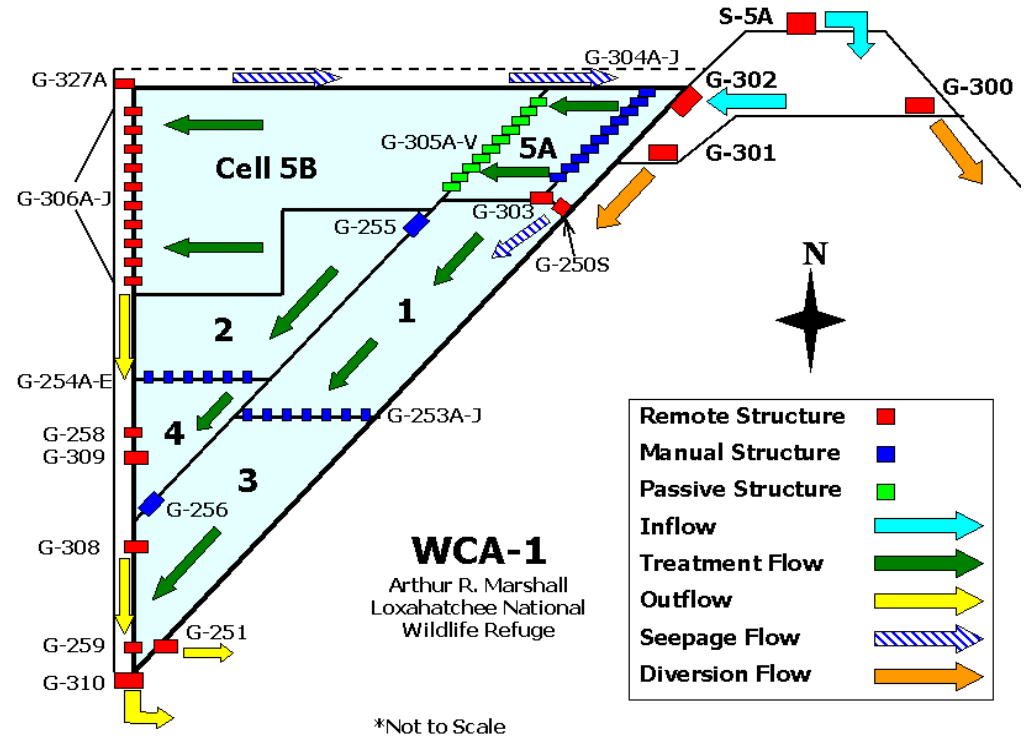


# Summary of STA-1W Data for September 2004 Hurricanes & Previous Operating Periods

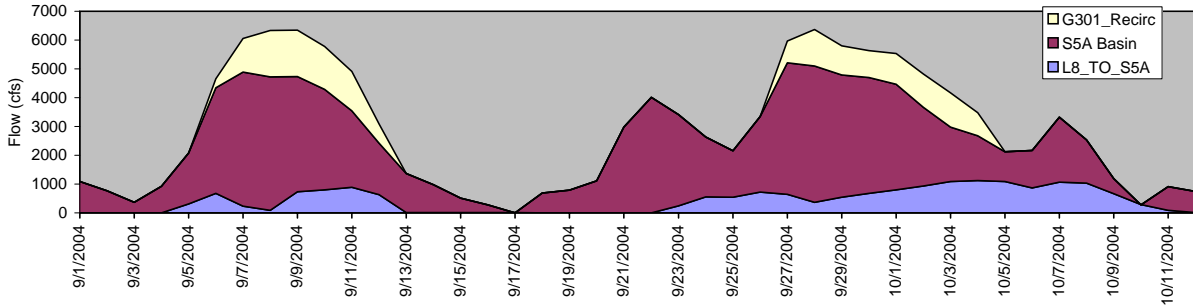
2	STA1W Daily Hydrology - Hurricane Period	Sept 2004 -Oct 2004
3	STA1W Daily Hydrology - Operating Period	July 2000 - Oct 2004
4	Cell Water Depths	July 2000 - Oct 2004
5	Water Balance - Hurricane Period	Sept 2004 - Oct 2004
6	Water Balance - Operating Period	July 2000 - Aug 2004
7	Water Balance Error in STA1W Distribution Works	
8	S5A Basin Flow & Rainfall	7-Day Averages
9	S5A Basin Flow & Rainfall	30-Day Averages
10	Flows vs. STA Design Assumptions	7-Day Averages
11	Flows vs. STA Design Assumptions	30-Day Averages
12	Daily Flows & P Loads in Hurricane Period	July-Oct 2004
13	Monthly P Loads & Outflow P Concentrations	Jan 1999 - Sept 2004
14	12-Month P Loads & Performance	Jan 1999 - Sept 2004
15	Cell Outflow P Concentrations	Jan 1999 - Oct 2004
16	Cell Outflow P Concentrations	Jan 2001 - Oct 2004
17	Cell Monthly Outflows & Concentrations	Jan 2000 - Oct 2004

18 Performance of All STA's Thru September 2004

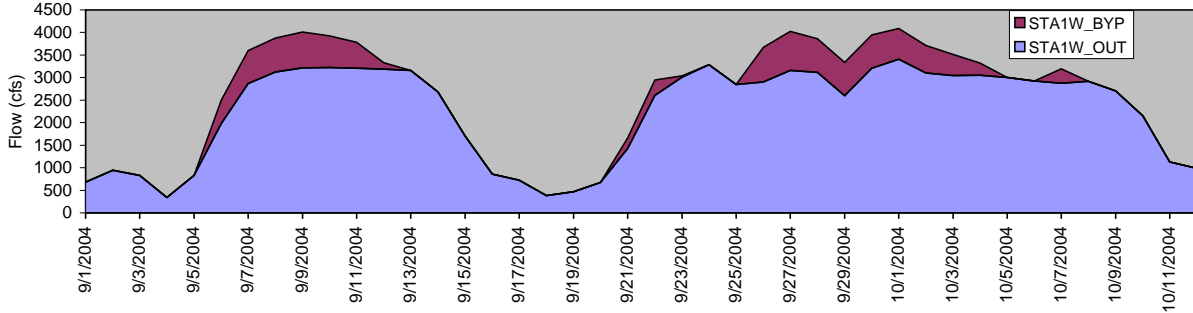
DRAFT - WWW - 11/19/2004



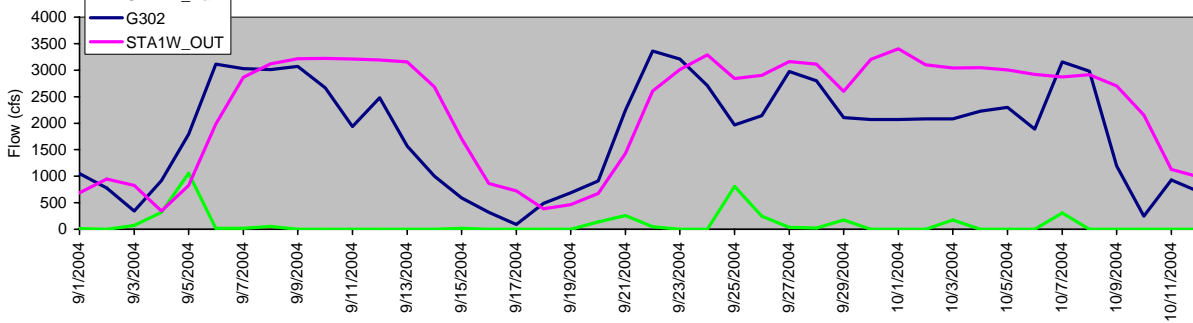
Inflows to S5A Complex & STA1W Distribution Works



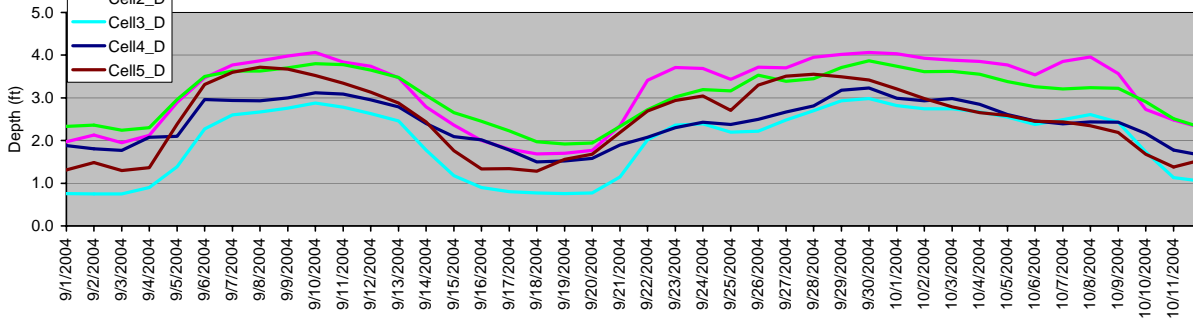
Outflows to Refuge



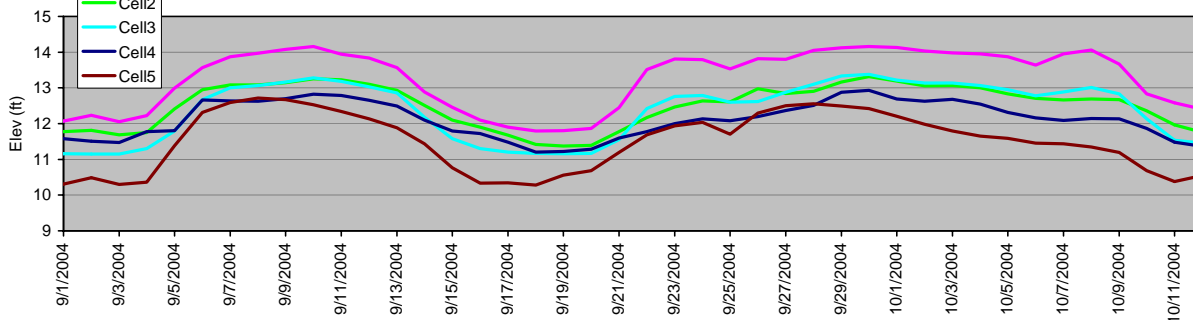
STA1W Inflows & Outflows



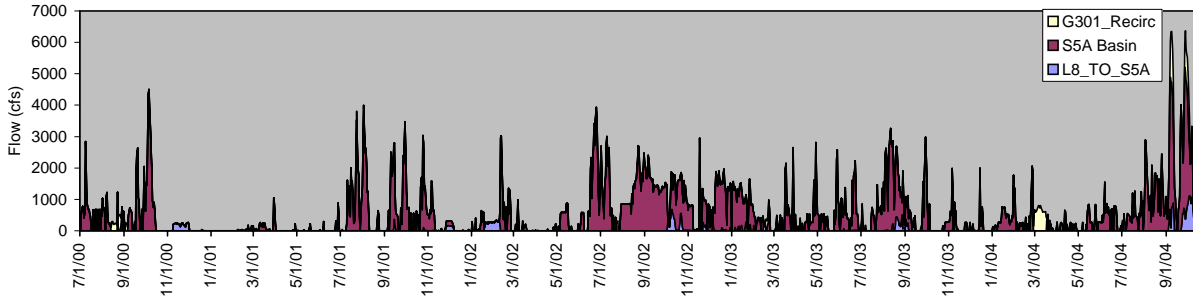
Water Depths



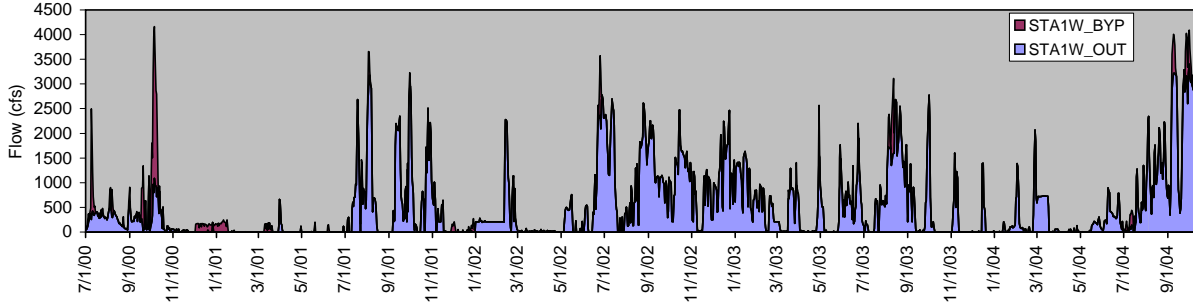
Water Levels



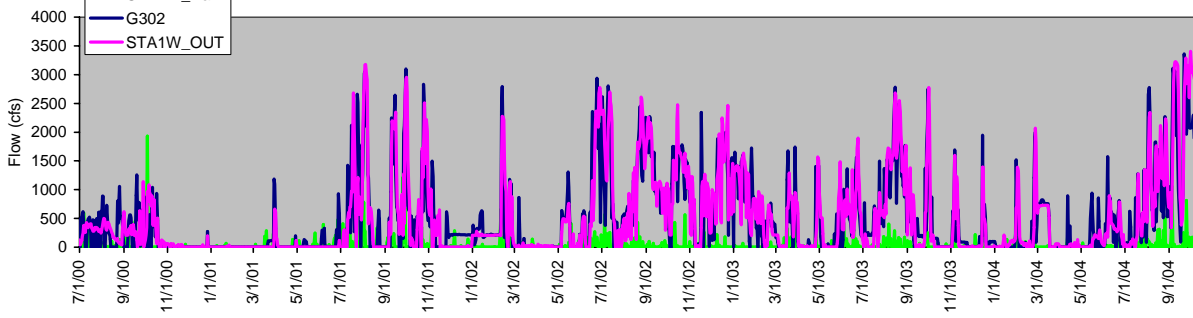
Inflows to S5A Complex & STA1W Distribution Works



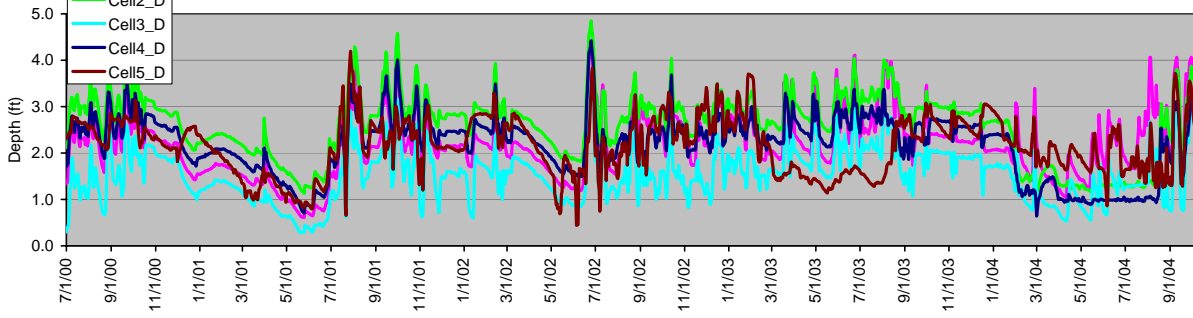
Outflows to Refuge



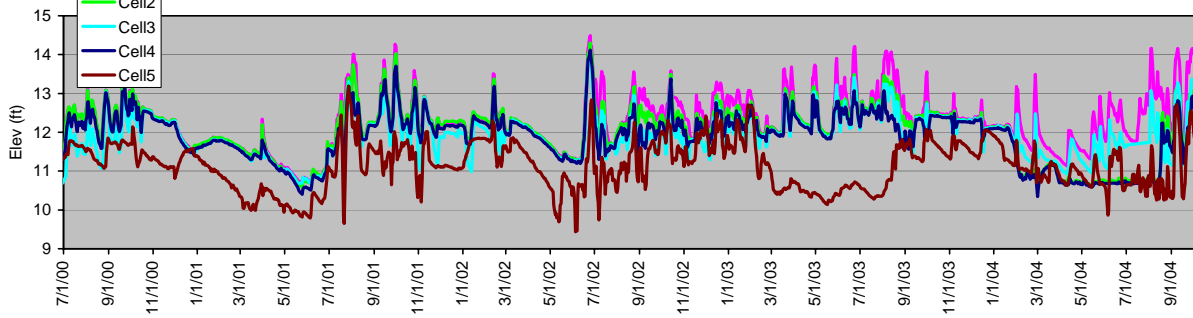
STA1W Inflows & Outflows



Water Depths

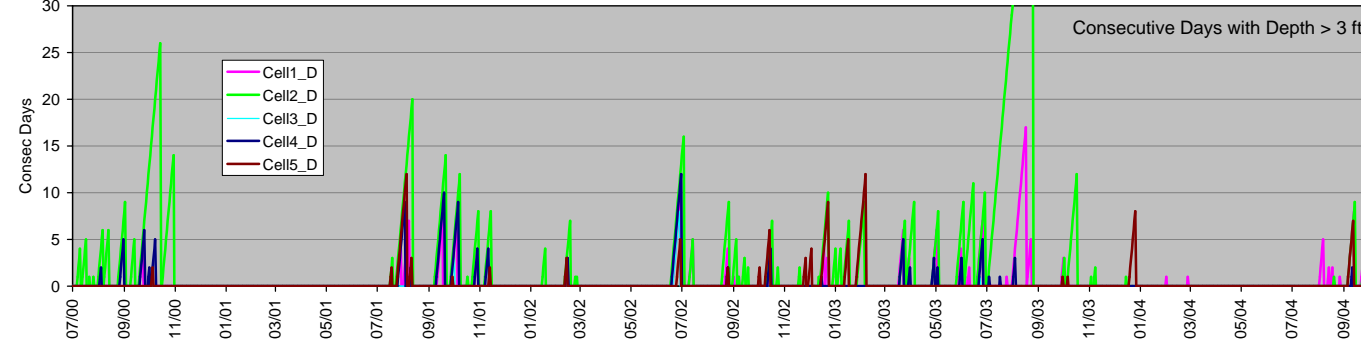
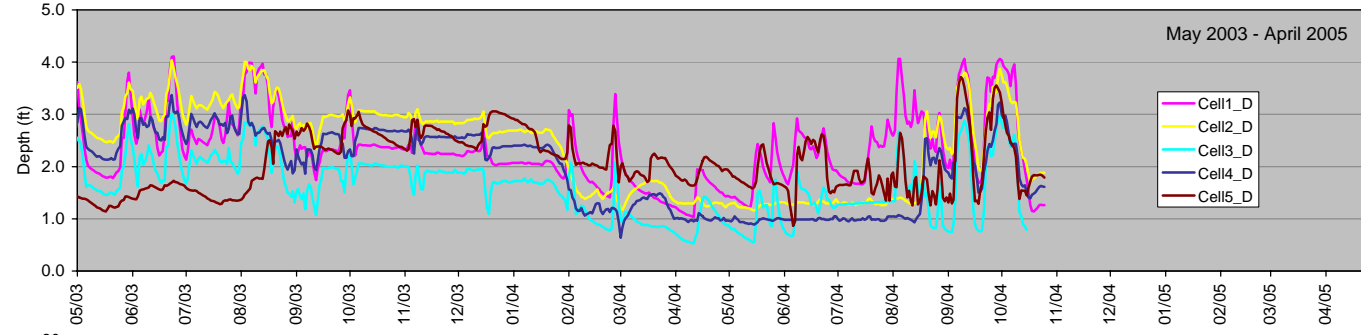
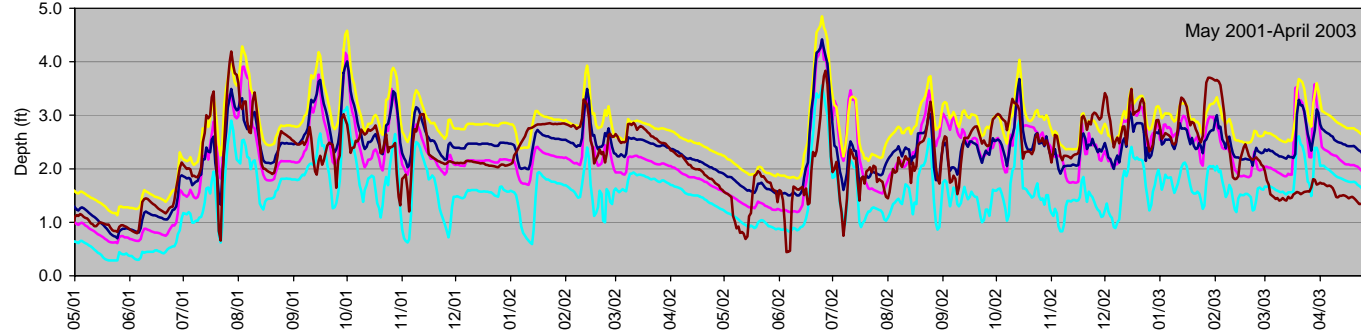
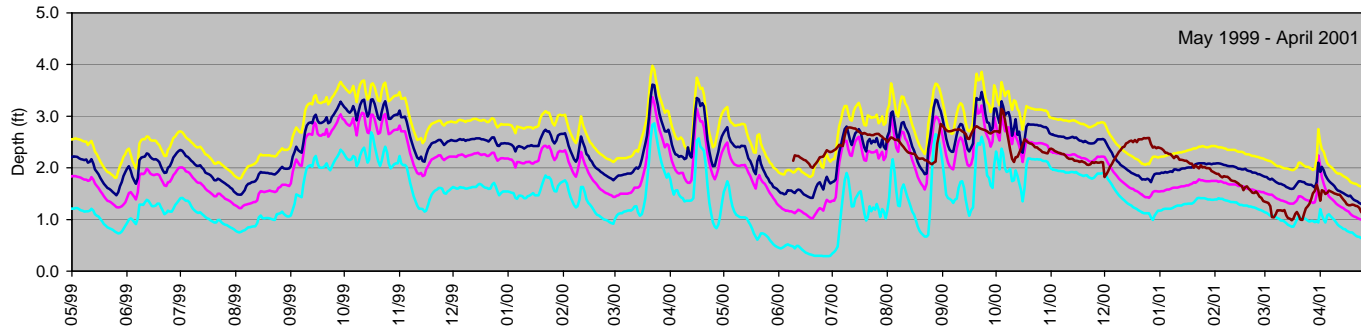


Water Levels



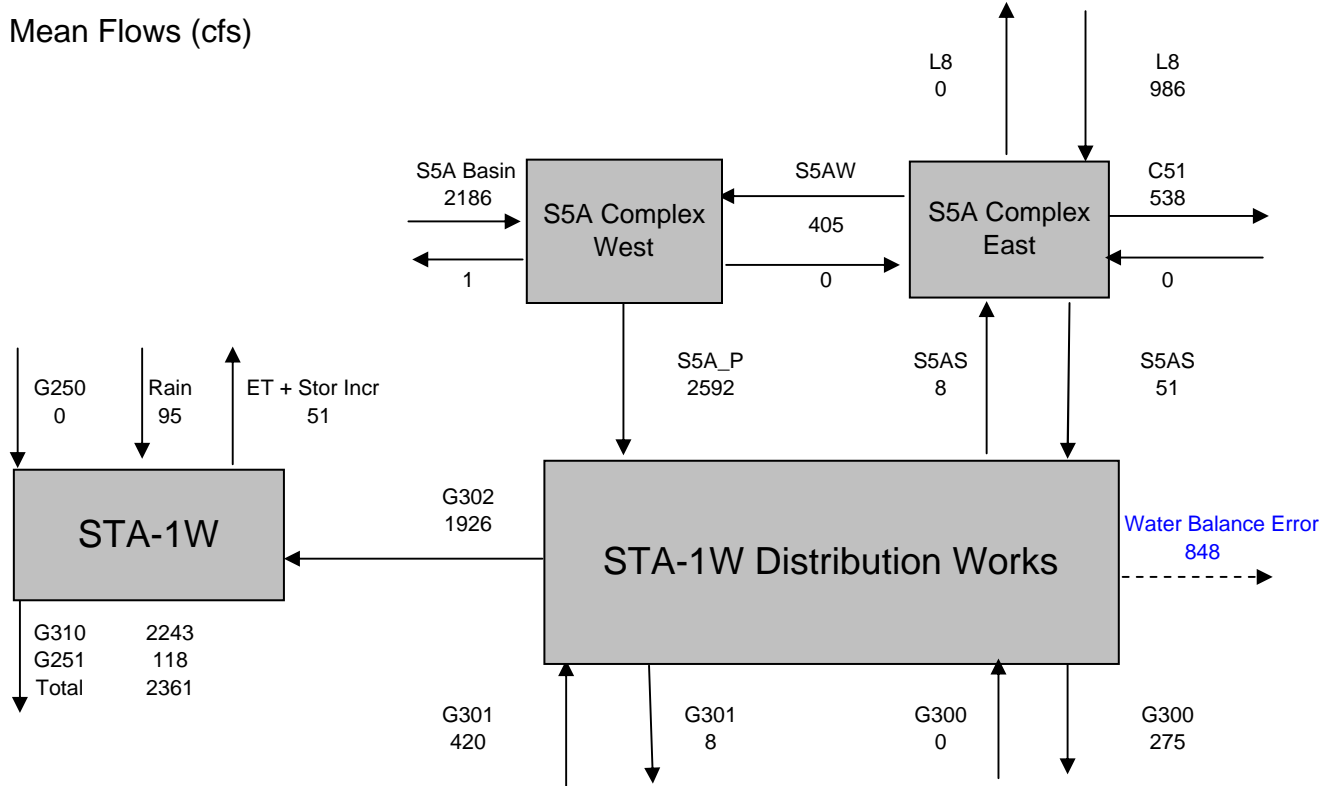
STA1W Cell Water Depths

Cell	Assumed Ground Elev (ft)	Cell1	Cell2	Cell3	Cell4	Cell5
		10.10	9.45	10.40	9.70	9.00



Water Balance - Hurricane Period  
Mean Flows (cfs)

Dates: 09/04/04 thru 10/12/04



	Inputs	Outputs	Error	Error%
S5A Complex W	2591	2593	-2	0%
S5A Complex E	994	994	0	0%
S5A Complex Total	3585	3587	-2	0%
STA1W Distrib Works	3064	2216	848	28%
STA-1W	2021	2411	-390	-19%

Inflows to Distrib Works	cfs	%
S5A Basin	2186	71%
L8 Basin	456	15%
C51W	0	0%
G301 Recycle	420	14%
G300 Recycle	0	0%
Total	3062	100%

Inflows to Refuge	cfs	%
STA1W Outflow	2361	89%
G301 Bypass	8	0%
G300 Bypass	275	10%
Total	2643	100%

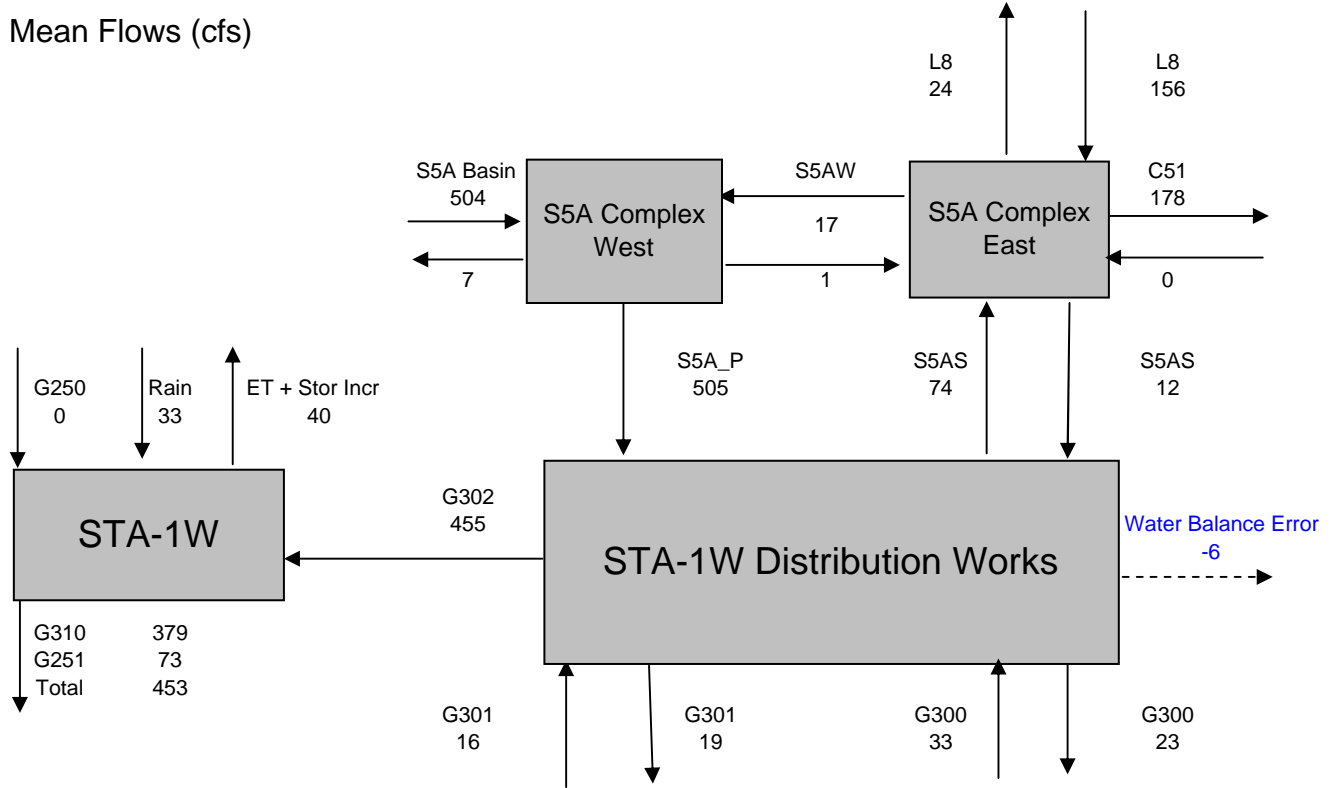
  

L8 Basin Runoff	cfs	%
To STA1W/Refuge	456	46%
To C51 / Tide	530	54%
Total	986	100%

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Water Balance - STA1W Operating Period  
 Mean Flows (cfs)

Dates: 07/01/00 thru 09/03/04



	Inputs	Outputs	Error	Error%
S5A Complex W	521	513	8	2%
S5A Complex E	231	231	0	0%
S5A Complex Total	753	744	8	1%
STA1W Distrib Works	565	571	-6	-1%
STA-1W	488	492	-4	-1%

Inflows to Distrib Works	cfs	%
S5A Basin	504	88%
L8 Basin	22	4%
C51W	0	0%
G301 Recycle	16	3%
G300 Recycle	33	6%
Total	574	100%

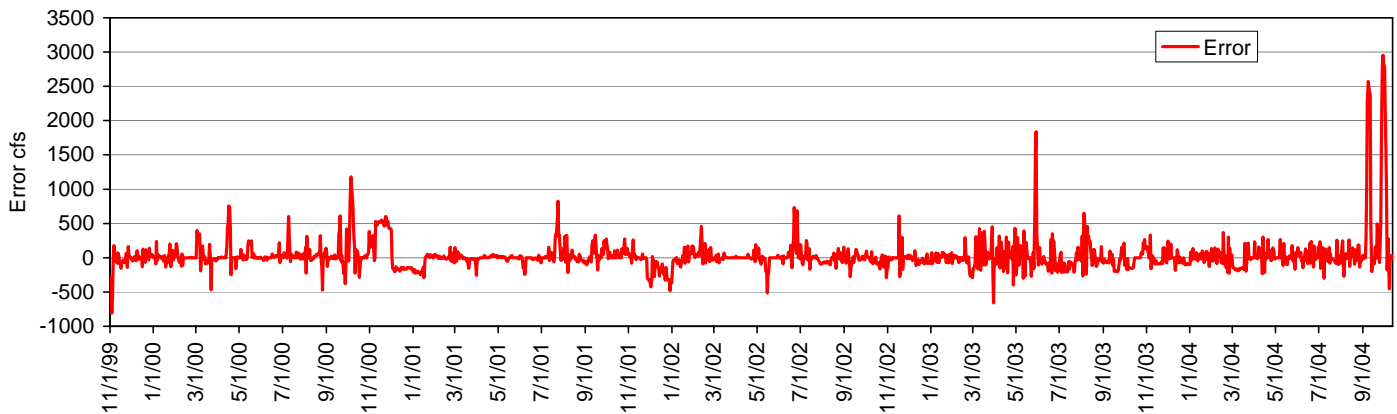
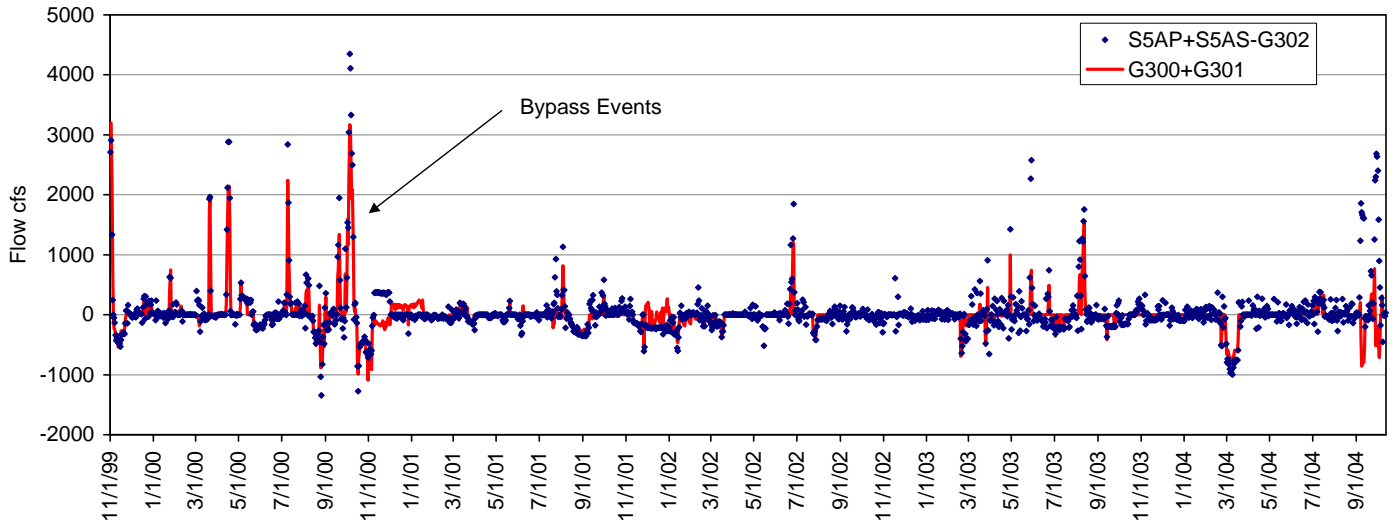
Inflows to Refuge	cfs	%
STA1W Outflow	453	92%
G301 Bypass	19	4%
G300 Bypass	23	5%
Total	494	100%

L8 Basin Runoff	cfs	%
To STA1W/Refuge	22	14%
To C51 / Tide	134	86%
Total	156	100%

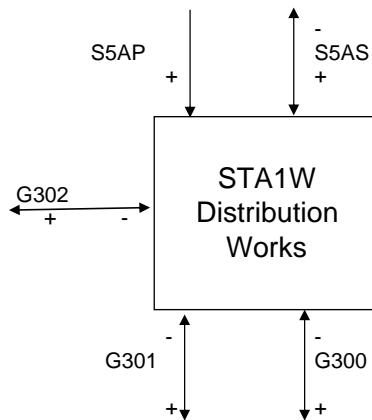
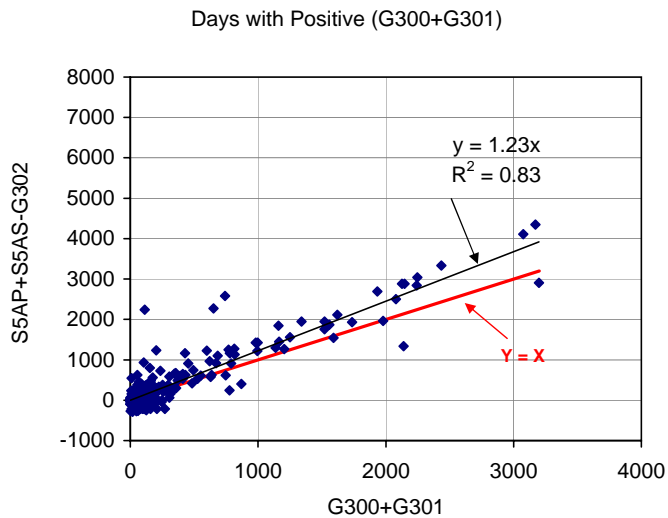
DRAFT

# Water Balance Error in STA1W Distribution Works

DRAFT

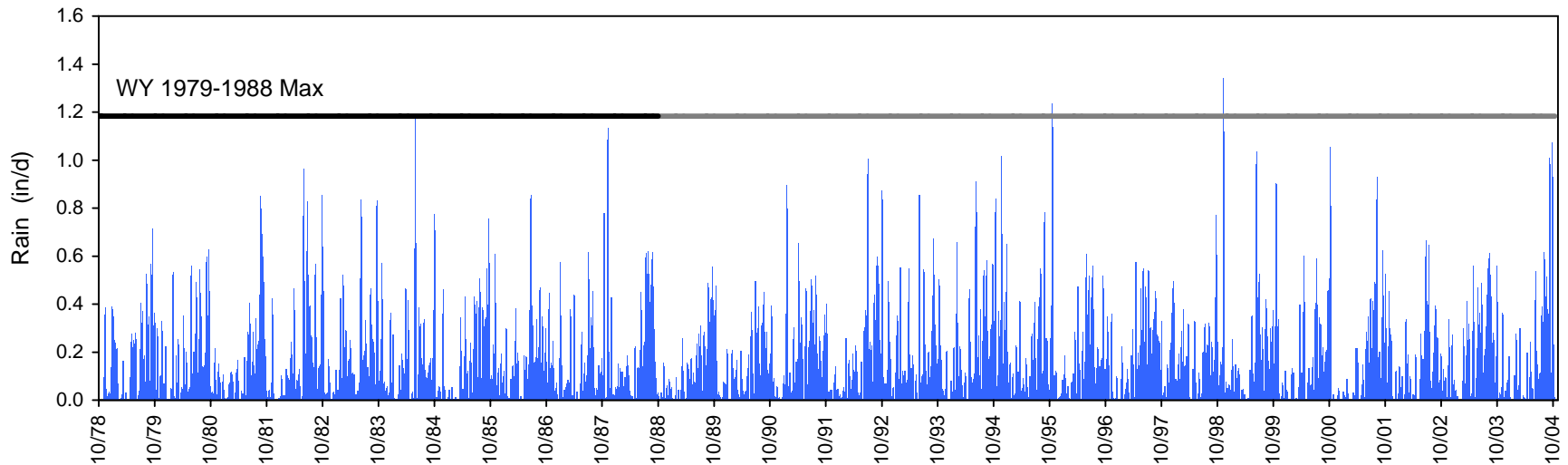
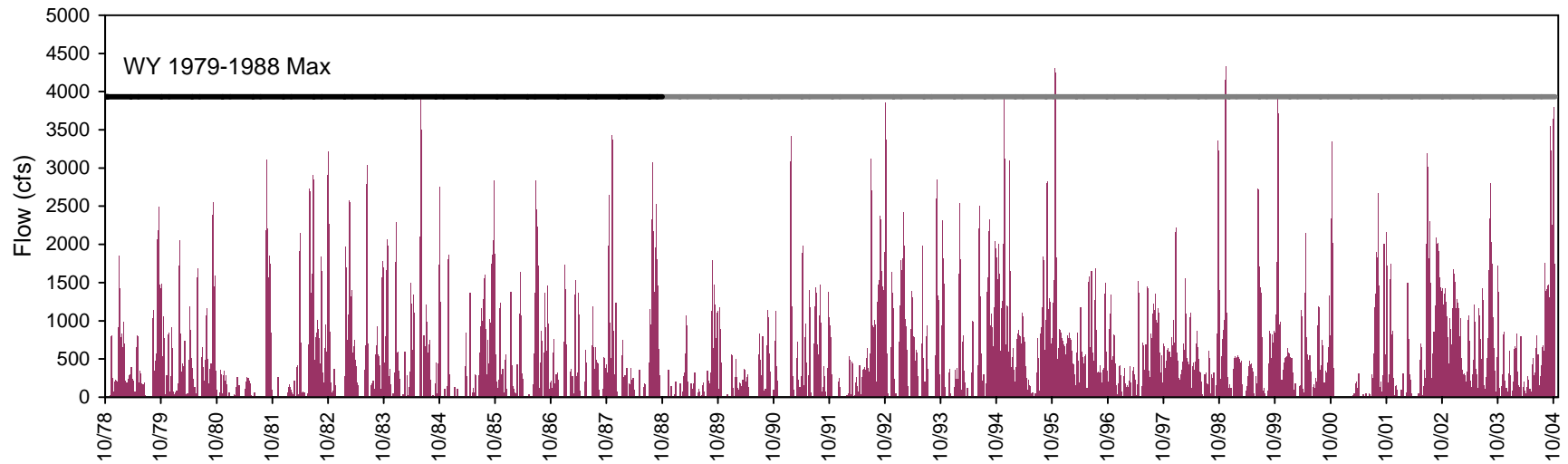


Error = S5AP + S5AS - G302 - G300 - G301 Positive values suggest under-estimation of outflows (G300+G301+G302) or over-estimation of inflows (S5AP+S5AS)



Average 23% Bias; larger bias in specific events (May 2003, Sept 2004)

Line = Maximum Value in October 1978 - September 1988 Base Period for STA Design

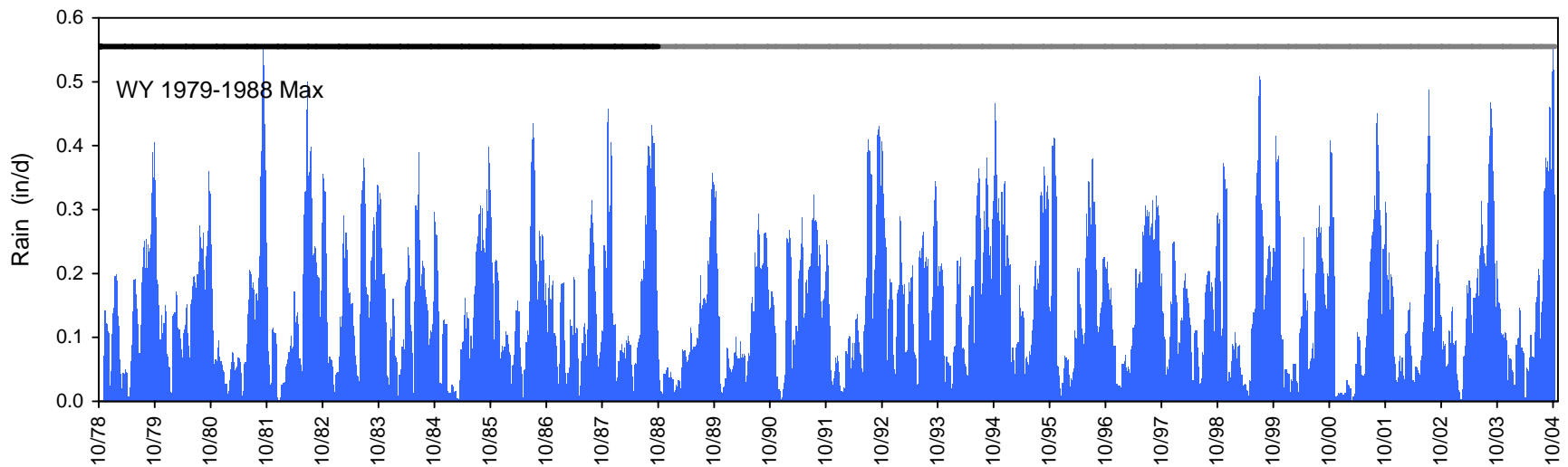
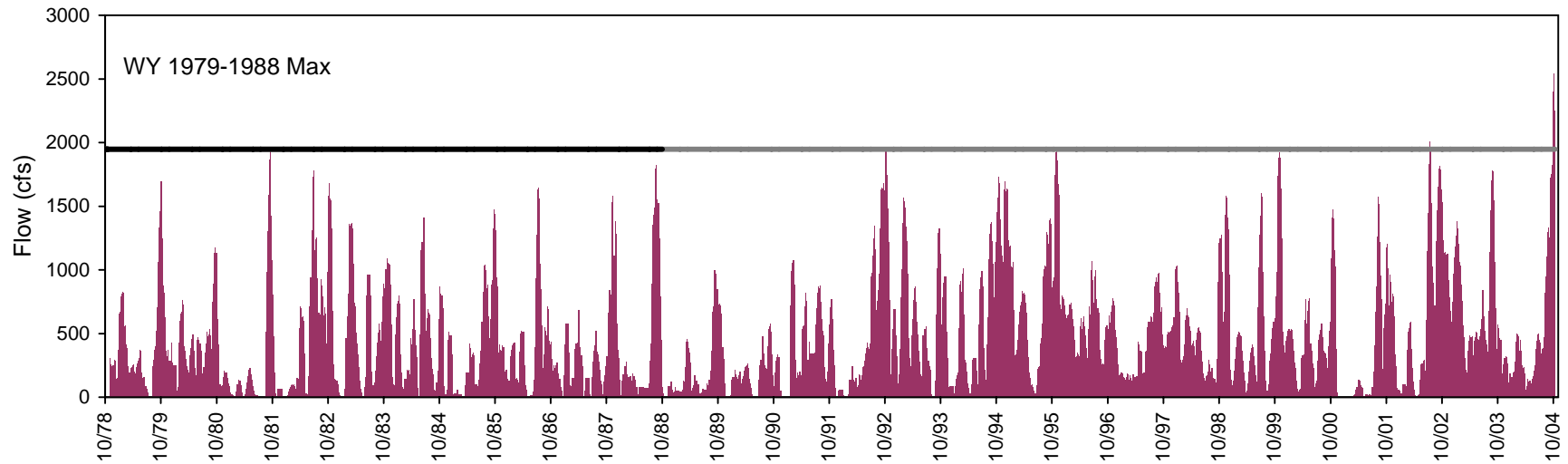


Flow = S5A5AW + G250 (Excludes L8 & C51W)

Rain = S5A Basin Rainfall (EAA Regulatory Rule)



Line = Maximum Value in October 1978 - September 1988 Base Period for STA Design



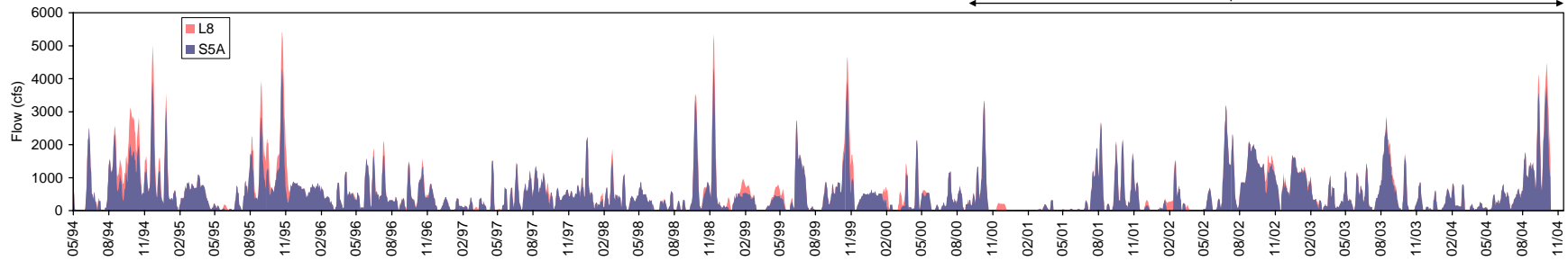
Flow = S5A5AW + G250 (Excludes L8 & C51W)

Rain = S5A Basin Rainfall (EAA Regulatory Rule)

May 1994 - October 2004

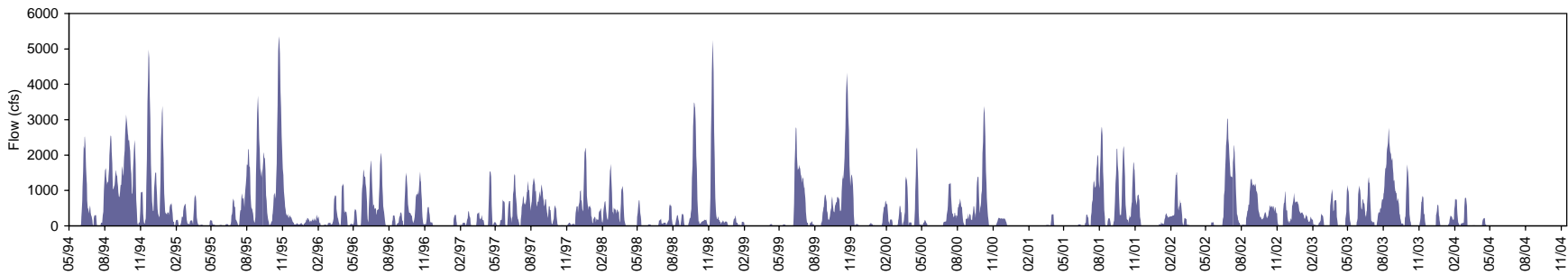
Historical Record for Last 10 Years

← STA-1W Full-Scale Operation →



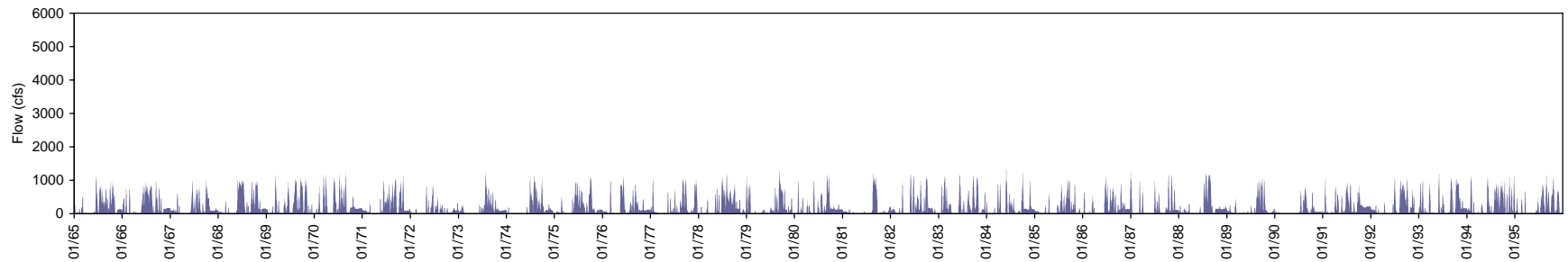
May 1994 - April 2004

Updated Baseline for STA Design, Adjusted for Changes in Operation (- Lake Releases (Water Supply Not Treated) ), Diversions (+ East Beach - L8), & Changes in Land Use (STA1W Construction)



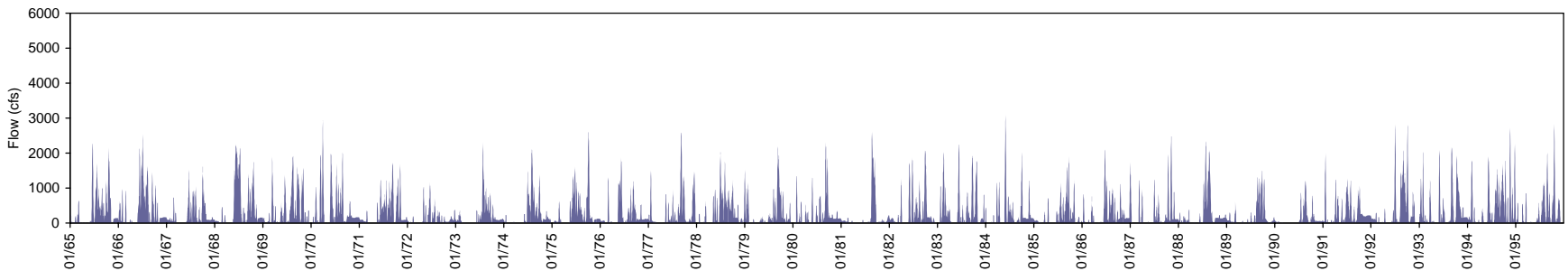
Jan 1965 - Dec 1995

31-Year STA Design Dataset (2002 Basin-Specific Feasibility Studies / 2003 Longterm Plan) : STA-1W Total Inflow



Jan 1965 - Dec 1995

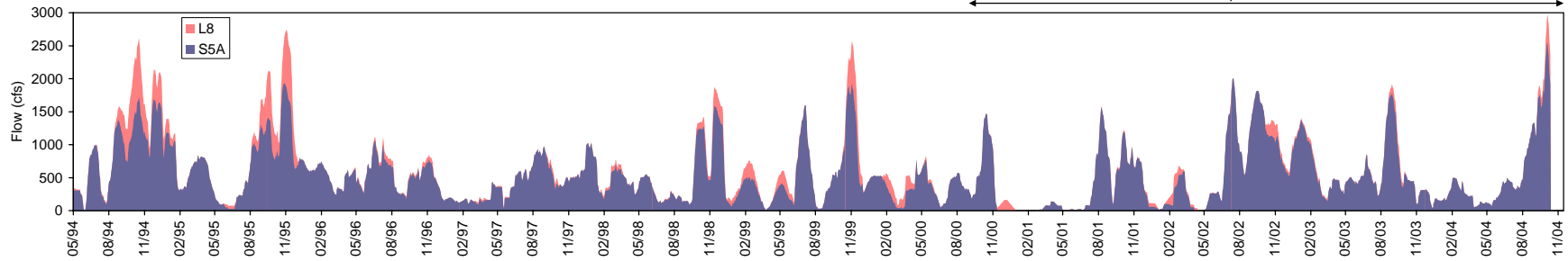
31-Year STA Design Dataset (2002 Basin-Specific Feasibility Studies / 2003 Longterm Plan) : STA-1W Total Inflow + S5A Runoff to STA2 & STA1E



May 1994 - October 2004

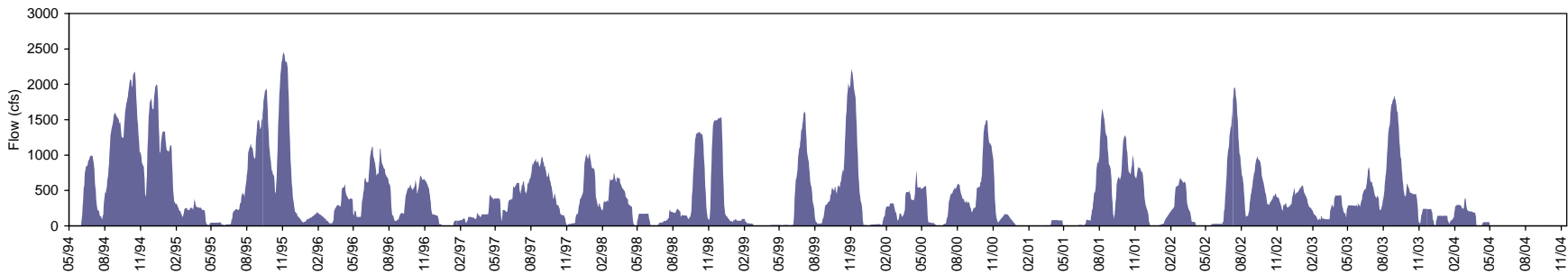
Historical Record for Last 10 Years

← STA-1W Full-Scale Operation →



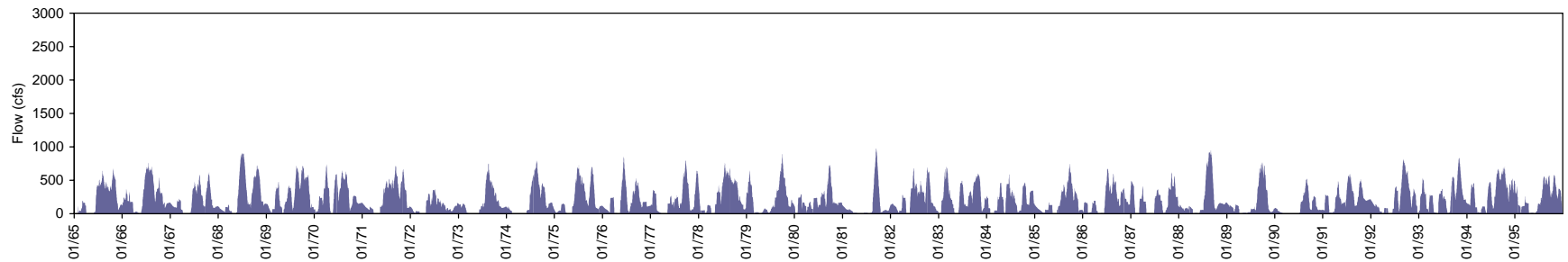
May 1994 - April 2004

Updated Baseline for STA Design, Adjusted for Changes in Operation (- Lake Releases (Water Supply Not Treated) ), Diversions (+ East Beach - L8), & Changes in Land Use (STA1W Construction)



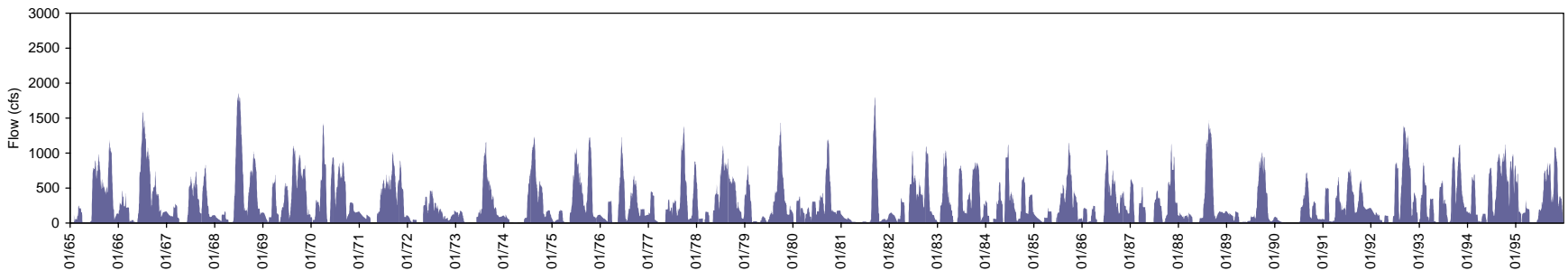
Jan 1965 - Dec 1995

31-Year STA Design Dataset (2002 Basin-Specific Feasibility Studies / 2003 Longterm Plan) : STA-1W Total Inflow



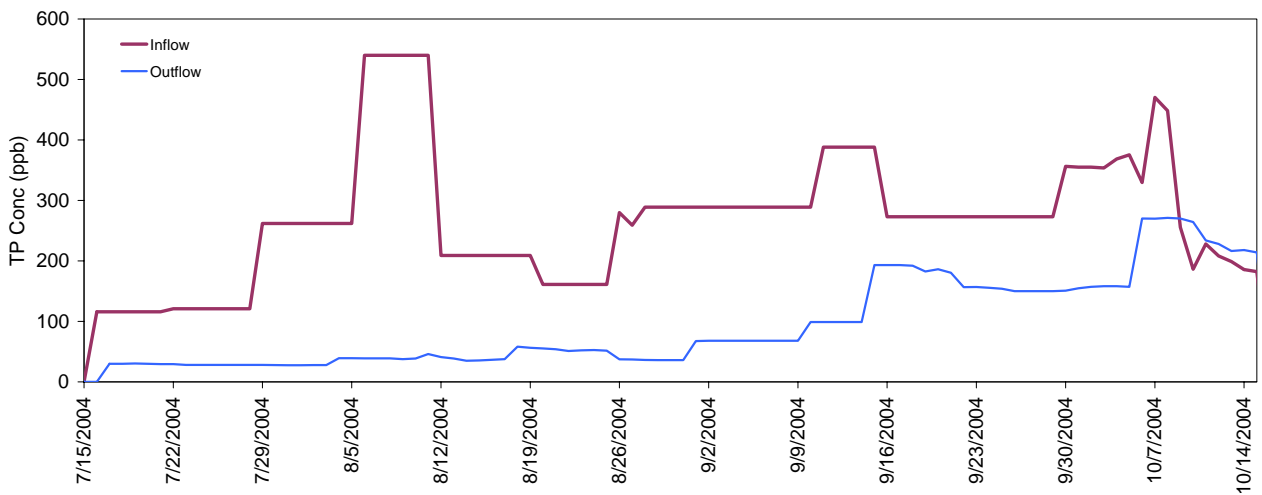
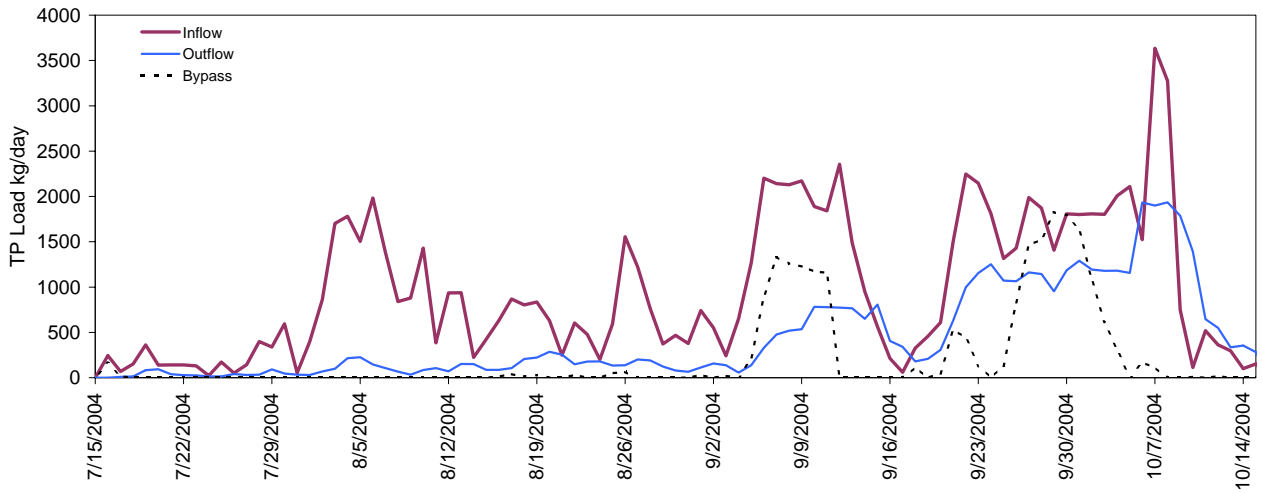
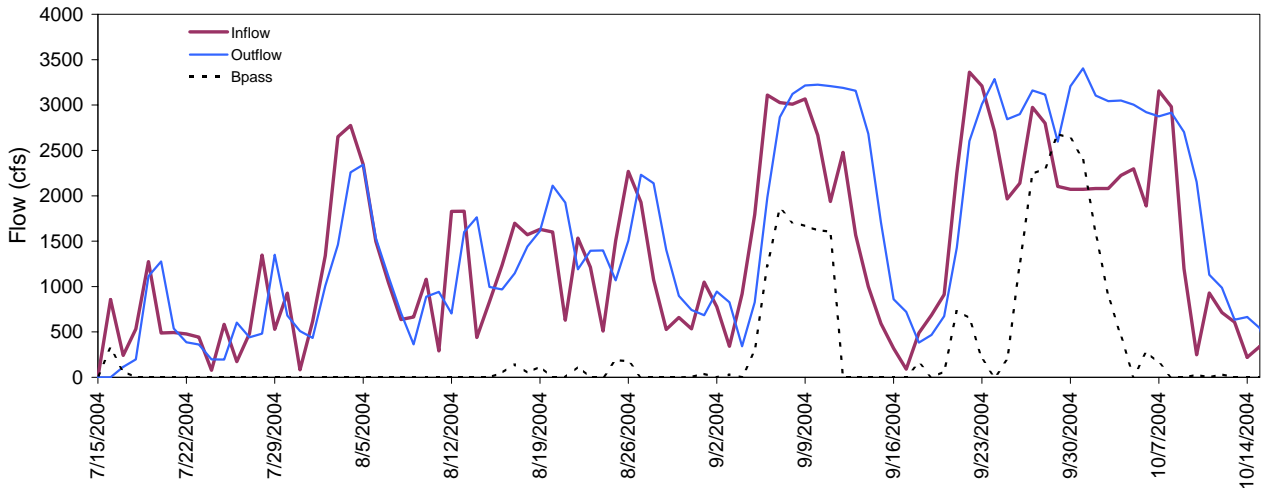
Jan 1965 - Dec 1995

31-Year STA Design Dataset (2002 Basin-Specific Feasibility Studies / 2003 Longterm Plan) : STA-1W Total Inflow + S5A Runoff to STA2 & STA1E

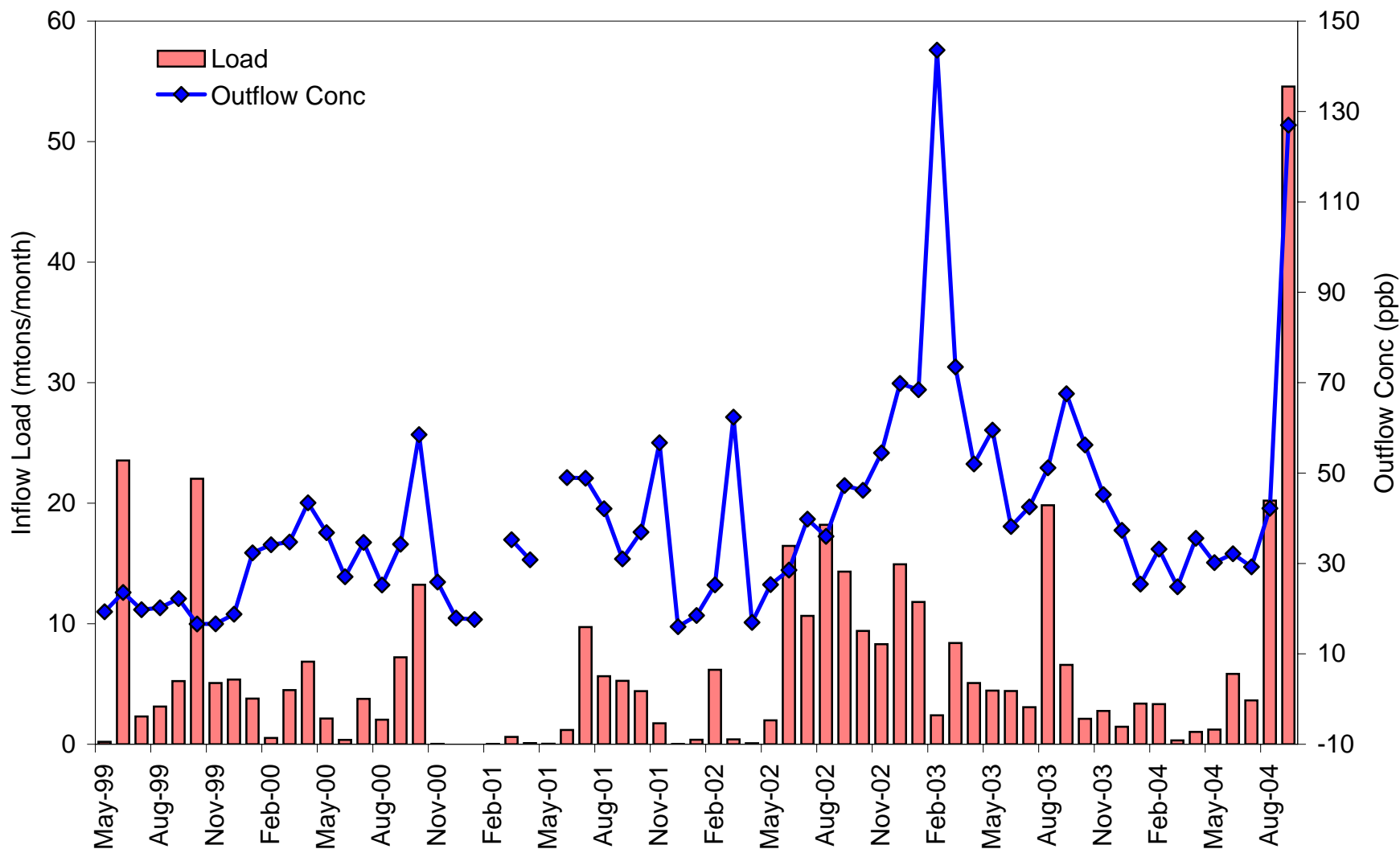


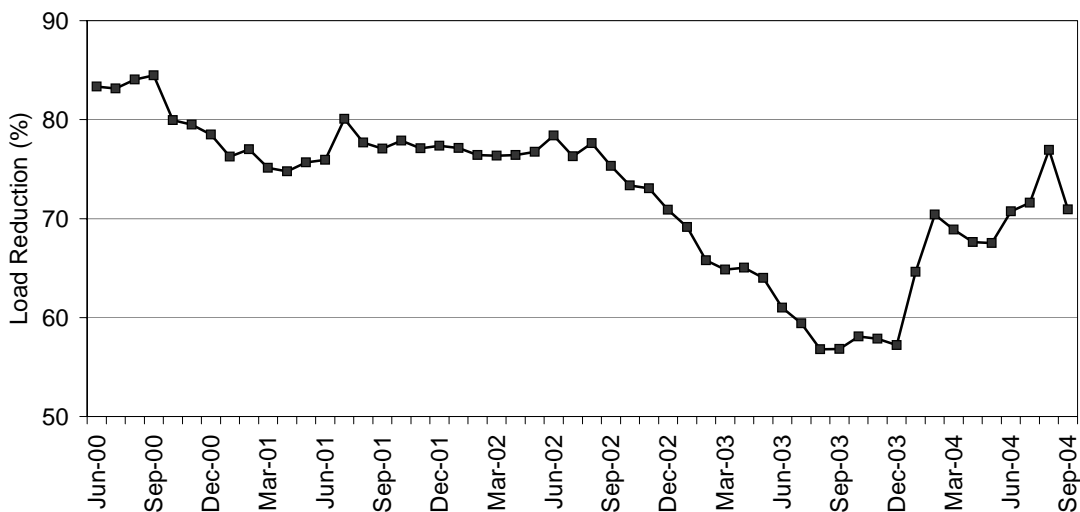
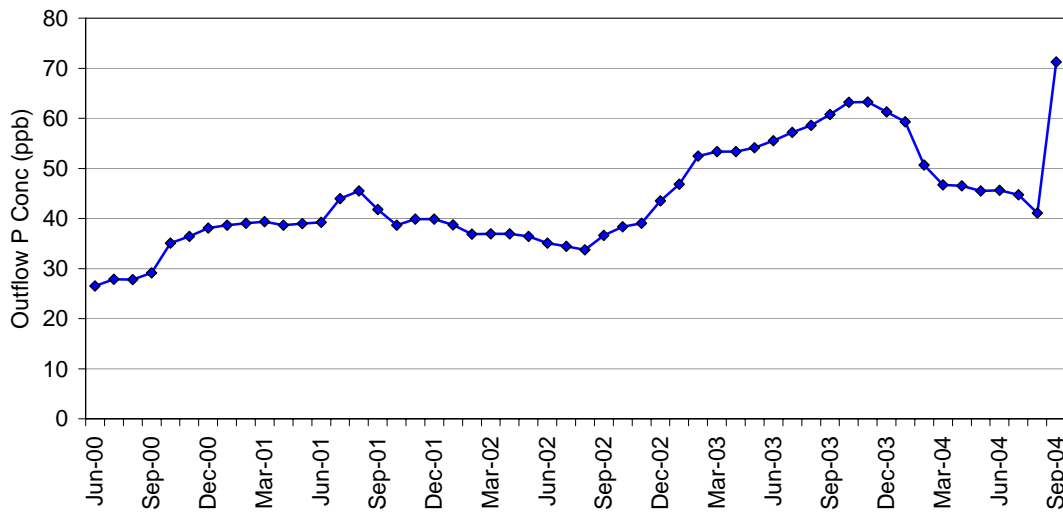
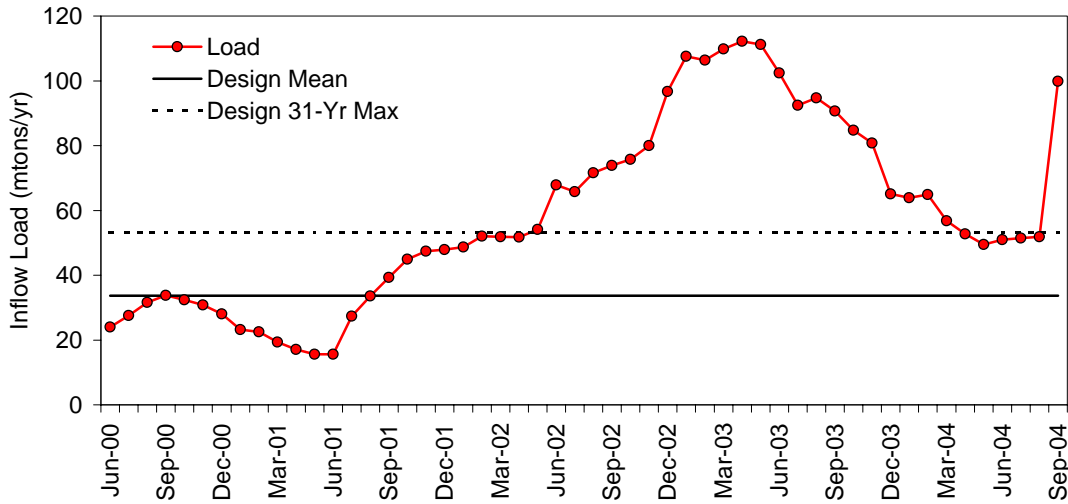
STA1W Daily Flows & Phosphorus Loads

July - October 2004



STA-1W Monthly Inflow P Load & Outflow P Conc



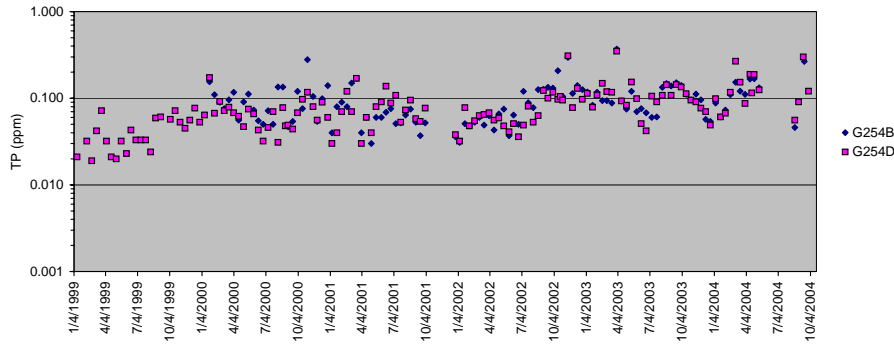


STA1W Outflow TP Concentrations

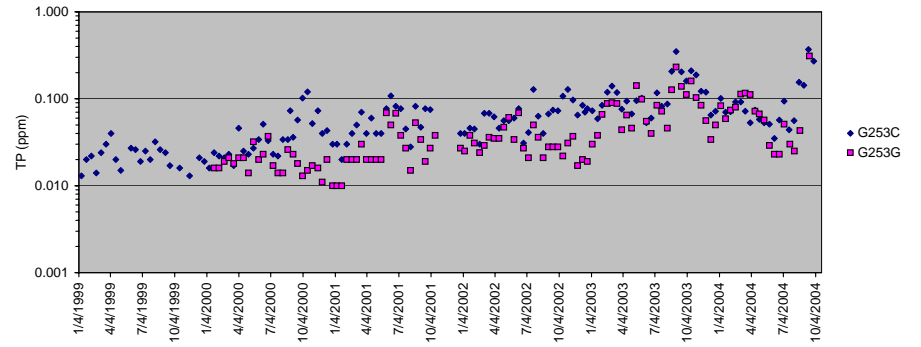
Grab Samples

1/1999 - 10/2004

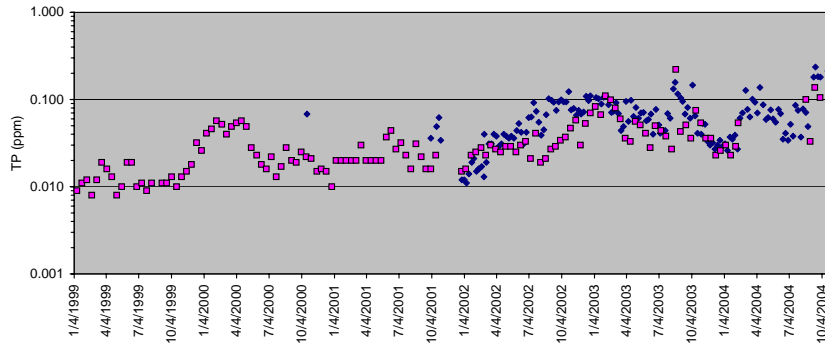
Cell 2 Outflows



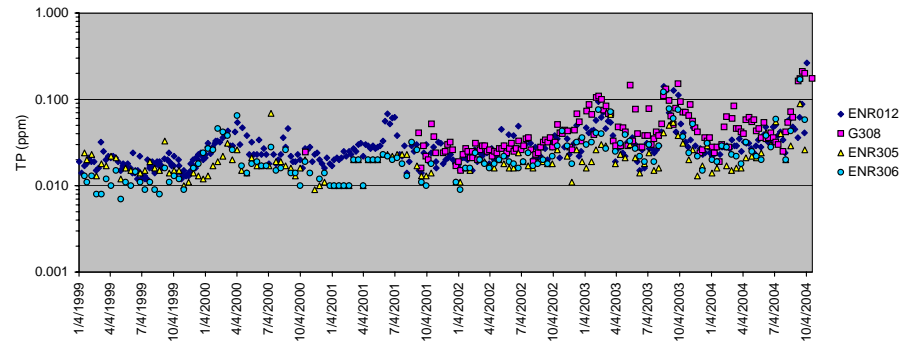
Cell 1 Outflows



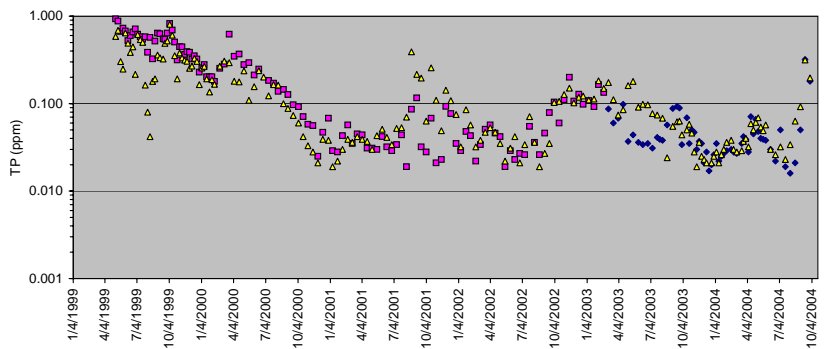
Cell 4 Outflows



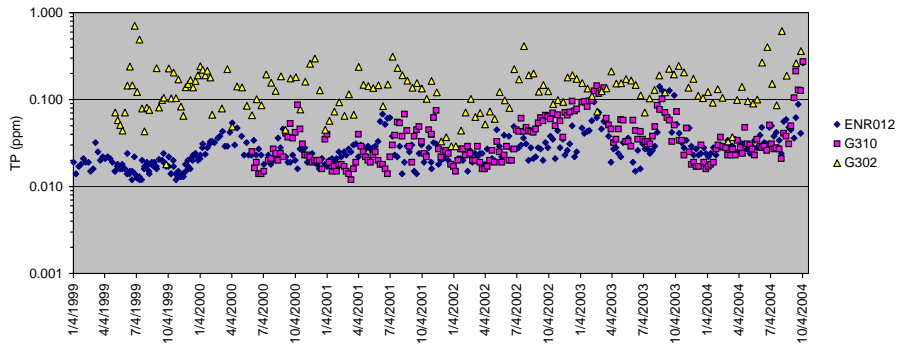
Cell 3 Outflows



Cell 5 Outflows



STA Inflow (G302) & Outflows

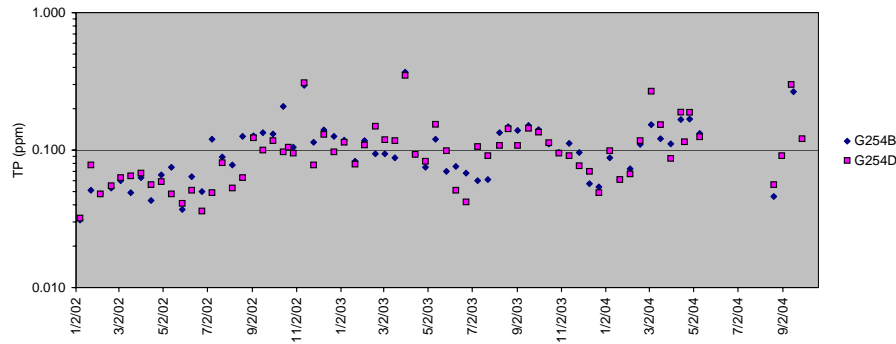


STA1W Outflow TP Concentrations

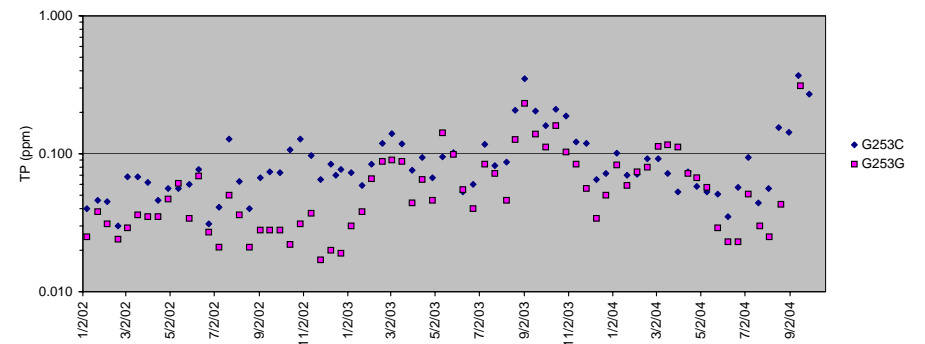
Grab Samples

1/2002 - 10 /2004

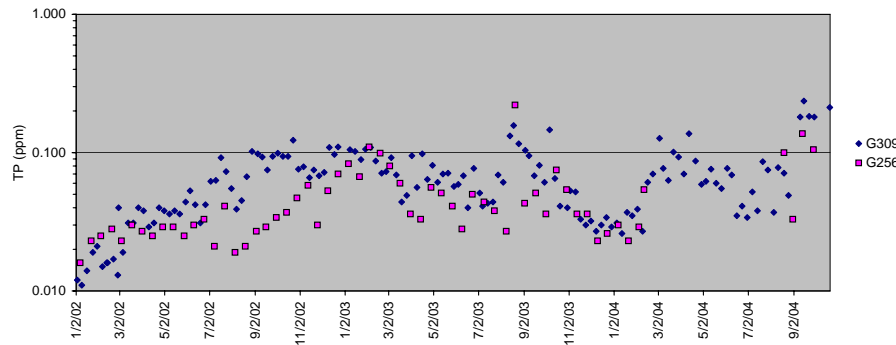
Cell 2 Outflows



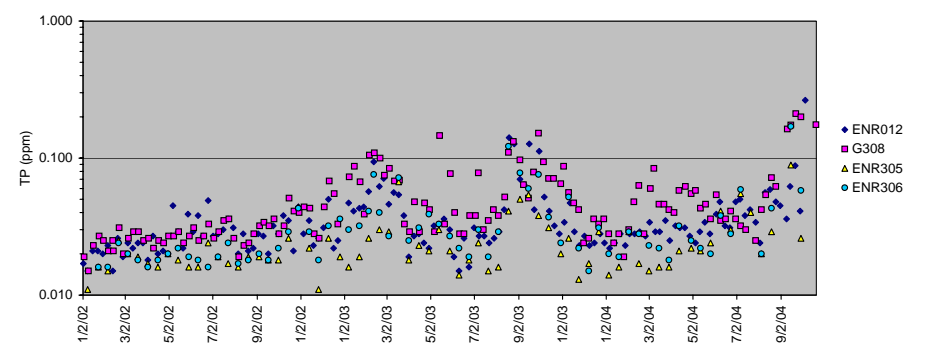
Cell 1 Outflows



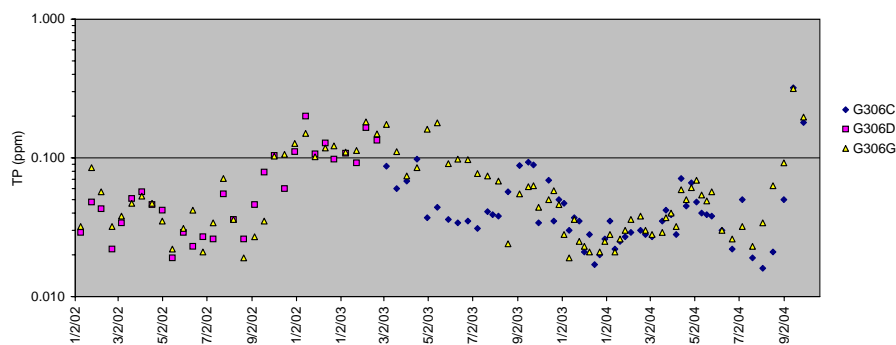
Cell 4 Outflows



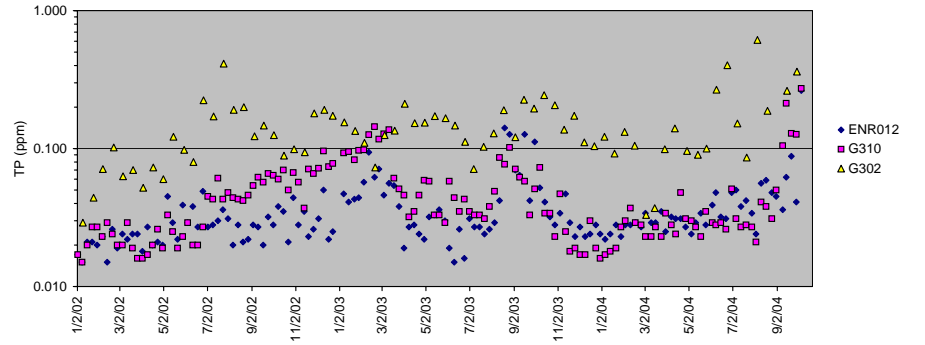
Cell 3 Outflows



Cell 5 Outflows



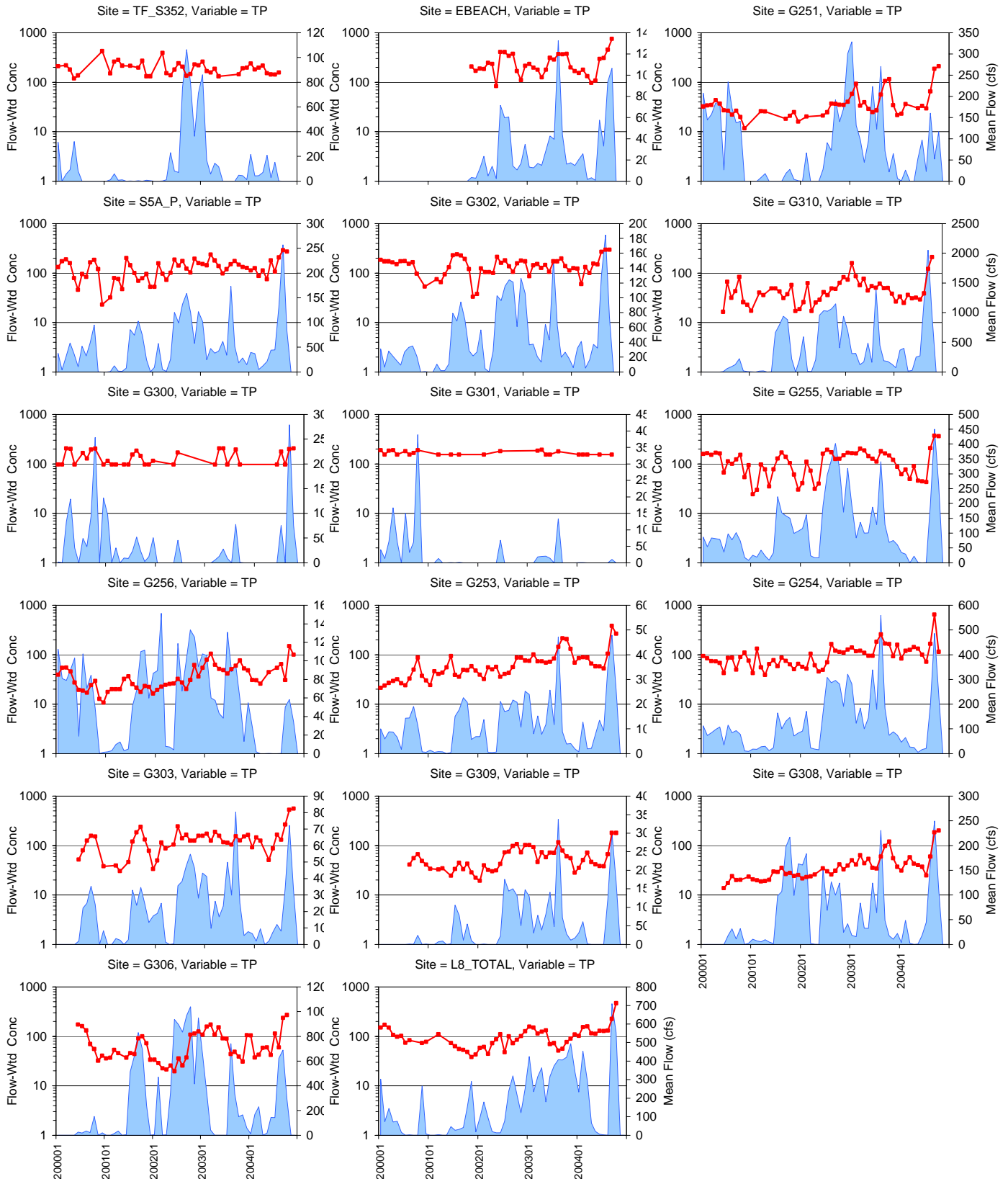
STA Inflow (G302) & Outflows



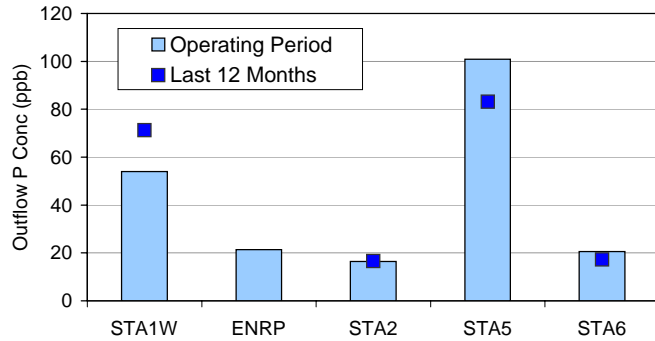
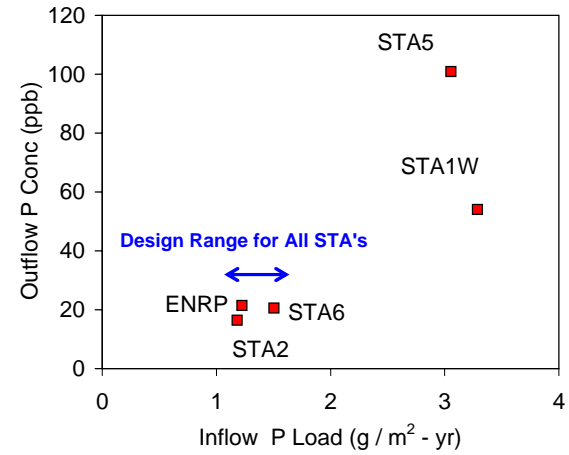
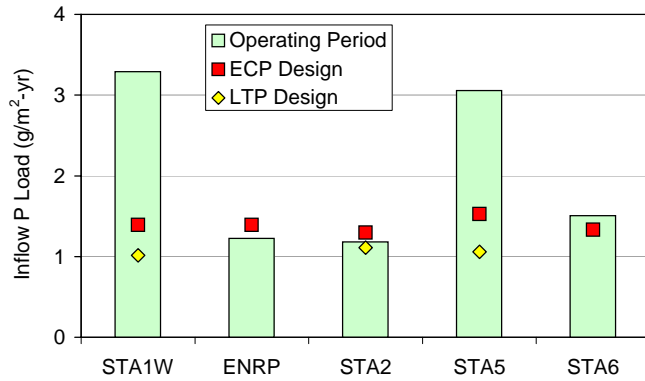


# Monthly Flows & Flow-Weighted Mean Concentrations

11/19/2004



### Performance of All STA's thru September 2004



#### Summary vs. Design Load

STA	P Load (g / m <sup>2</sup> - yr)			Outflow P (ppb)		Operating Pd	
	ECP/ 1994	BSFS/L TP	Operating	All	Last 12mo	First	Last
STA1W	1.4	1.0	3.3	54	71	Jul-01	Sep-04
ENRP	1.4	-	1.2	21	-	Aug-94	Jun-99
STA2	1.3	1.1	1.2	16	17	Jul-01	Sep-04
STA5	1.5	1.1	3.1	101	83	Apr-02	Sep-04
STA6	1.3	#N/A	1.5	21	17	Aug-00	Sep-04

### 12-Month Moving-Average EAA Rainfall

