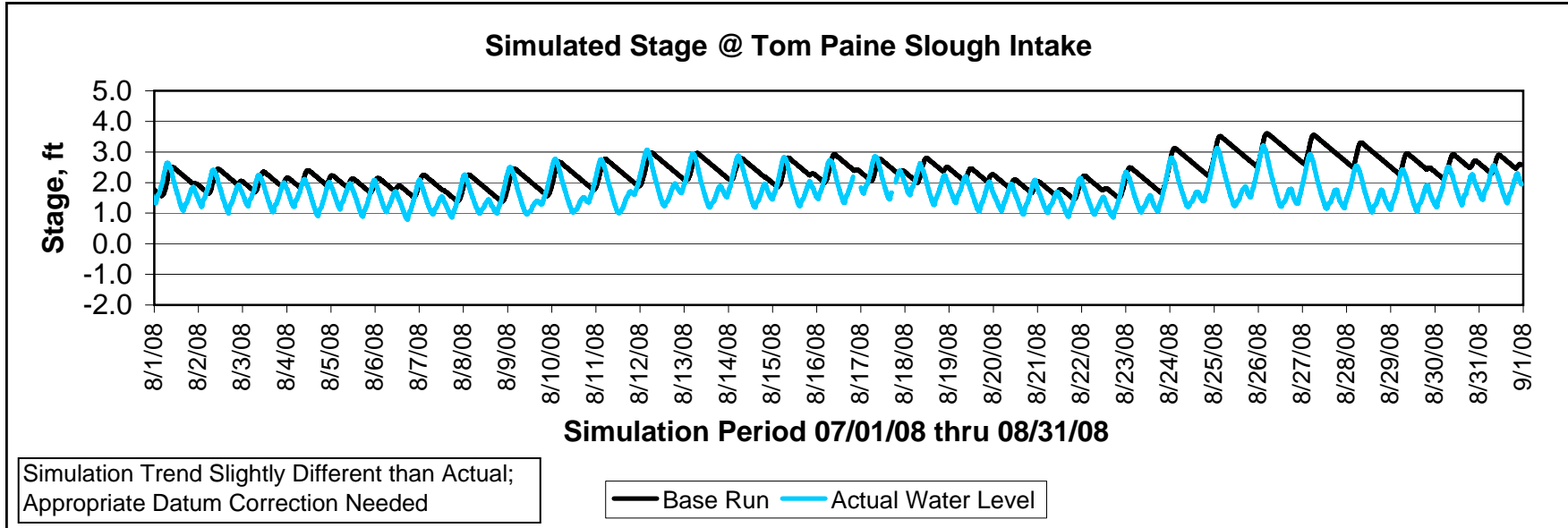
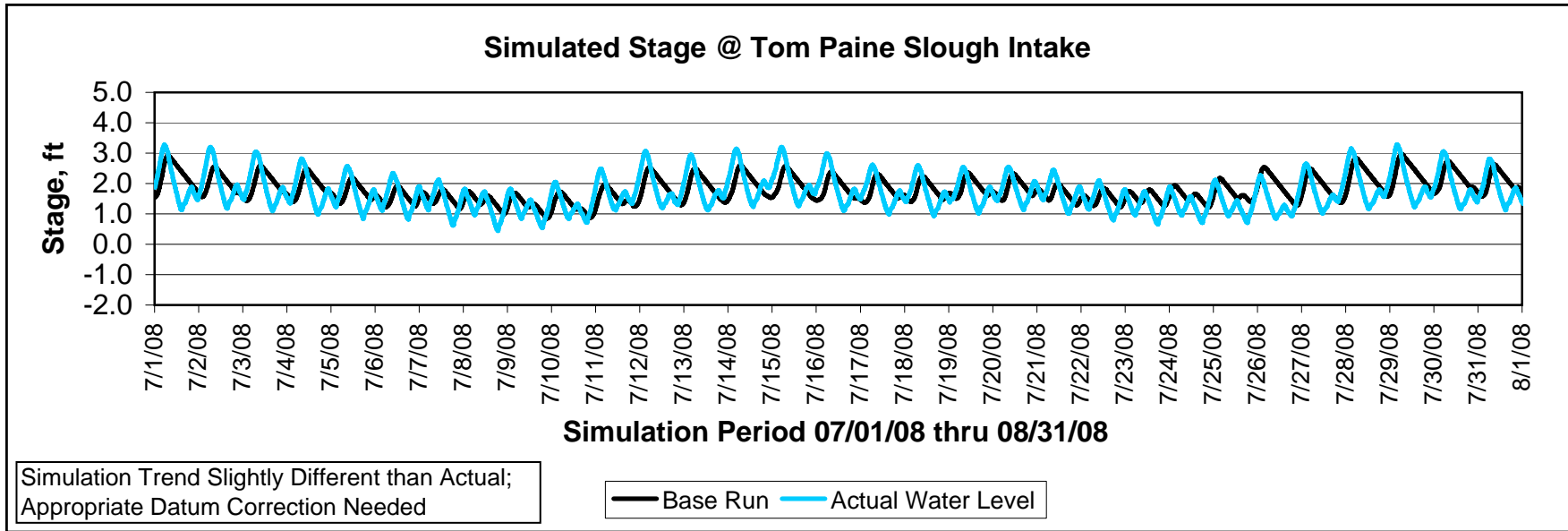




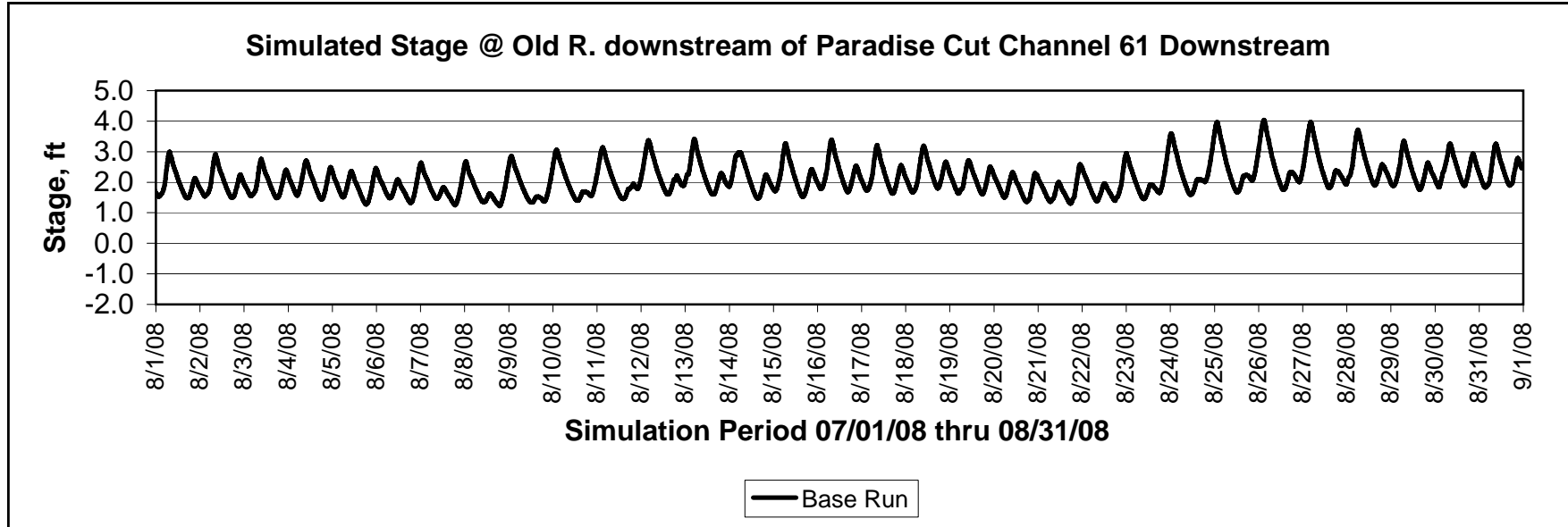
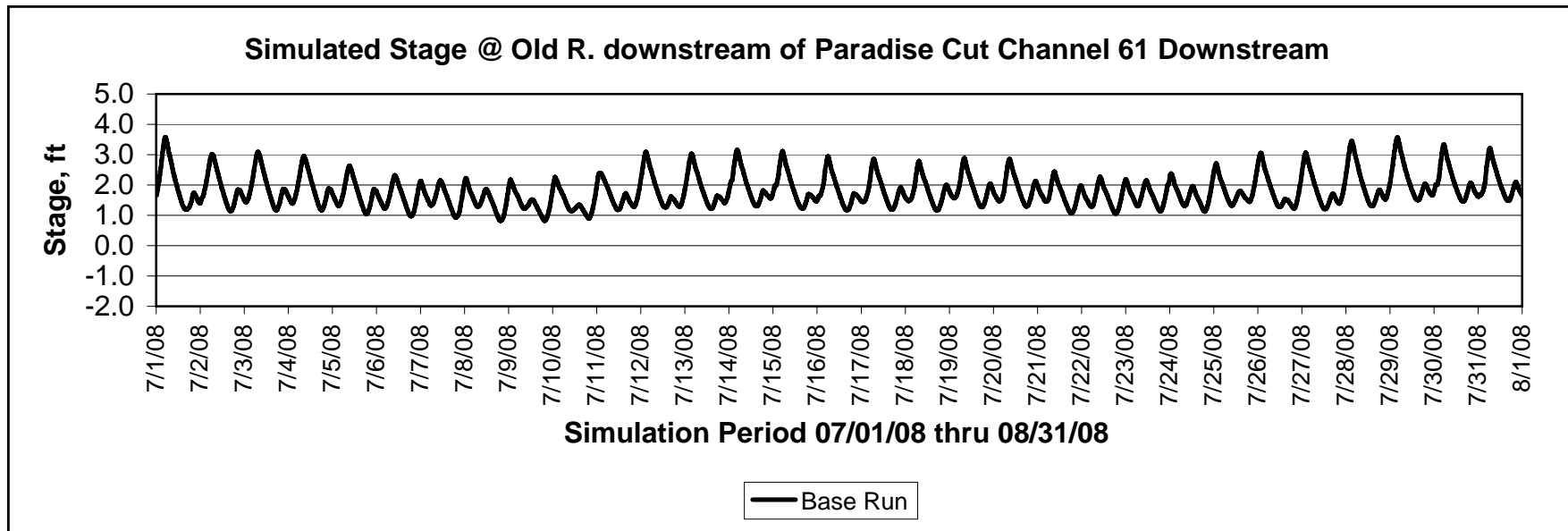


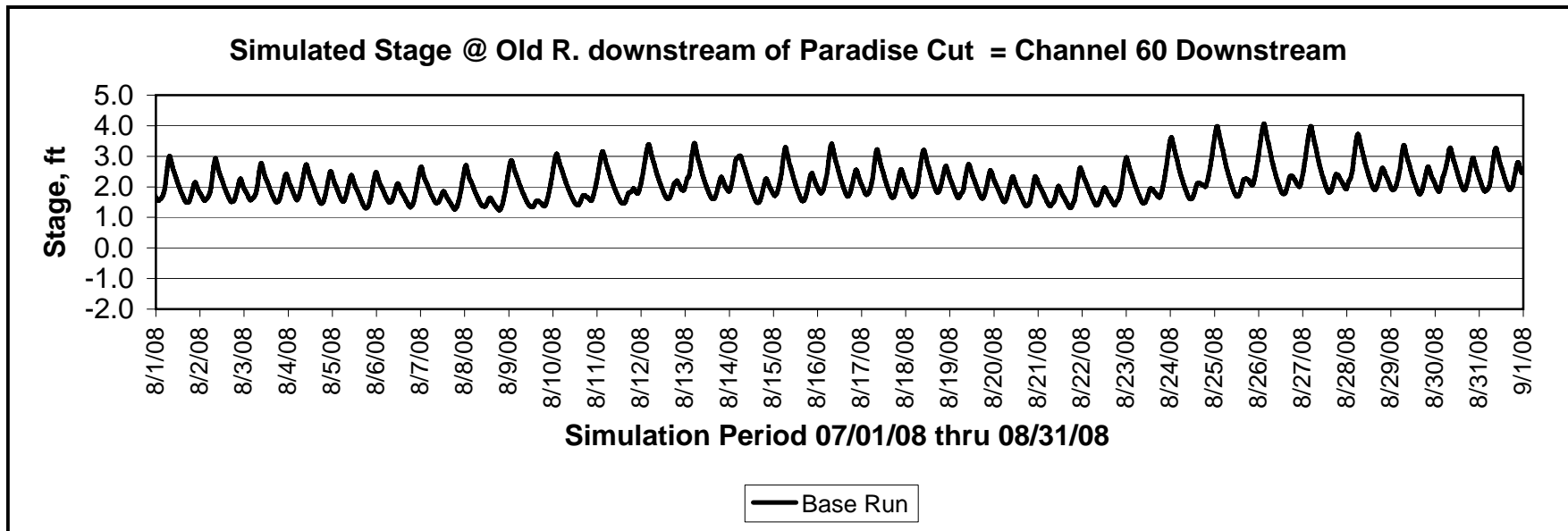
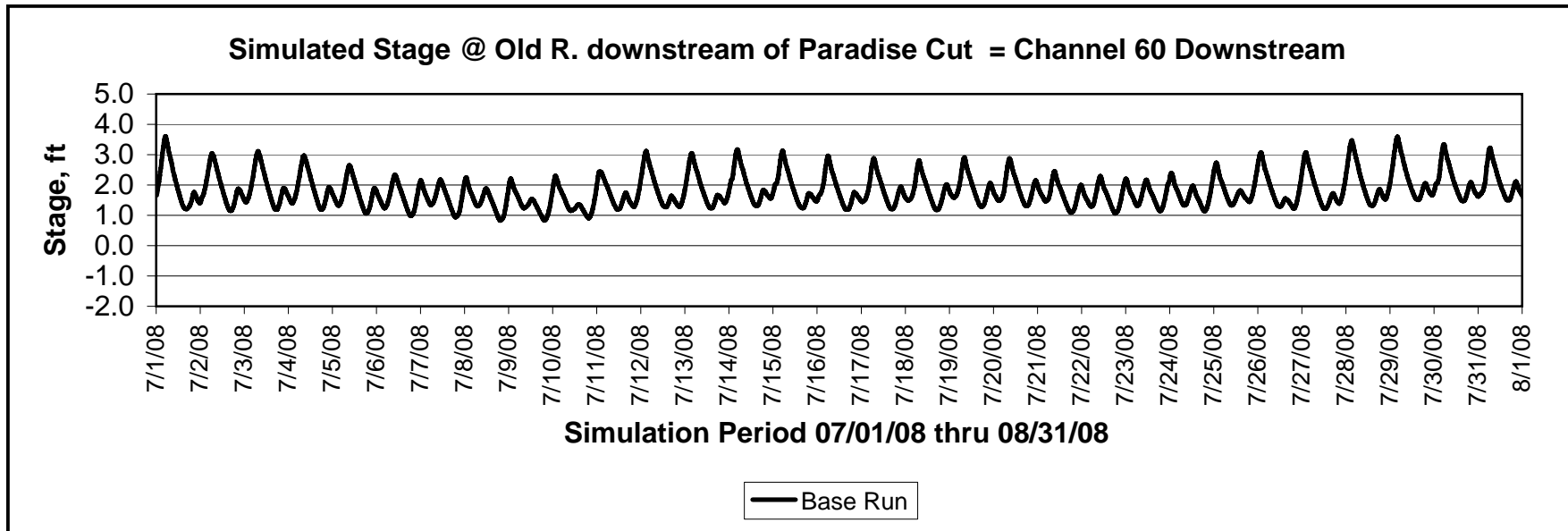
TOM PAINE SLOUGH - STAGE

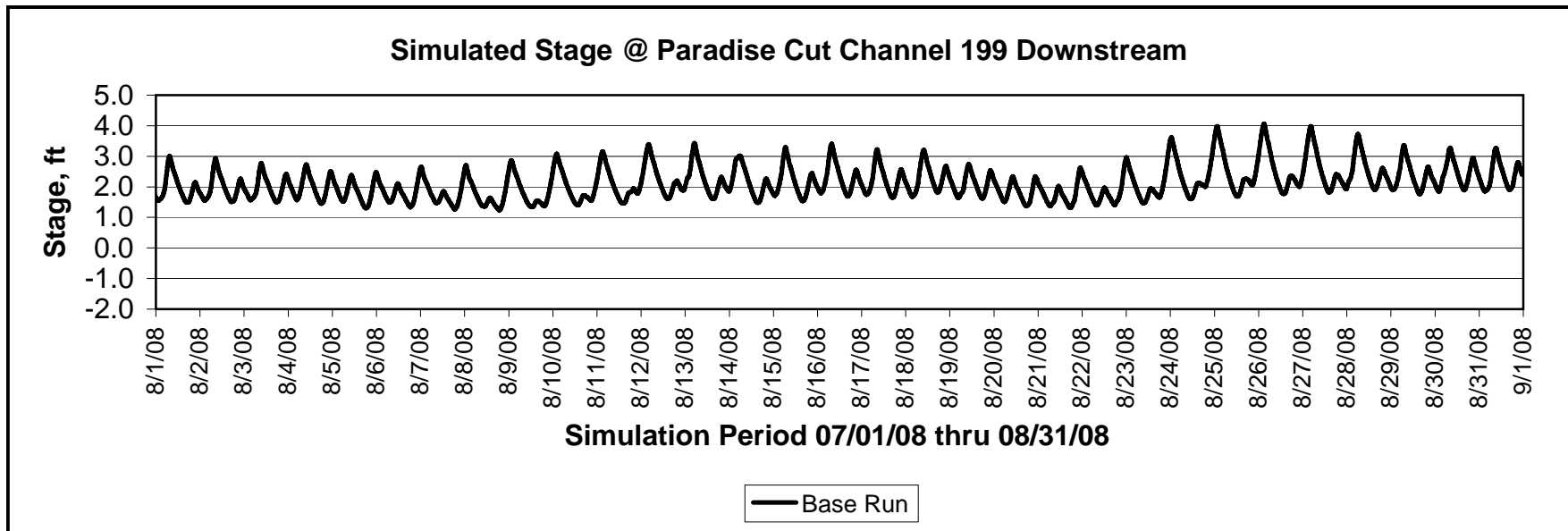
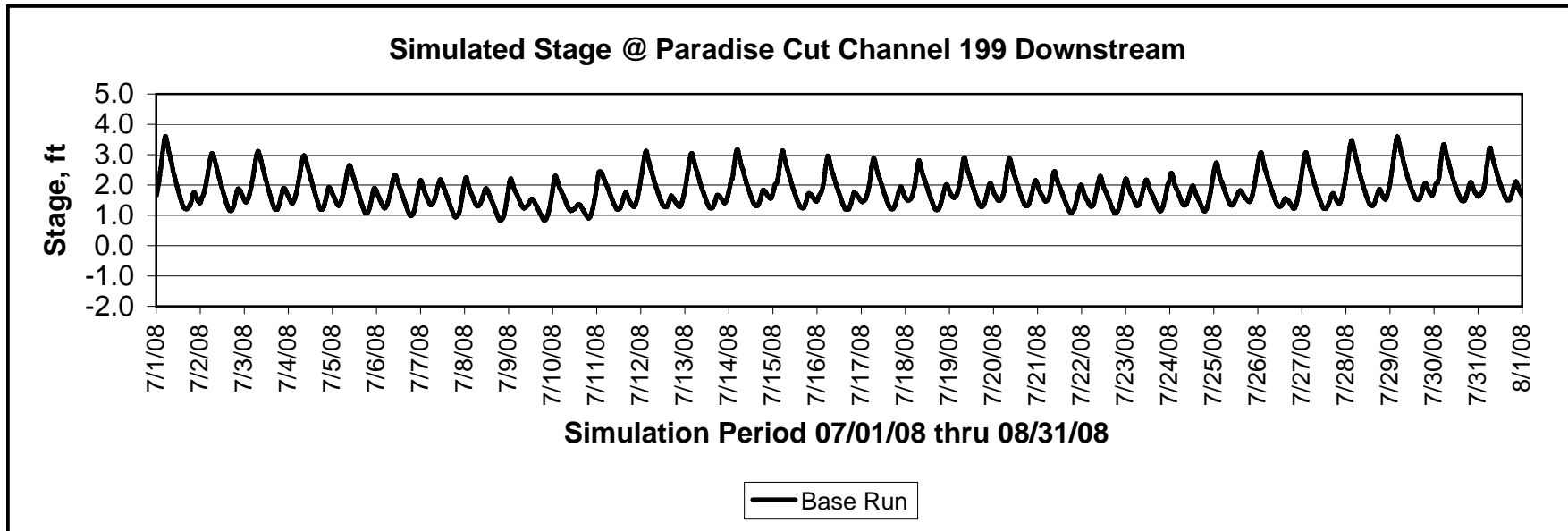


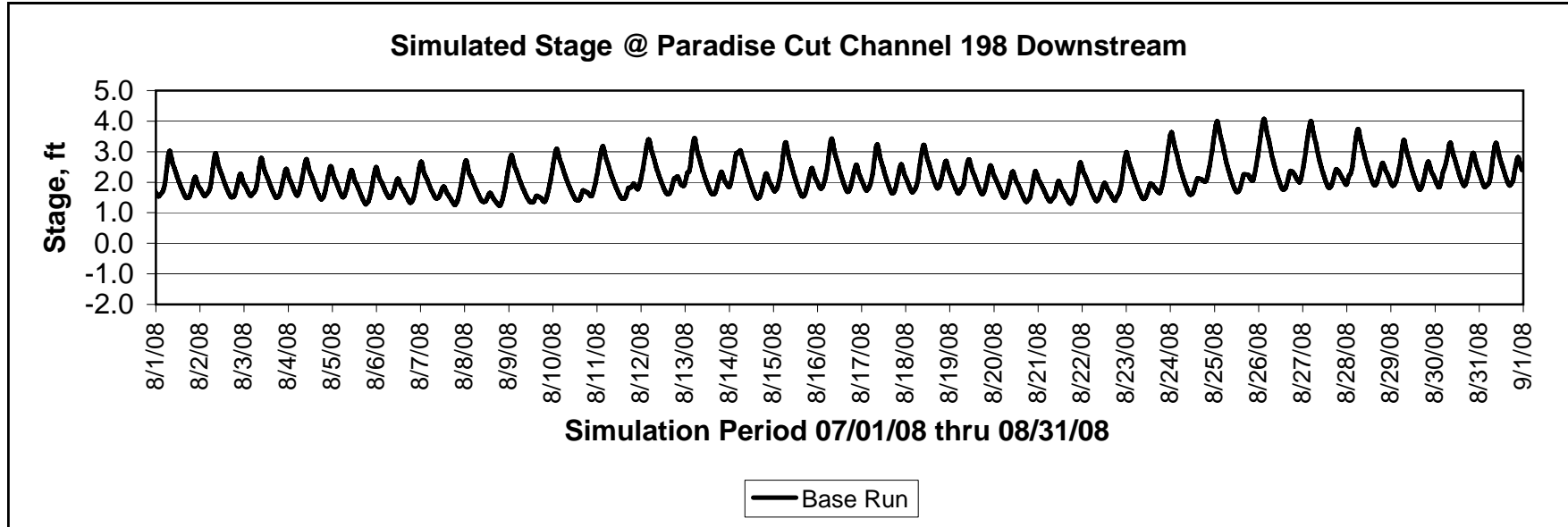
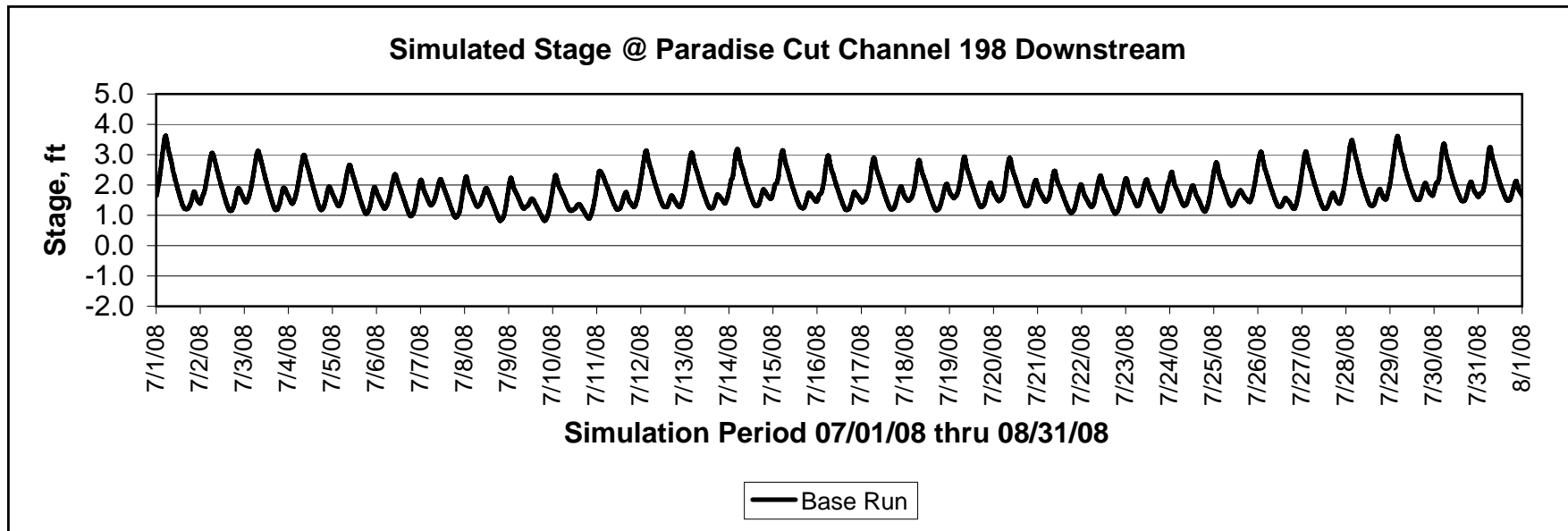


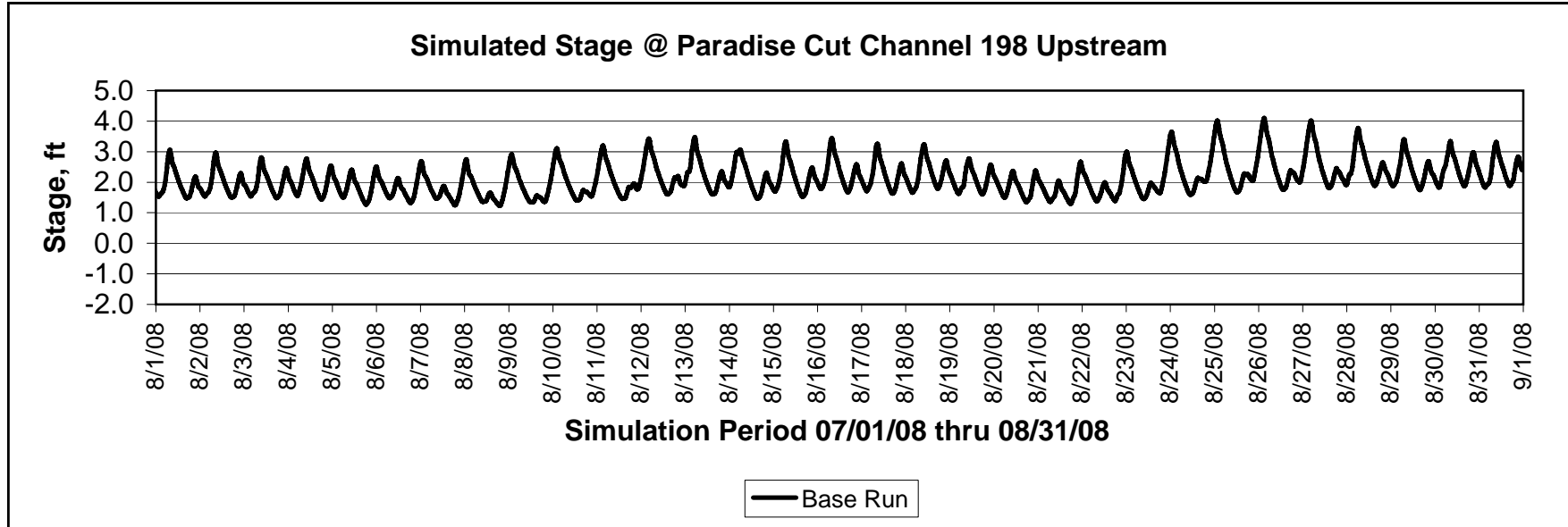
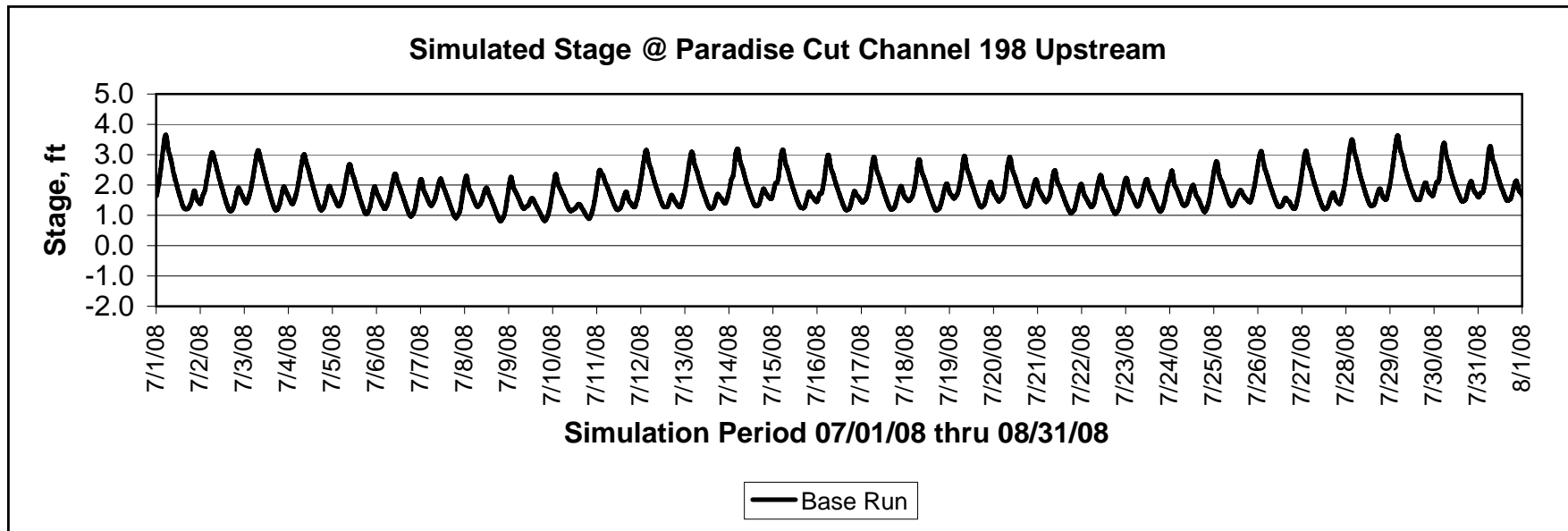
PARADISE CUT- STAGE

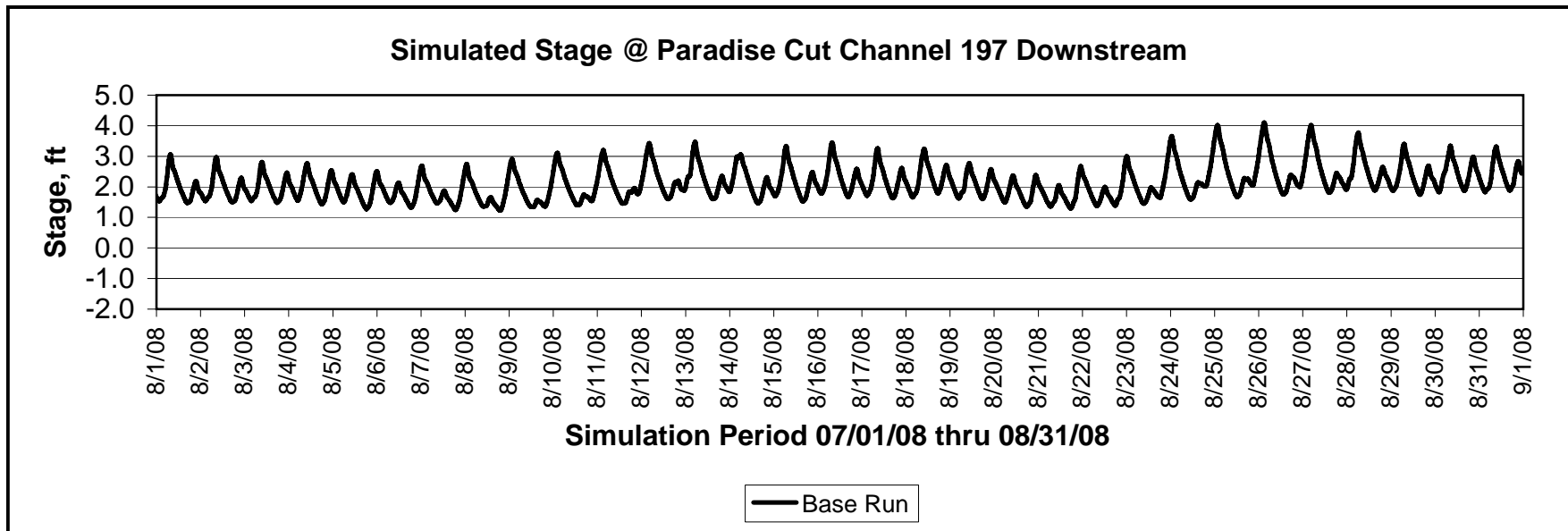
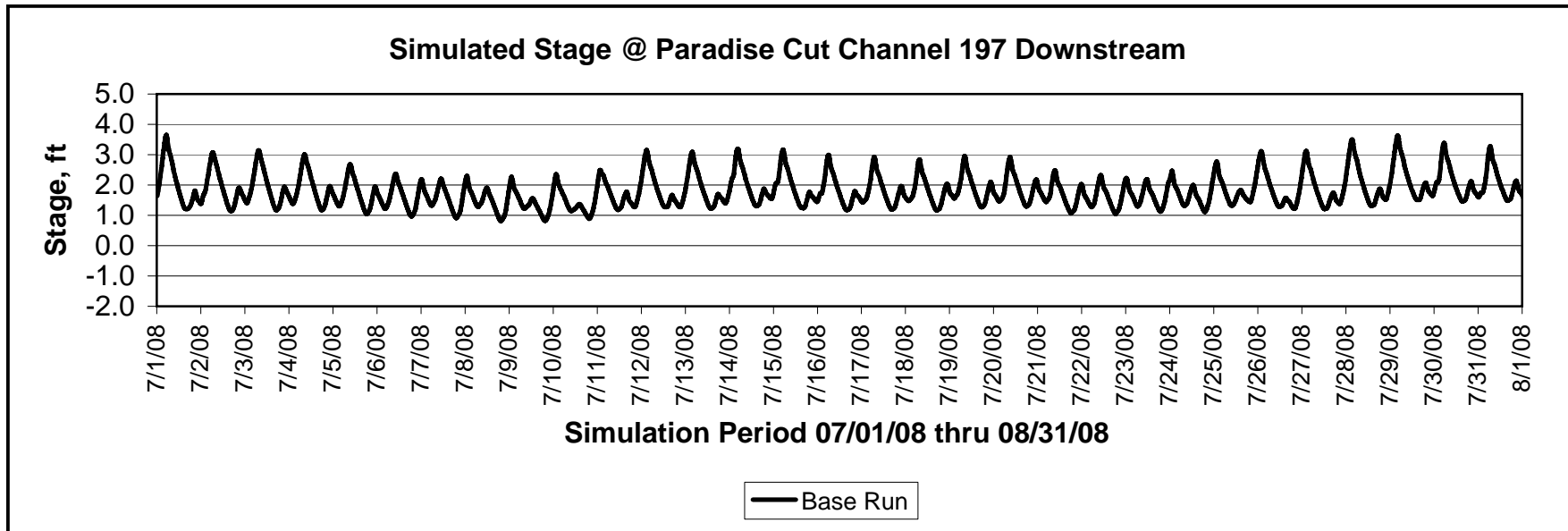


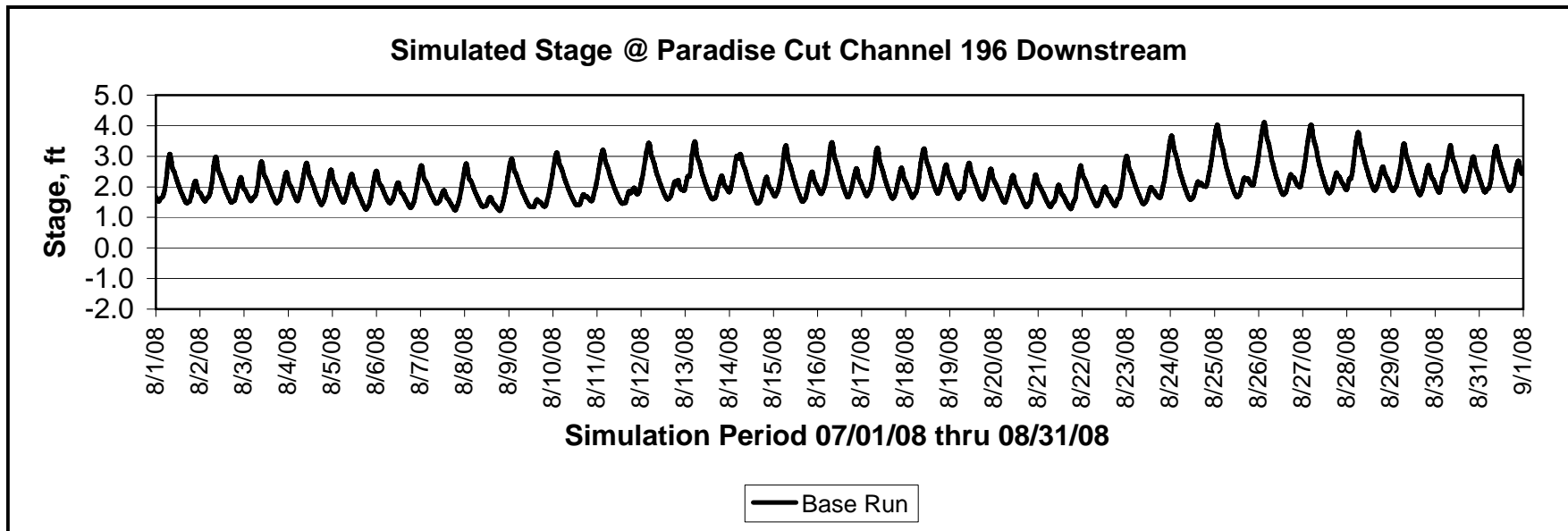
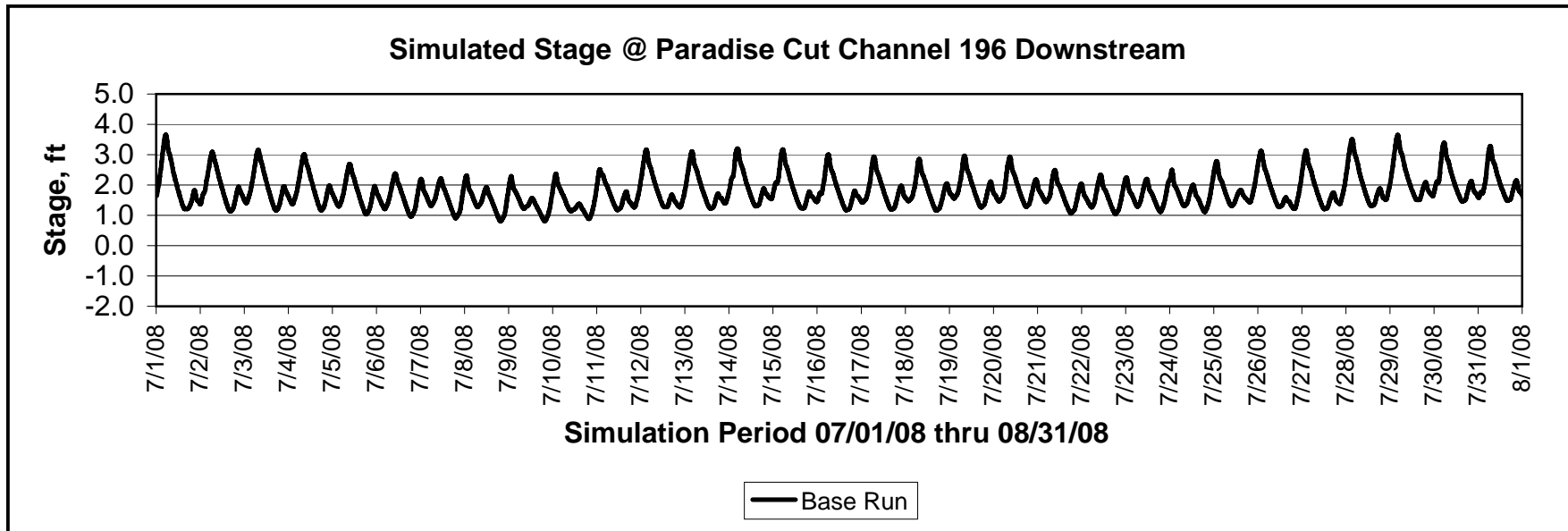


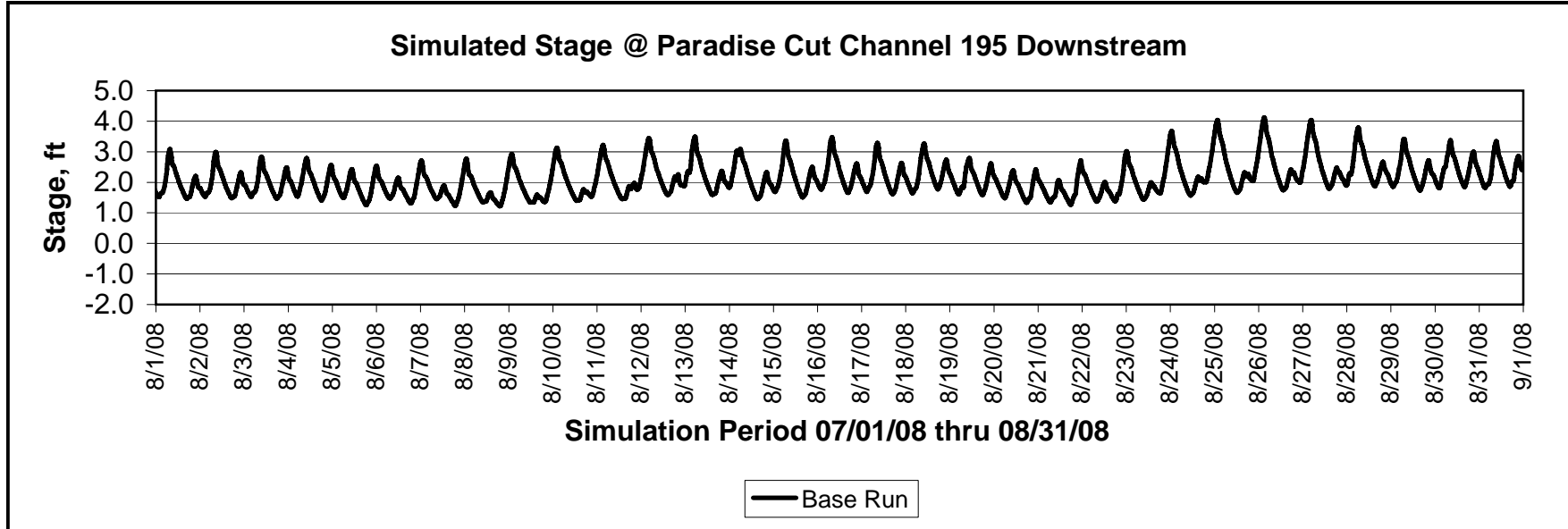
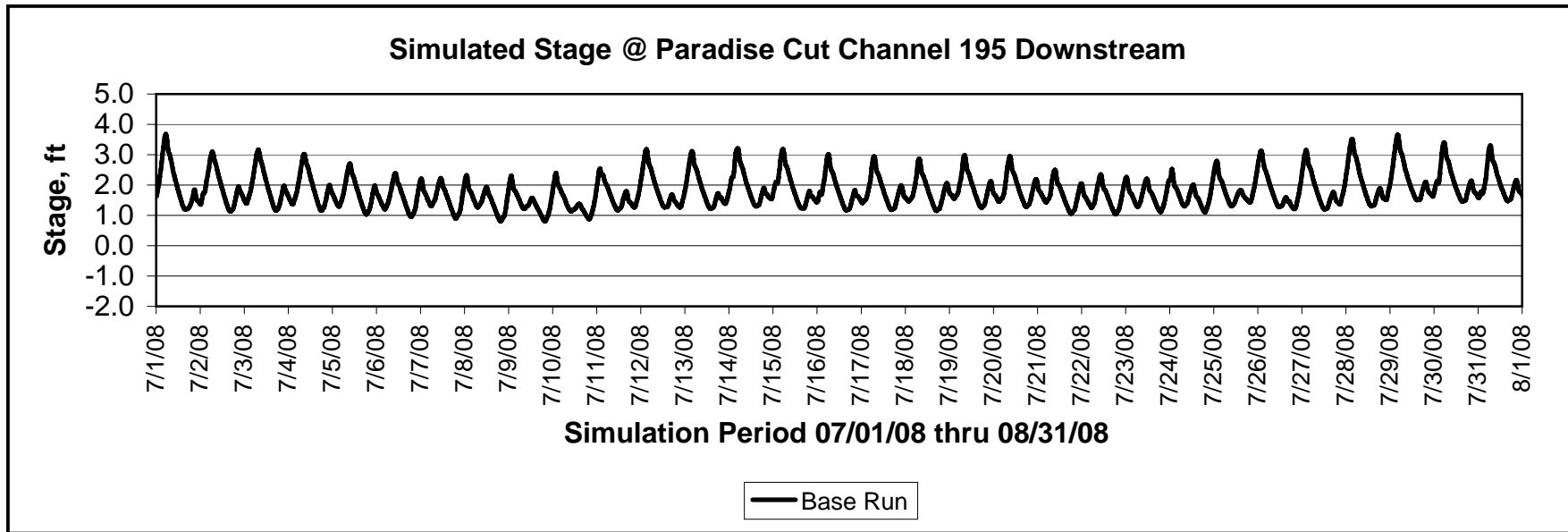




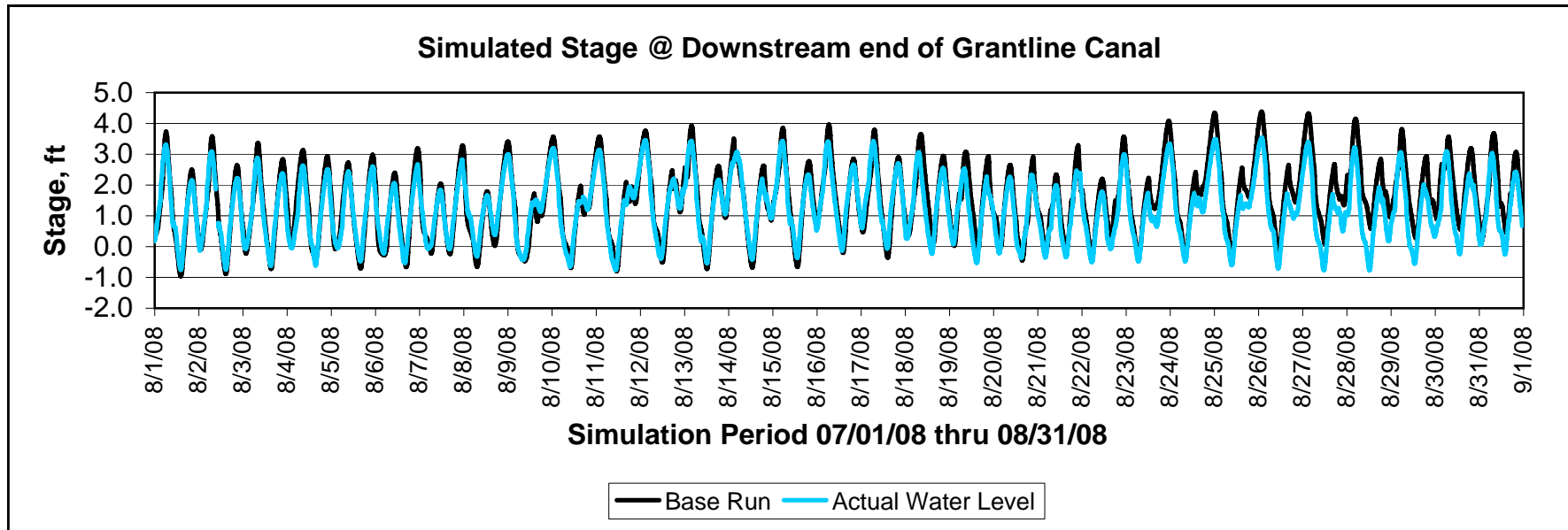
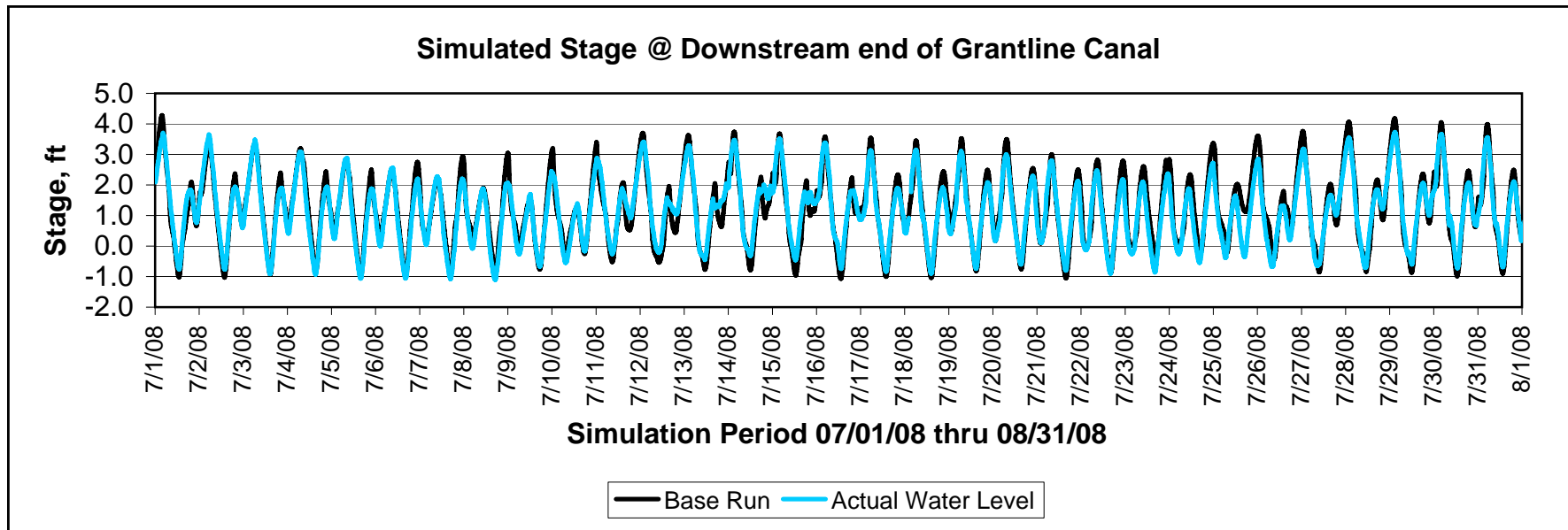


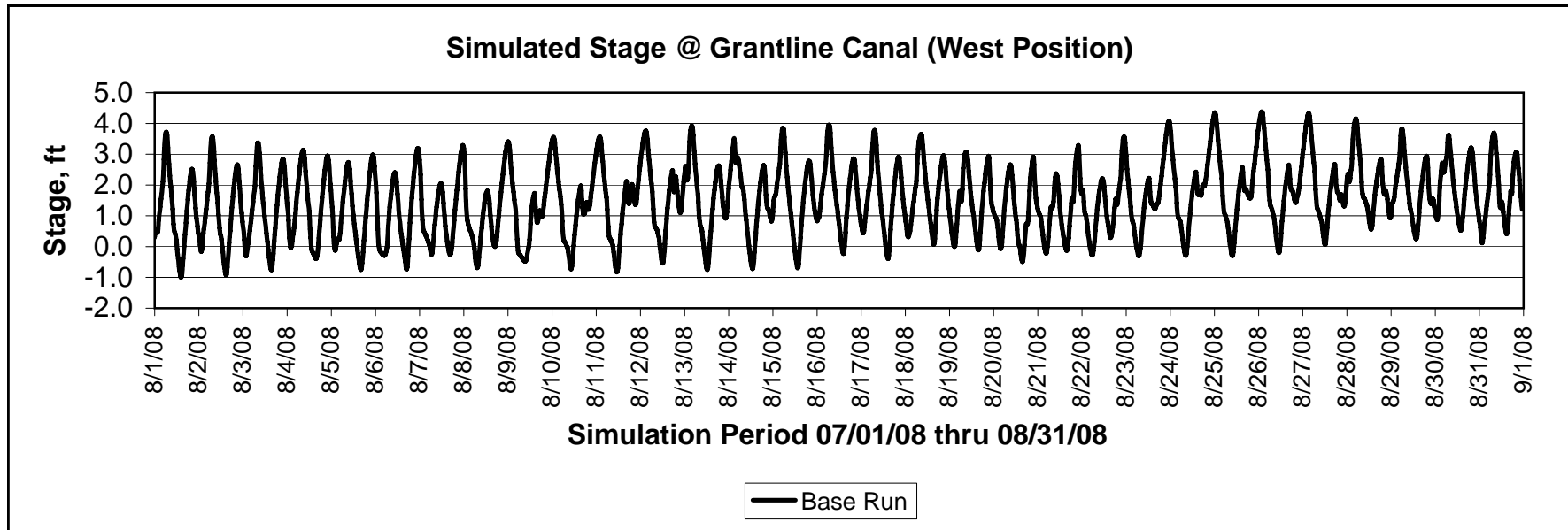
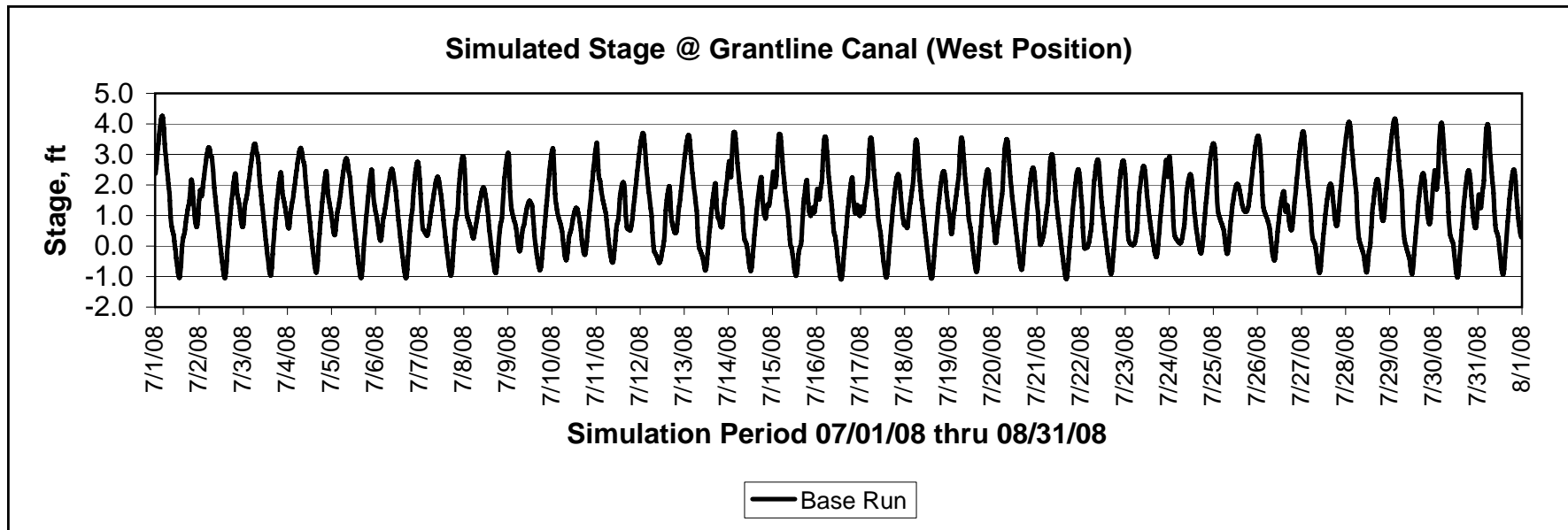


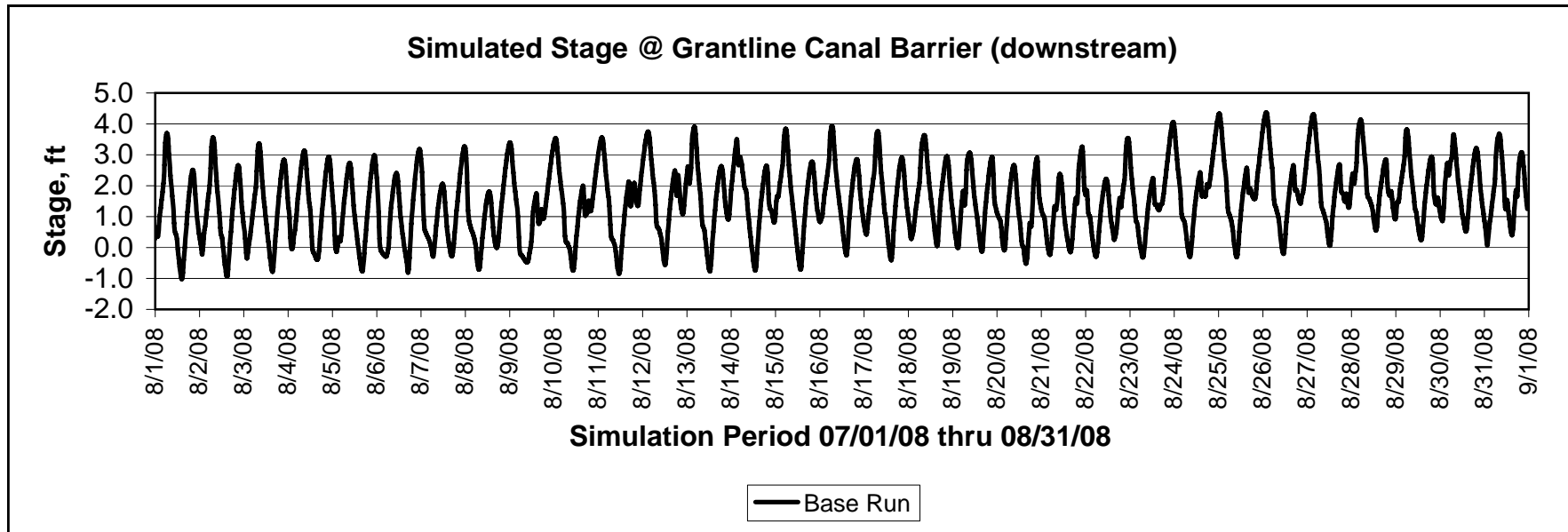
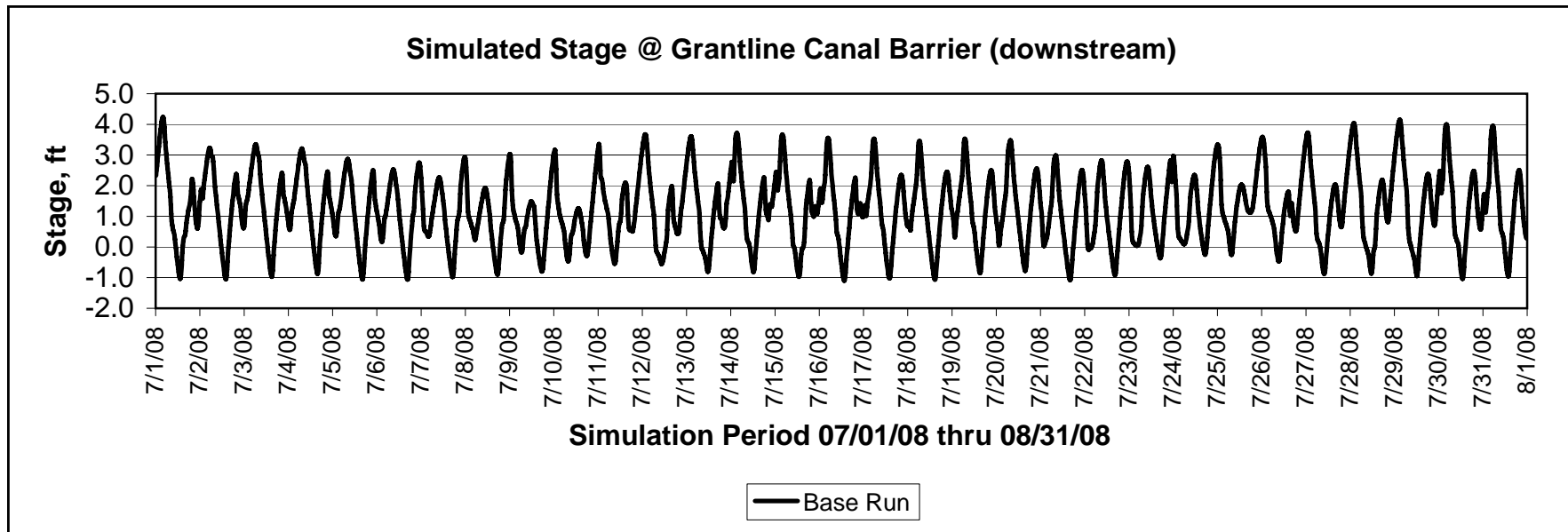


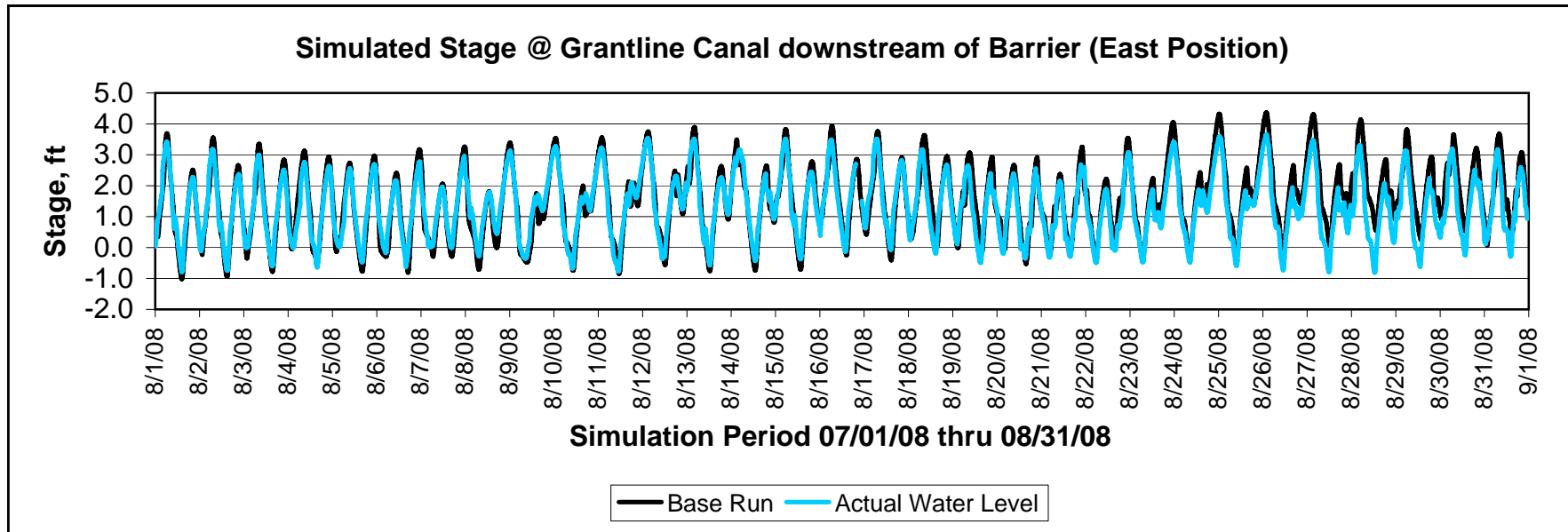
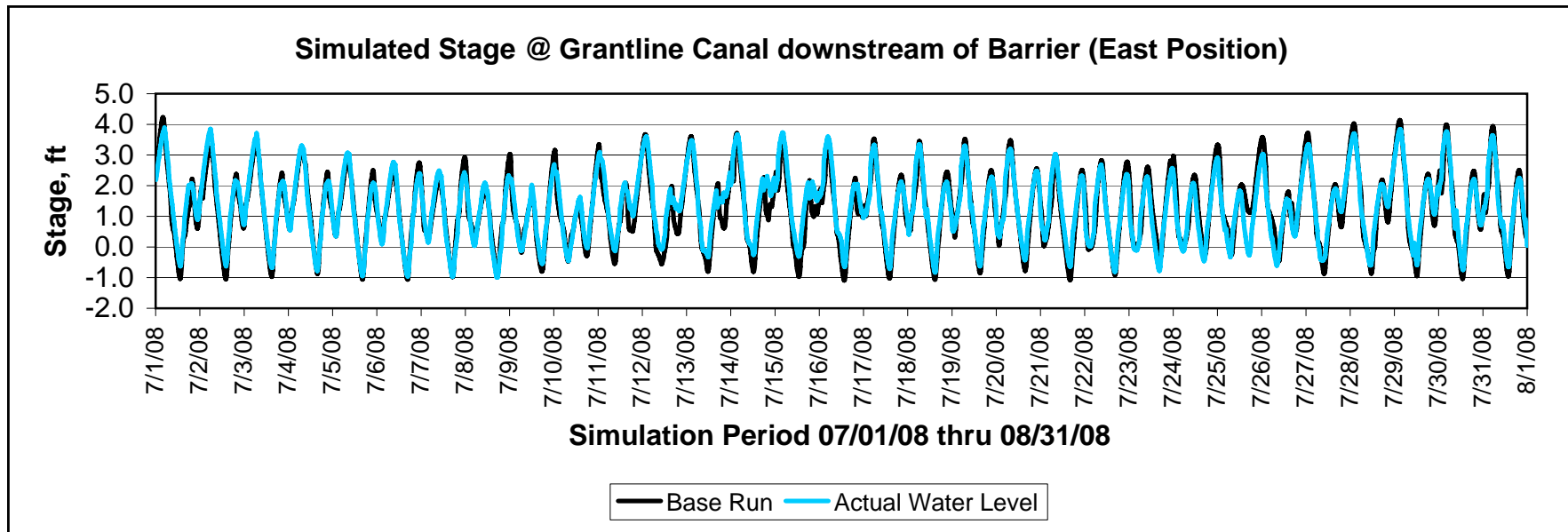


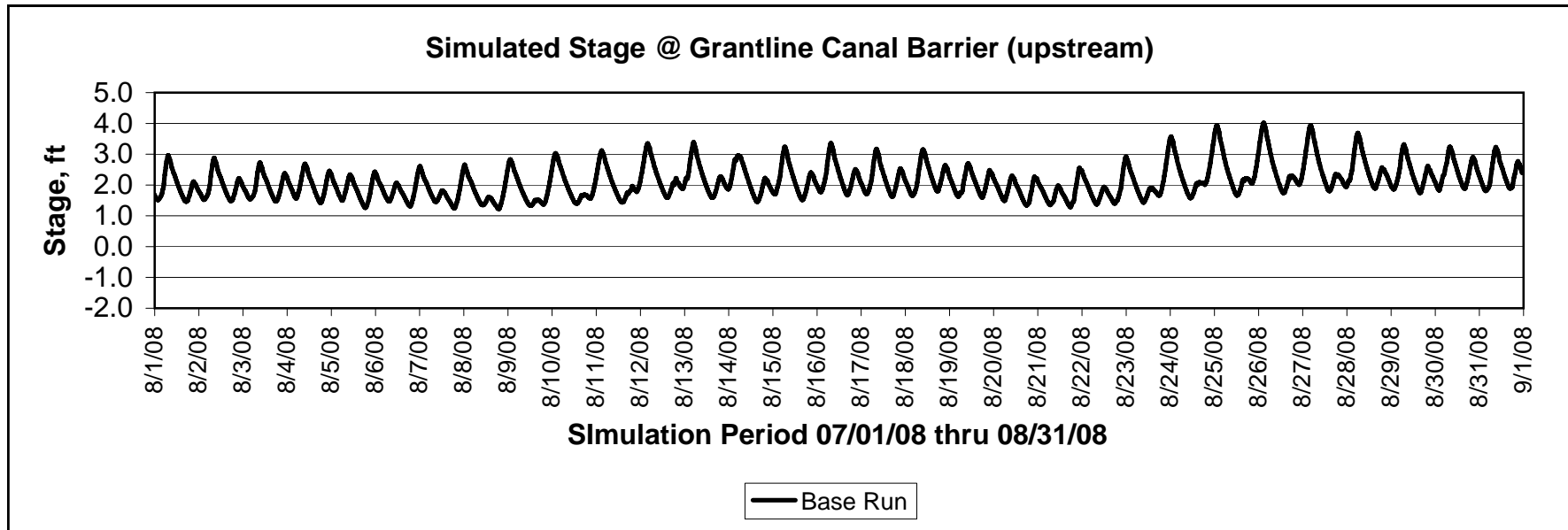
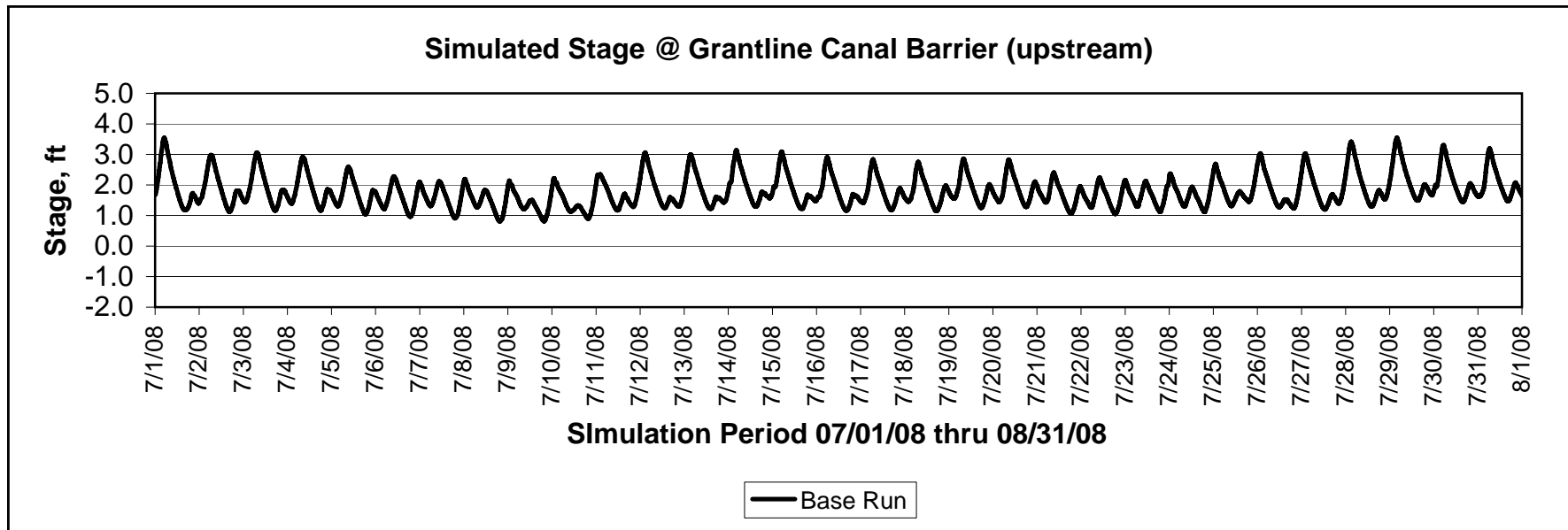
GRANTLINE CANAL - STAGE

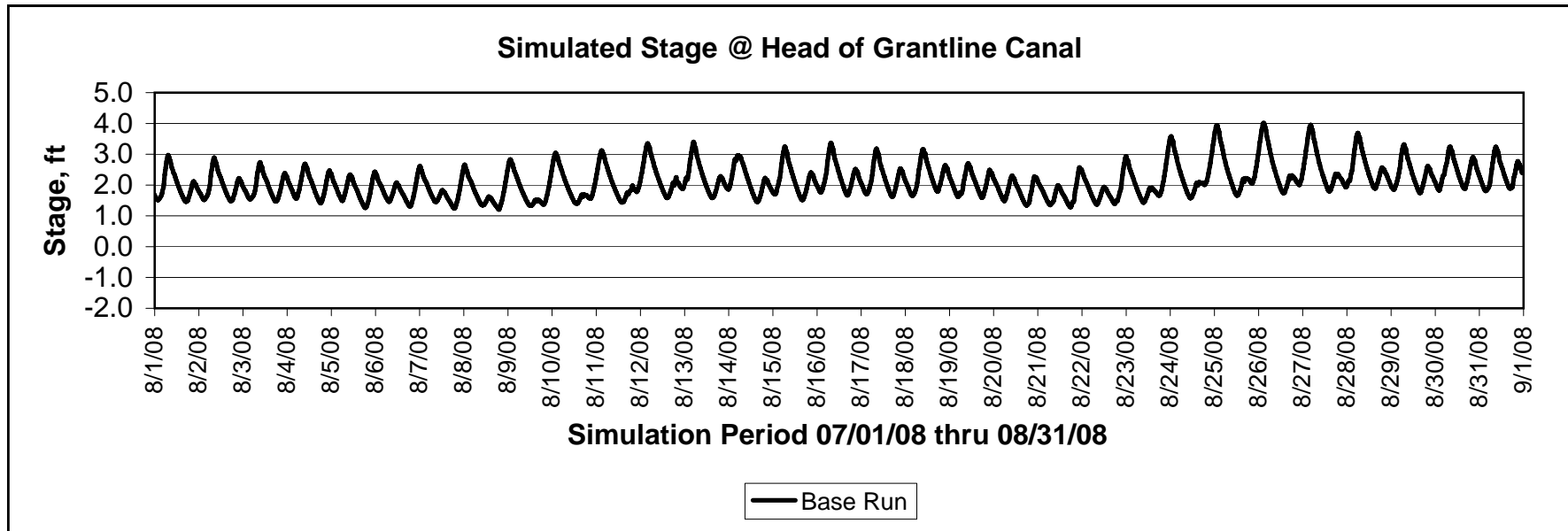
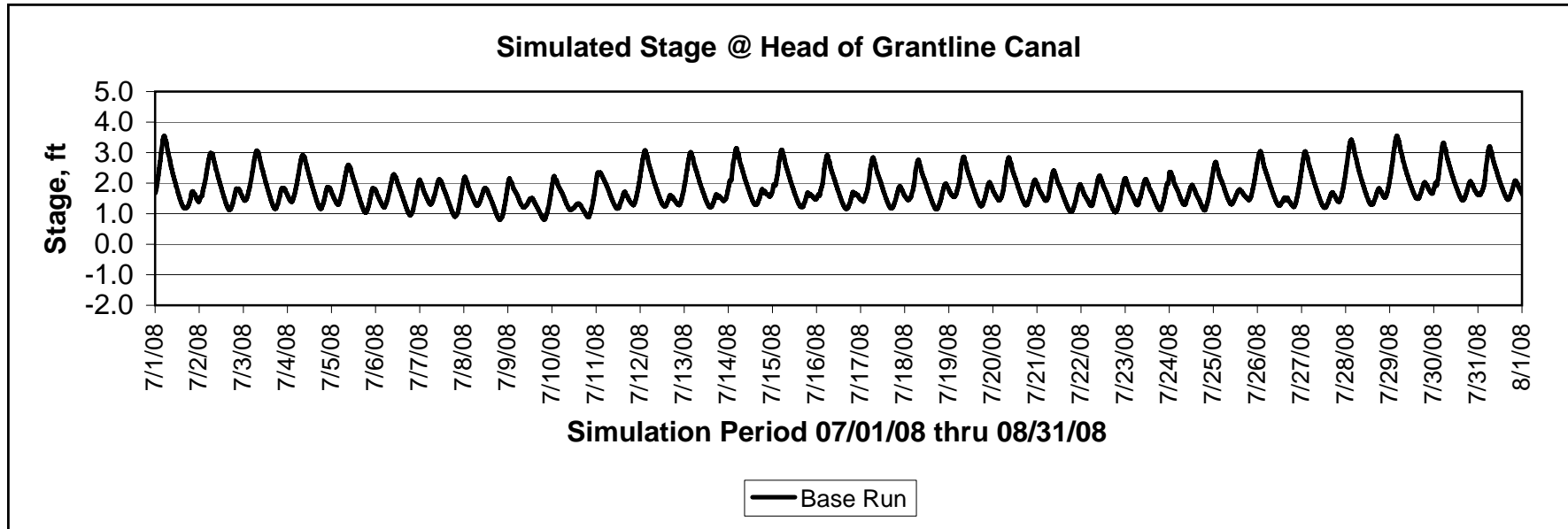


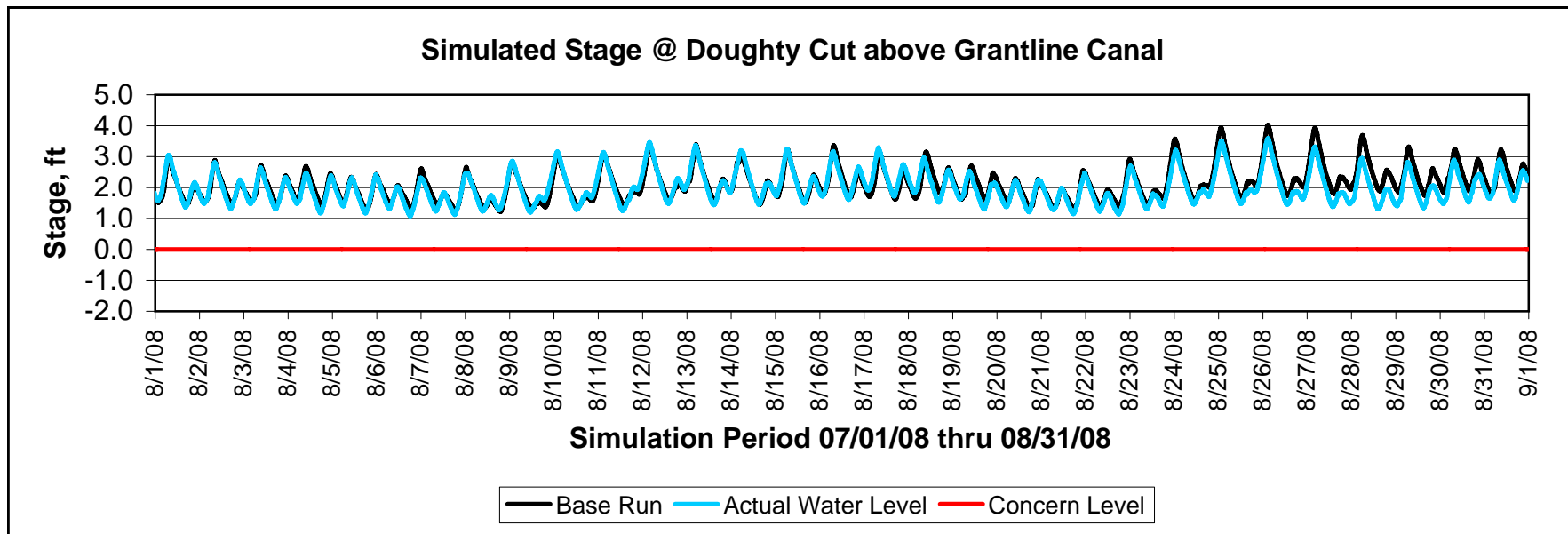
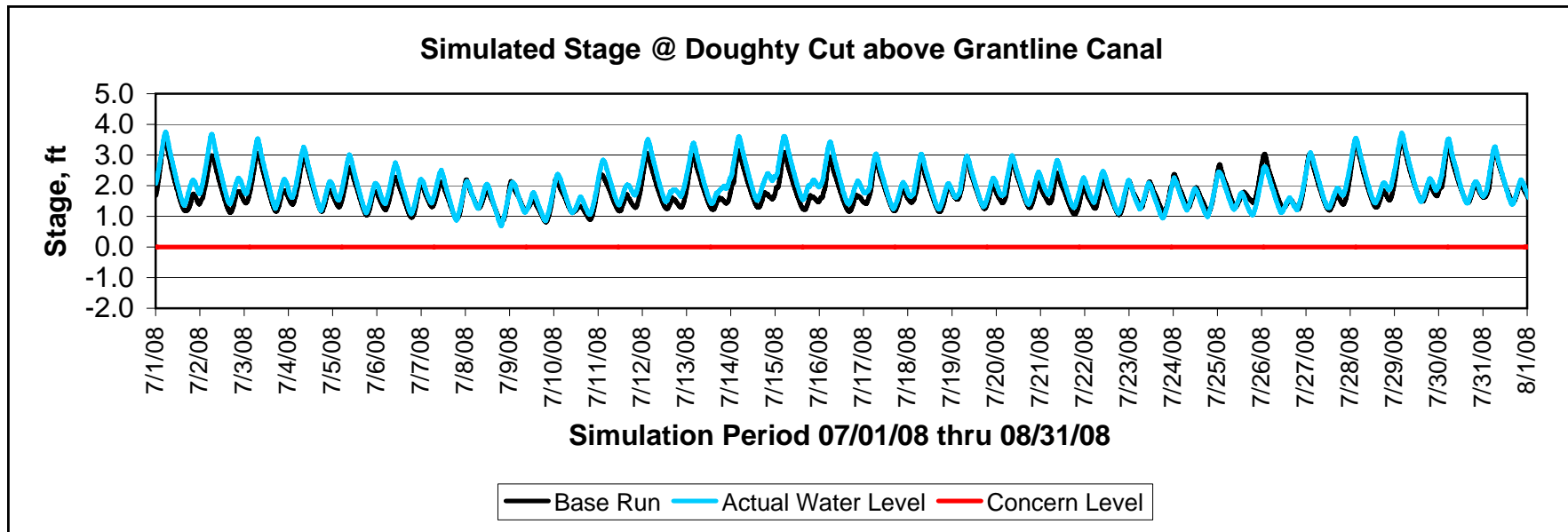




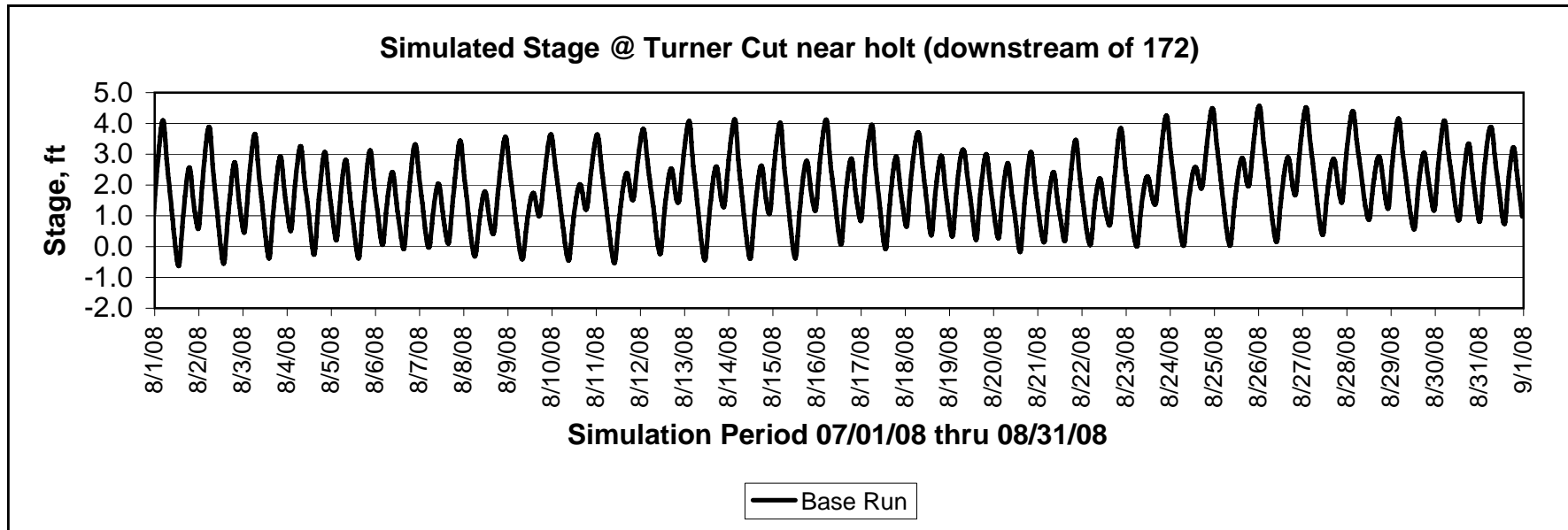
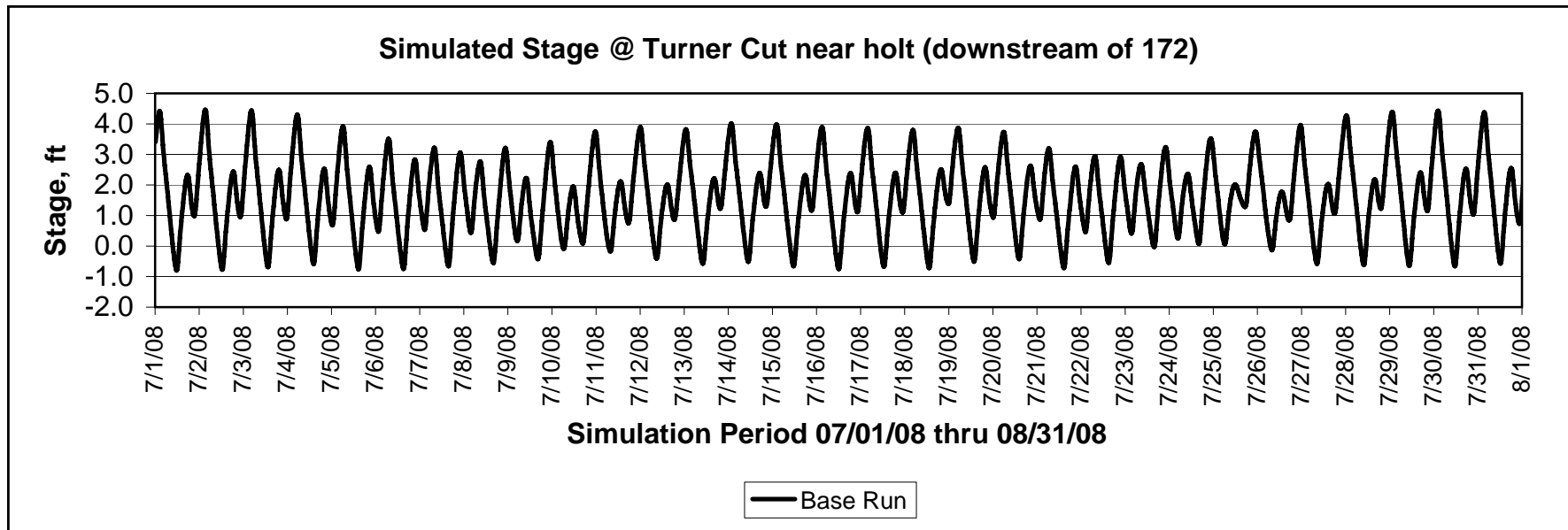


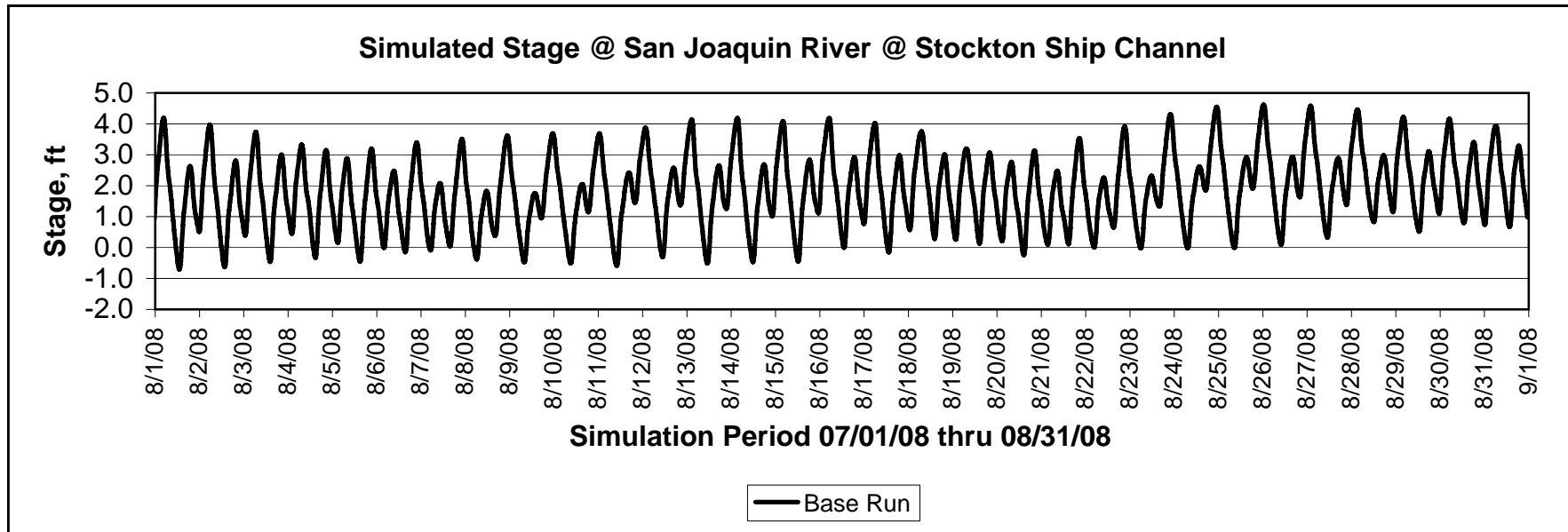
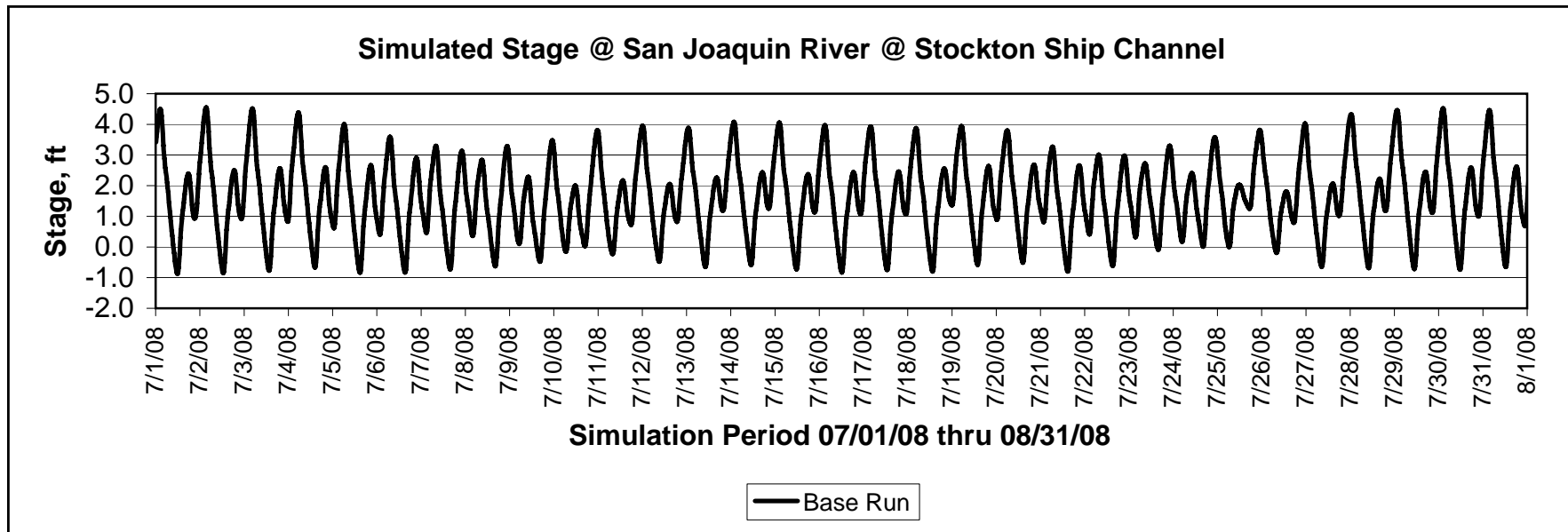


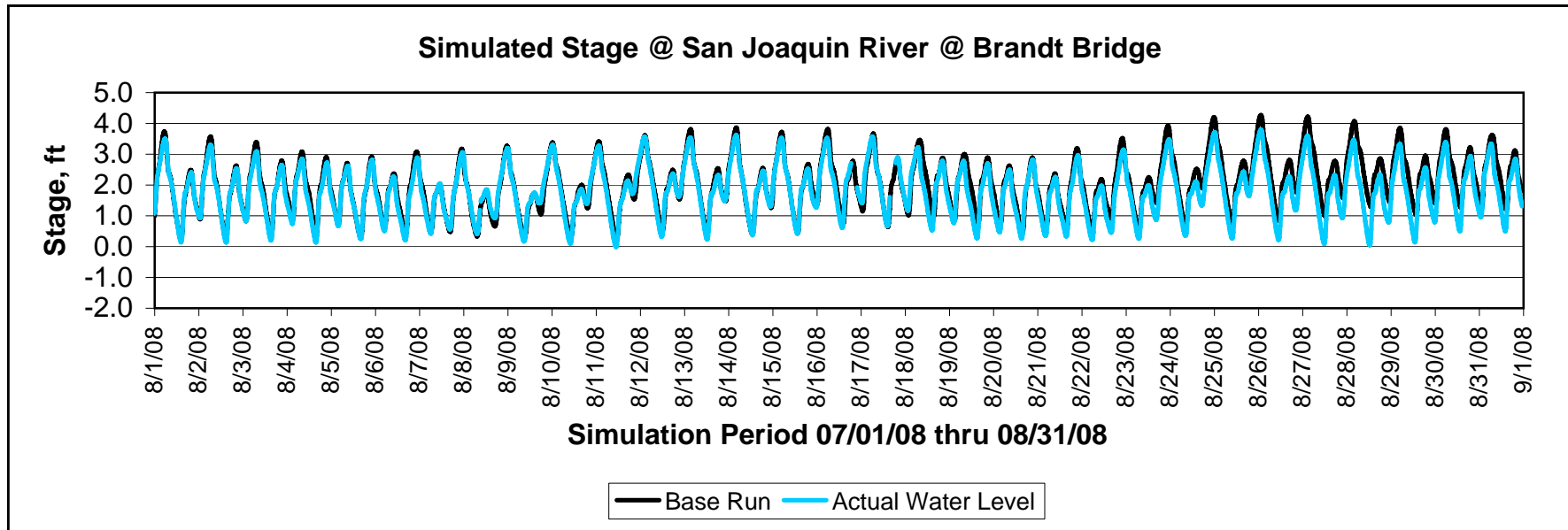
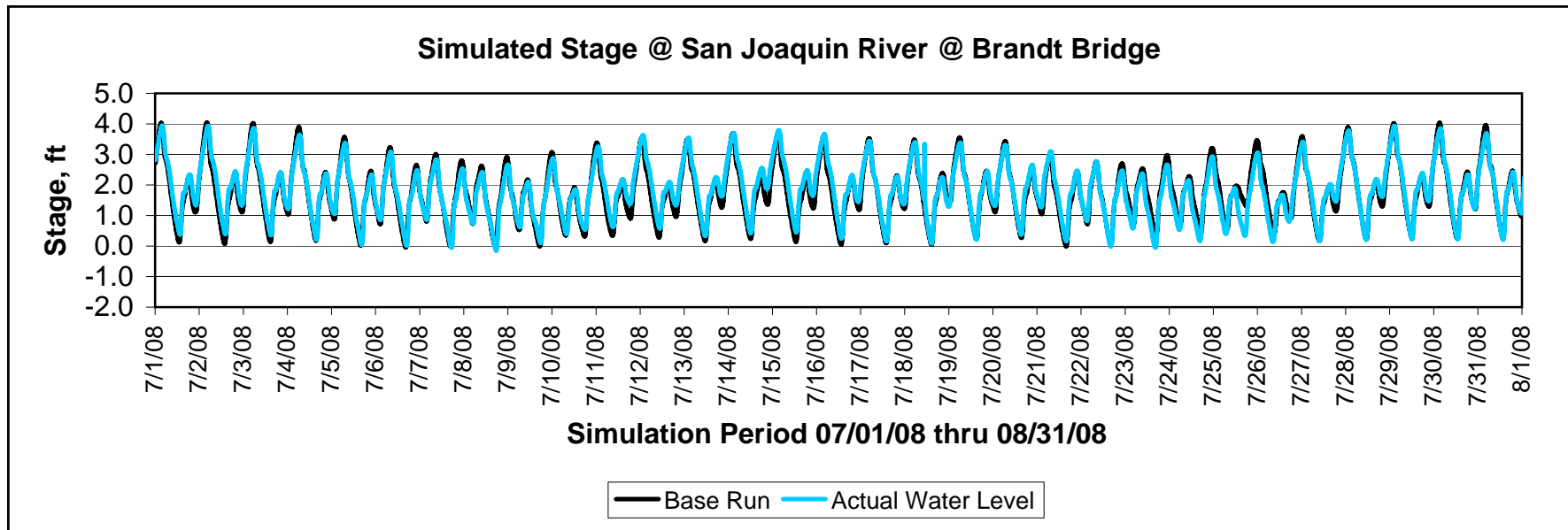


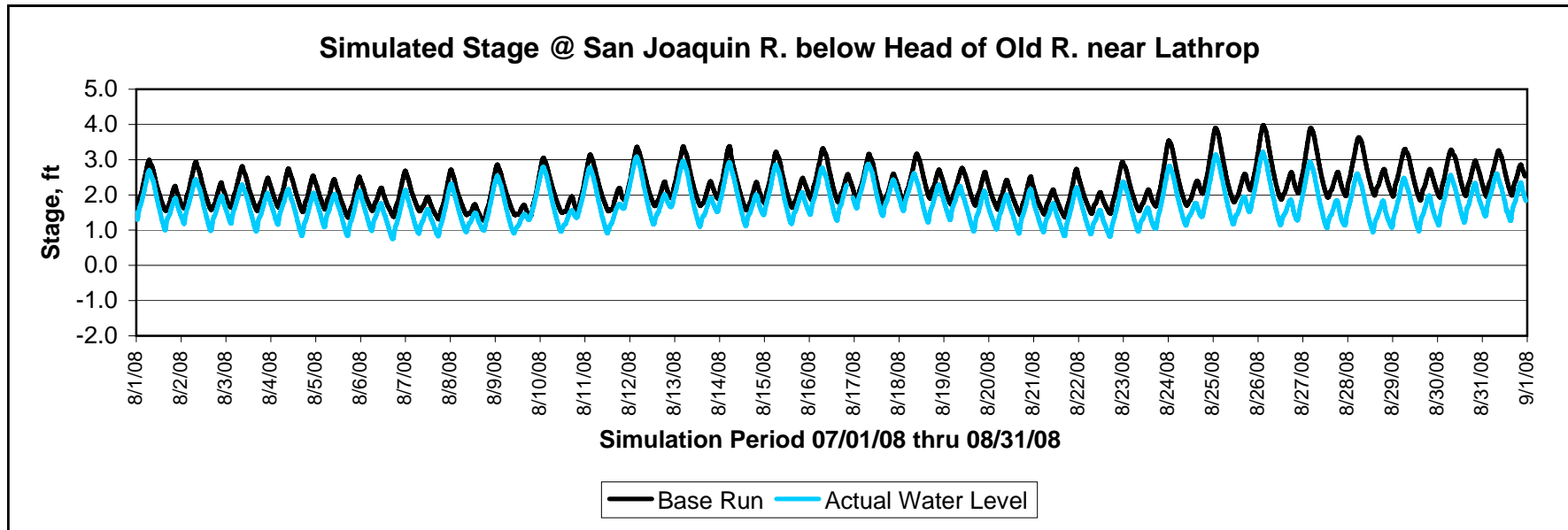
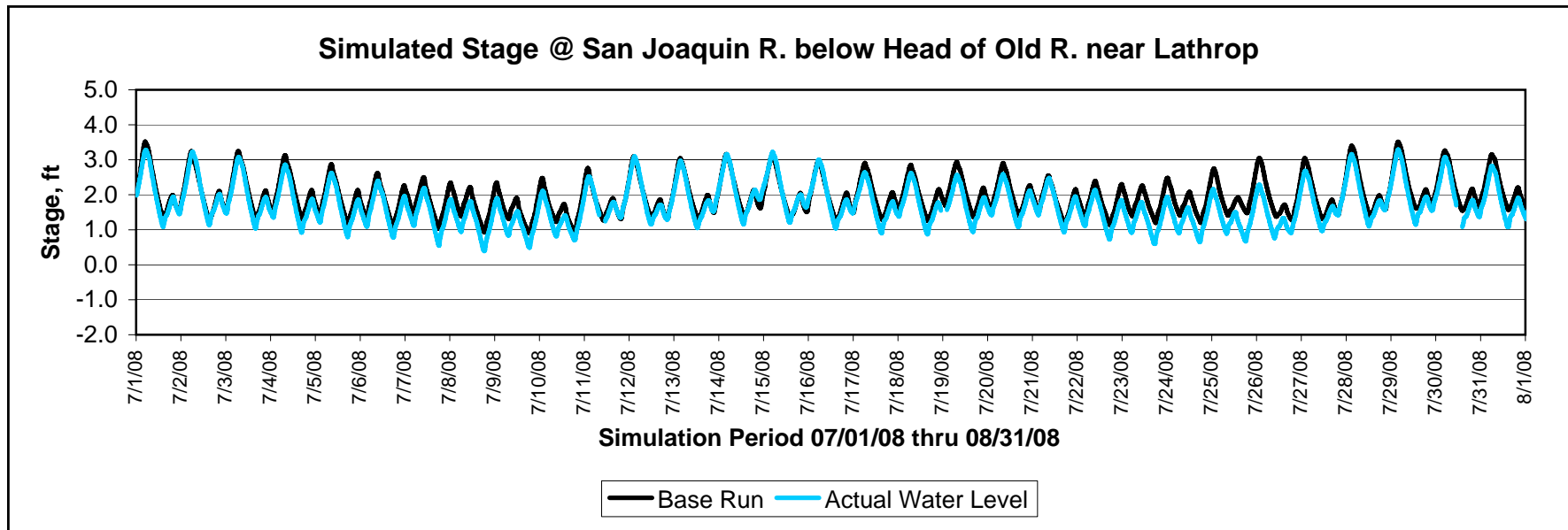


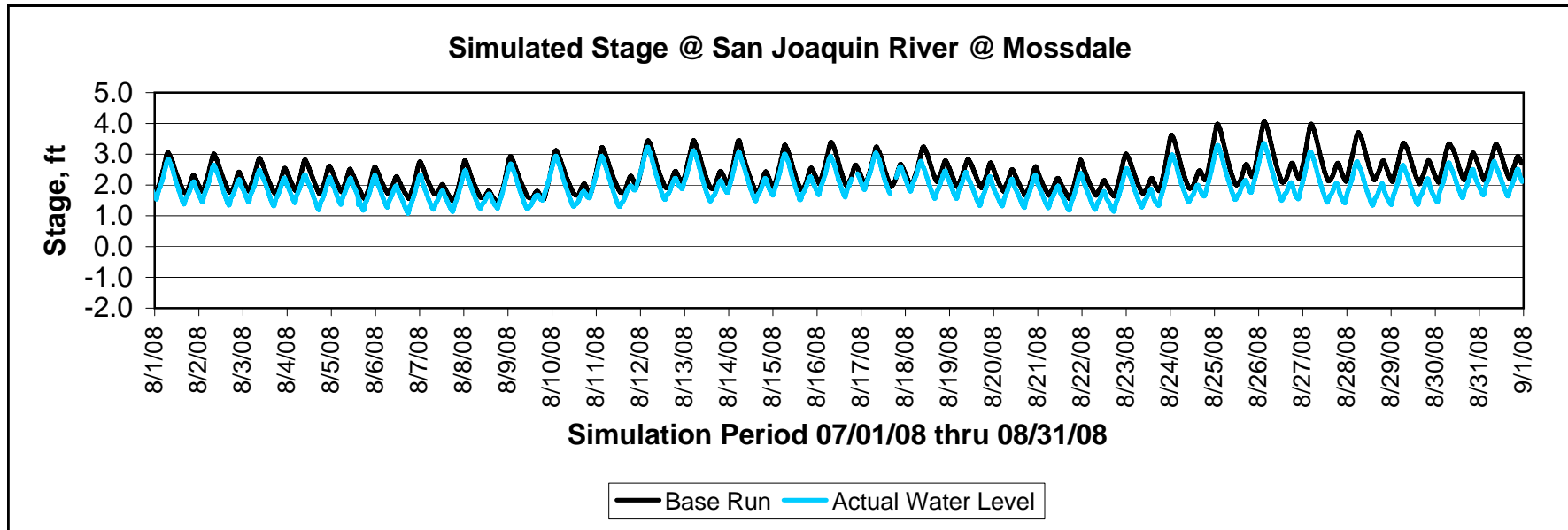
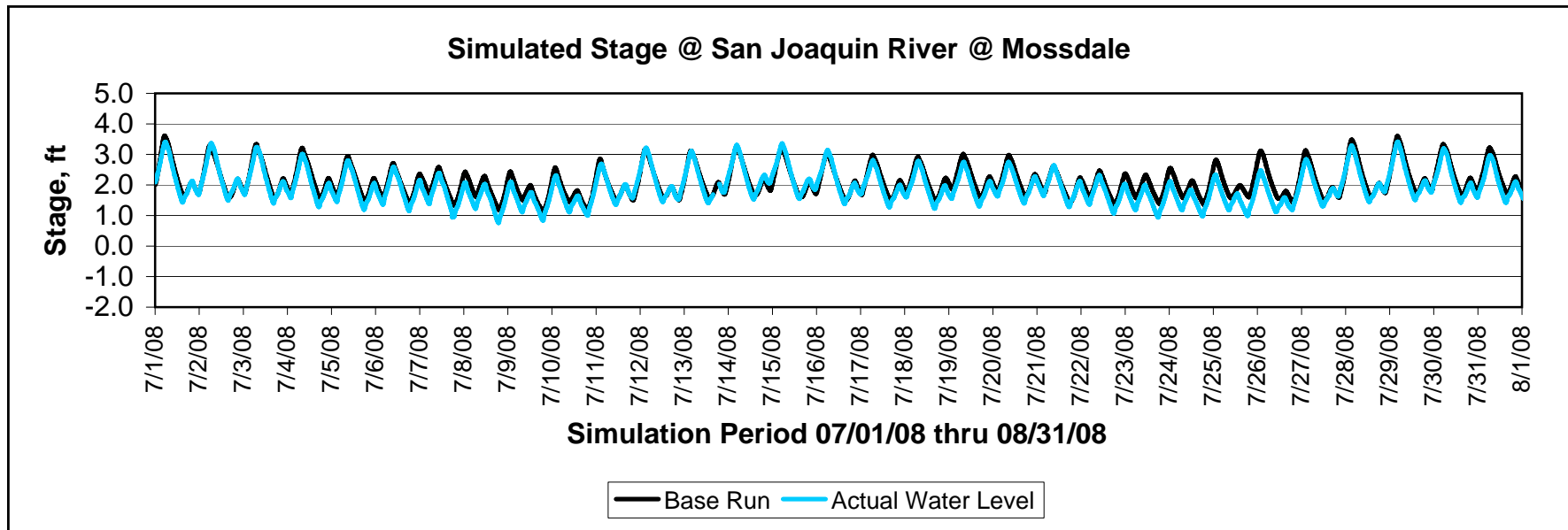
SAN JOAQUIN RIVER - STAGE





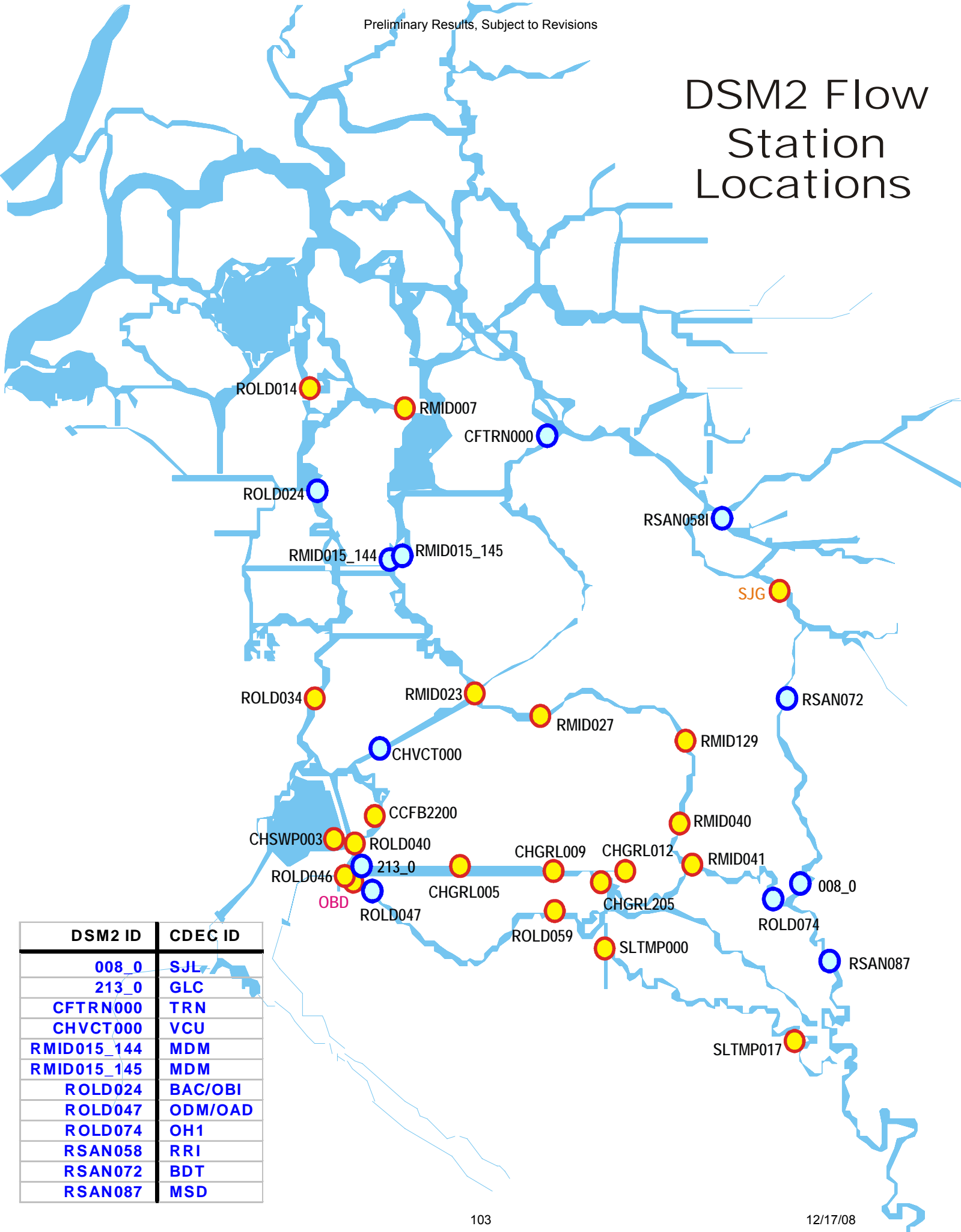






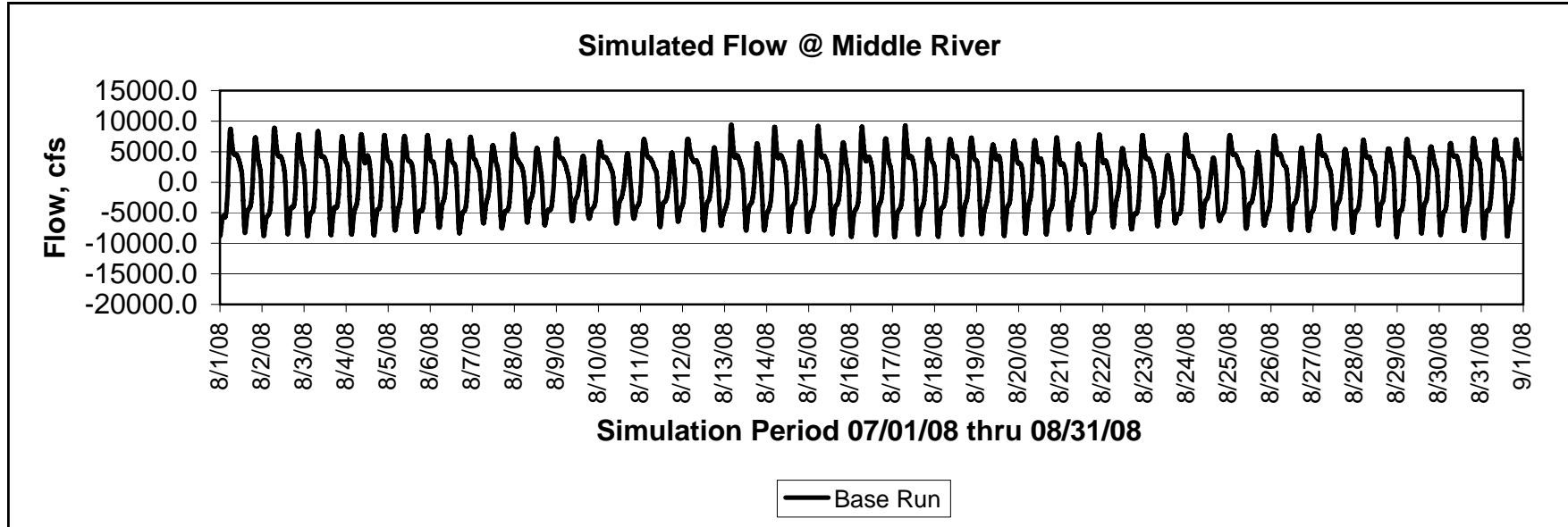
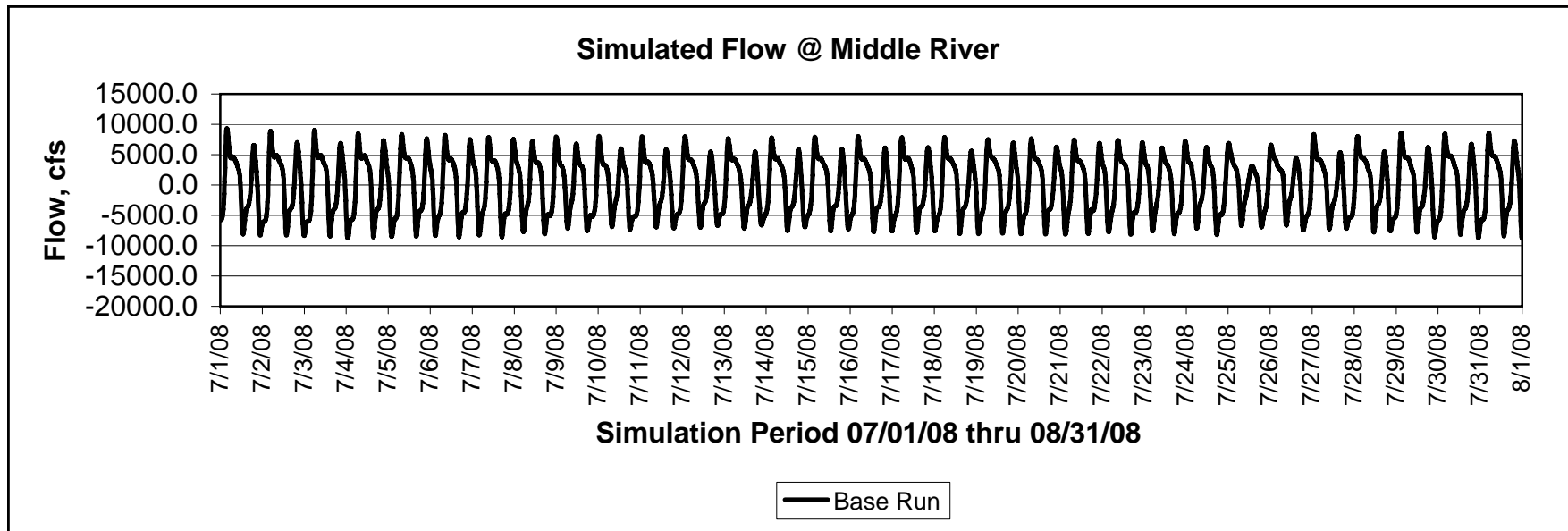
COMPARISON OF BASELINE & HISTORICAL FLOW (15-MINUTE)

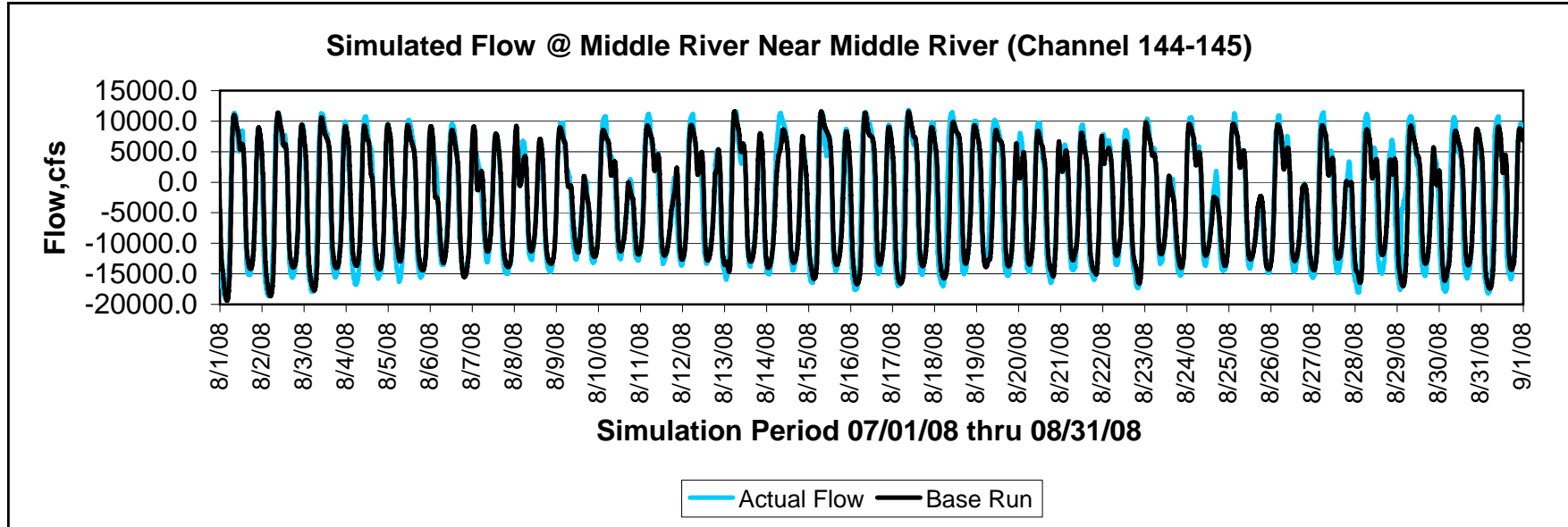
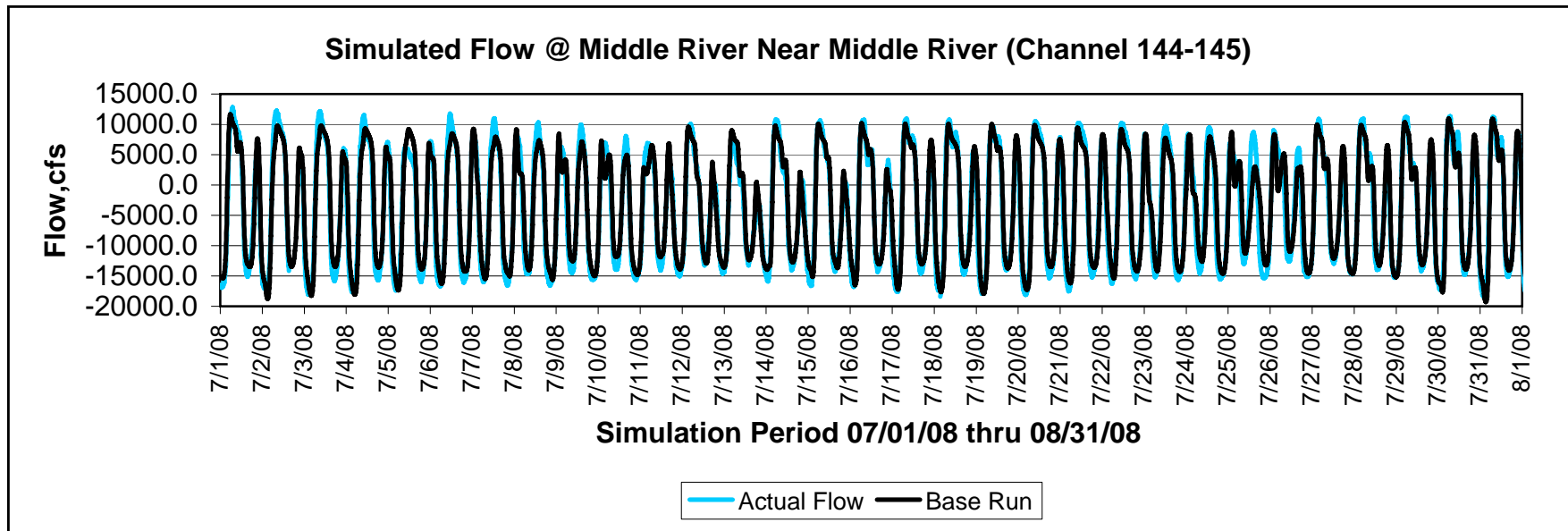
DSM2 Flow Station Locations

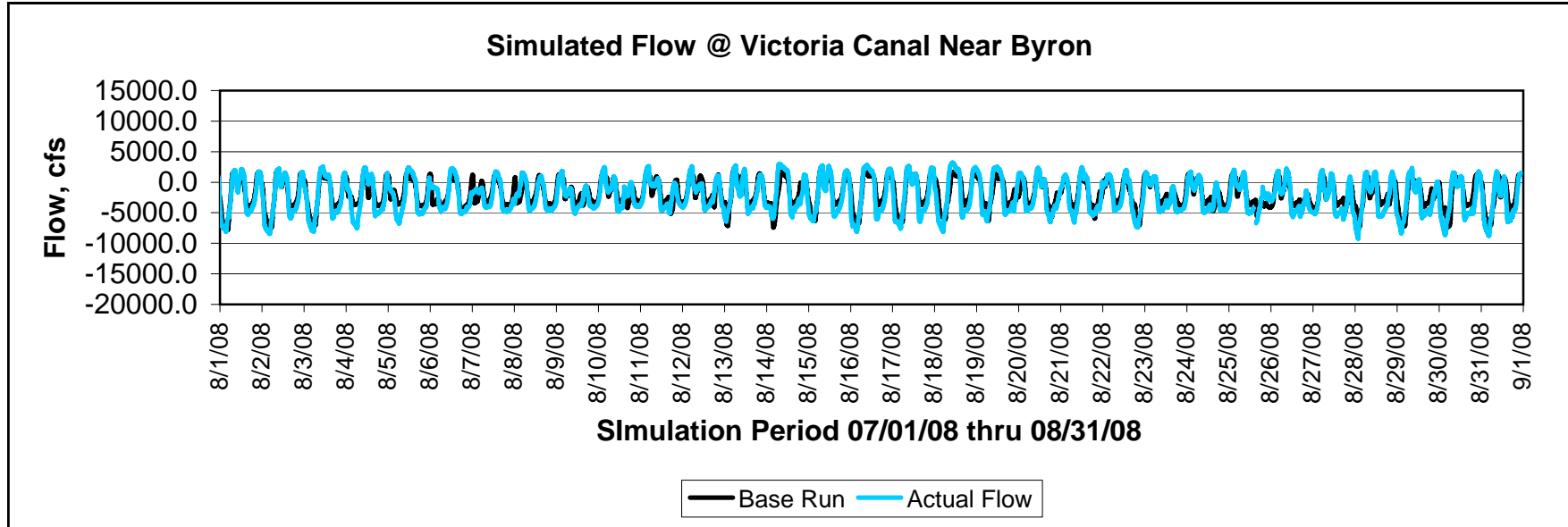
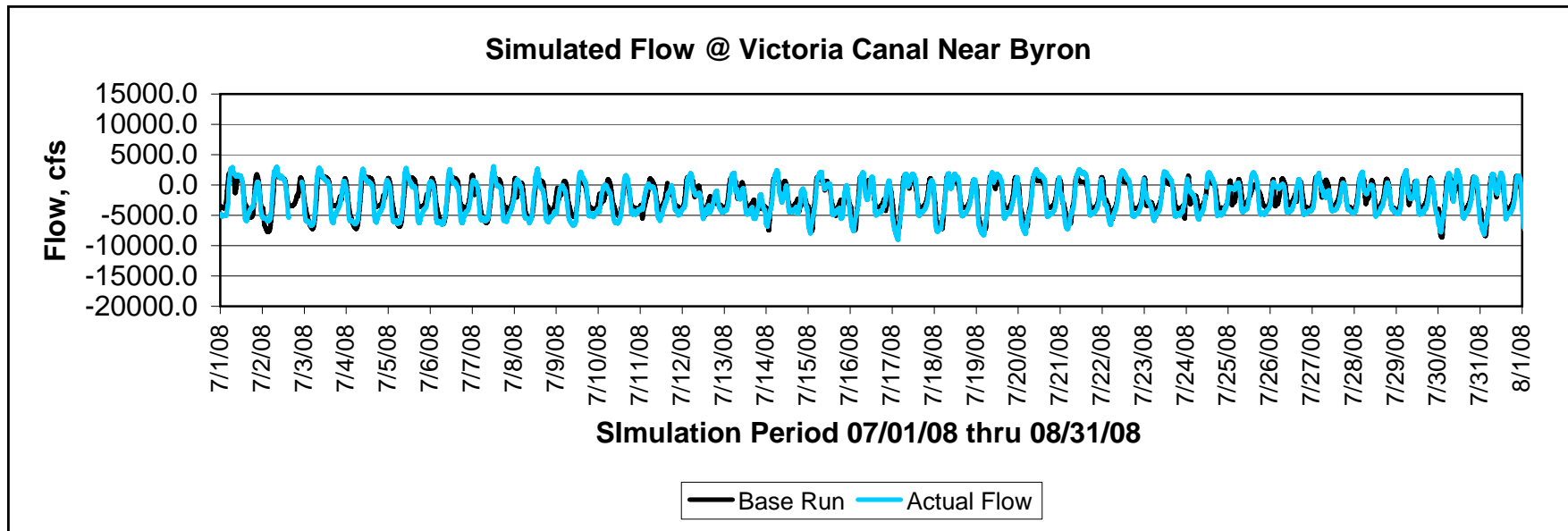


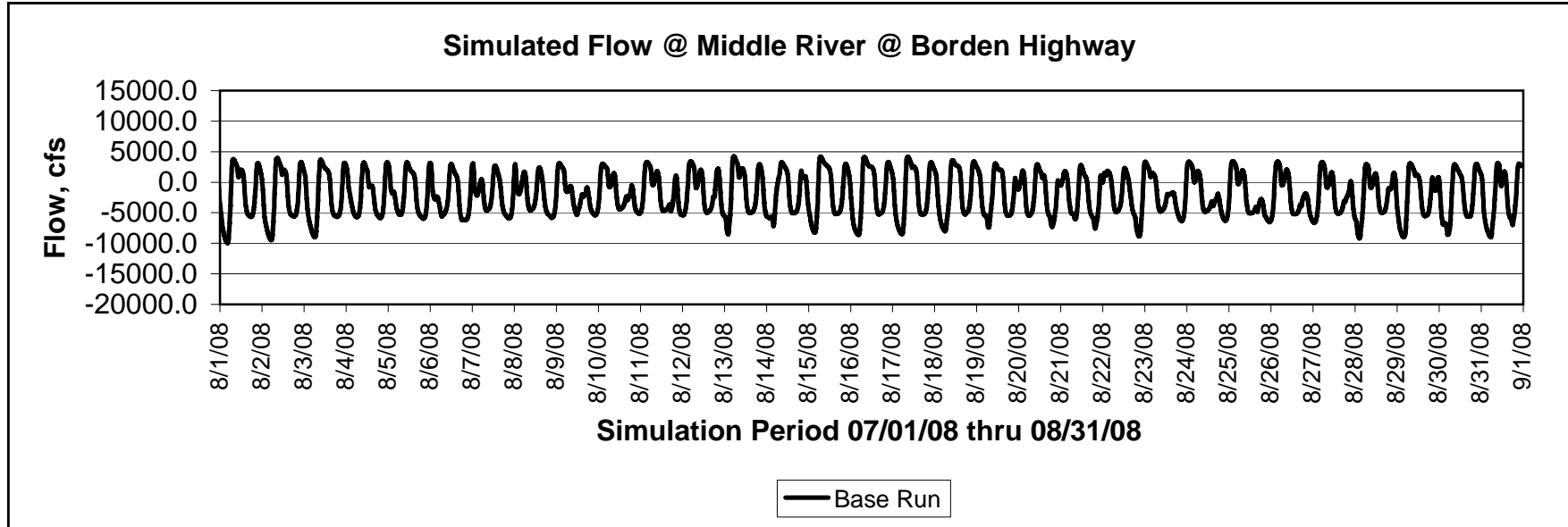
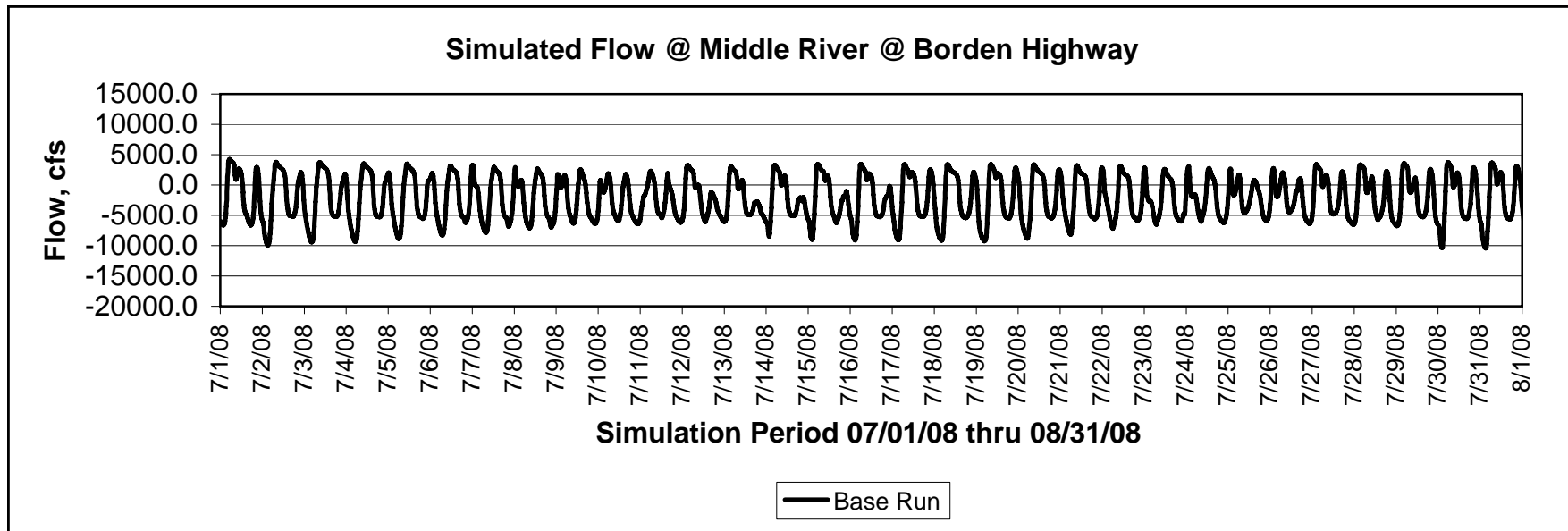
DSM2 ID	CDEC ID
008_0	SJL
213_0	GLC
CFTRN000	TRN
CHVCT000	VCU
RMID015_144	MDM
RMID015_145	MDM
ROLD024	BAC/OBI
ROLD047	ODM/OAD
ROLD074	OH1
RSAN058	RRI
RSAN072	BDT
RSAN087	MSD

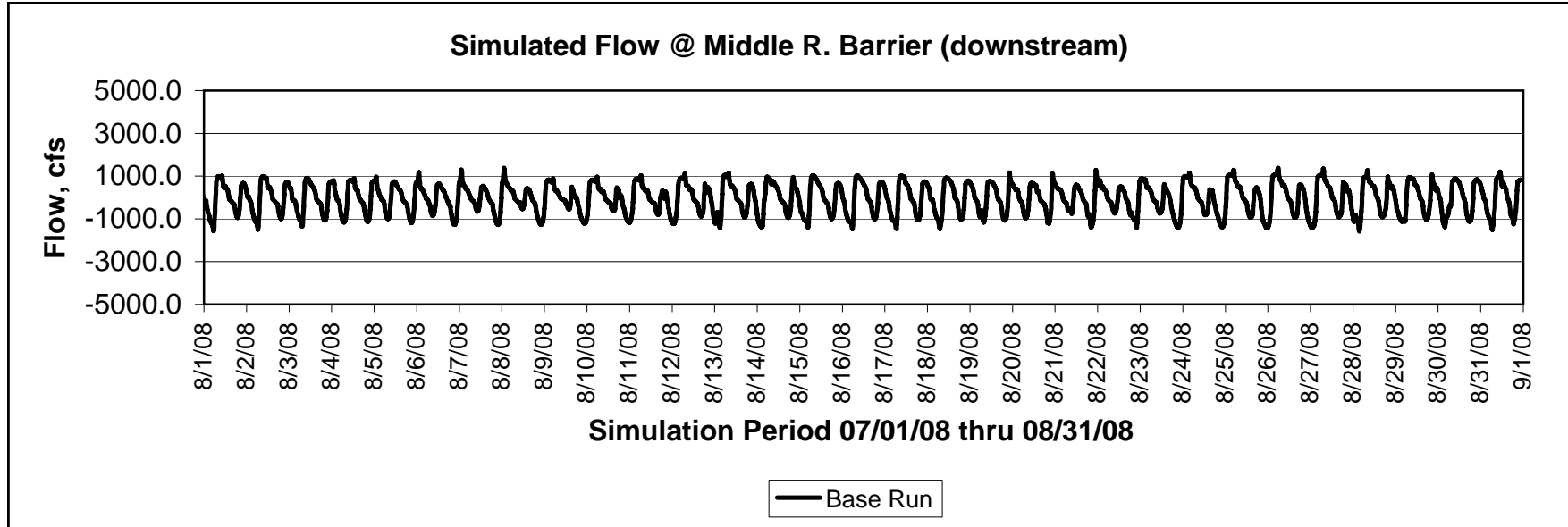
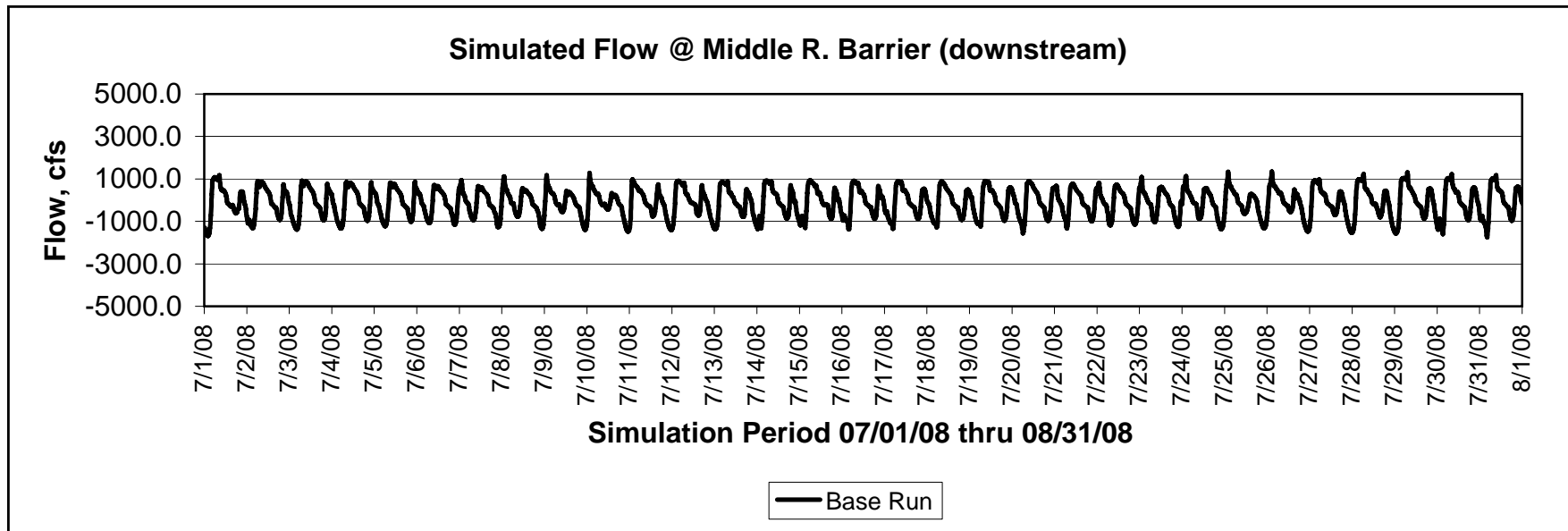
MIDDLE RIVER - FLOW

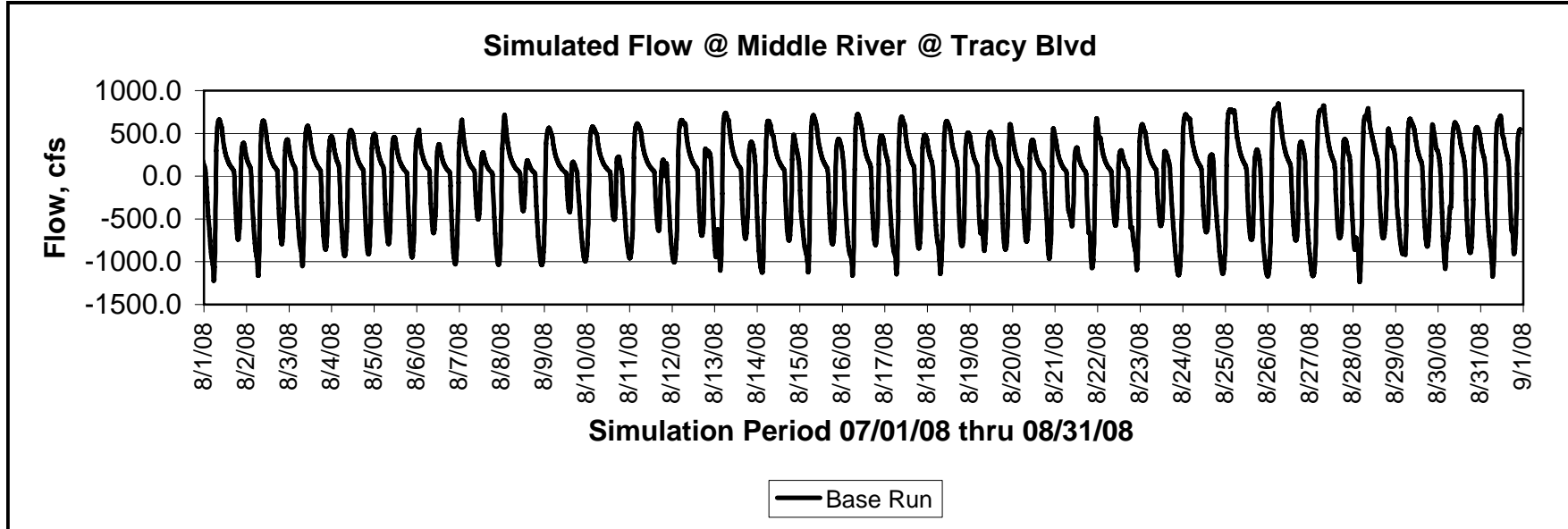
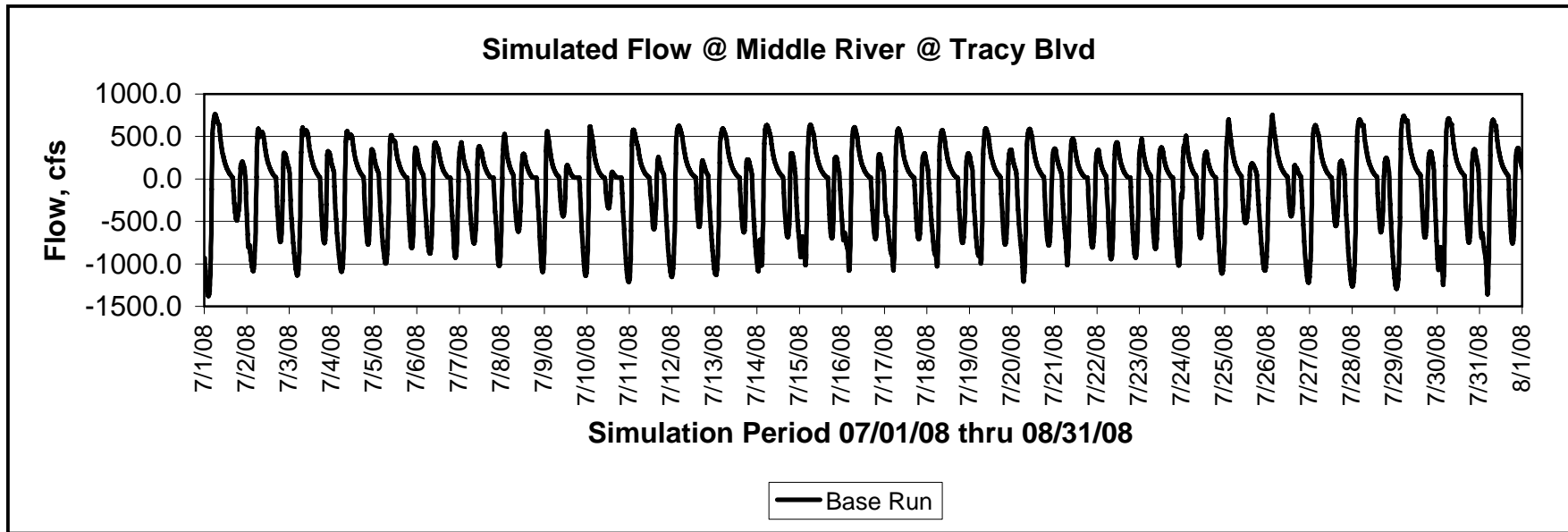


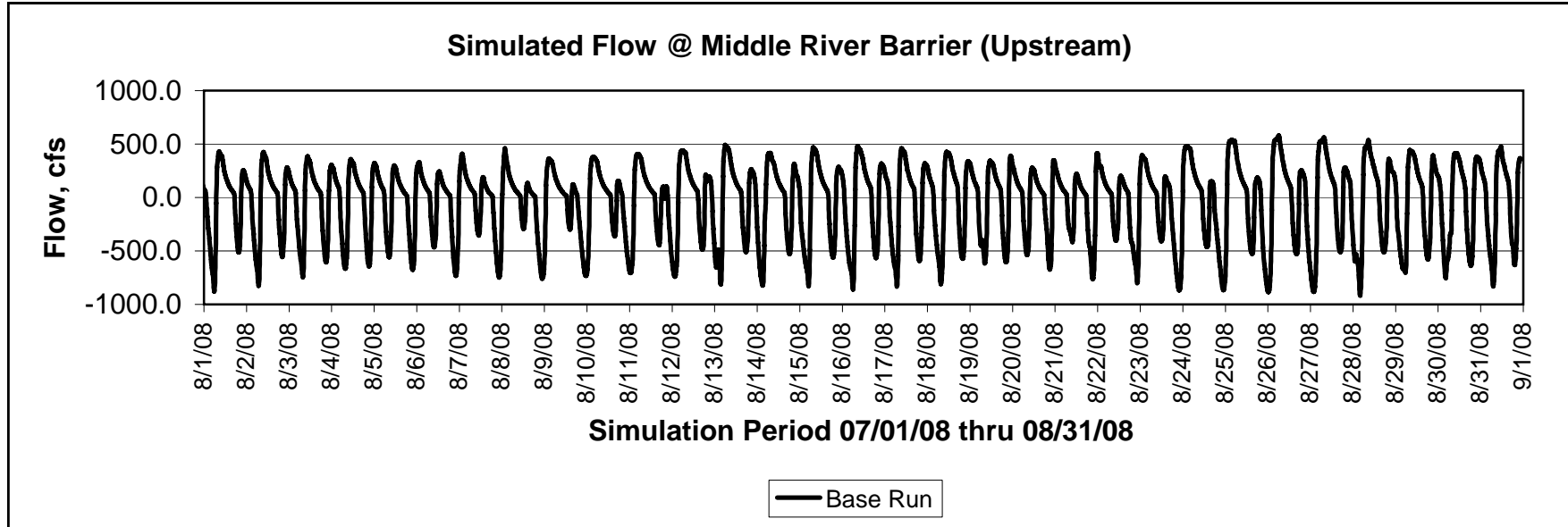
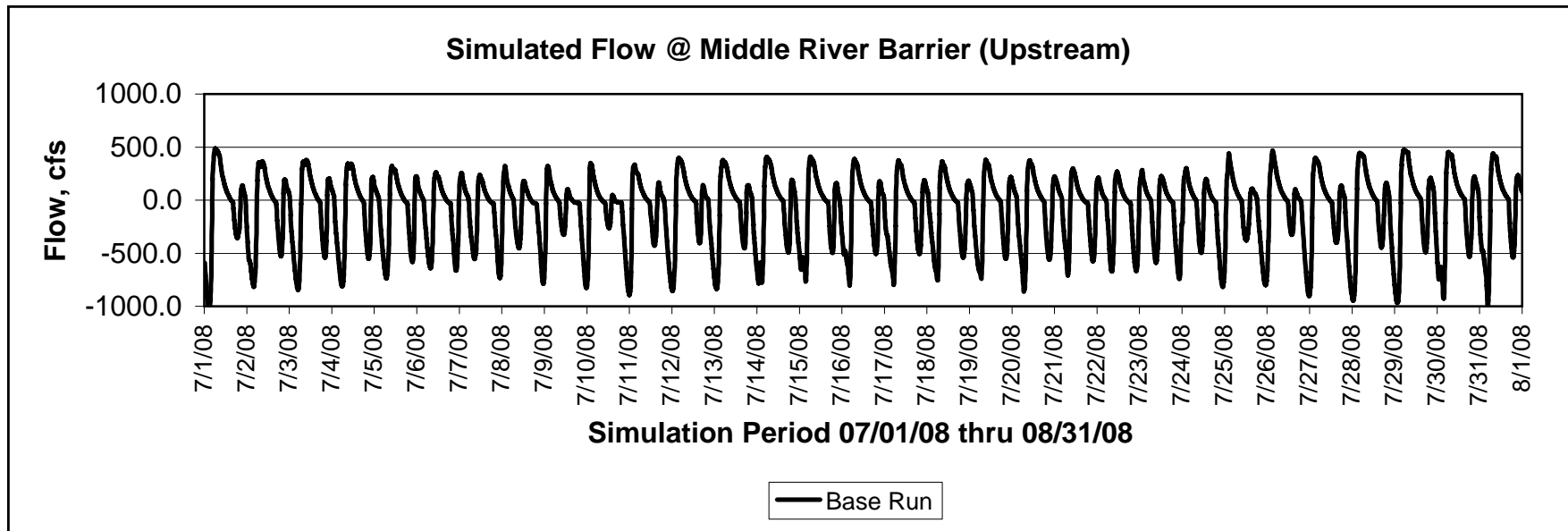


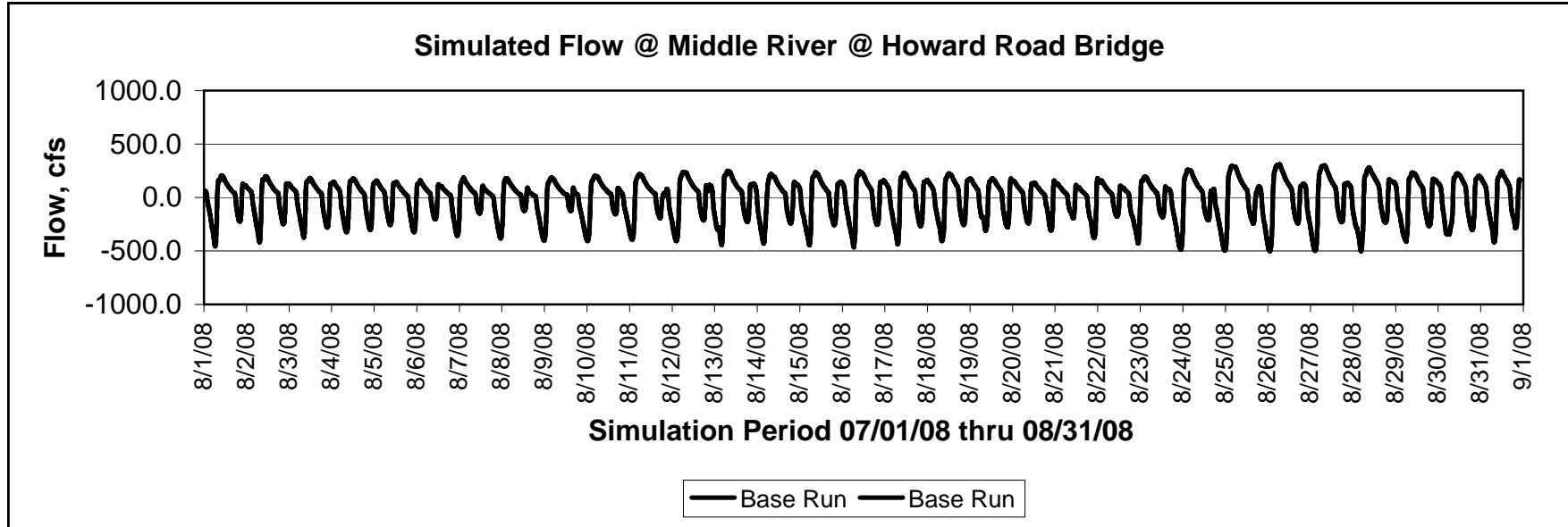
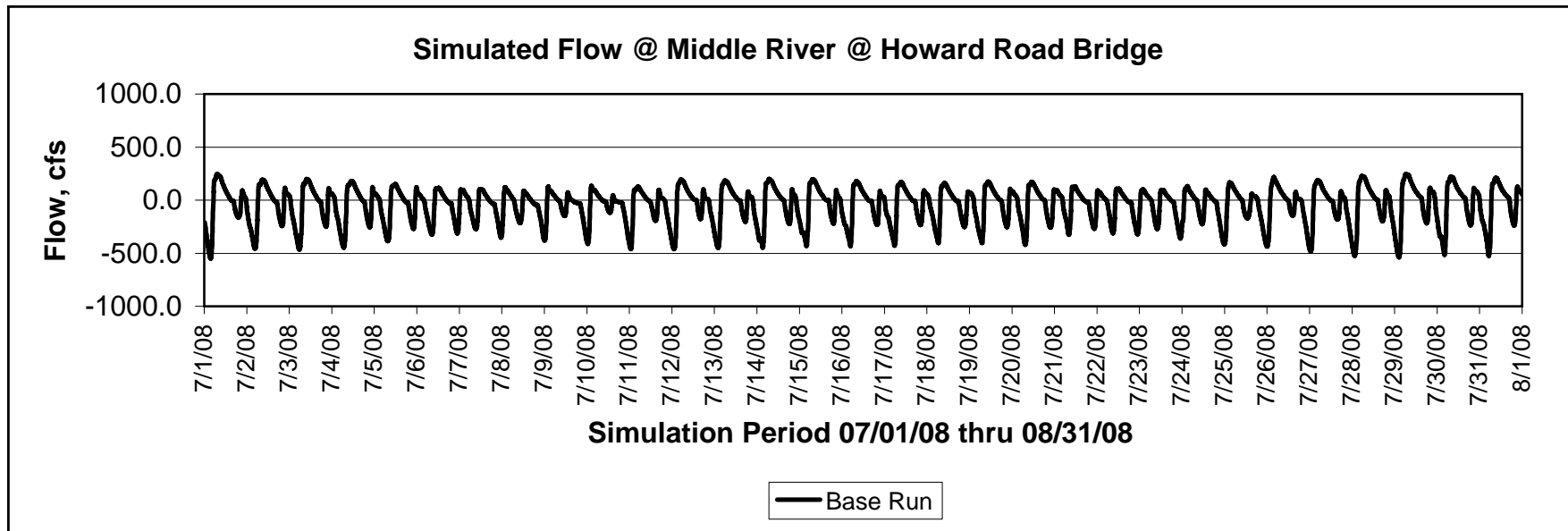


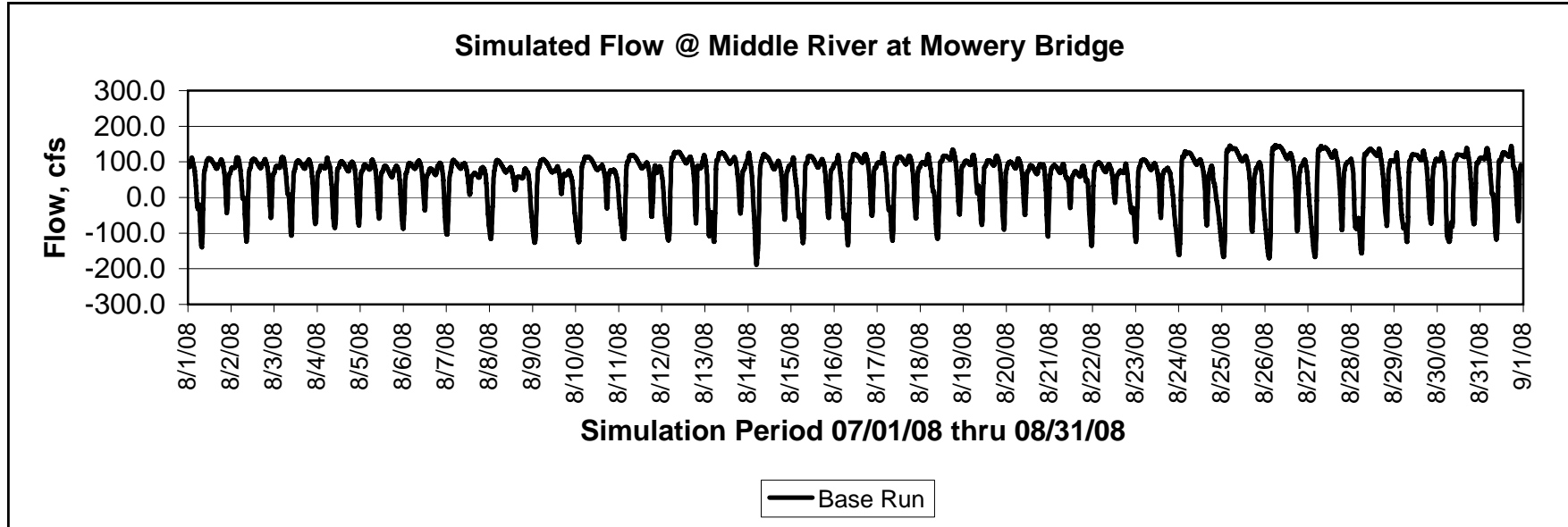
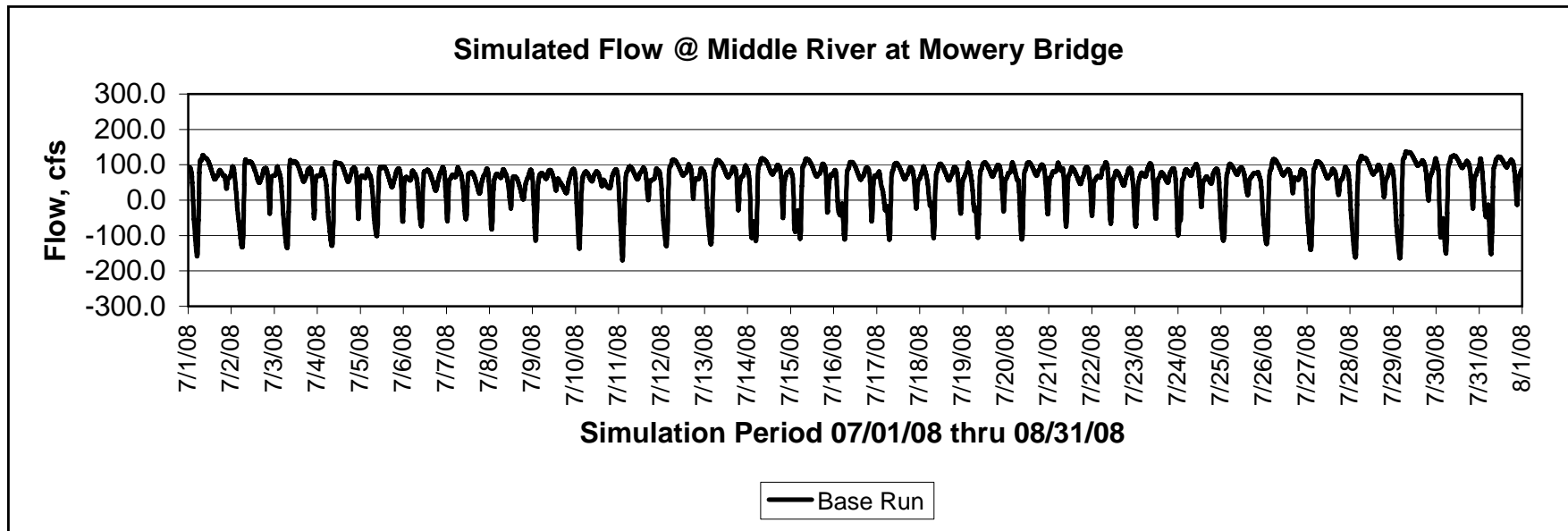


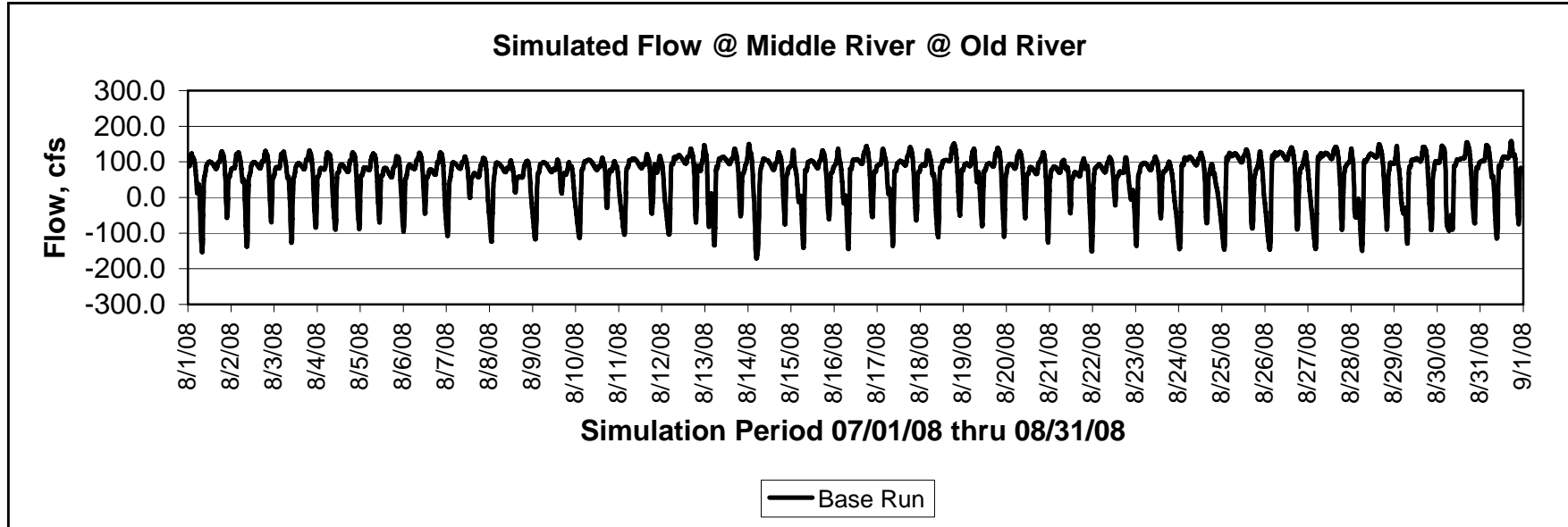
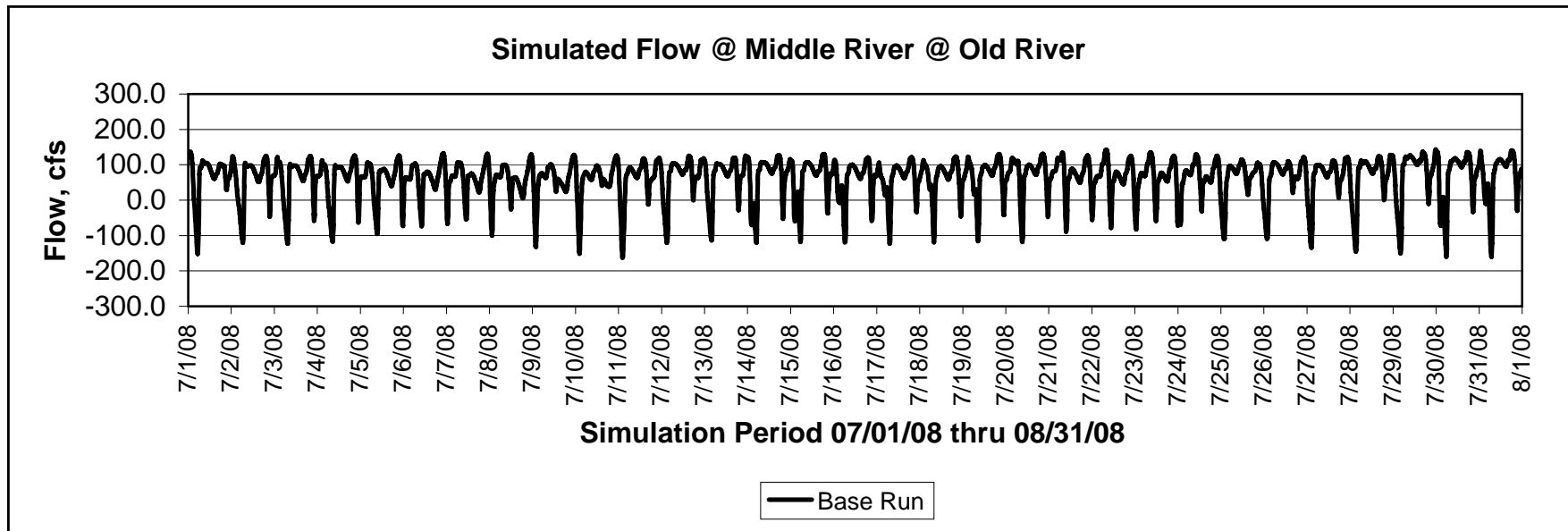




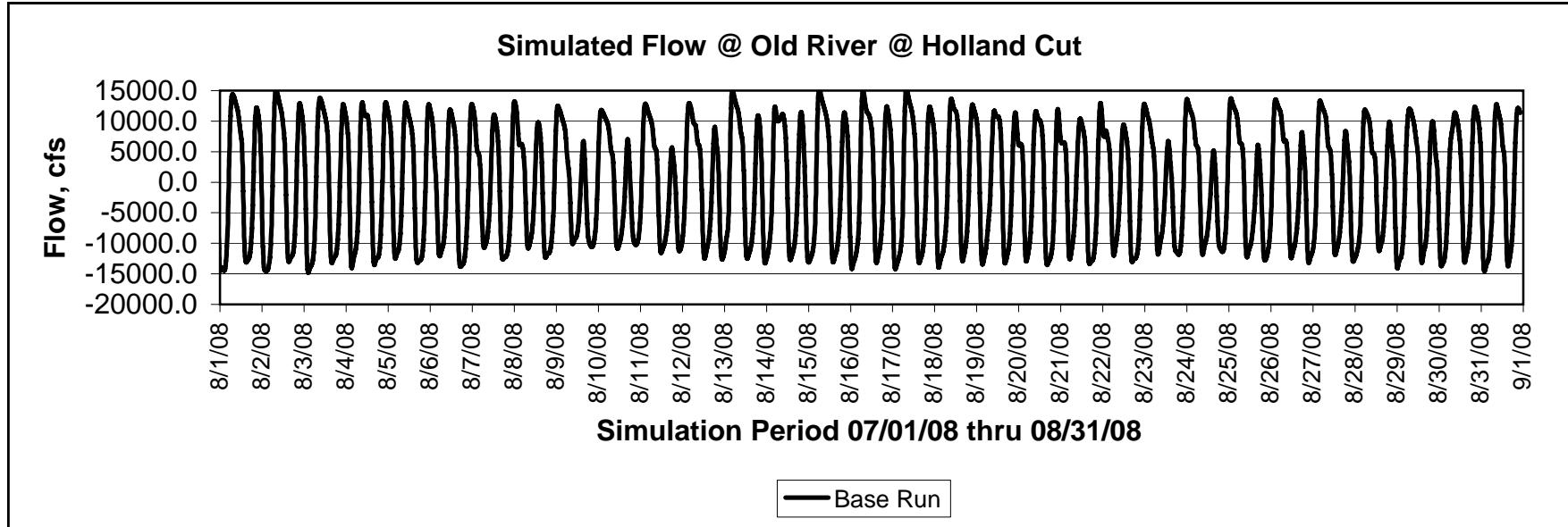
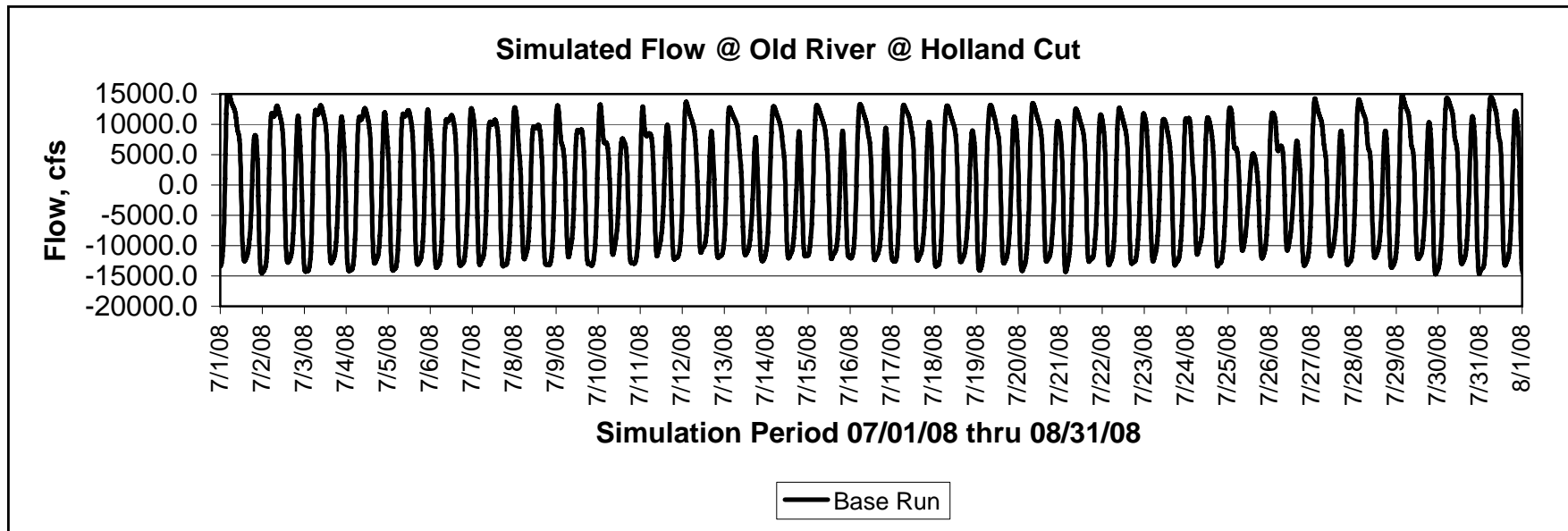


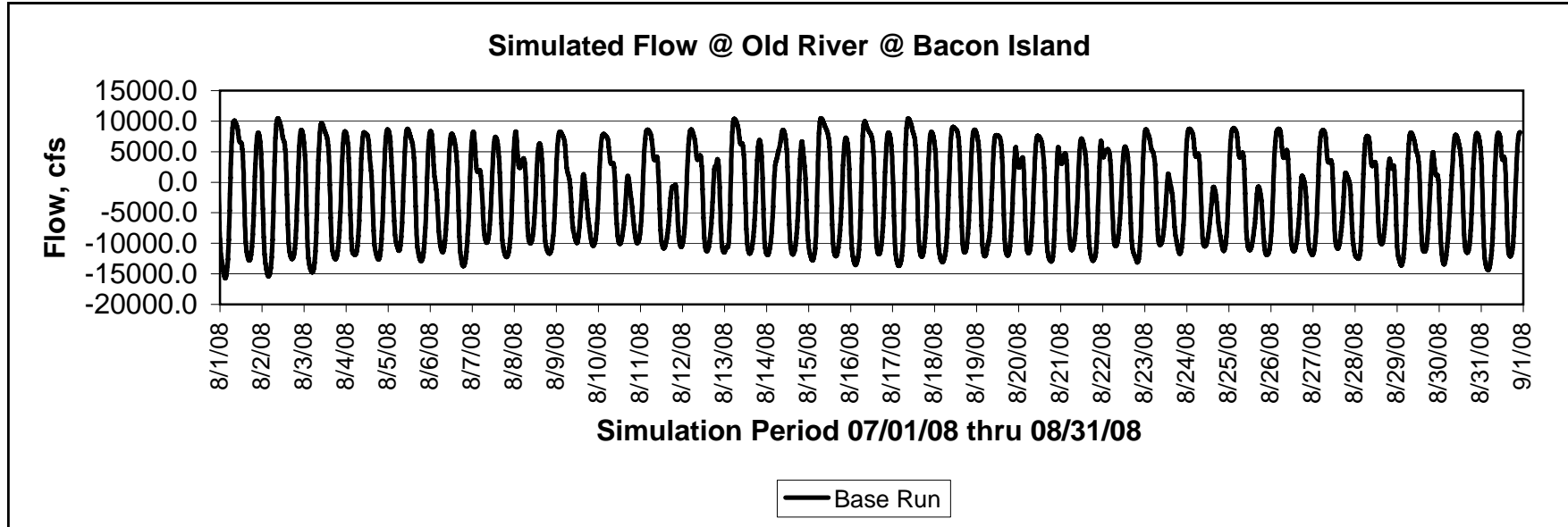
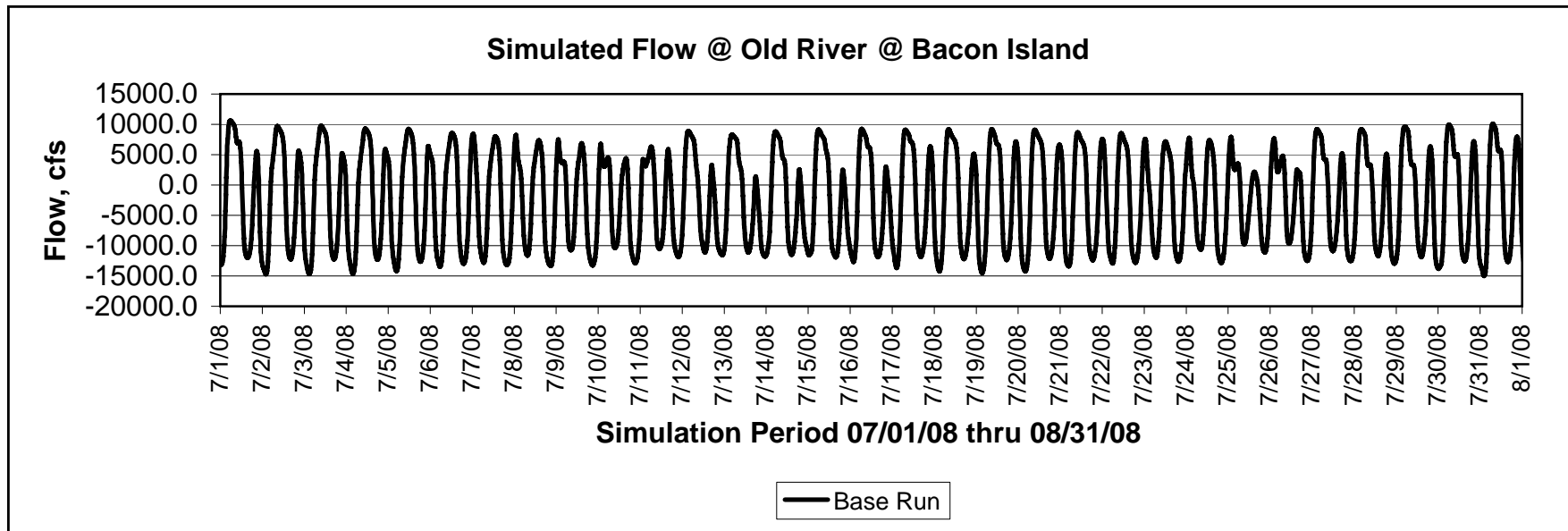


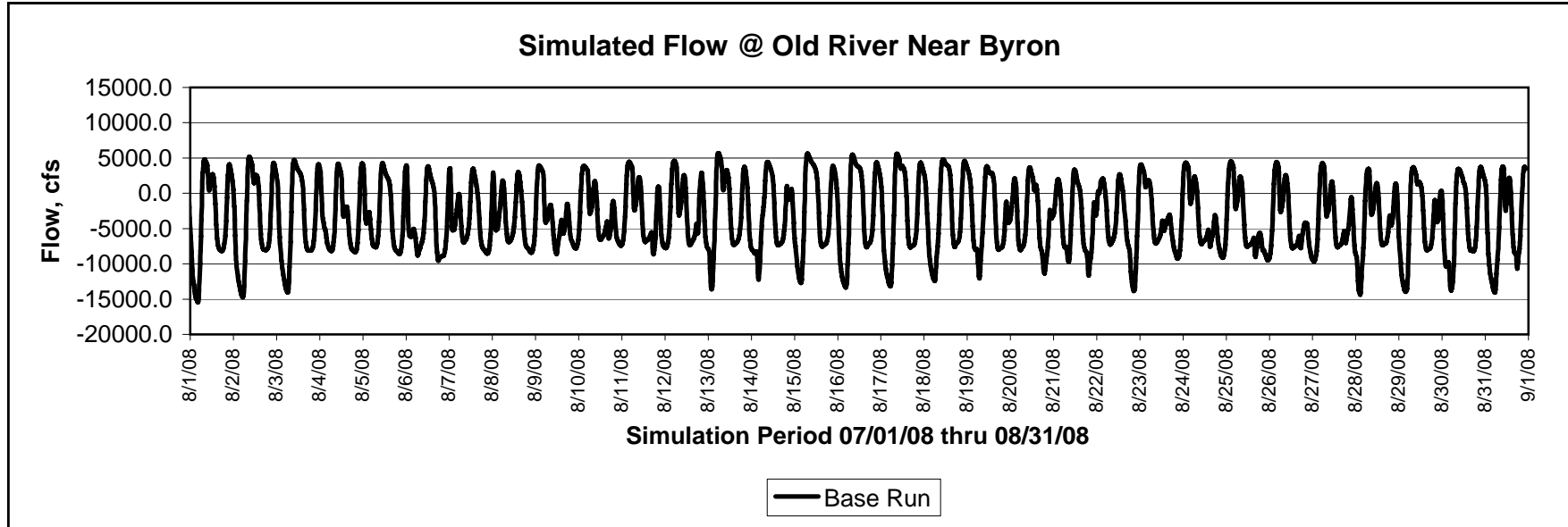
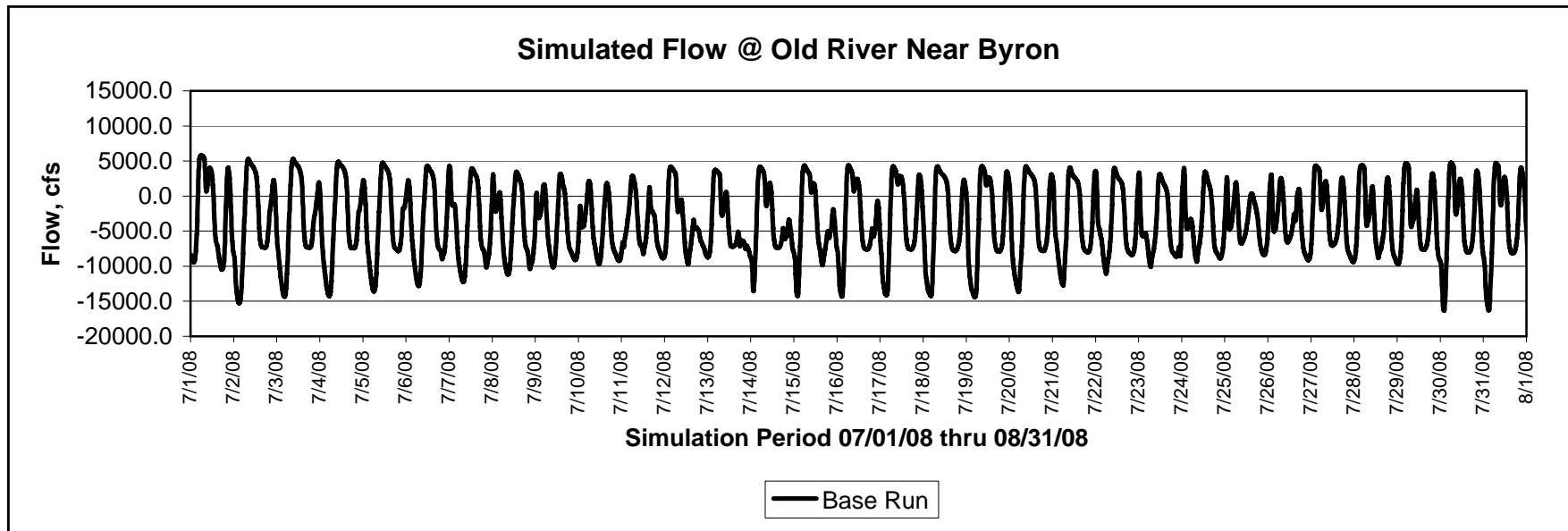


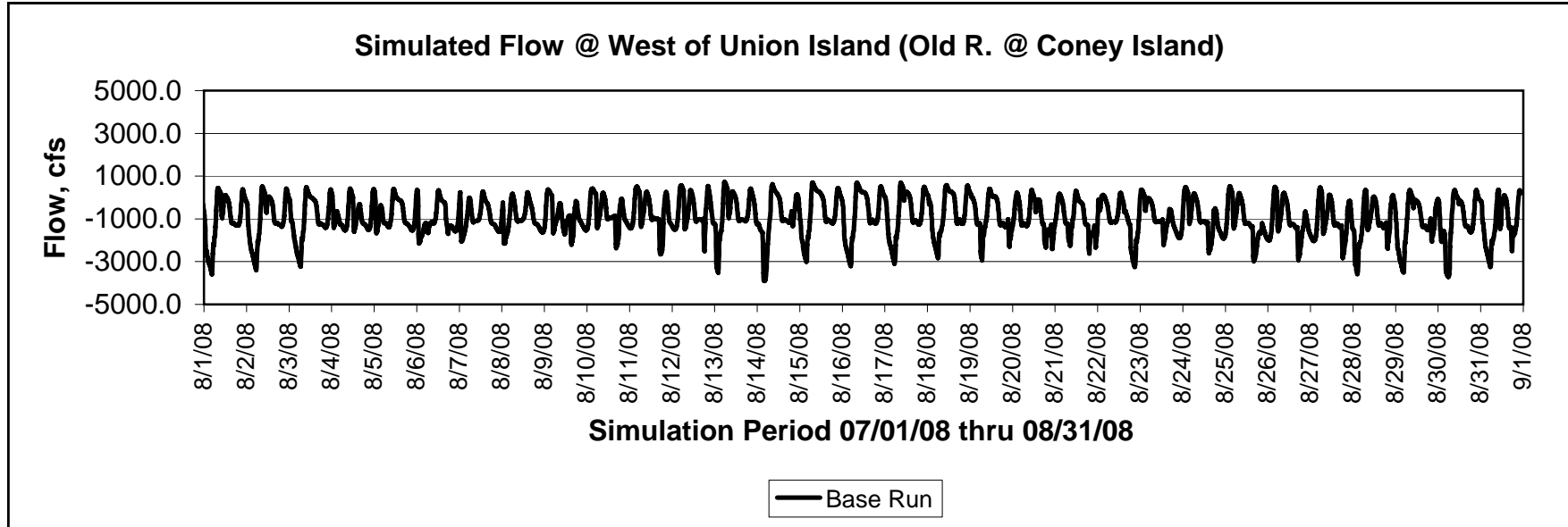
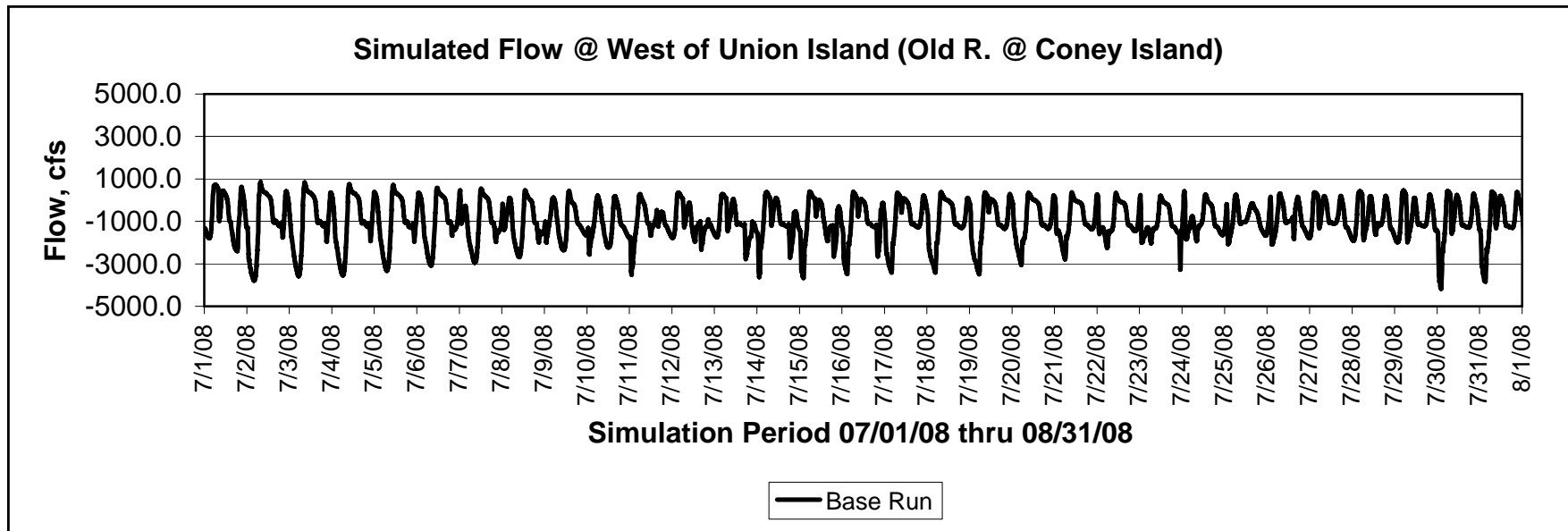


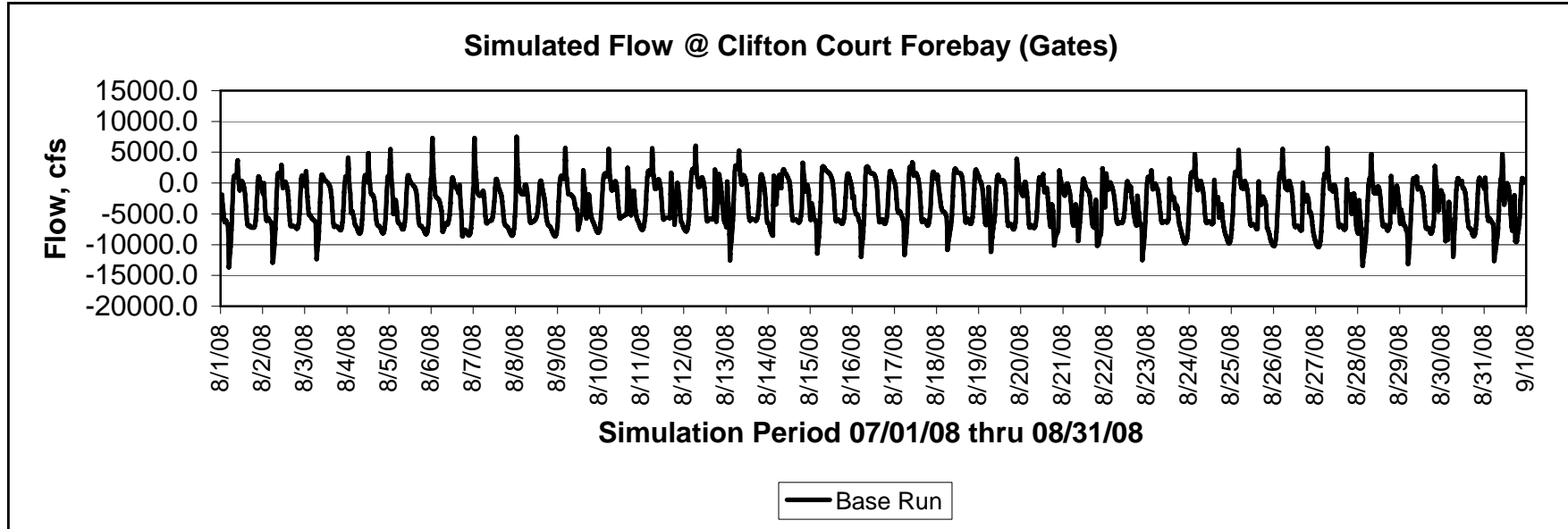
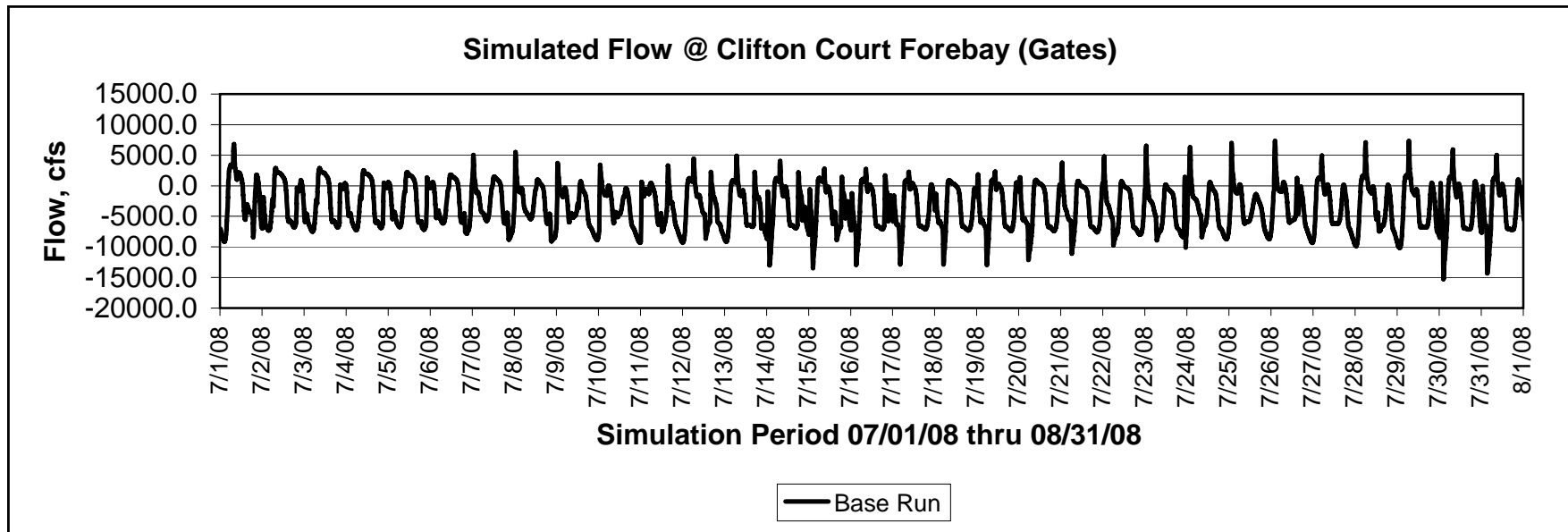
OLD RIVER - FLOW

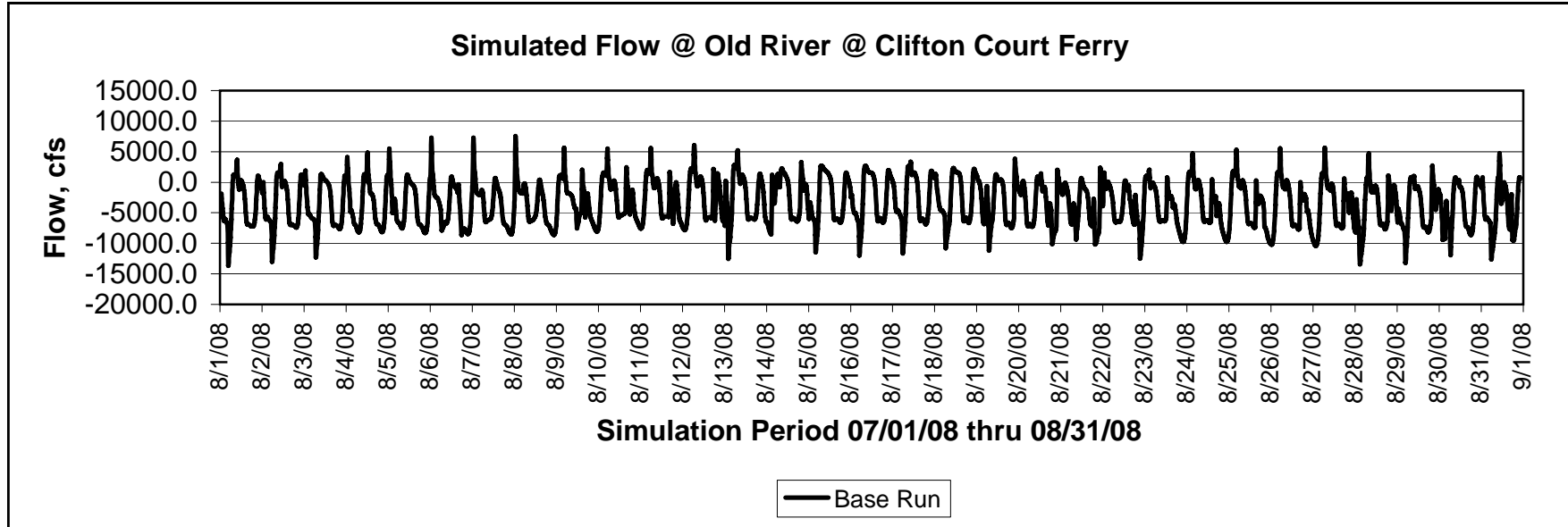
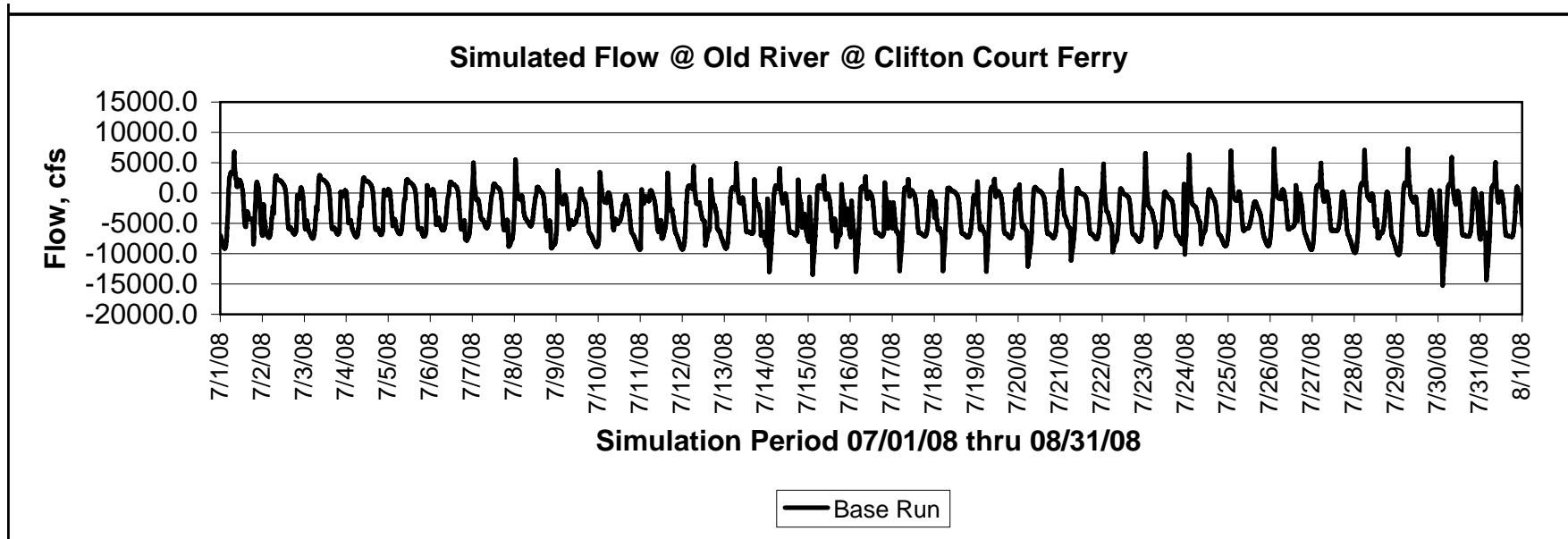


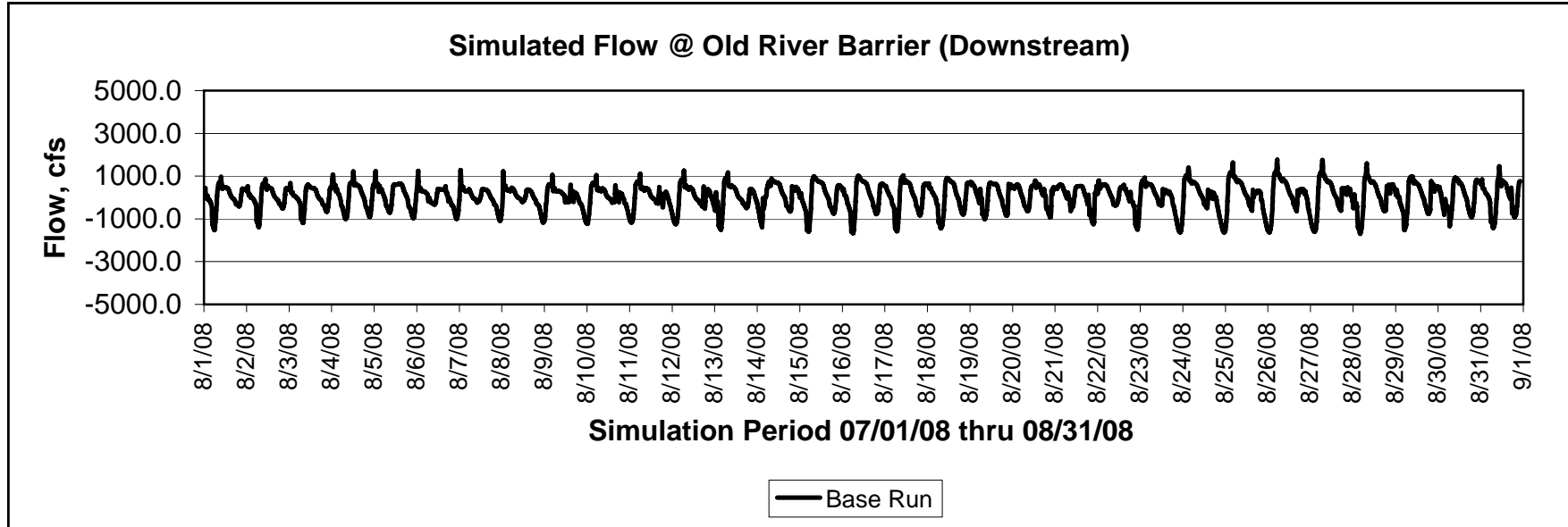
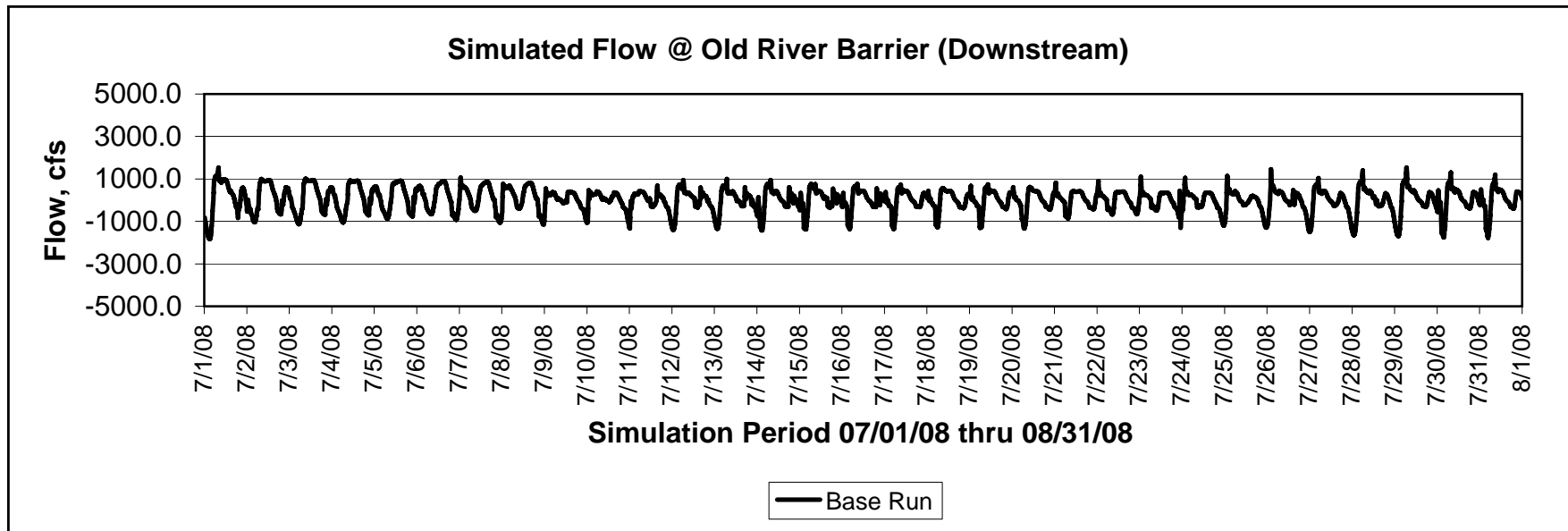


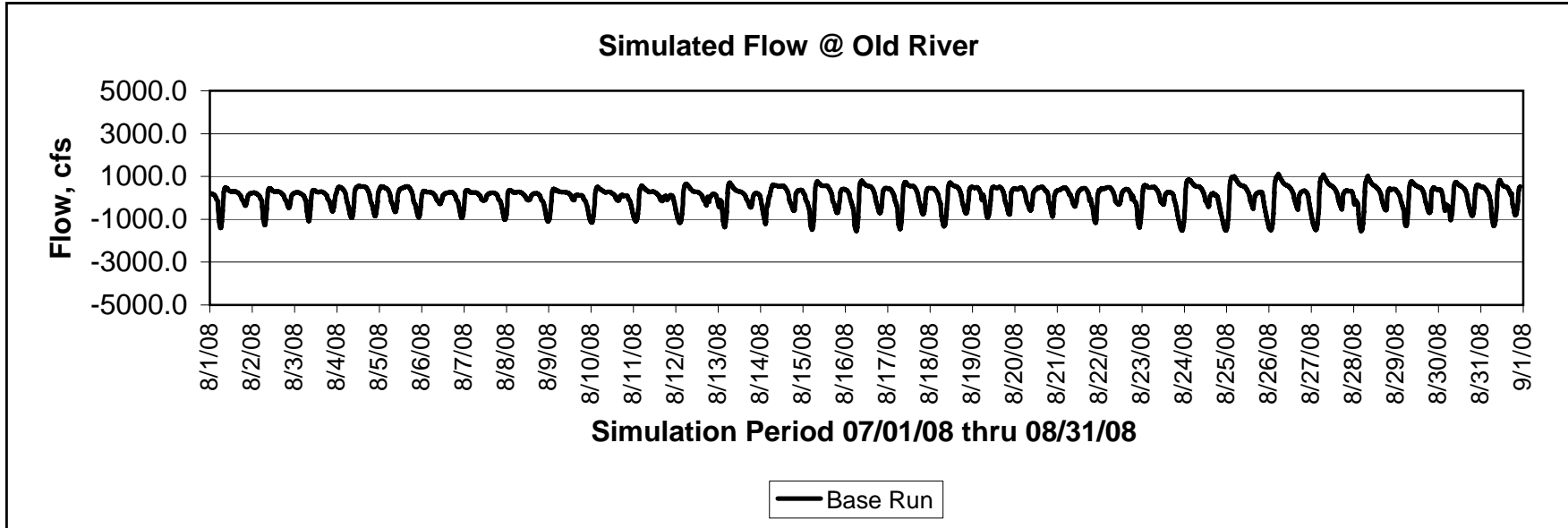
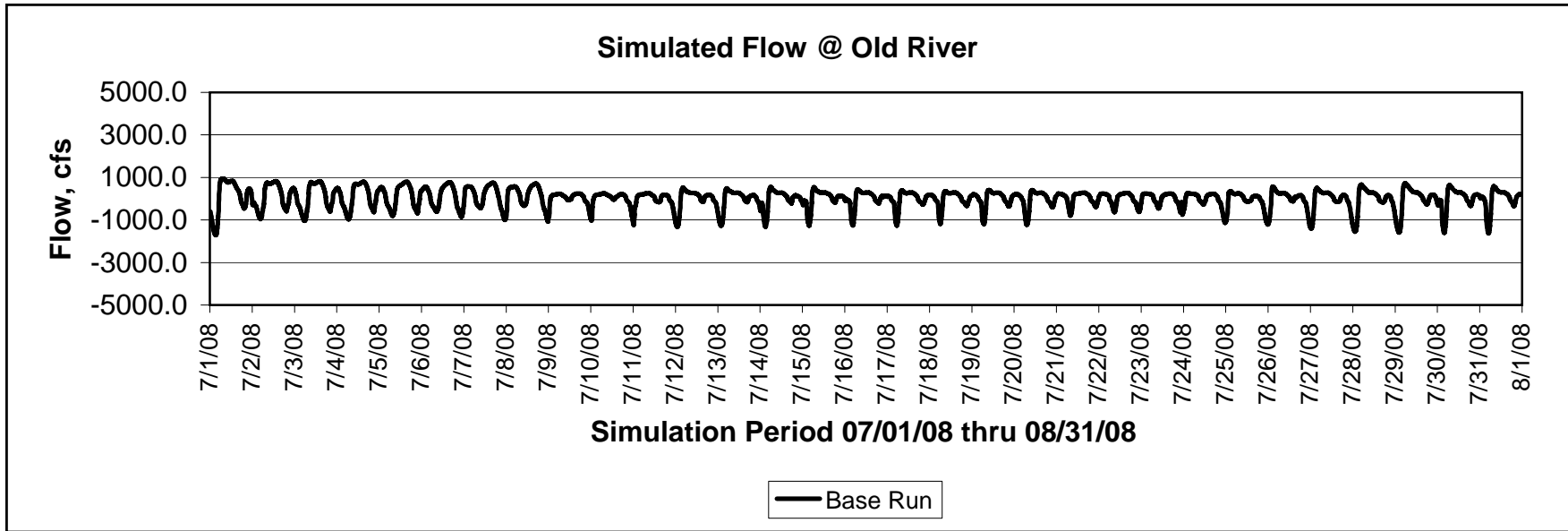


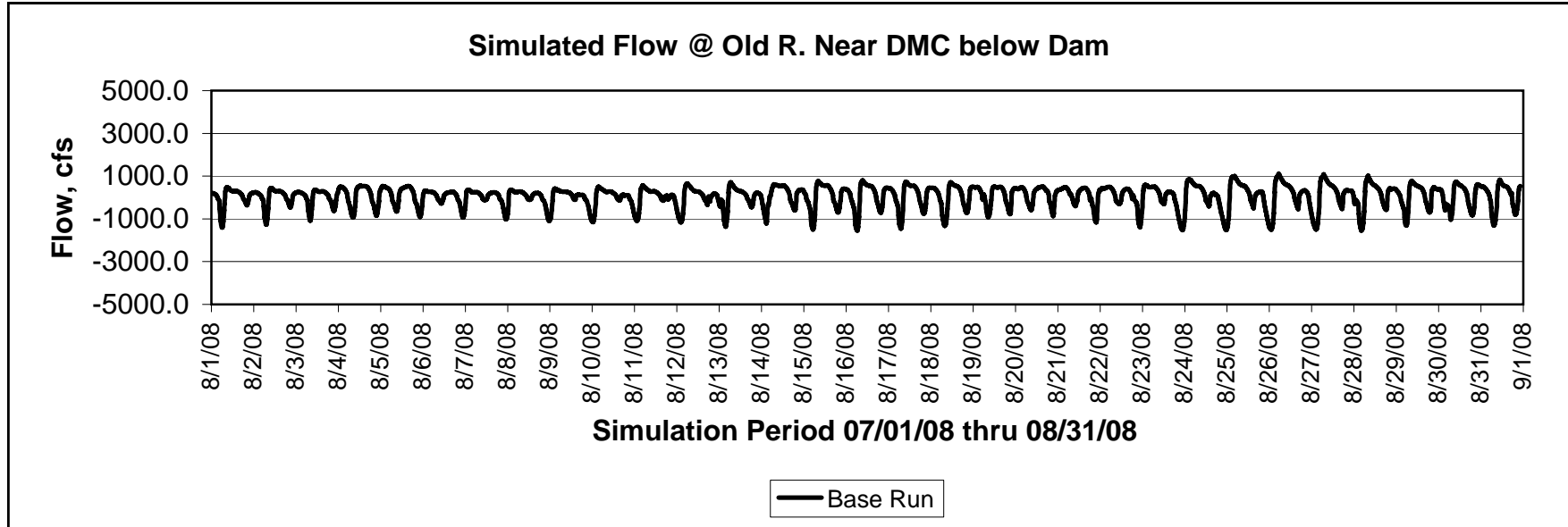
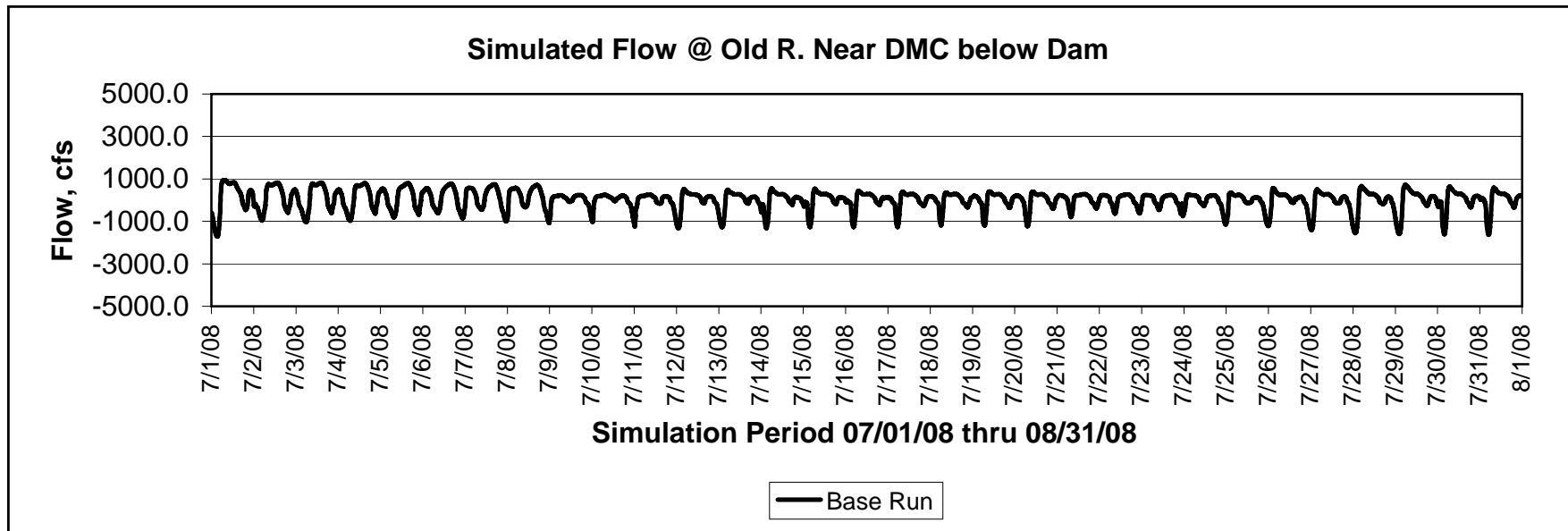


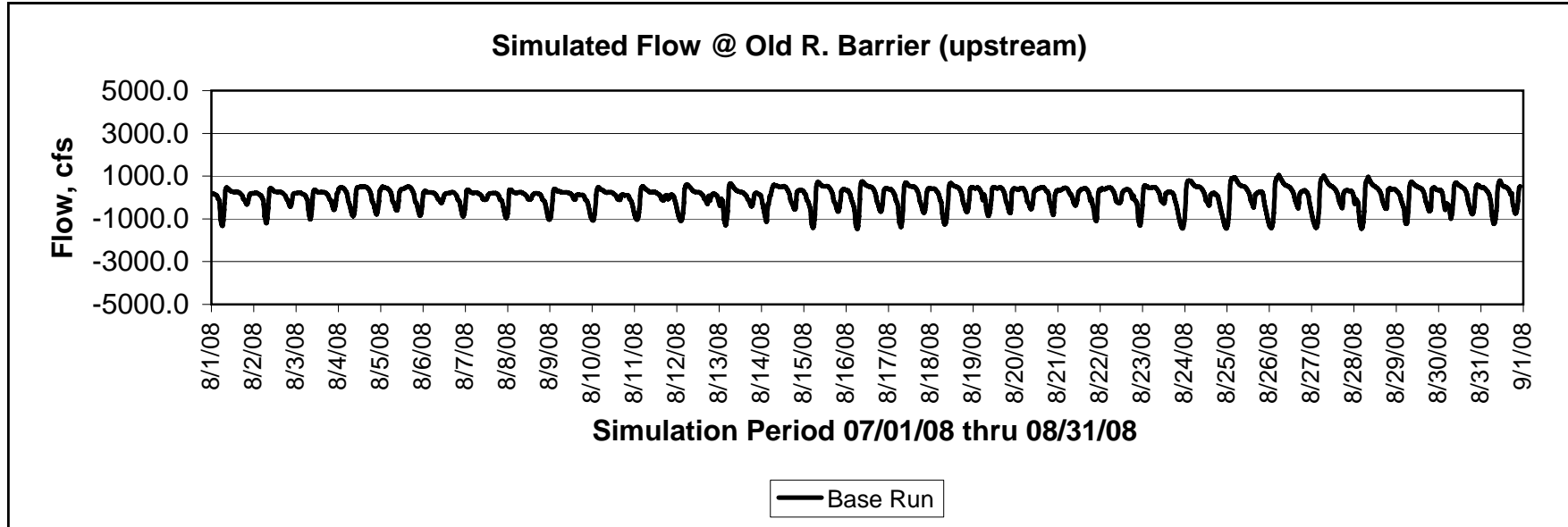
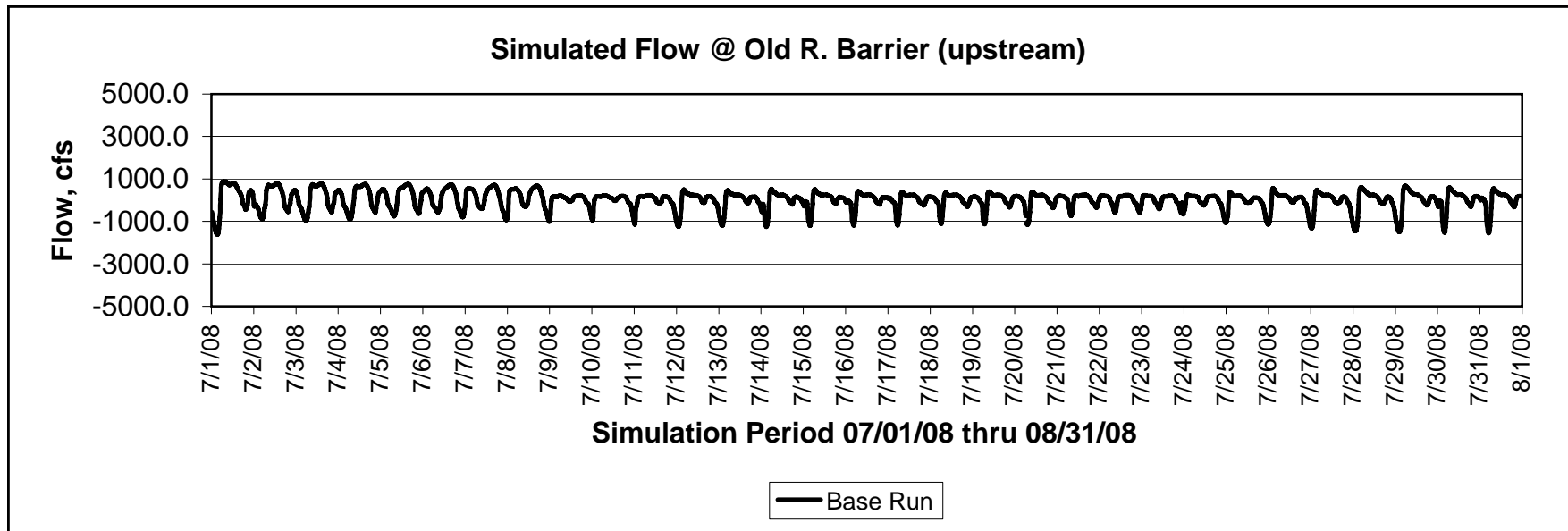


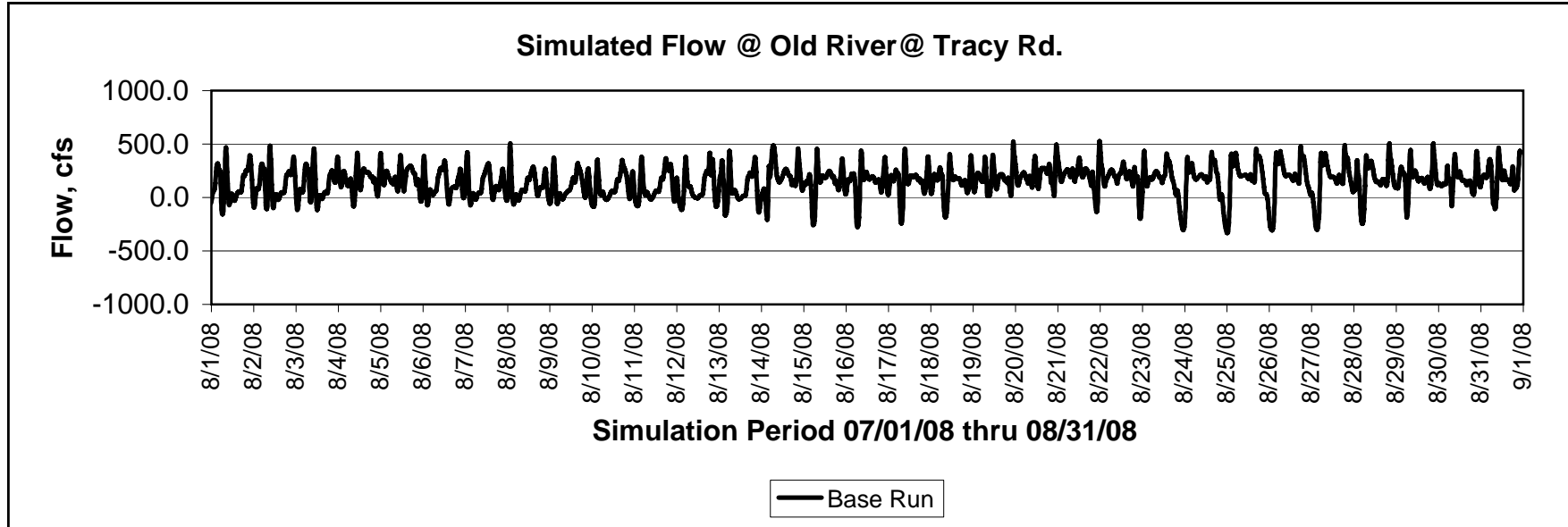
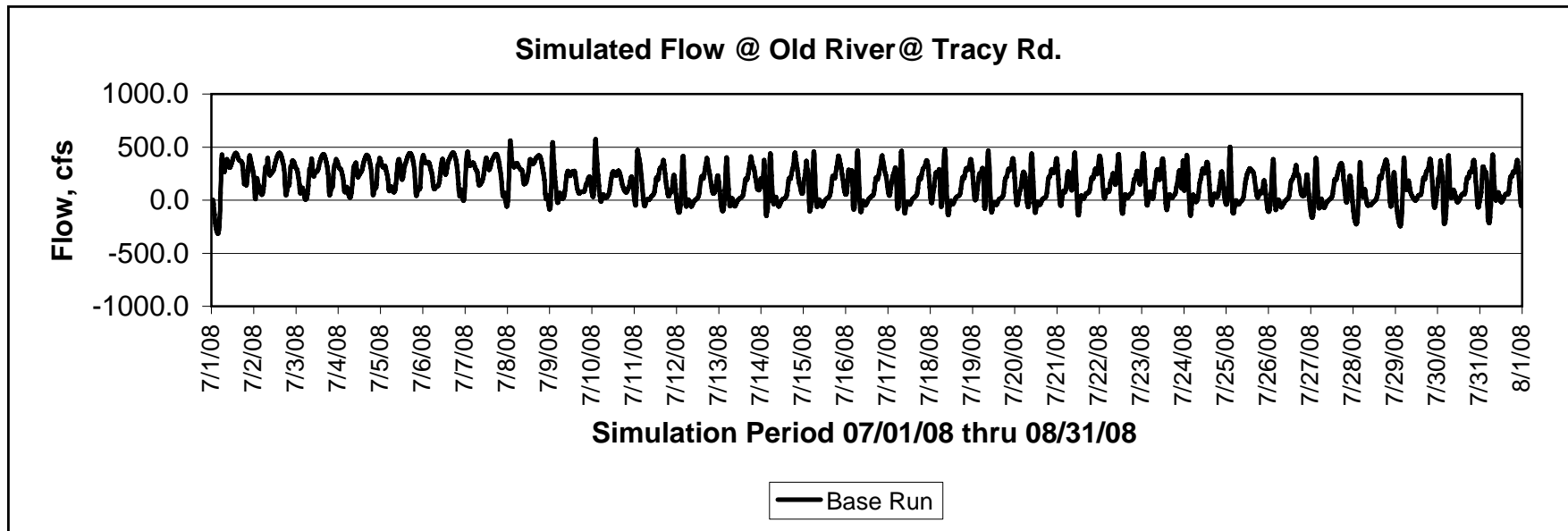


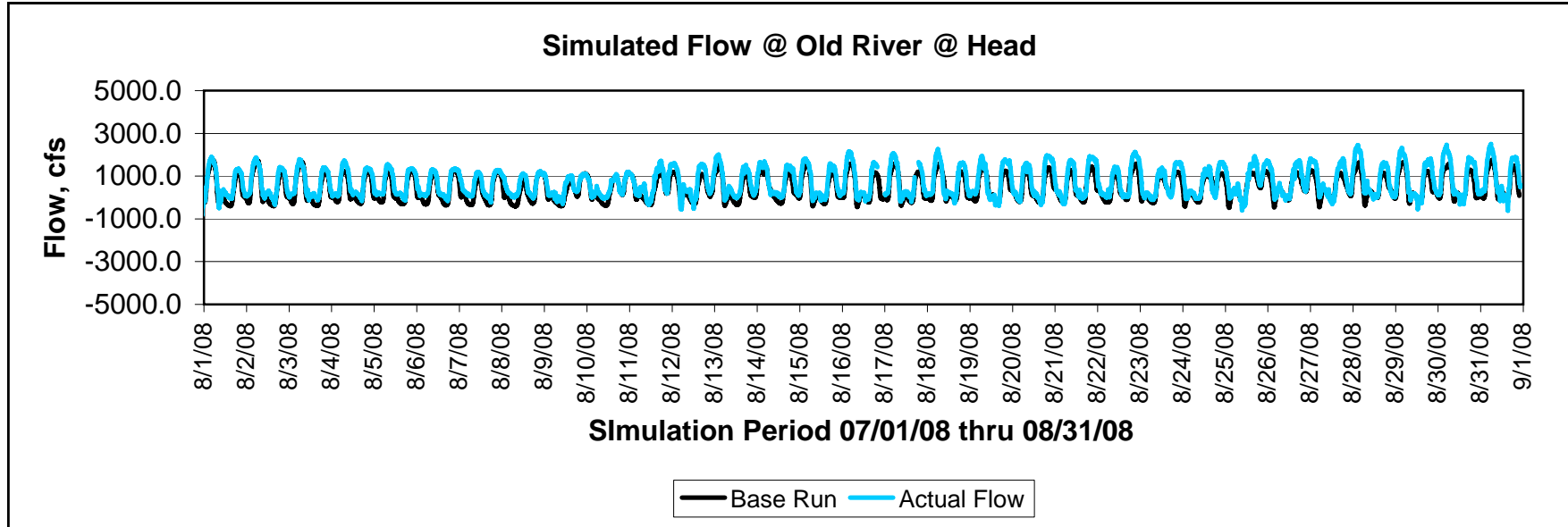
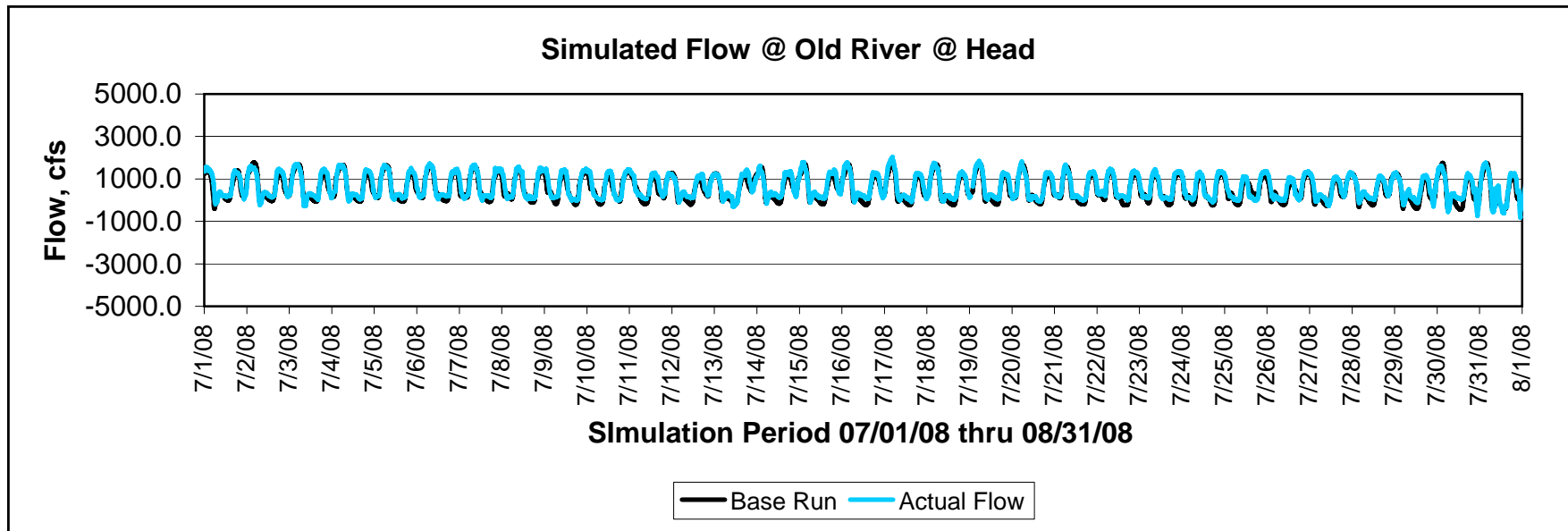




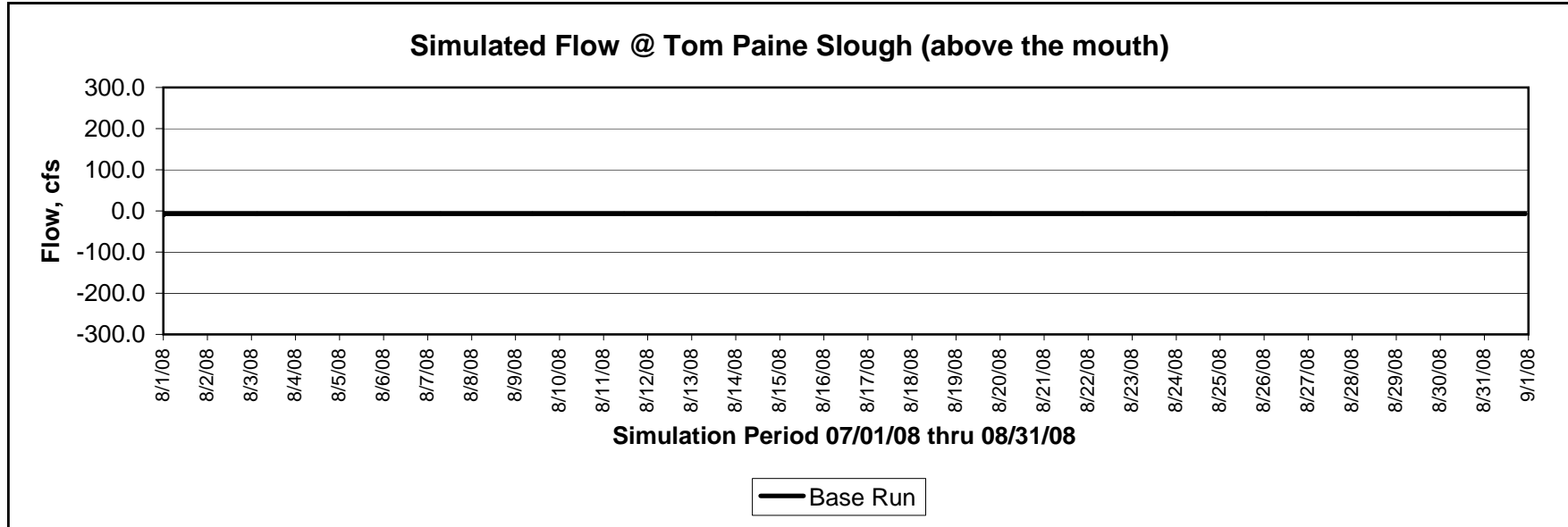
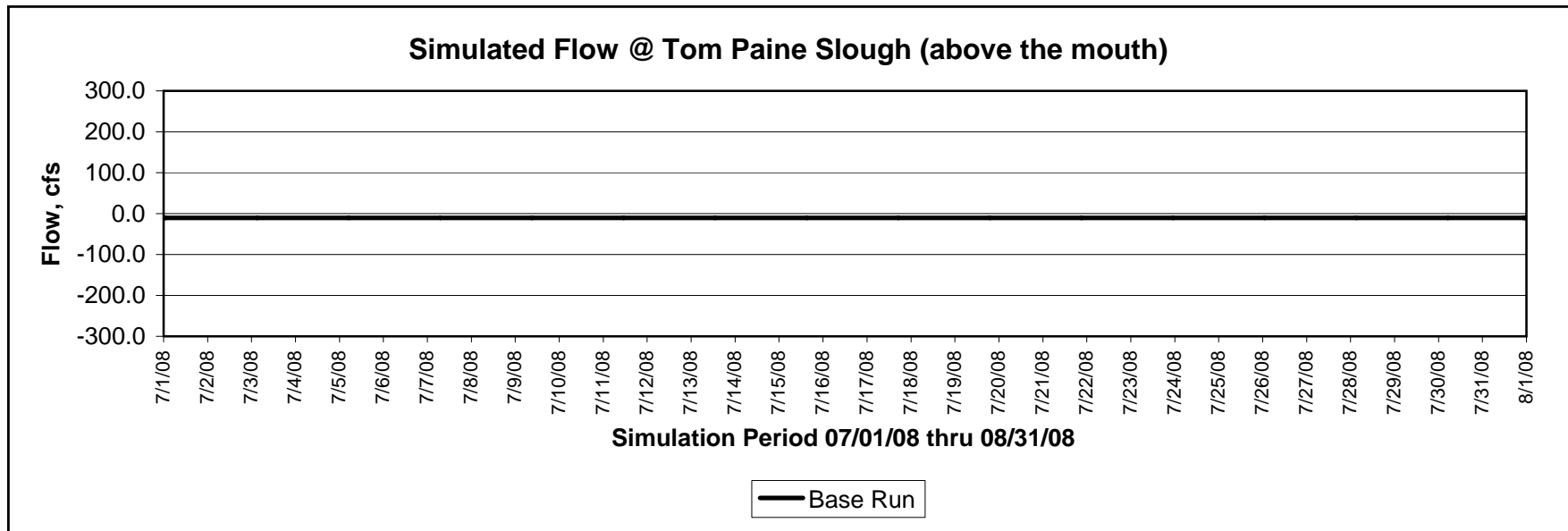


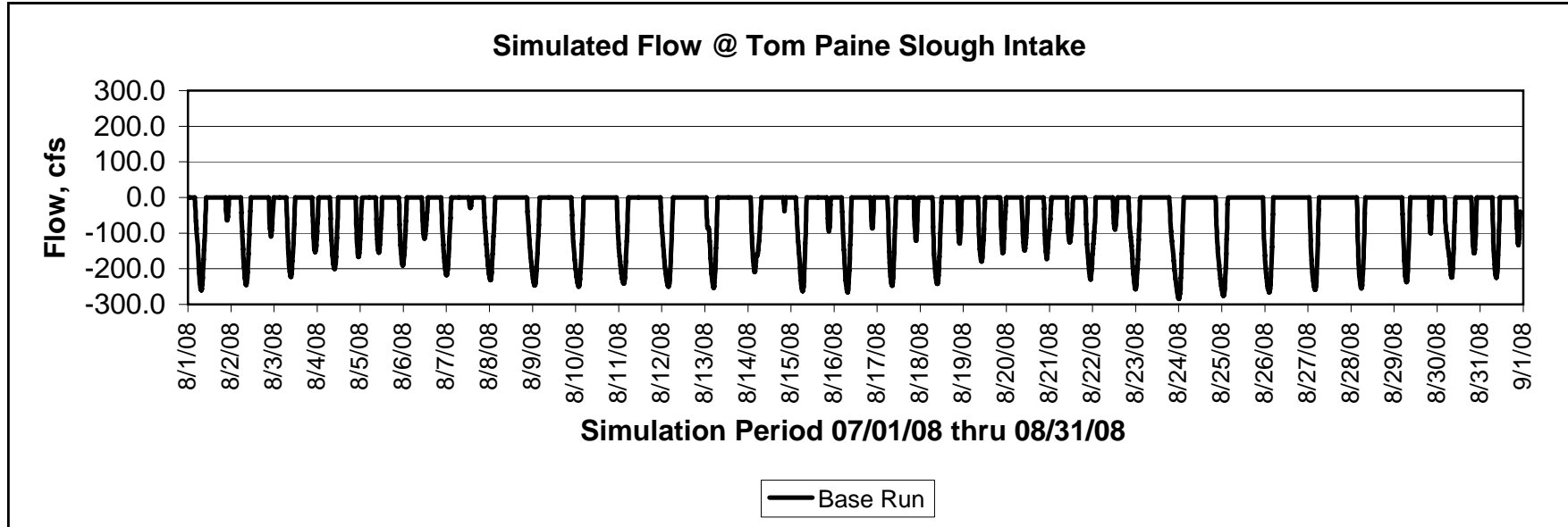
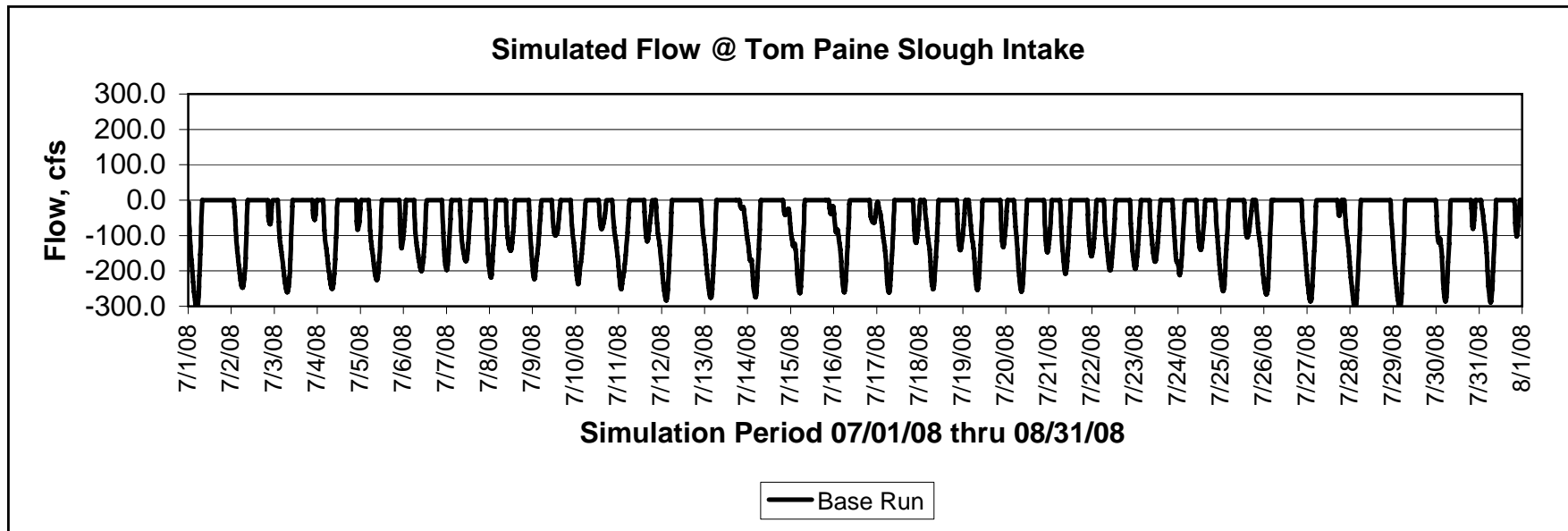




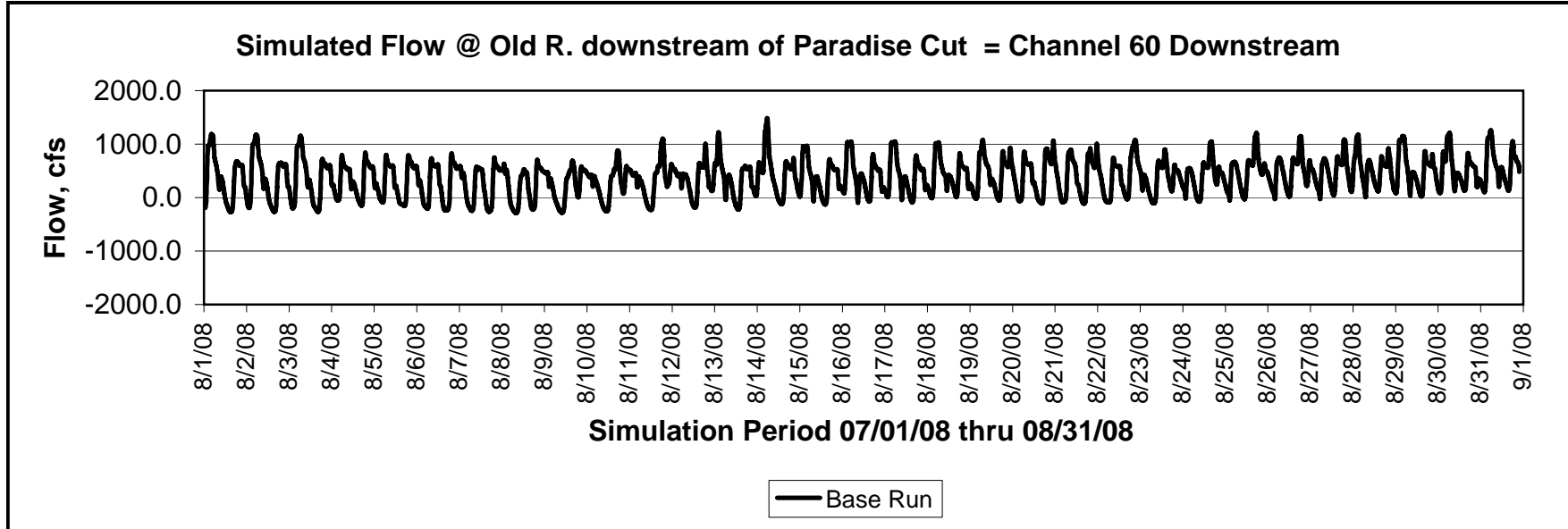
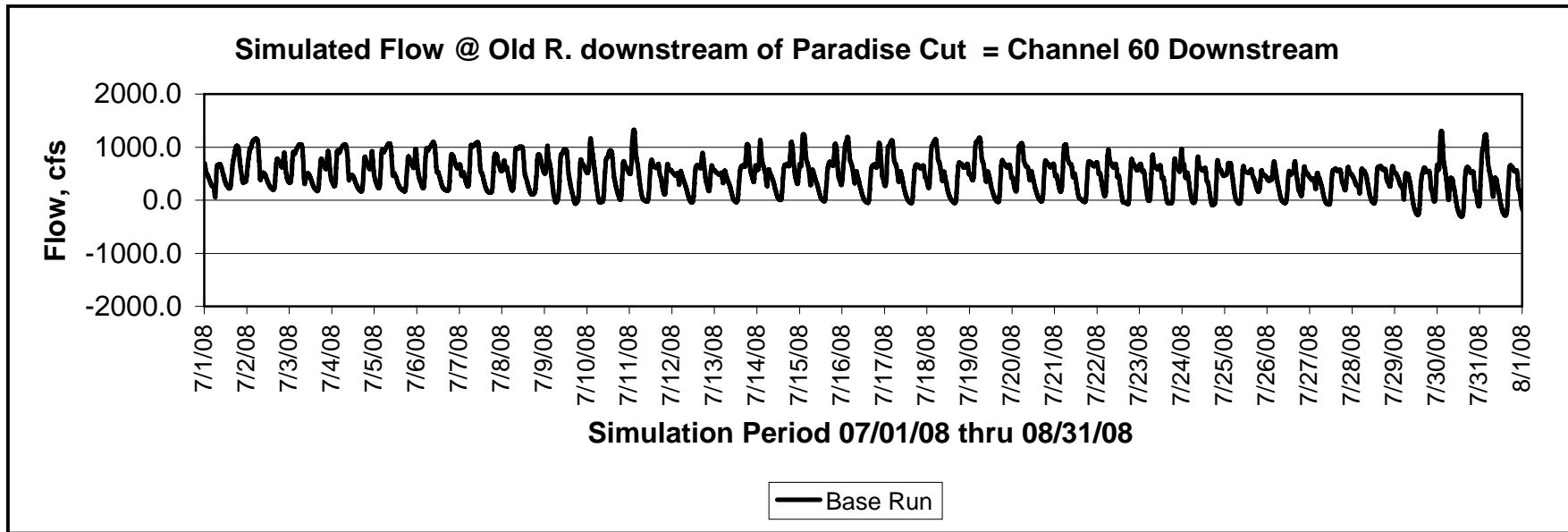


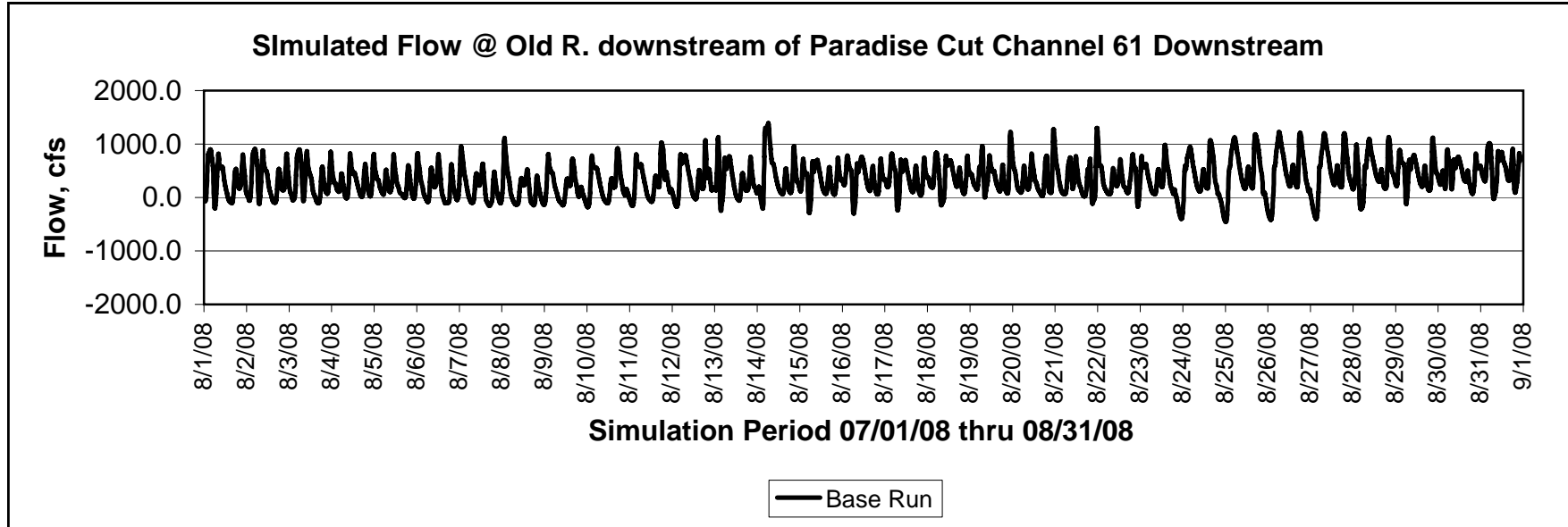
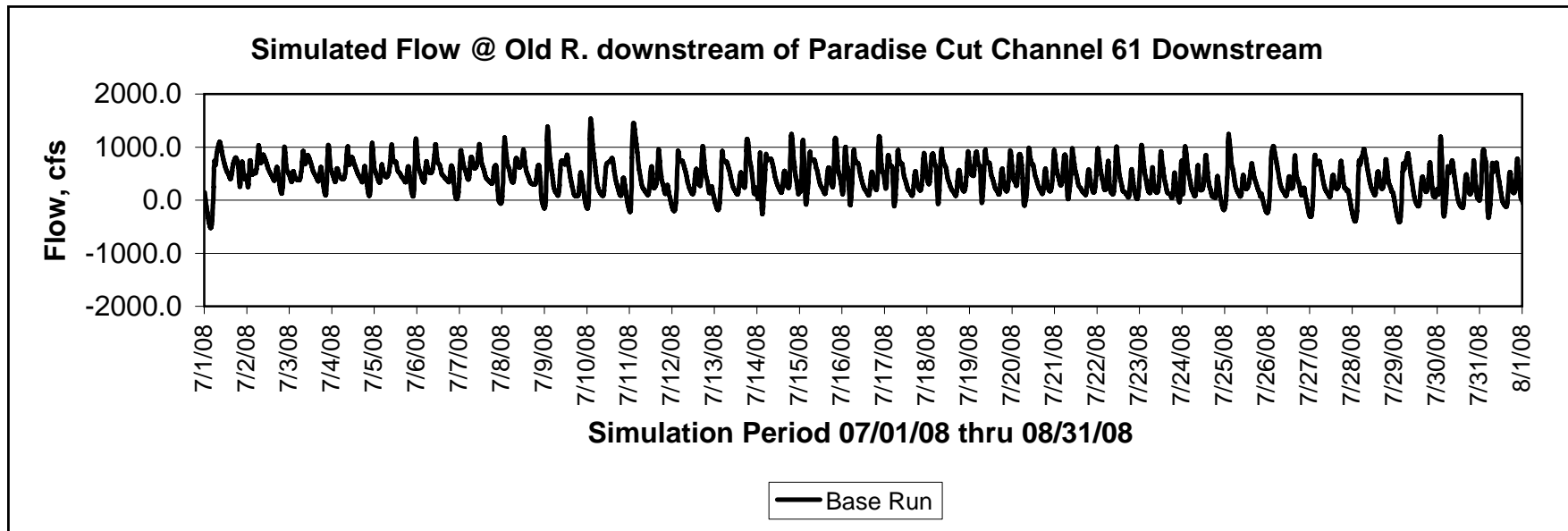
TOM PAINE SLOUGH - FLOW

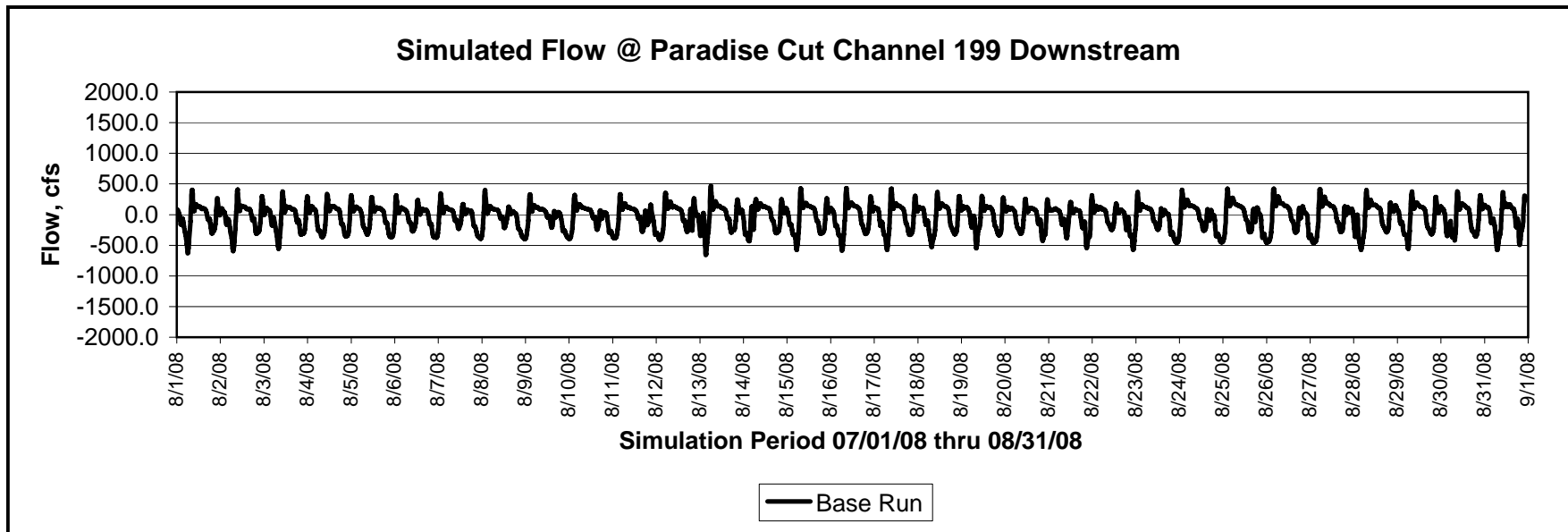
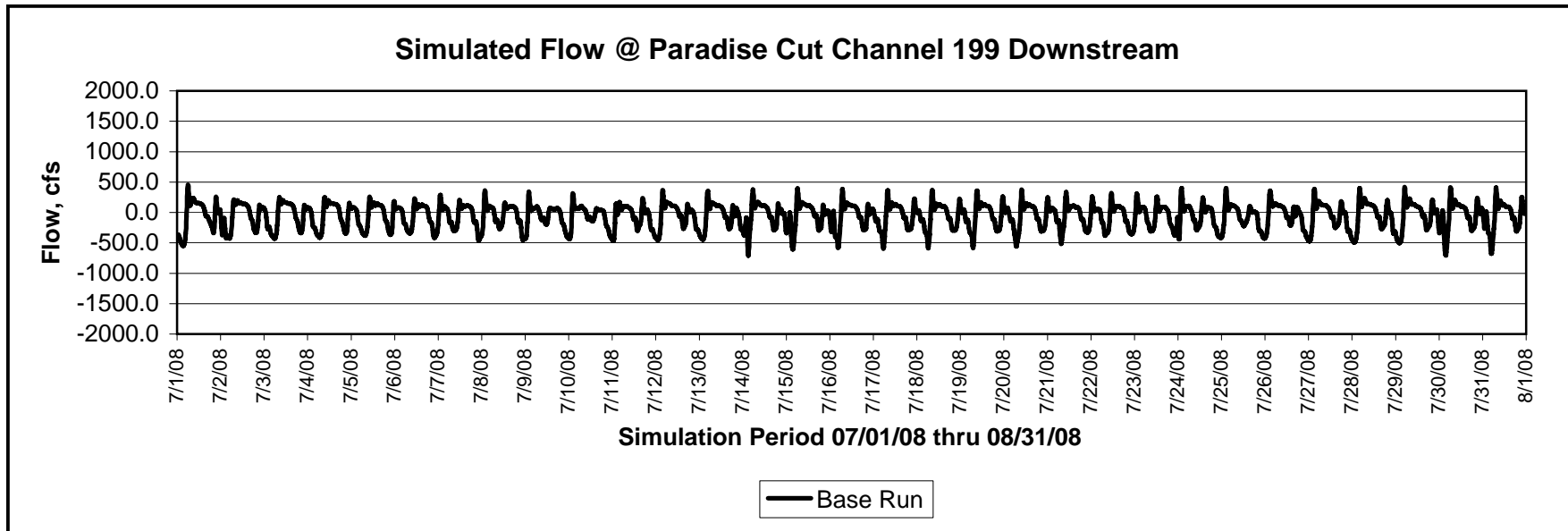


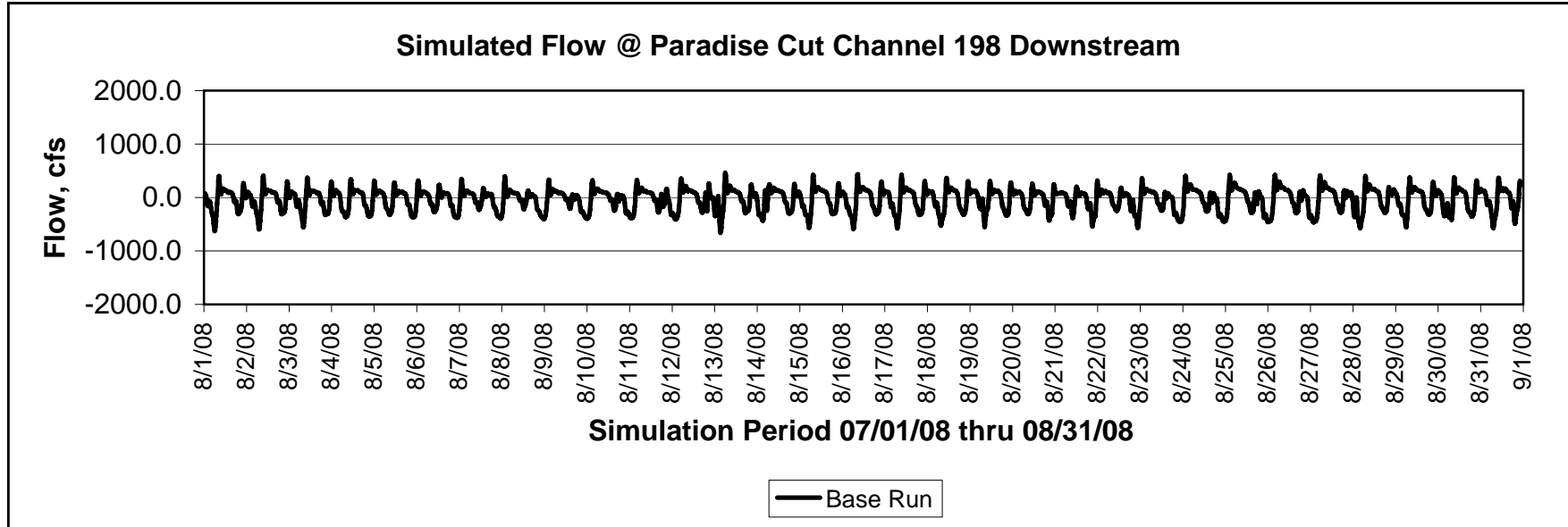
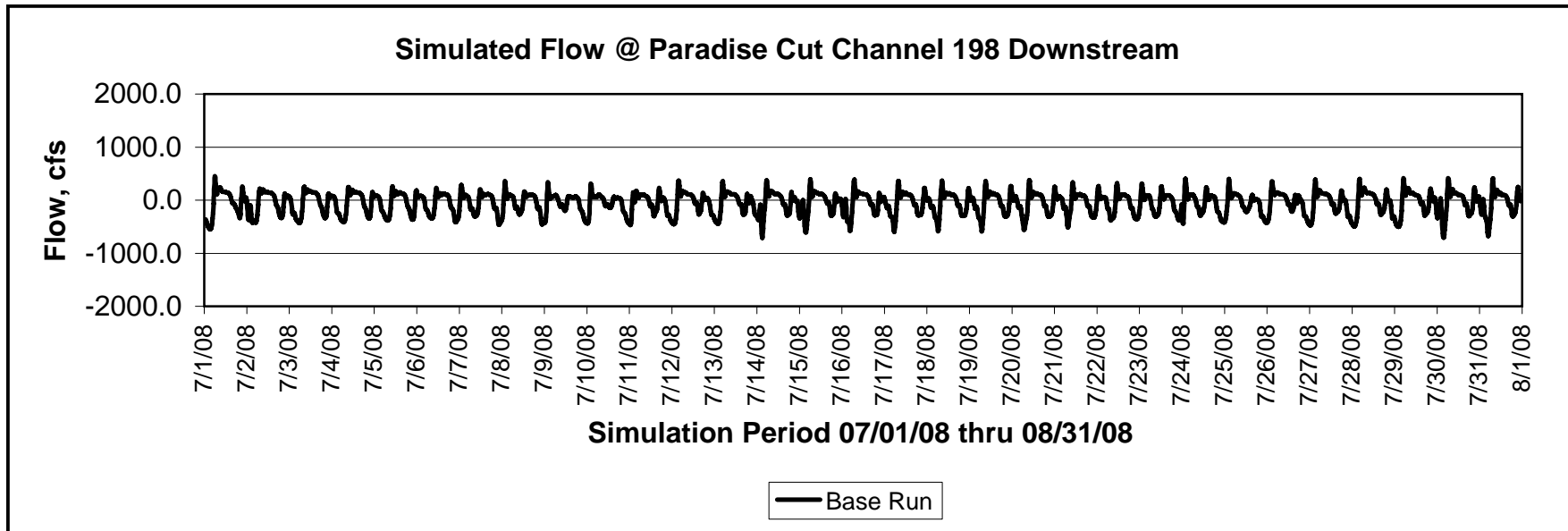


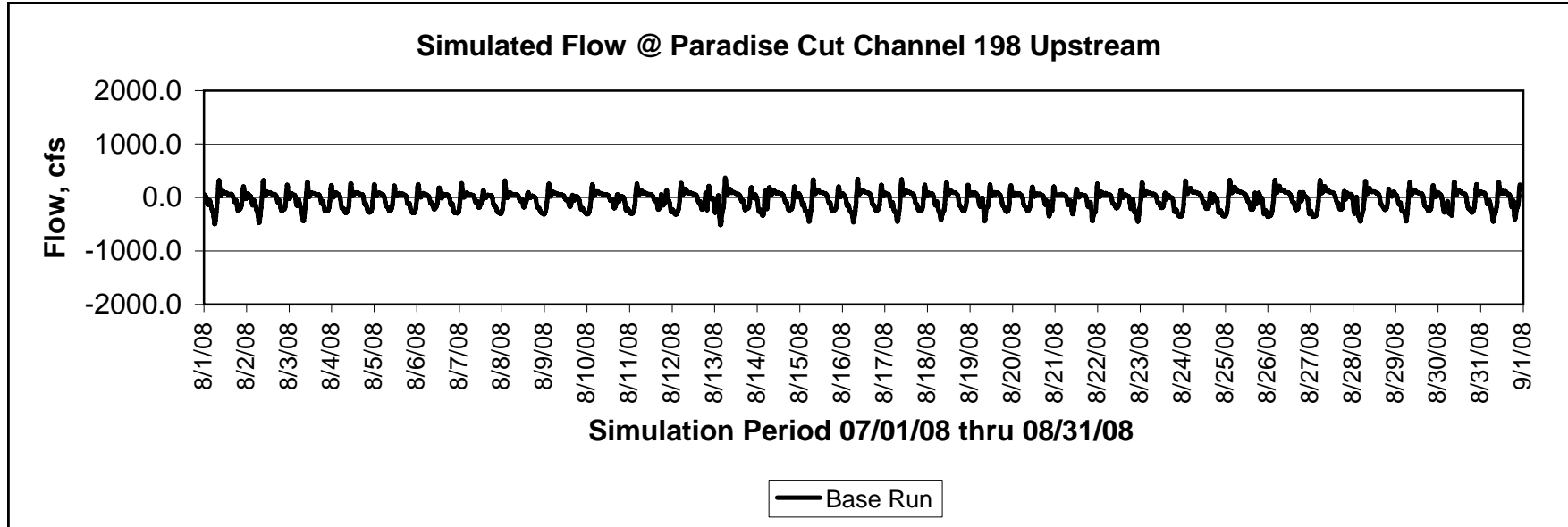
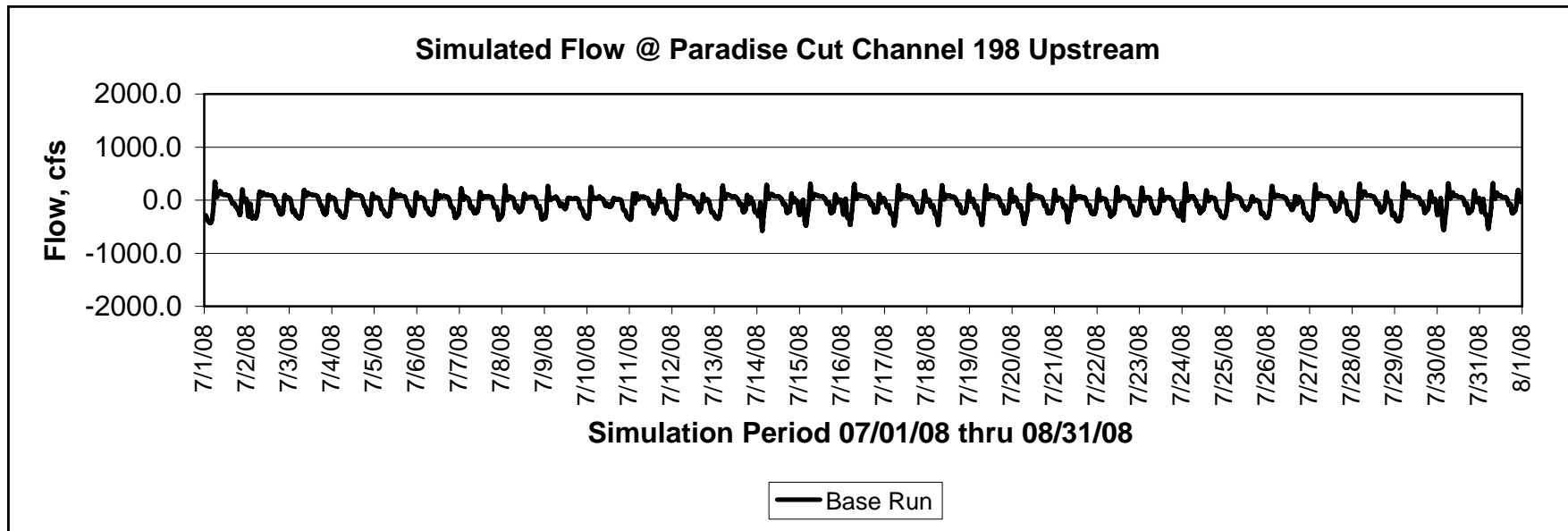
PARADISE CUT- FLOW

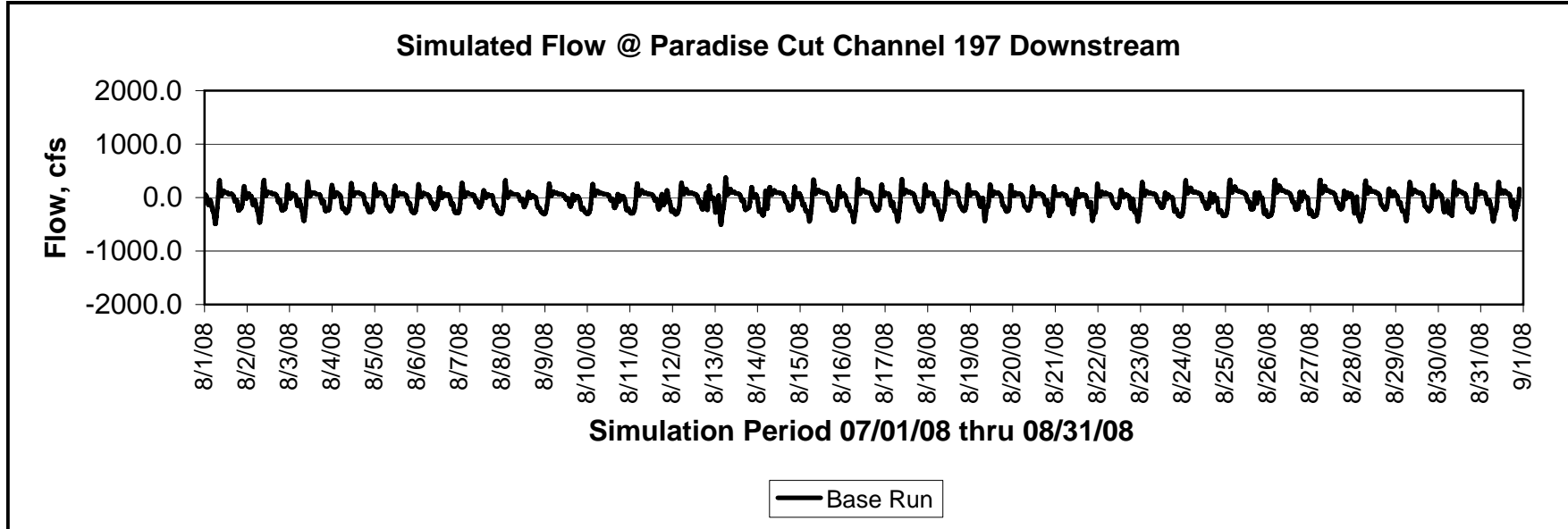
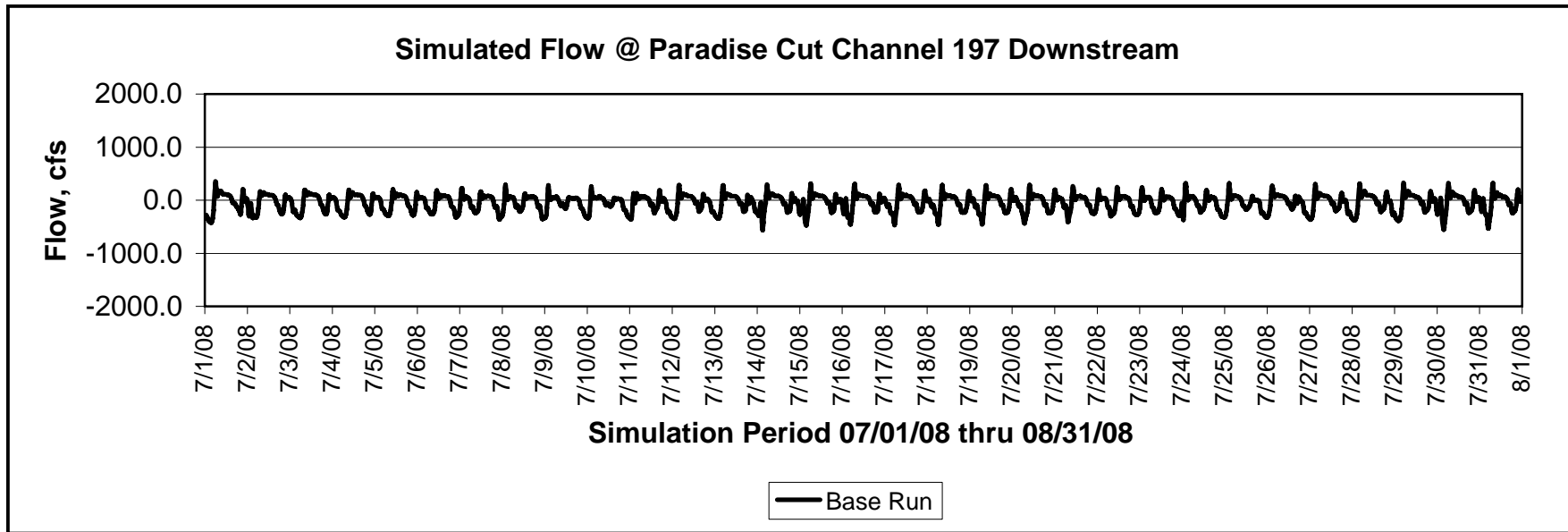


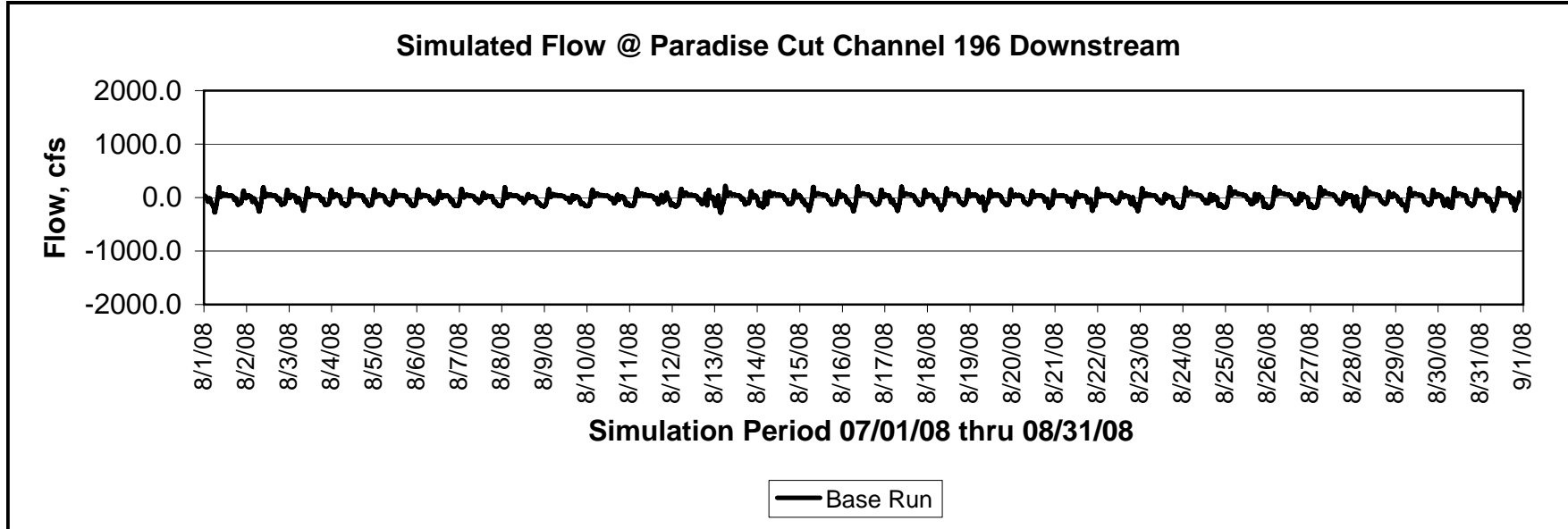
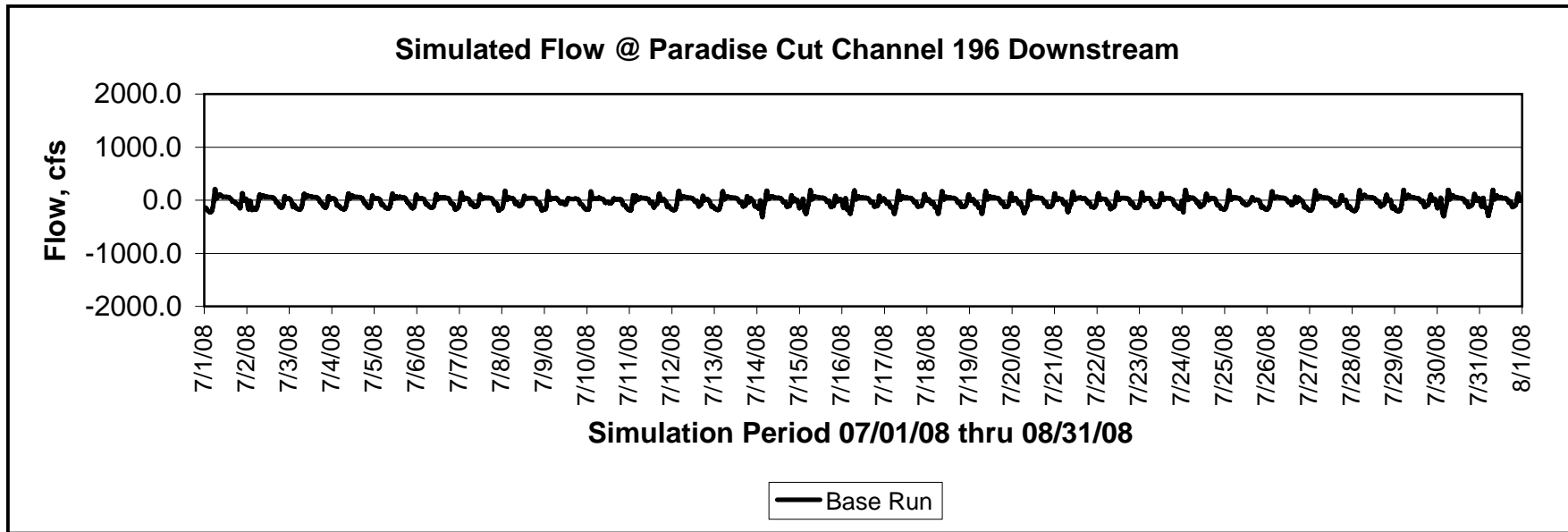


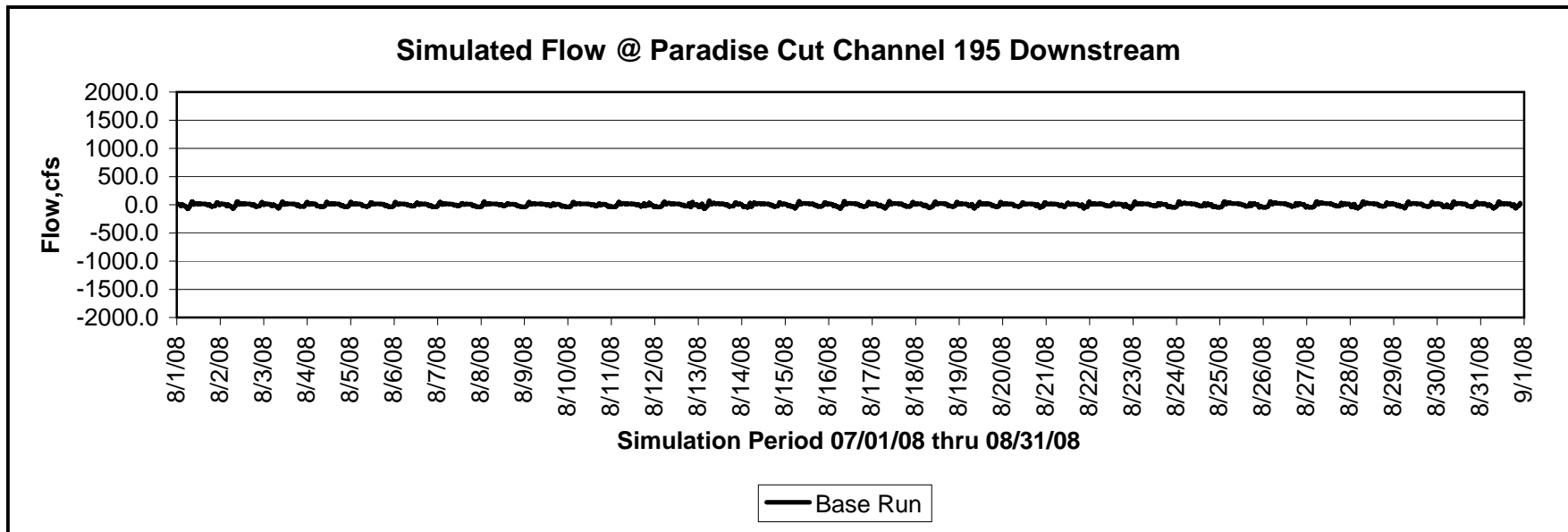
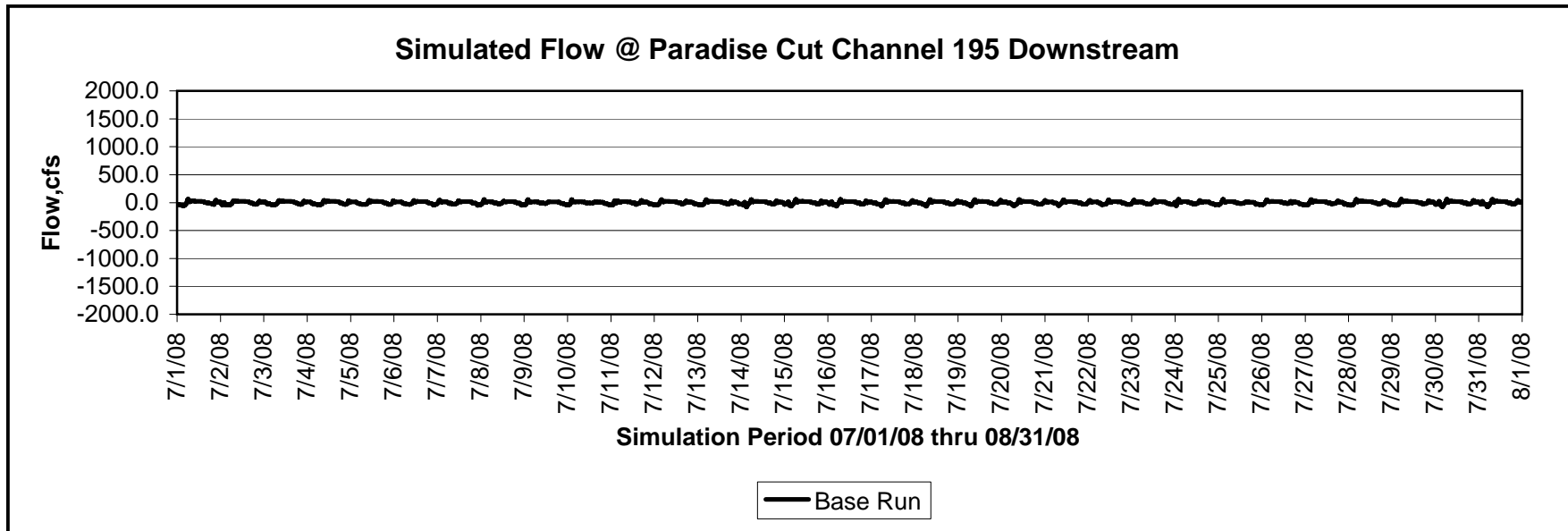




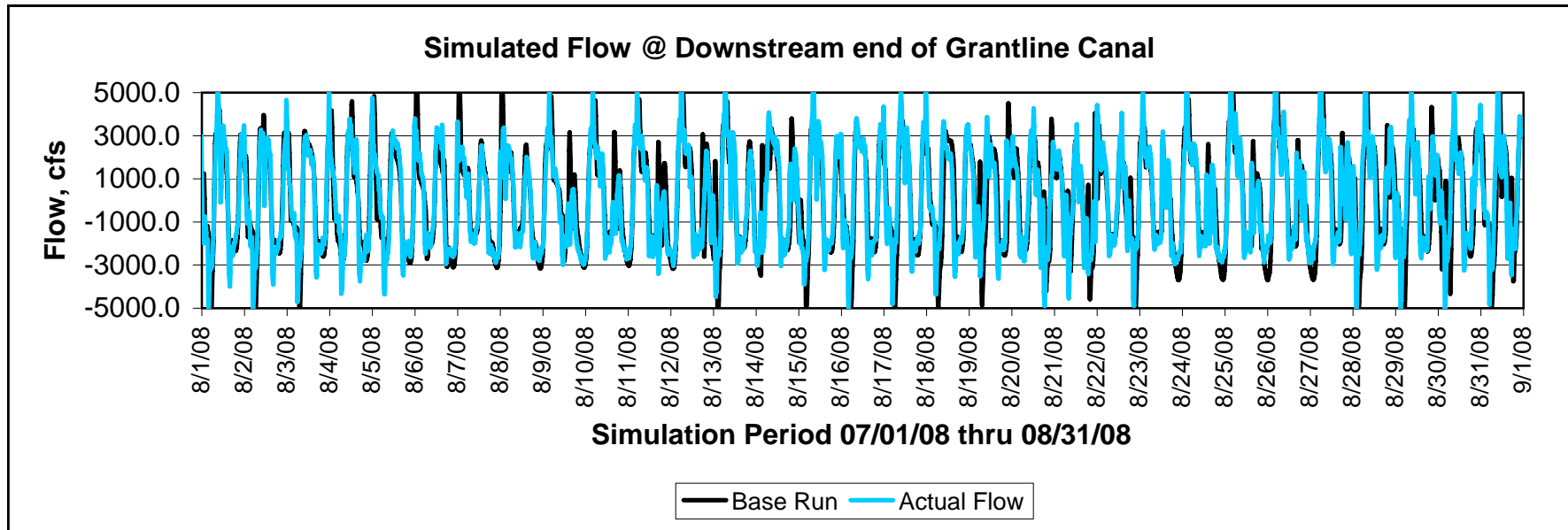
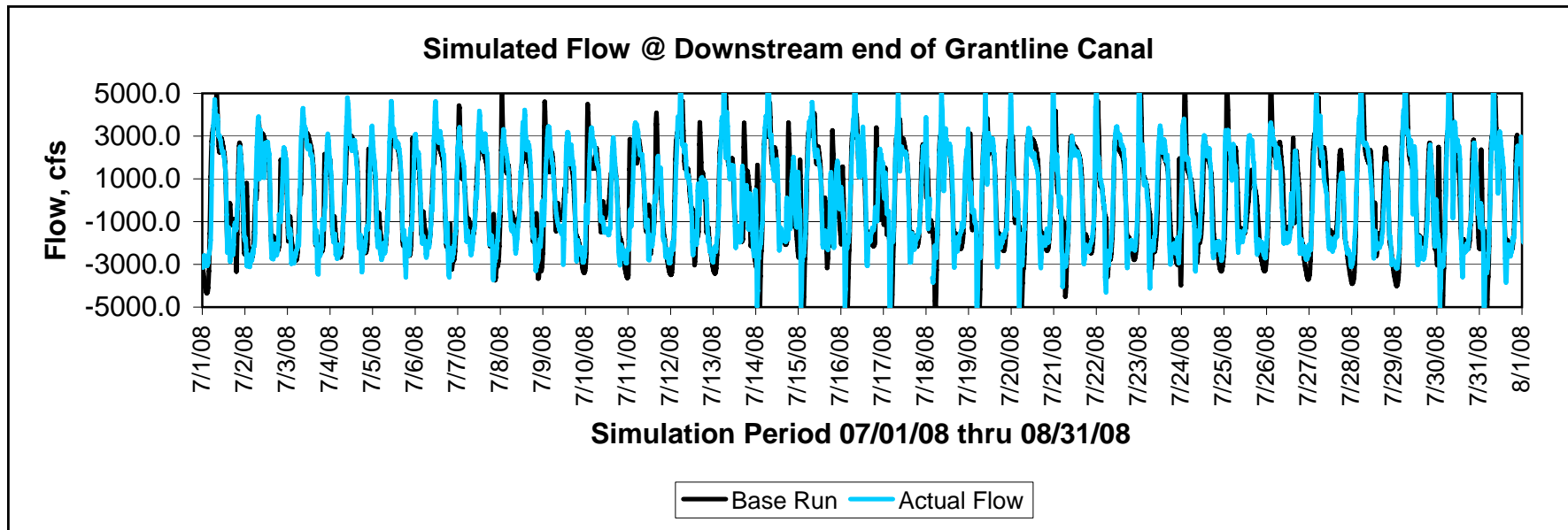


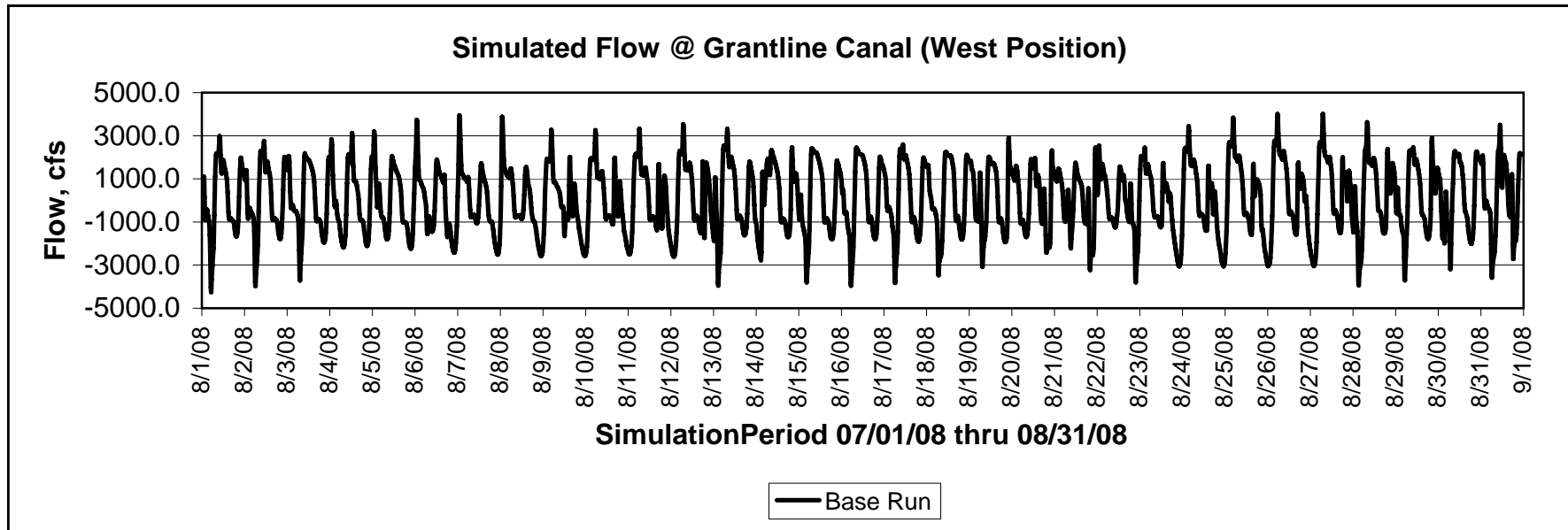
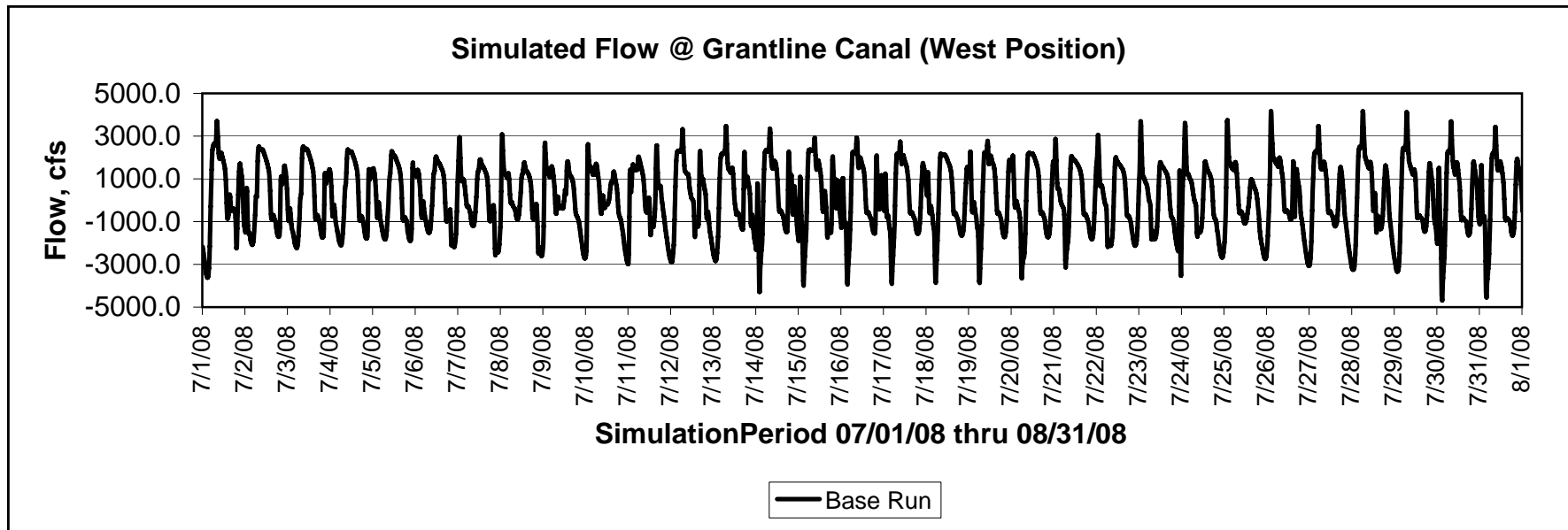


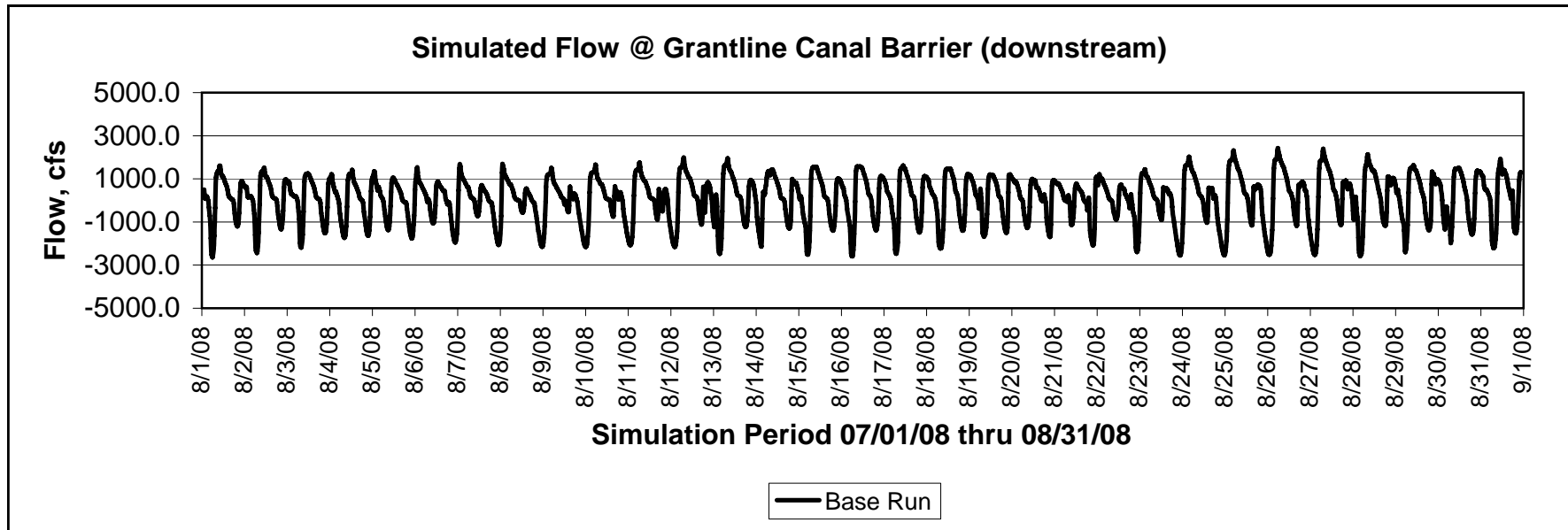
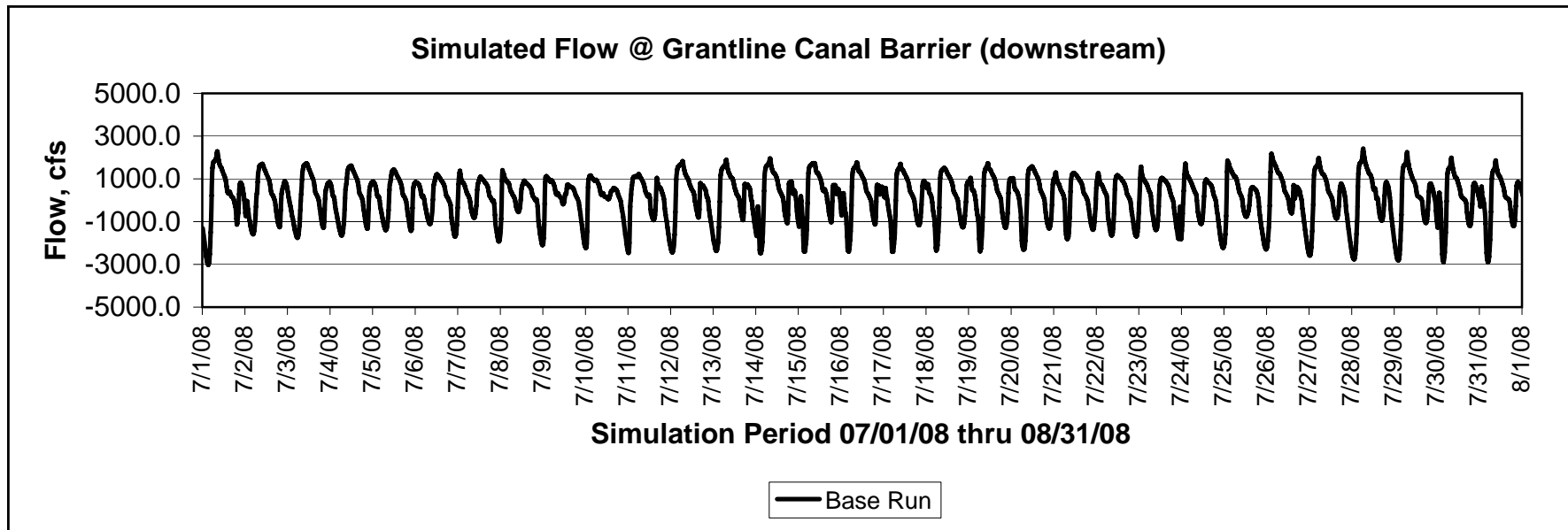


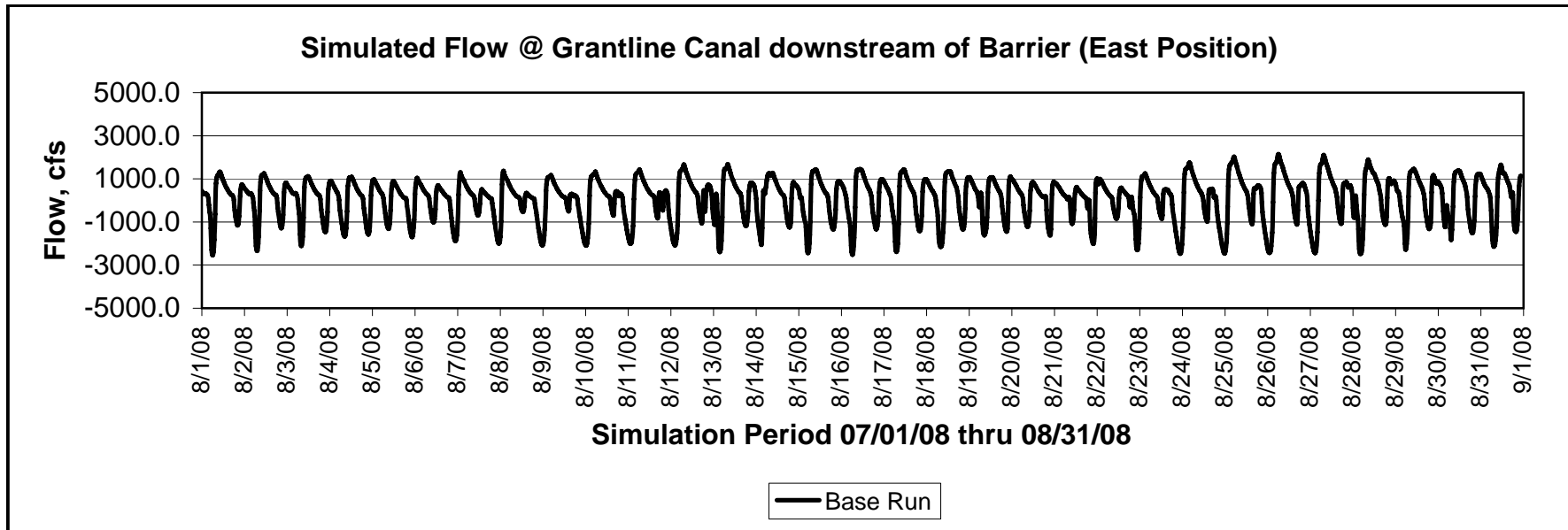
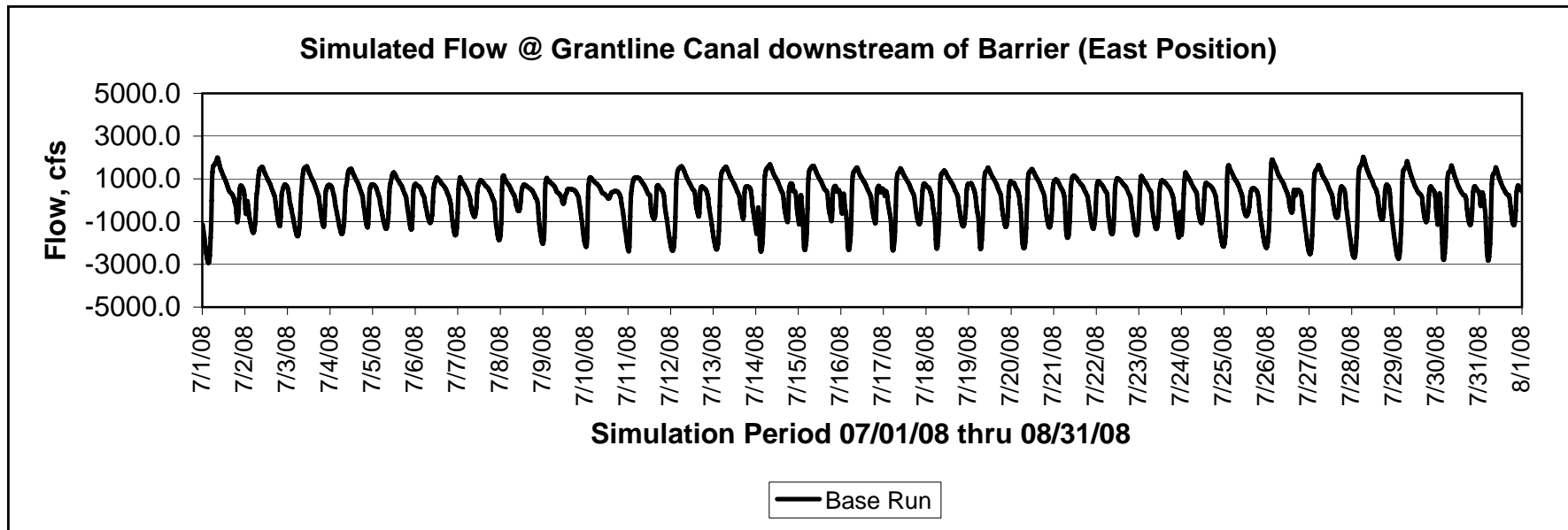


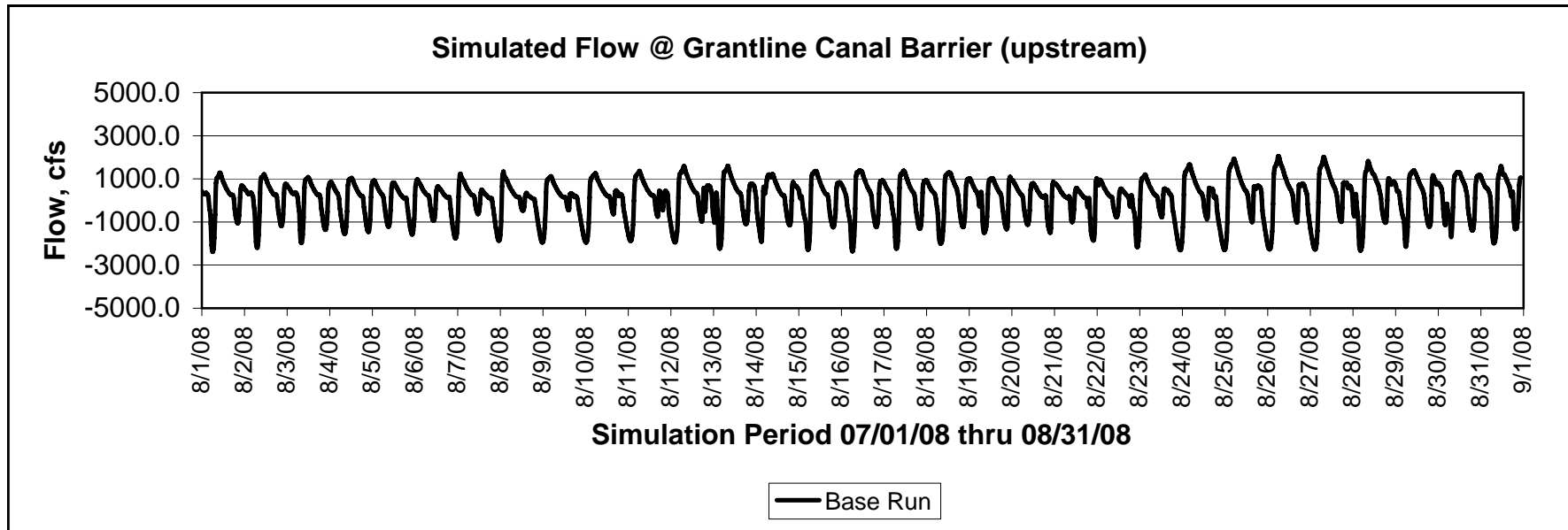
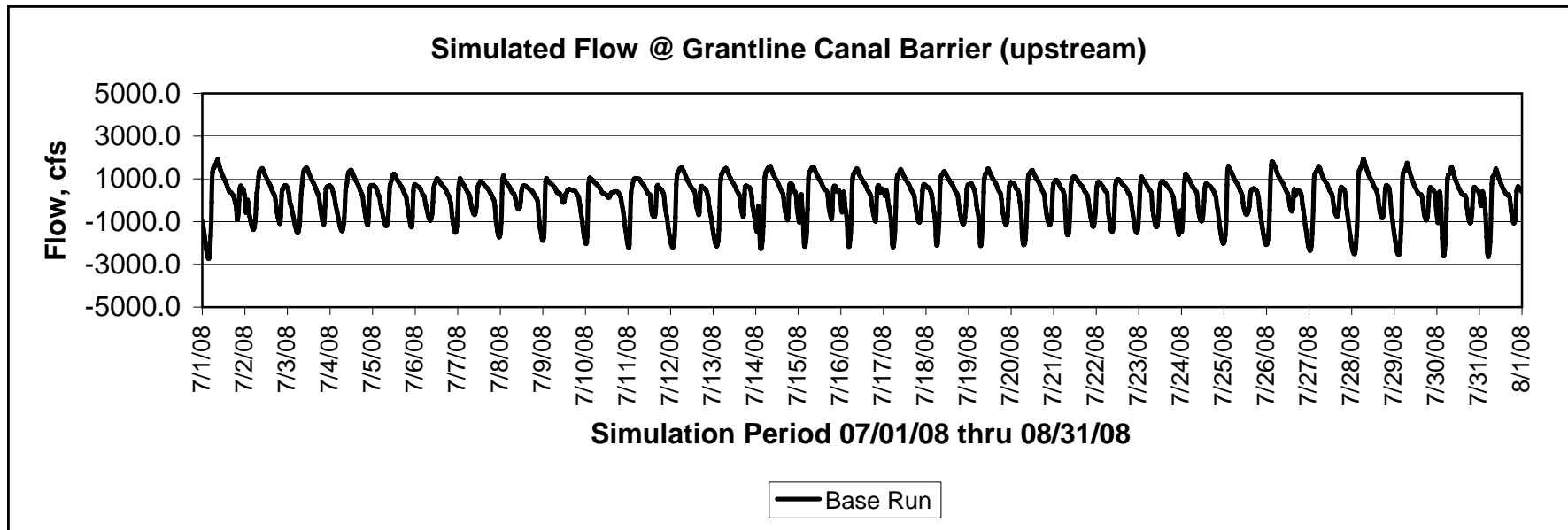
GRANTLINE CANAL - FLOW

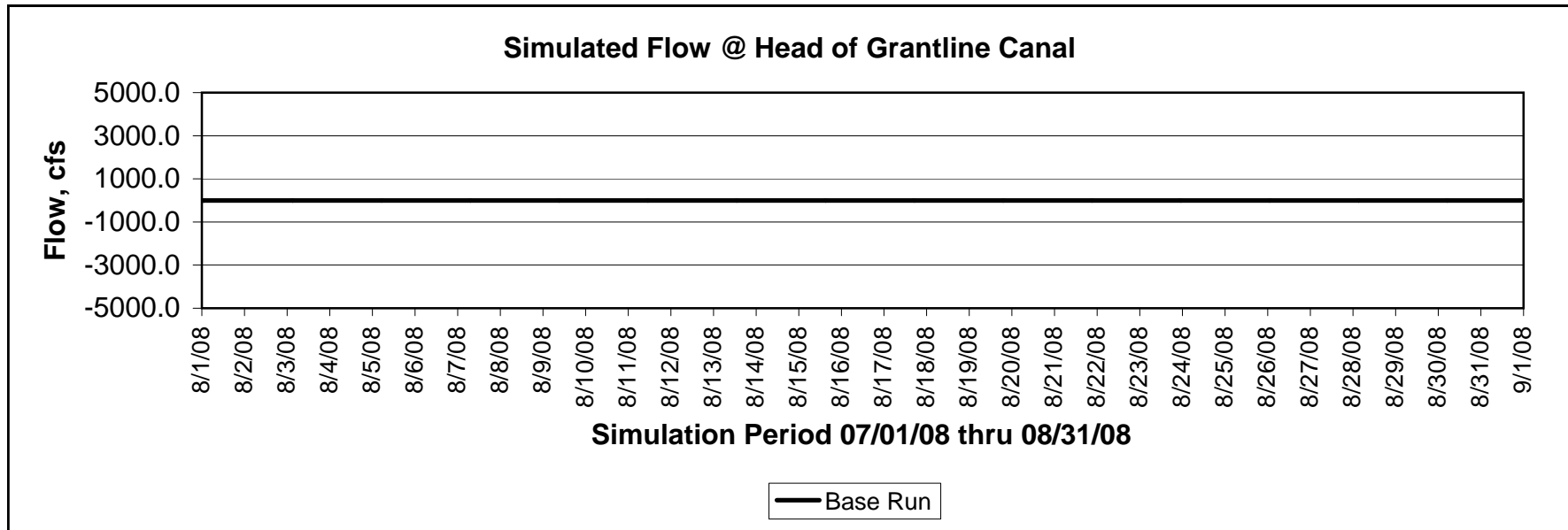
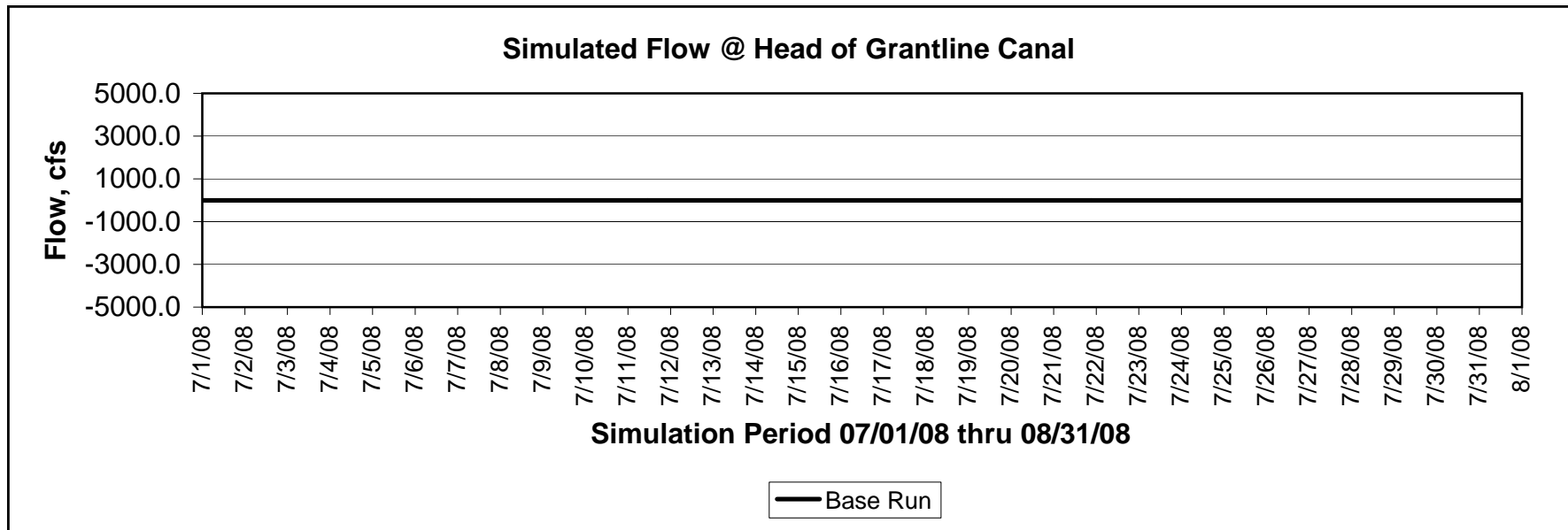


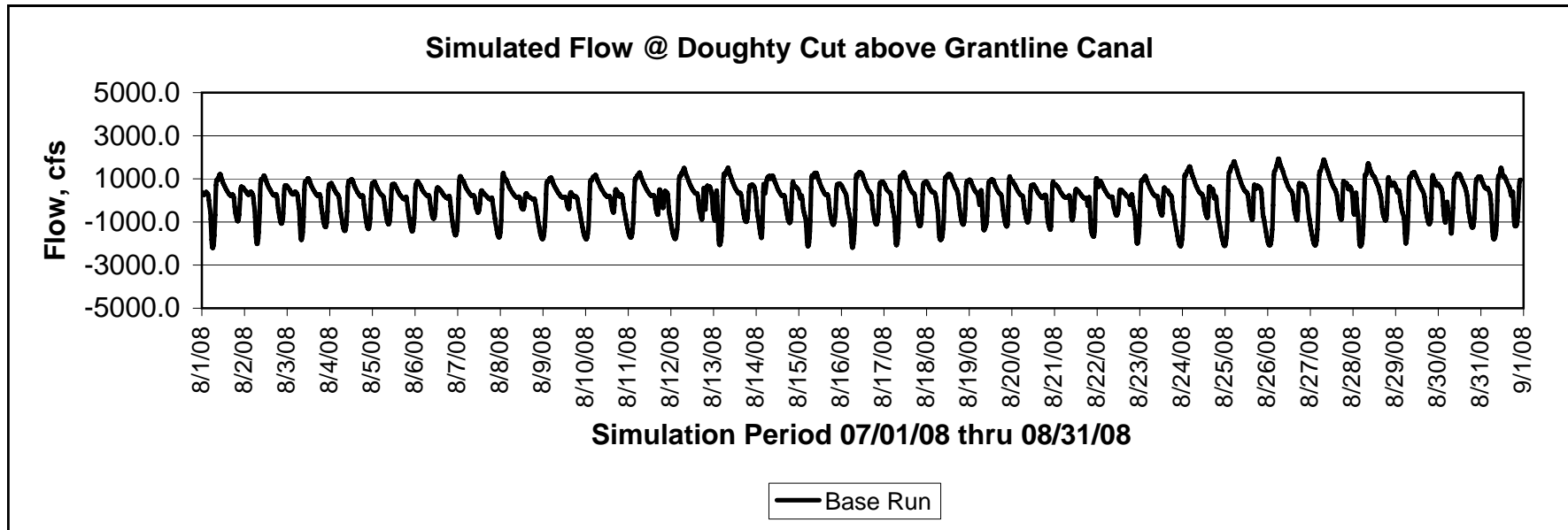
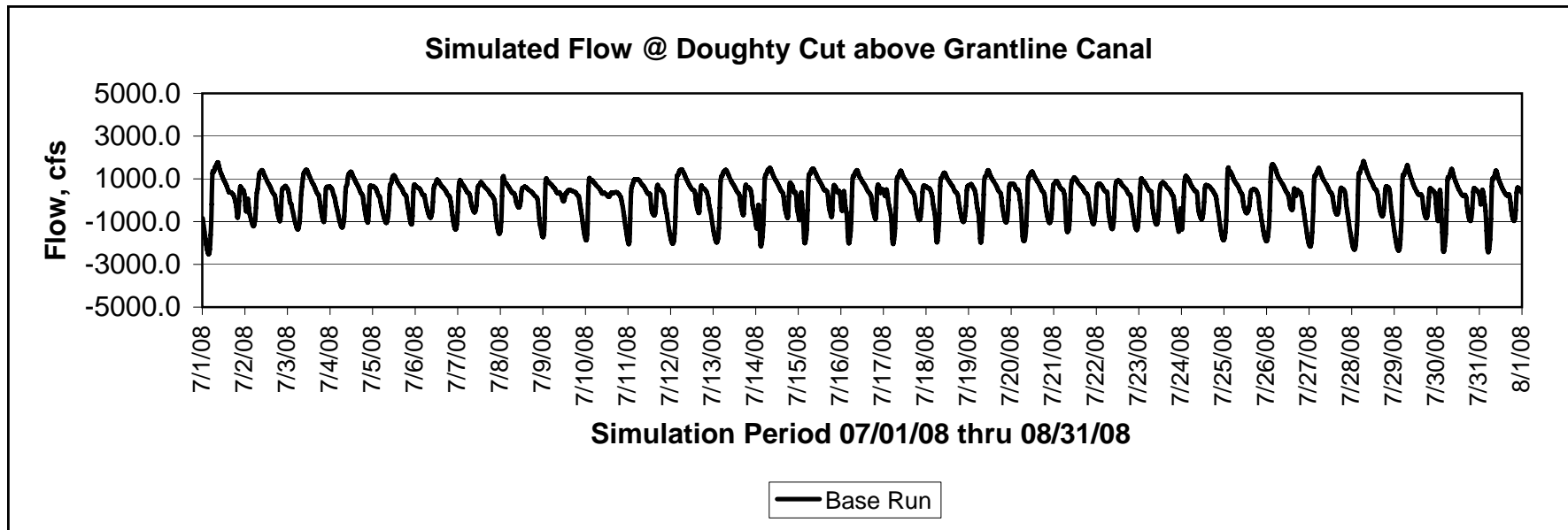












SAN JOAQUIN RIVER - FLOW

