Appendices to

Baseline Data for the Basin-Specific Feasibility Studies to Achieve the Long-term Water Quality Goals for the Everglades

Prepared by the
South Florida Water Management District

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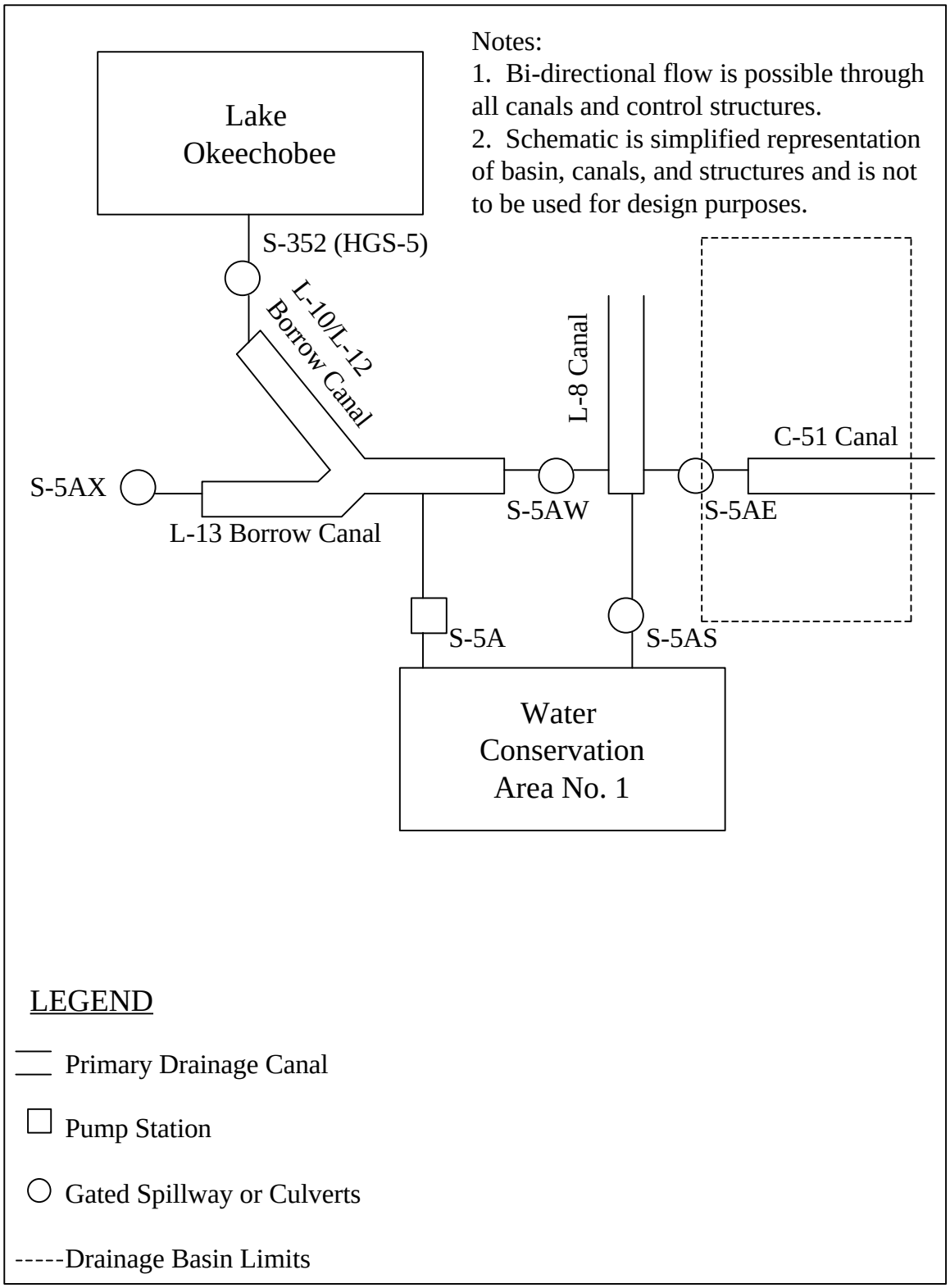
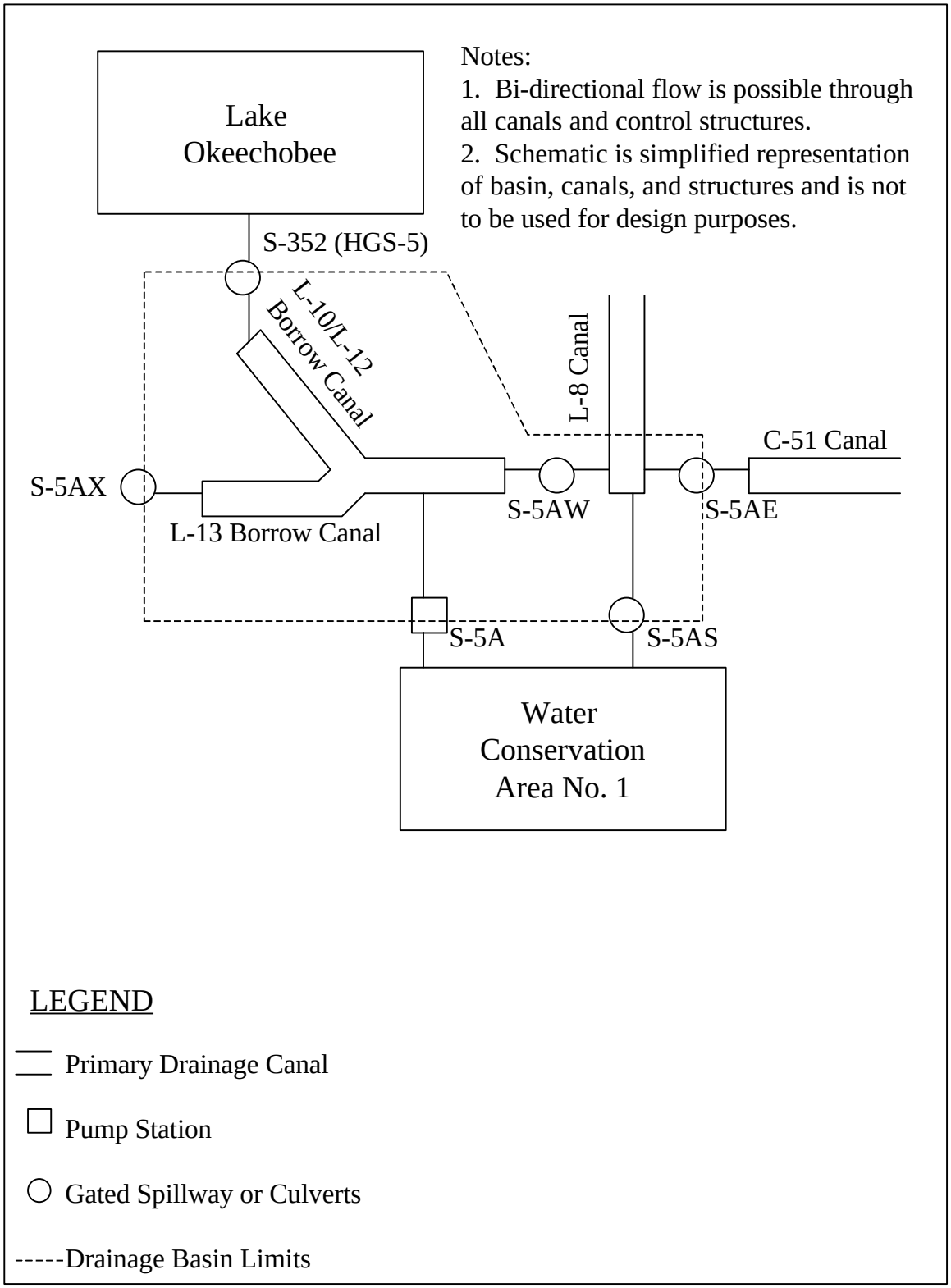
Environmental Engineering Section
Everglades Construction Project

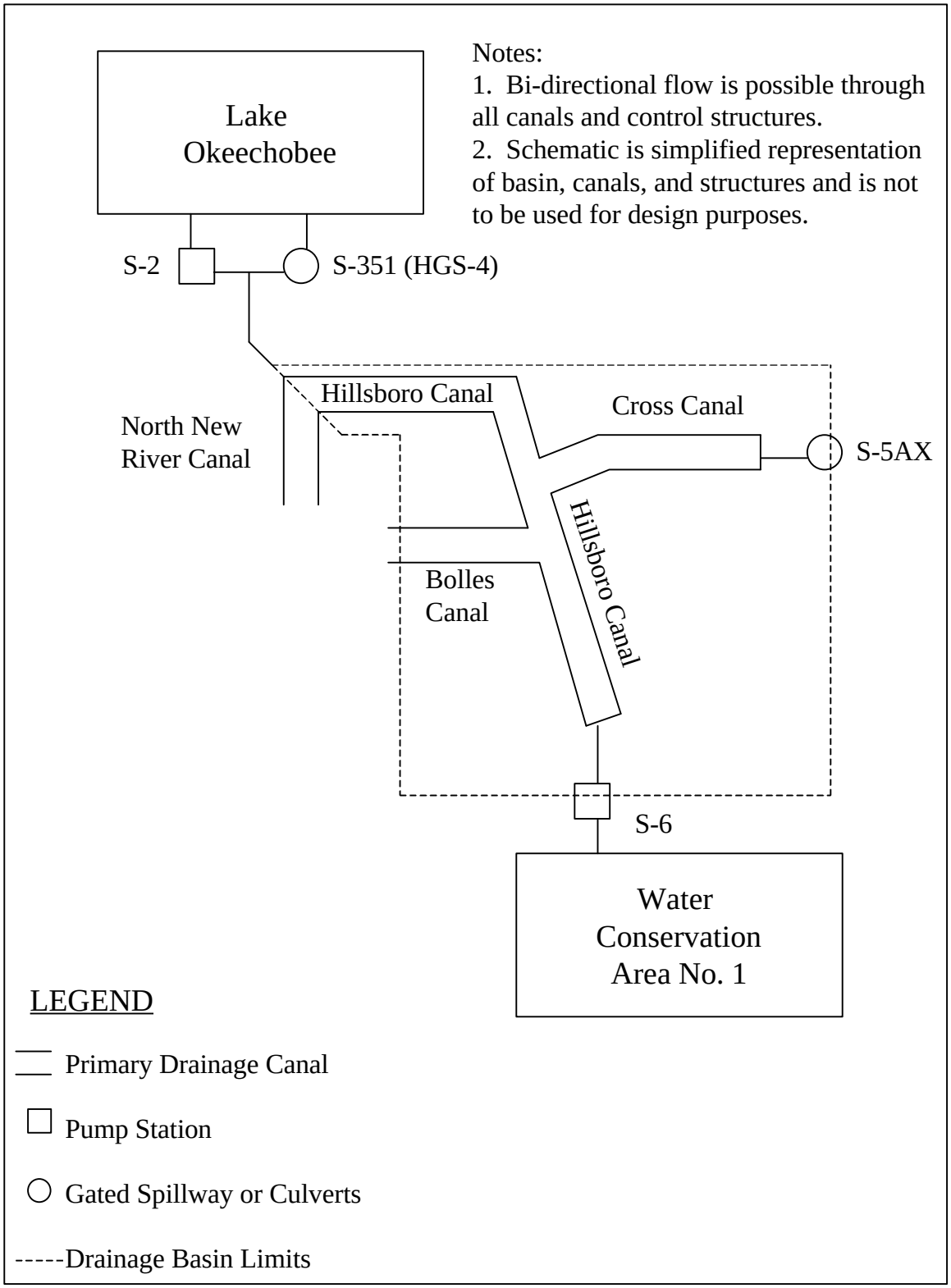
May 2001



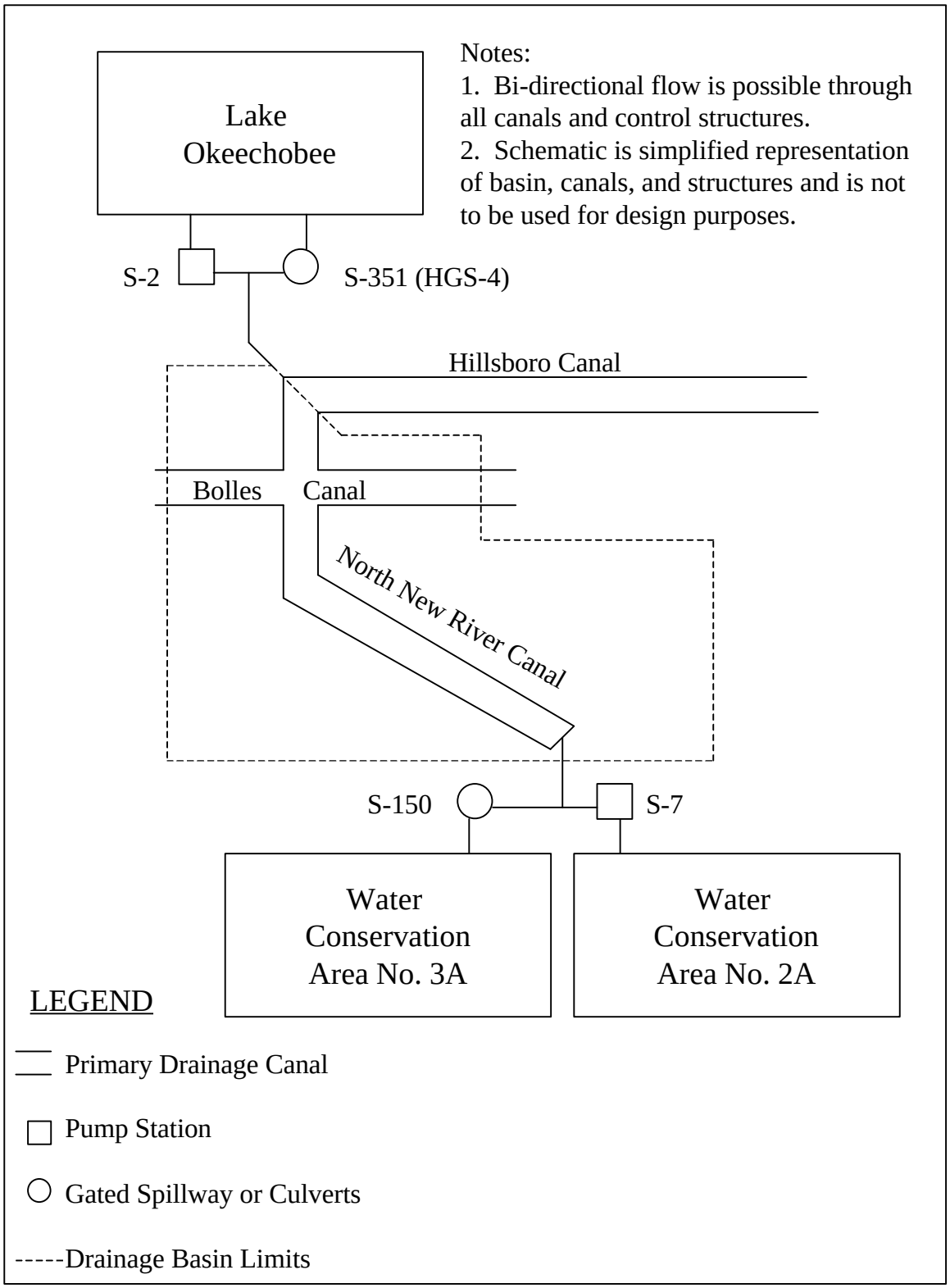
Appendix 1-1. C-51W Basin Schematic



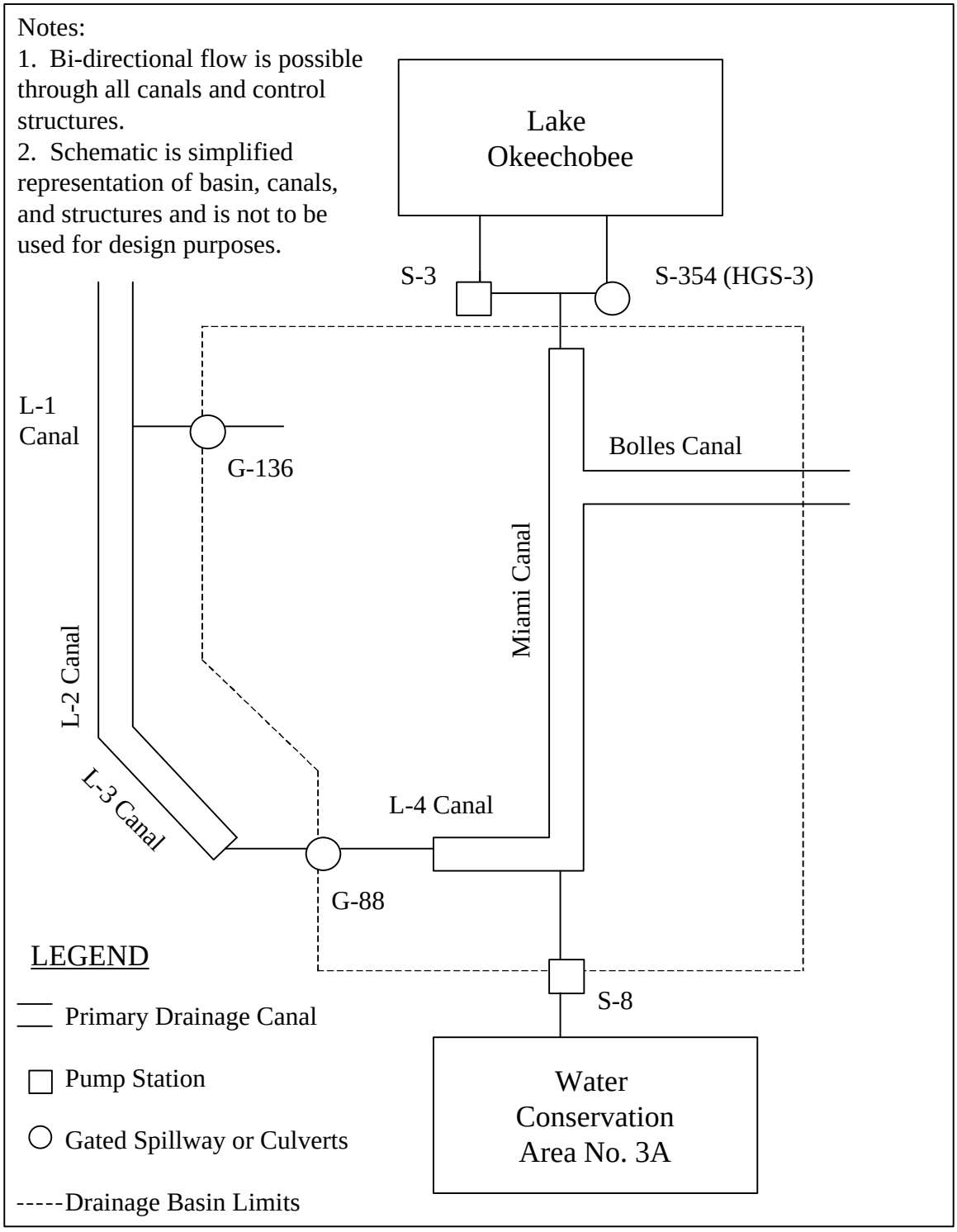
Appendix 1-2. S-5A Basin Schematic



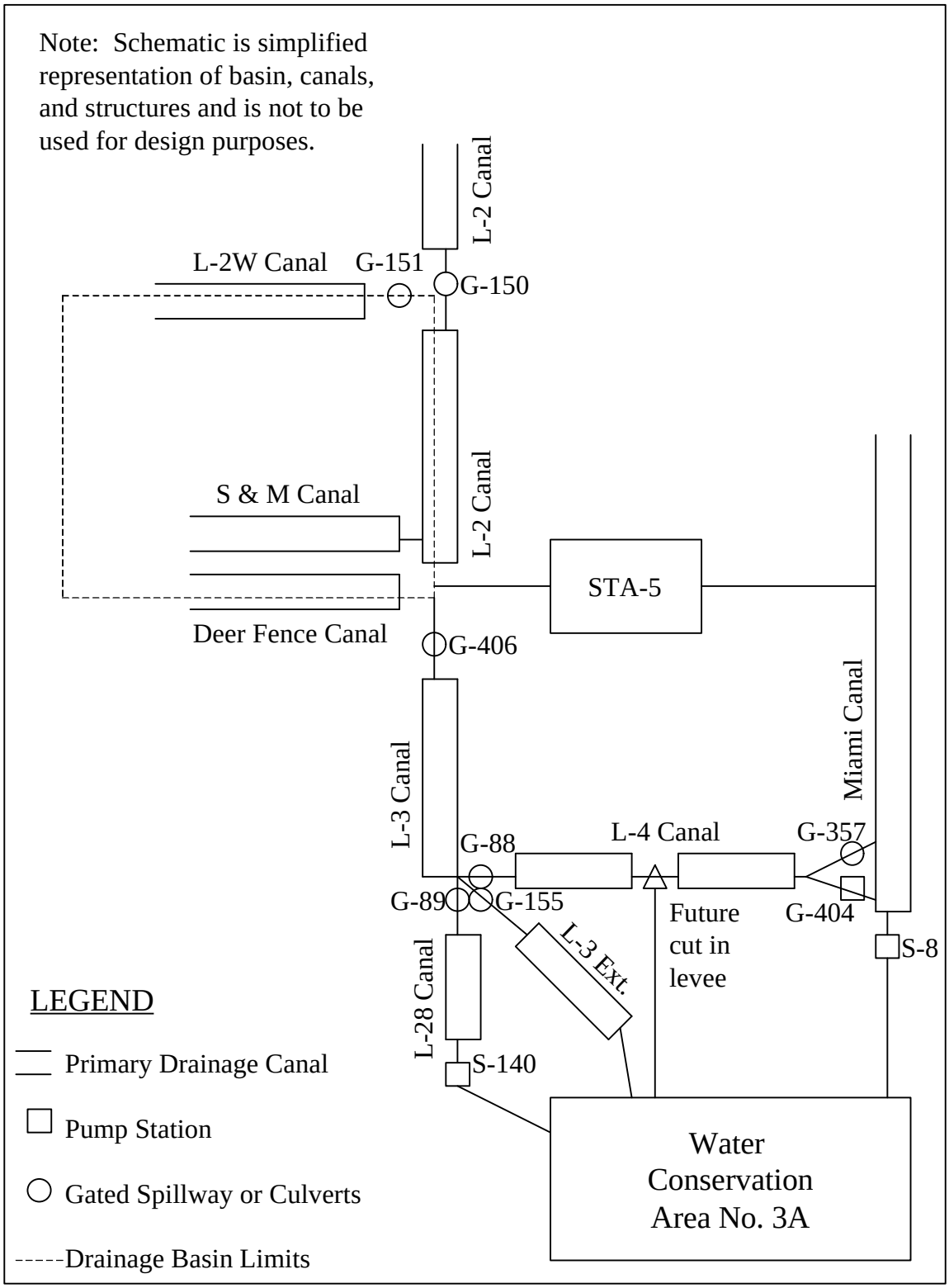
Appendix 1-3. S-6 Basin Schematic



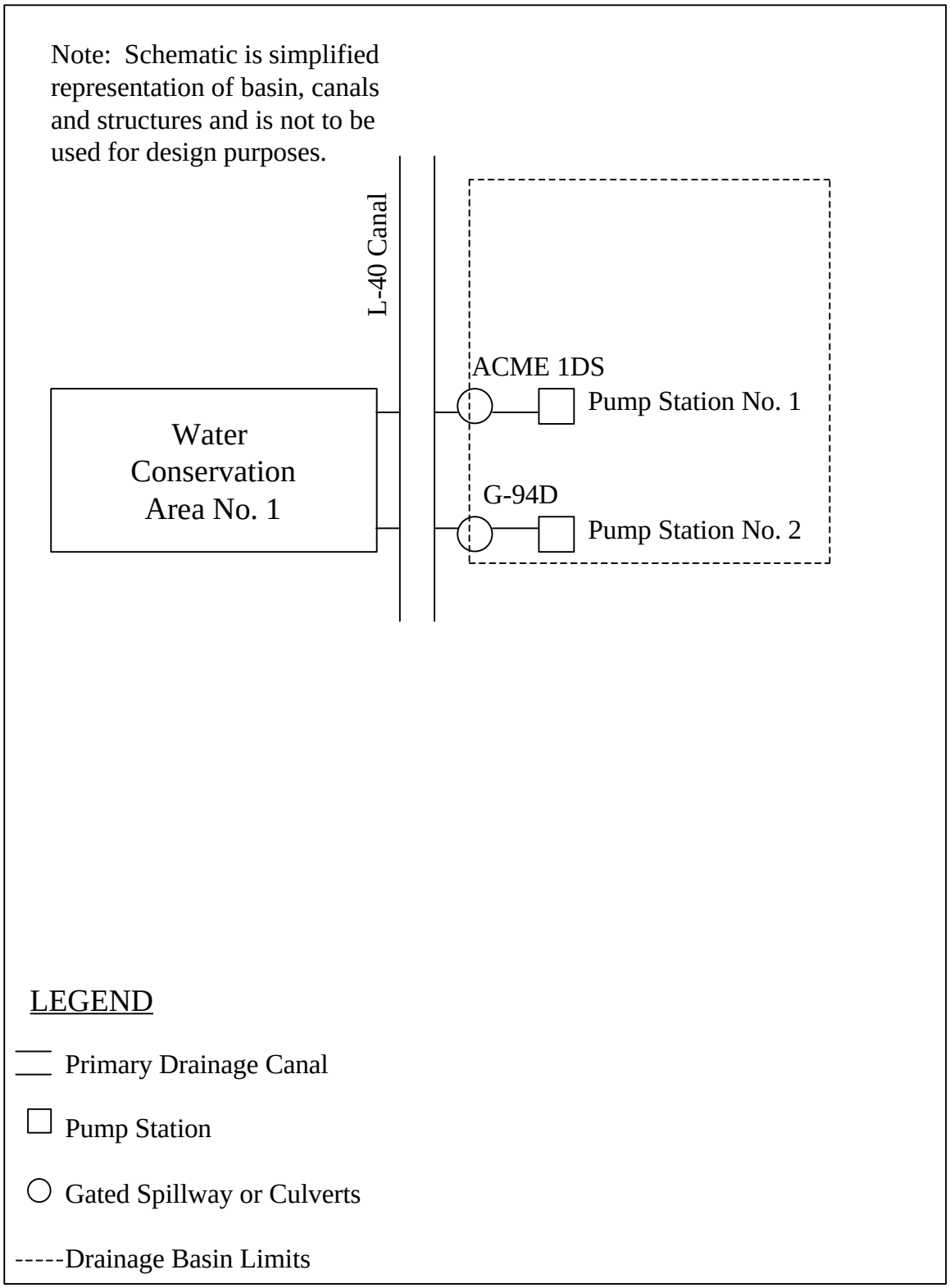
Appendix 1-4. S-7 Basin Schematic



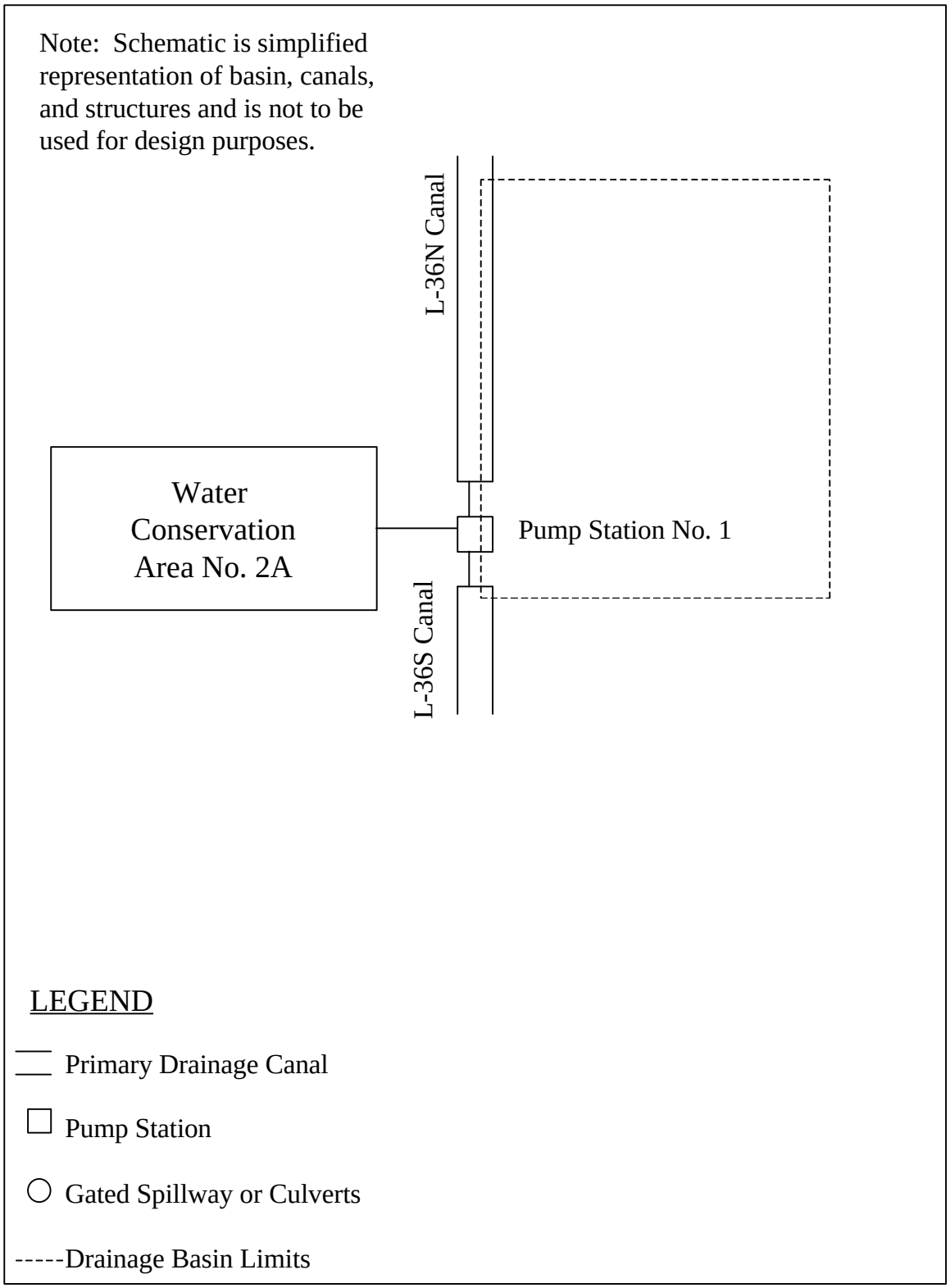
Appendix 1-5. S-8 Basin Schematic



Appendix 1-6. C-139 Basin Schematic

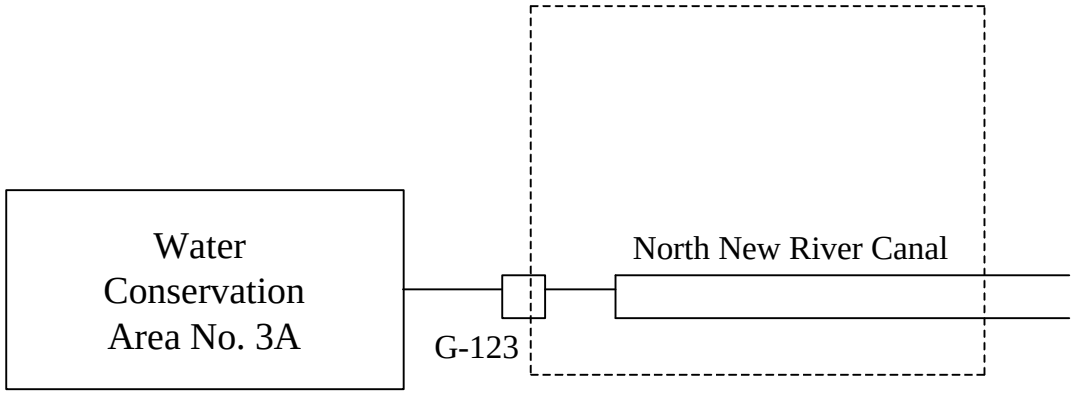


Appendix 1-7. Acme Basin B Schematic



Appendix 1-8. NSID Basin Schematic

Note: Schematic is simplified representation of basin, canals, and structures and is not to be used for design purposes.



LEGEND

Primary Drainage Canal

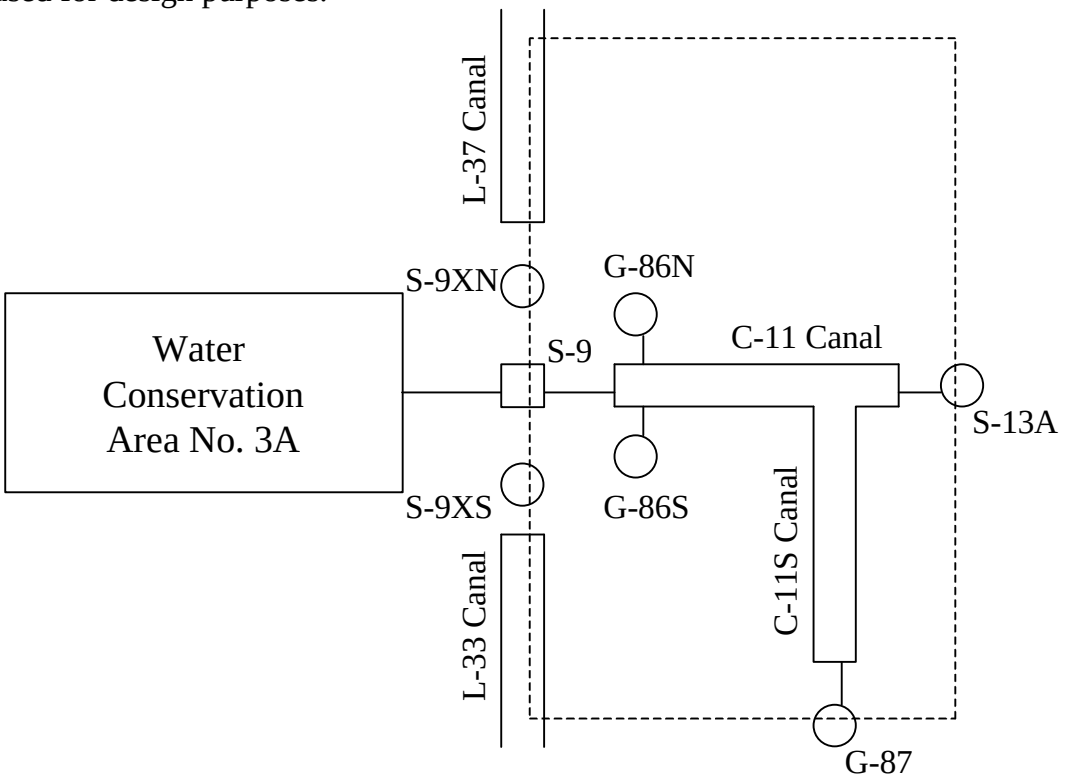
Pump Station

Gated Spillway or Culverts

-----Drainage Basin Limits

Appendix 1-9. North New River Canal Basin Schematic

Note: Schematic is simplified representation of basin, canals, and structures and is not to be used for design purposes.



LEGEND

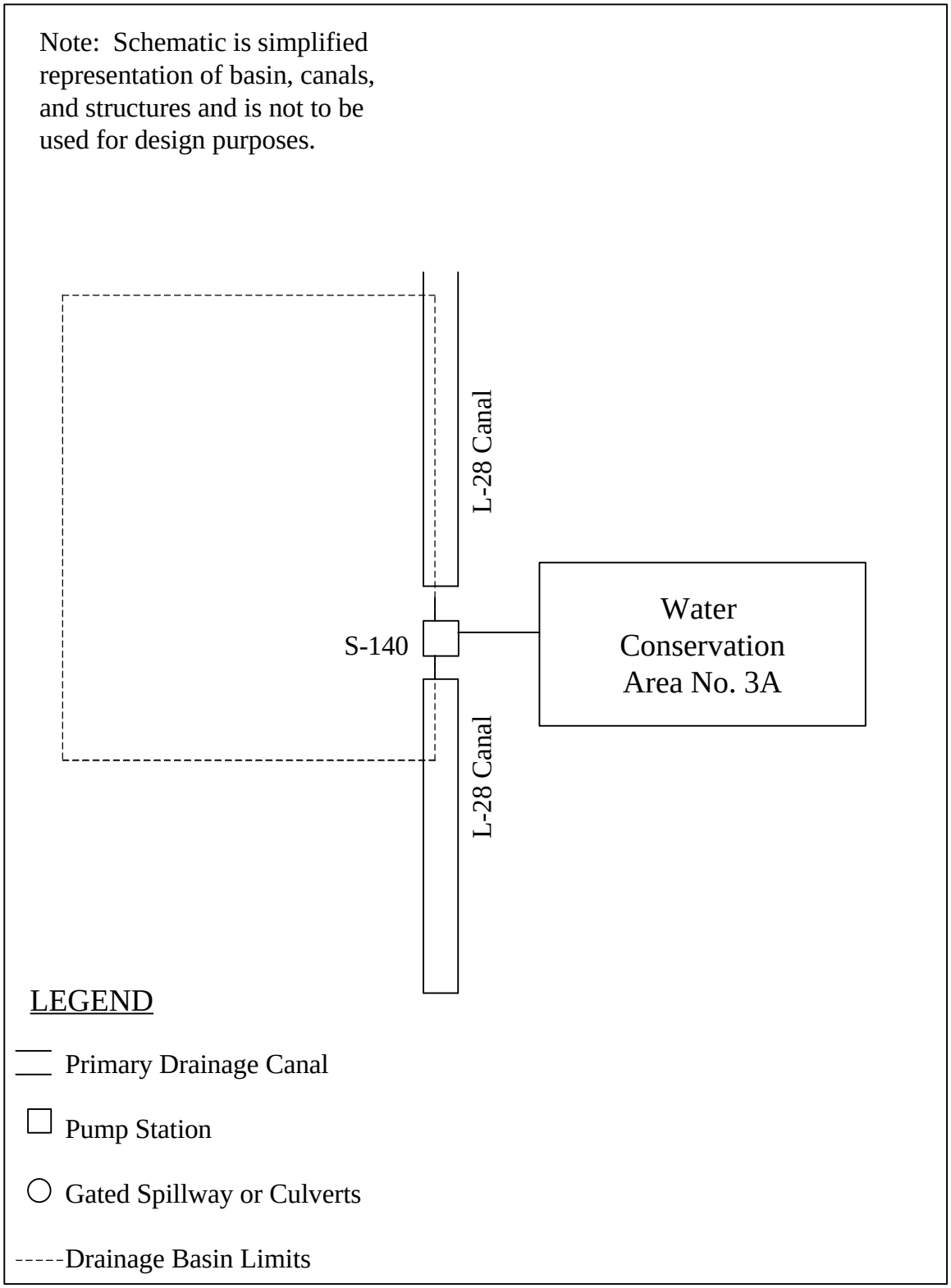
Primary Drainage Canal

Pump Station

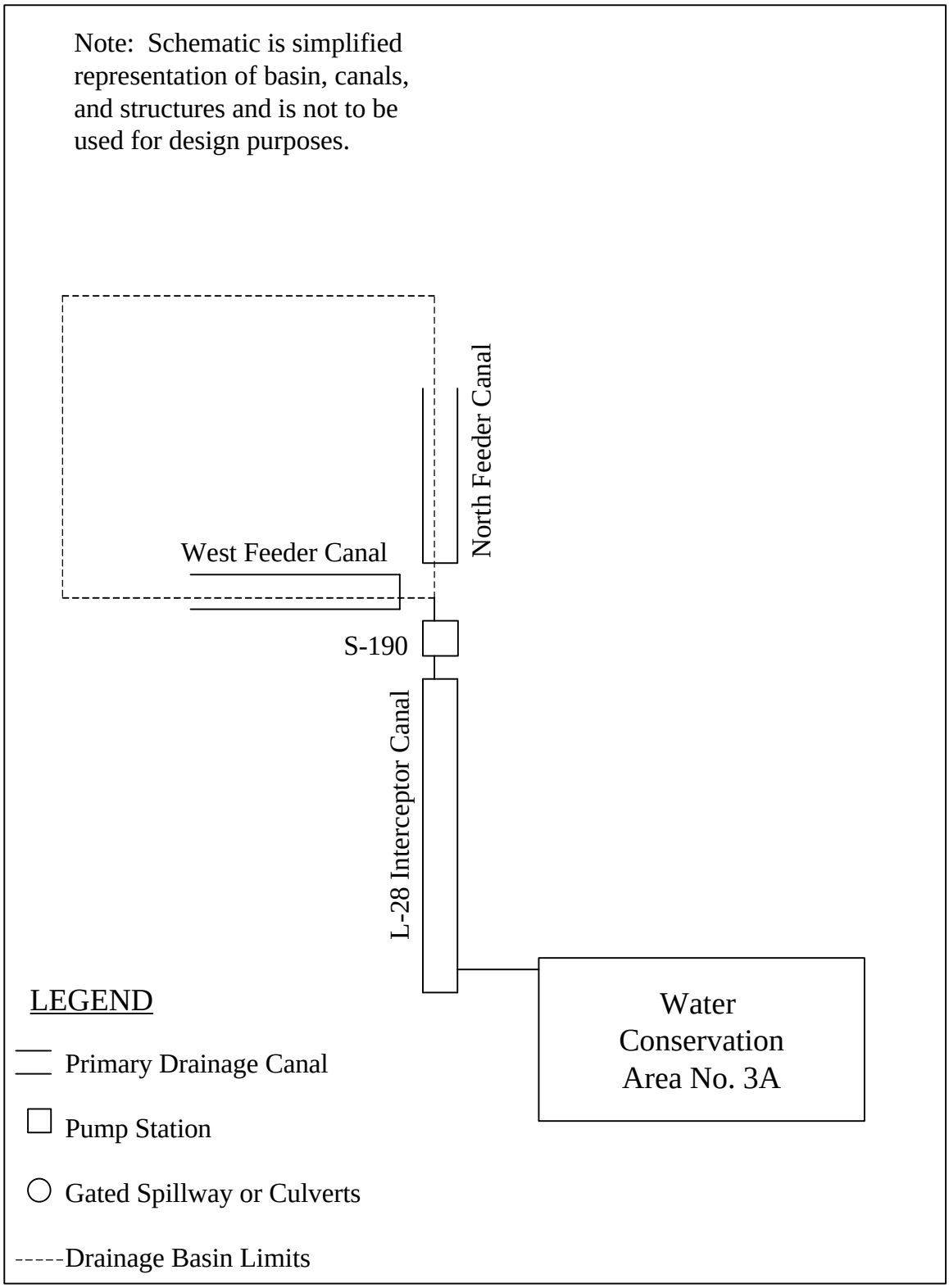
Gated Spillway or Culverts

-----Drainage Basin Limits

Appendix 1-10. C-11 West Basin Schematic



Appendix 1-11. L-28 Basin Schematic



Appendix 1-12. Feeder Canal Basin Schematic

APPENDIX 3-1. Excluded Outlier Data

DO measured for automatic sampler sample:

USL3BRS	8	CAMB	19950517	24	6.440	DO
USL3BRS	8	CAMB	19980521	0	3.490	DO
USL3BRS	8	CAMB	19980709	0	2.530	DO
USL3BRS	8	CAMB	19981217	0	5.520	DO
G136	8	CAMB	19950517	24	6.660	DO

FIELD COND. measured for automatic sampler sample:

USL3BRS	9	CAMB	19950517	24	460.000	FIELD COND.
USL3BRS	9	CAMB	19980521	0	563.000	FIELD COND.
USL3BRS	9	CAMB	19980709	0	536.000	FIELD COND.
USL3BRS	9	CAMB	19981217	0	553.000	FIELD COND.
G136	9	CAMB	19950517	24	578.000	FIELD COND.

Data for automatic sampler but no automatic sampler for the site:

L3BRS	25	CAMB	19970904	24	0.141	TP

Mis-coding. Values too high:

G136	8	CAMB	19971204	0	542.000	DO
G200	8	HOLY	19961119	0	521.000	DO
S18C	8	ENP	19990414	0	769.000	DO
S5A	8	CAMB	19980421	0	706.000	DO

Mis-coding. Values too low:

ACME1DS	9	CAMB	19970225	19	6.740	FIELD COND.
L40-2	9	CAMB	19960930	19	0.510	FIELD COND.
S5A	9	CAMB	19981201	0	23.700	FIELD COND.
S9	9	CAMB	19981027	0	2.530	FIELD COND.

Mis-coding. Values too low. Probably quality control blank:

S5A	25	CAMB	19950404	24	-0.004	TP

Quality control samples:

ENR012	9	LAB	19950627	24	861.000	FIELD COND.
ENR012	14	LAB	19950627	24	898.000	LAB COND.
ENR012	25	LAB	19940818	24	0.025	TP
ENR012	25	LAB	19950627	24	0.029	TP
ENR012	8	LAB	19940818	24	1.980	DO
ENR012	8	LAB	19950627	24	5.500	DO

EAA Rule 40E-63 TP load calculation program outlier screening:

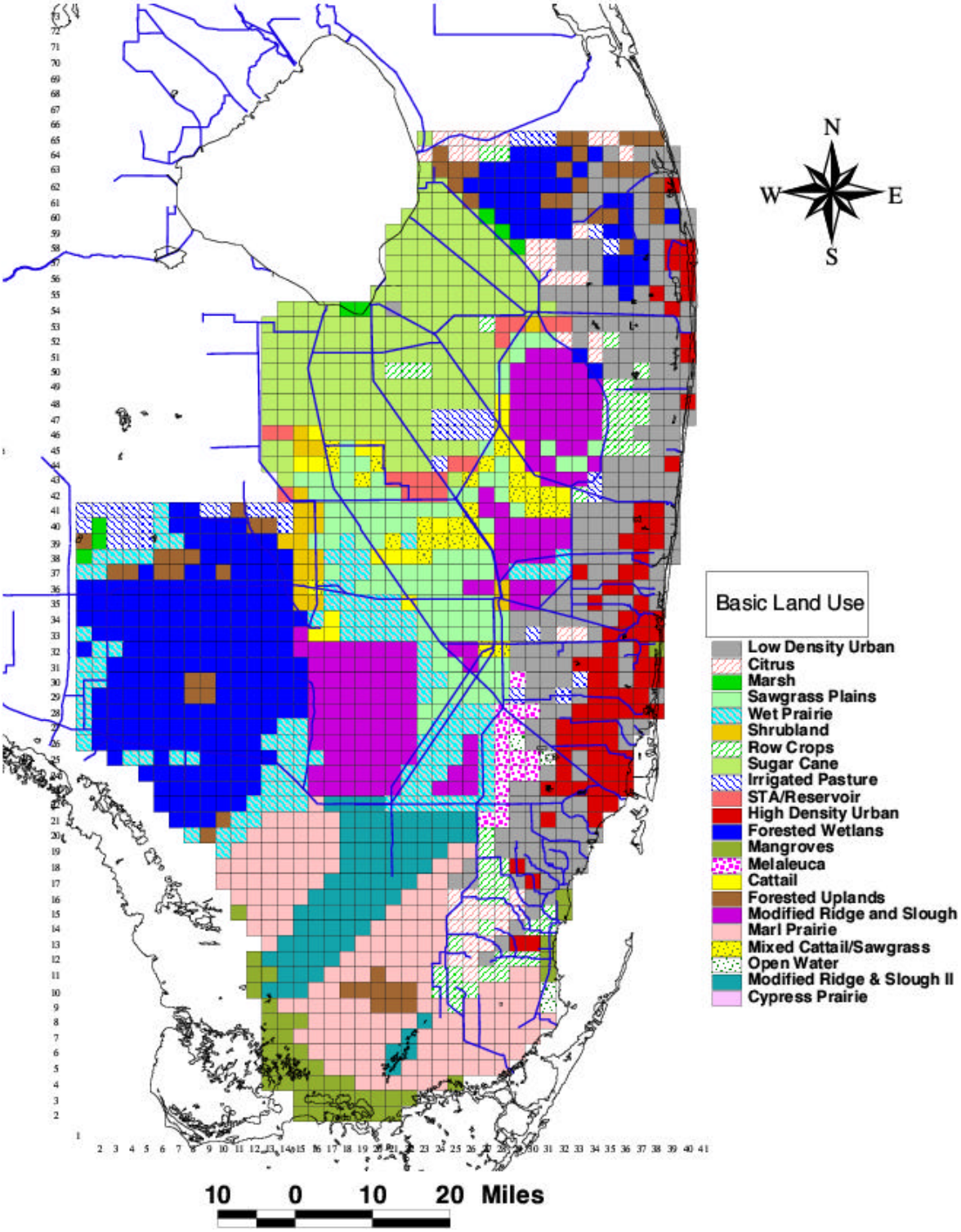
S5A	25	CAMB	19900625	19	0.409	TP

Outlier data flagged by District Environmental Monitoring and Assessment staff:

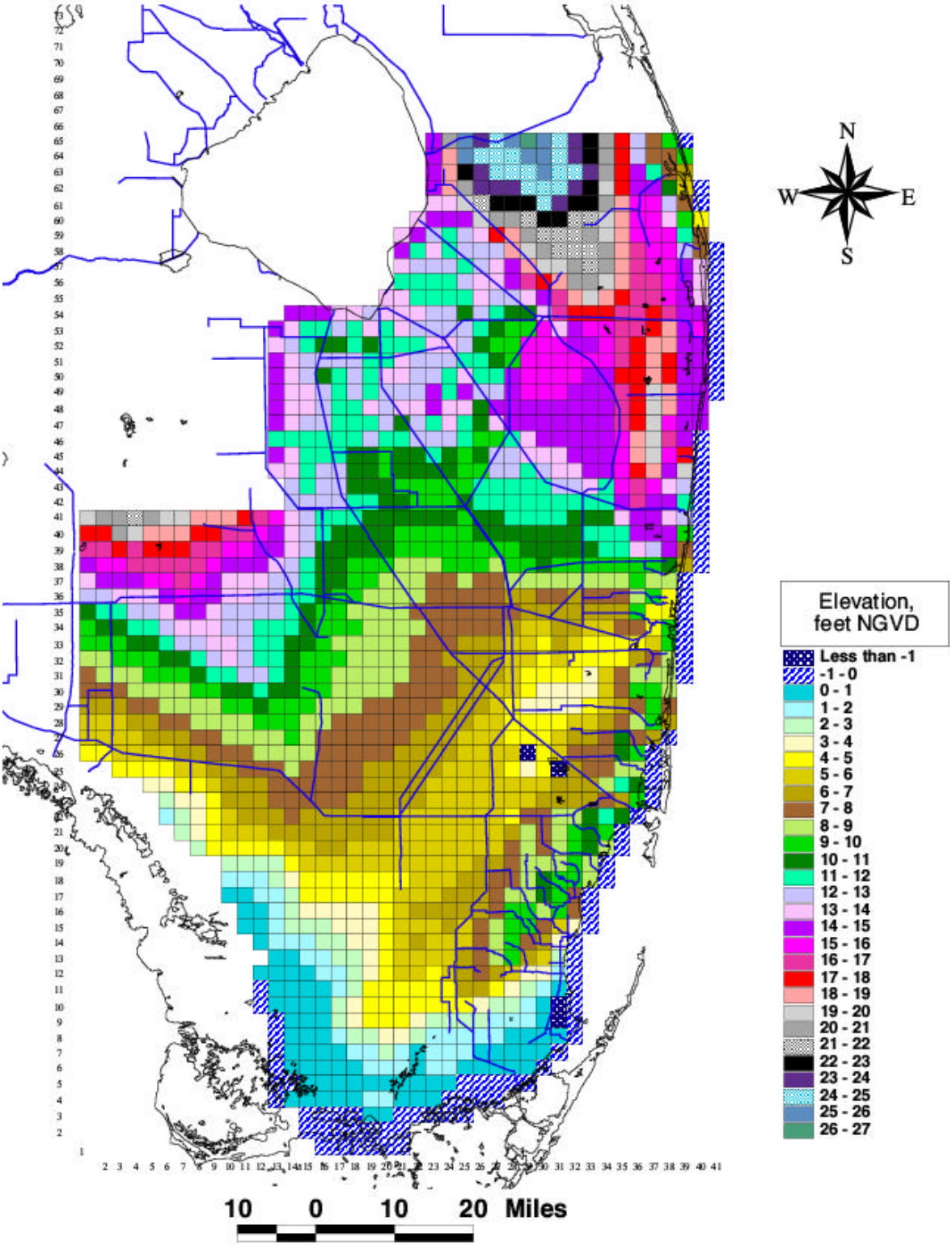
S150	CAMB	19970805	24	0.679	TP
S6OUT	CAMB	19970315	24	0.722	TP
S6OUT	CAMB	19970422	24	0.341	TP

Appendix 3-2. SFWMM input parameters

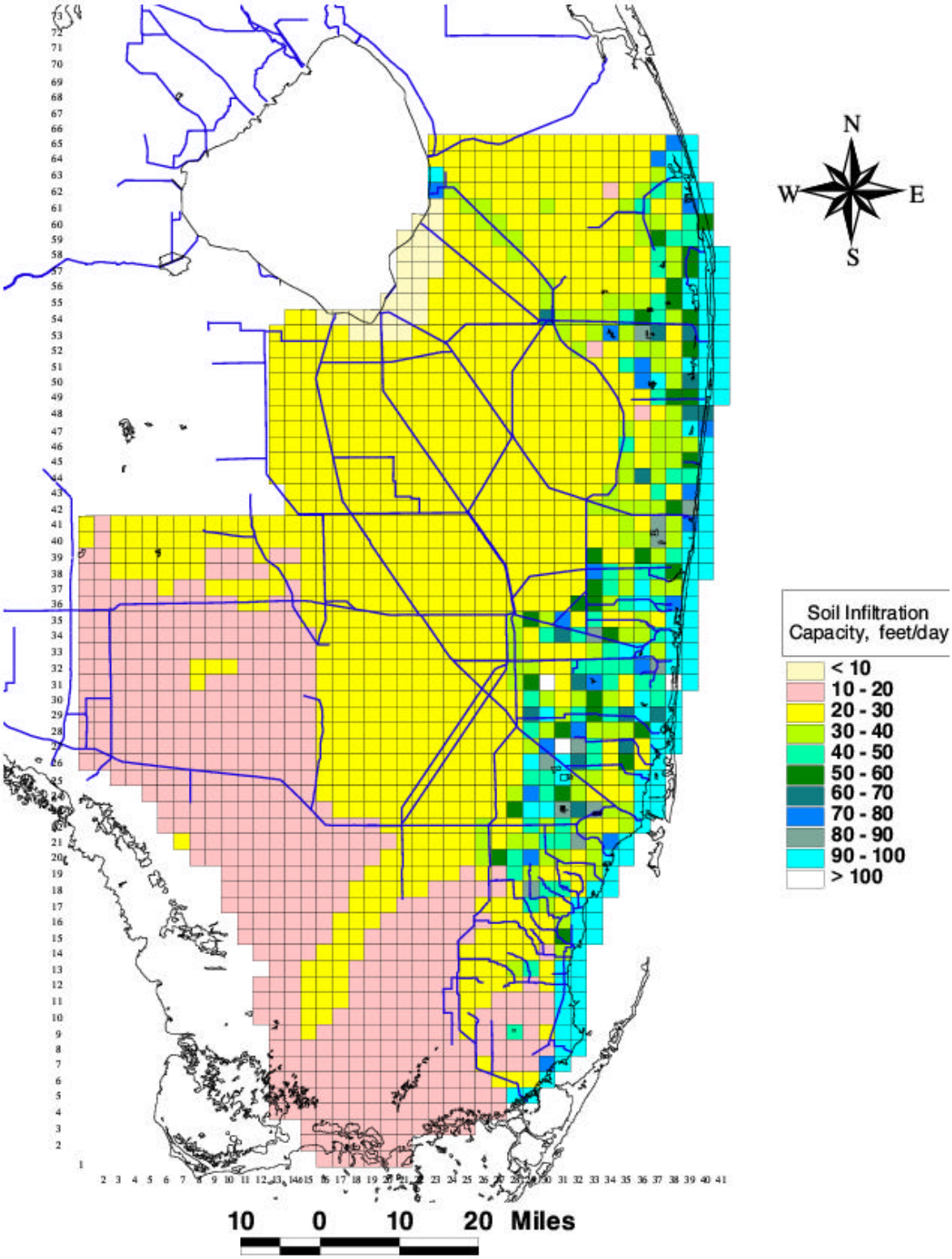
BASIC LAND USE
ECP BASERR1 using SFWMM v3.8



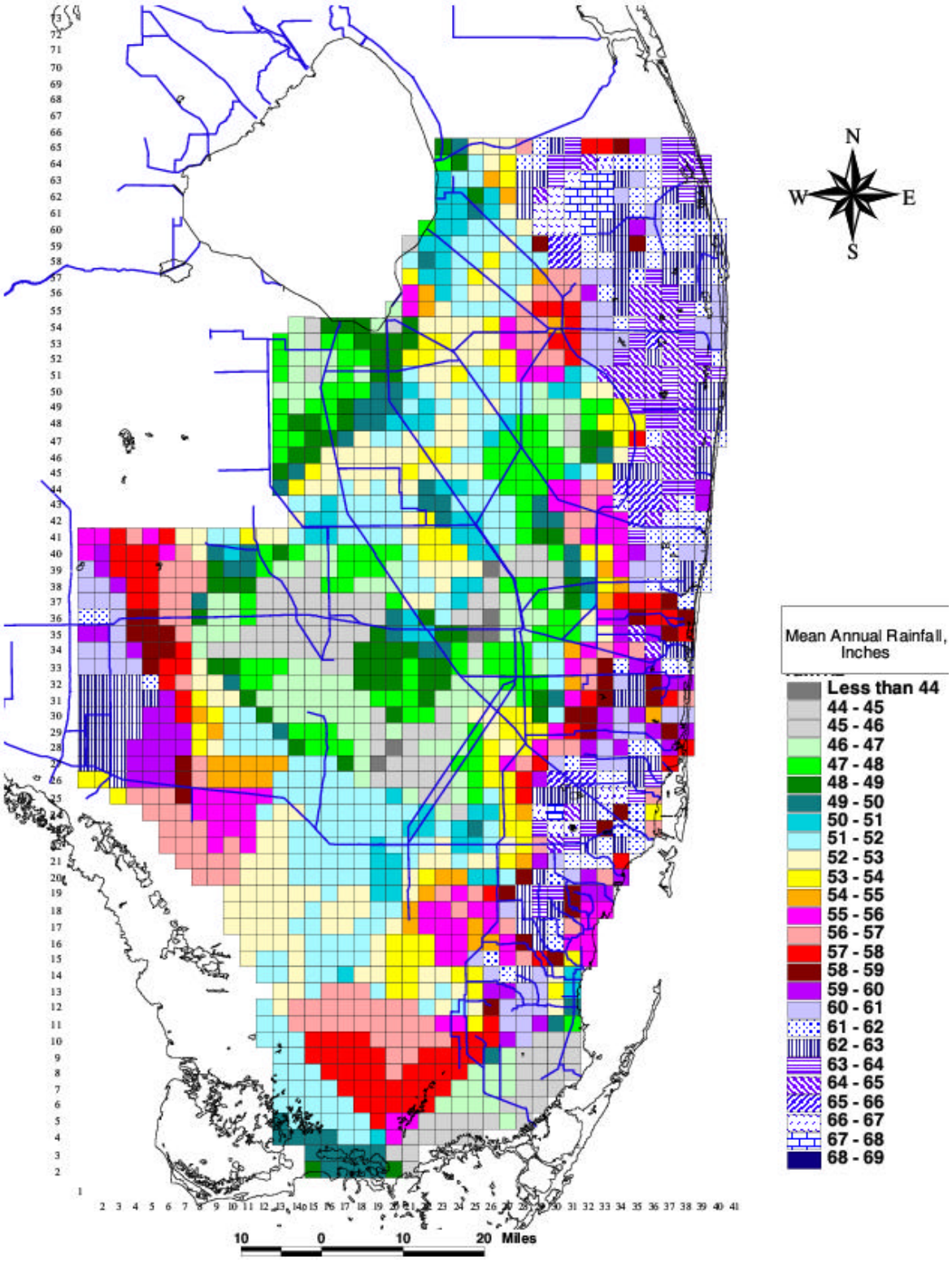
GRID ELEVATION
ECP BASERR1 using SFWMM v3.8



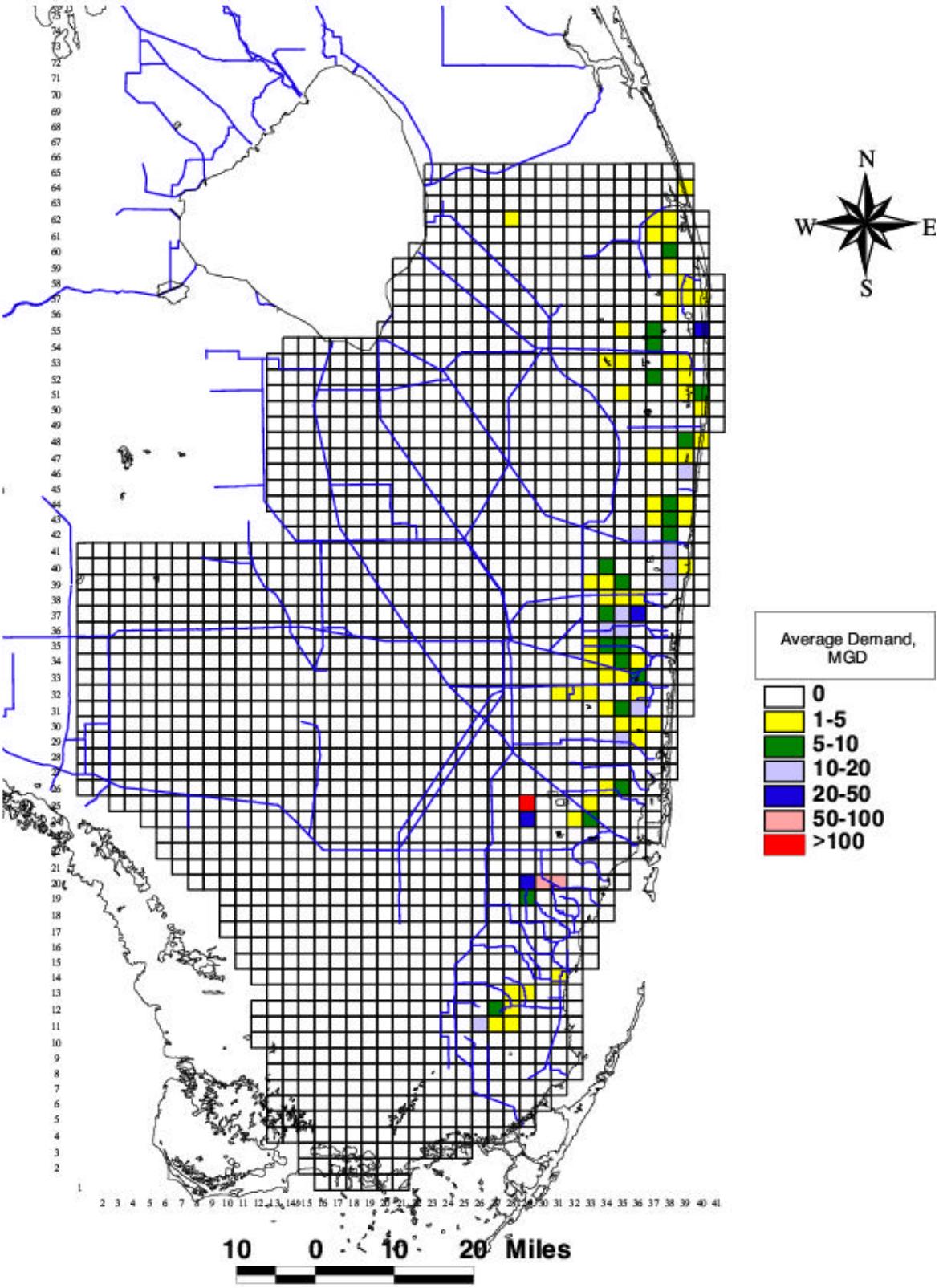
SOIL INFILTRATION CAPACITY
ECP BASERR1 using SFWMM v3.8



MEAN ANNUAL RAINFALL
ECP BASERR1 using SFWMM v3.8



AVERAGE DAILY WELLFIELD DEMANDS
ECP BASERR1 using SFWMM v3.8



Structure Capacities Used for the ECP BASERR1

(6/5/2001)

SFWMM Structure Name	Capacity; Discharge Equation Used (units: cfs)	Description / Comments
STA 3/4 Inflow#1	3670.	Represents G-372
STA 3/4 Inflow #2	2170.	Represents G-370
ST3S81	718 x (stg@r42c22 - 11.2)$^{1.5}$	Portion of outflow from STA-3&4 that potentially could be routed through S8
ST3S71	818 x (stg@r42c24 - 11.7)$^{1.5}$	Portion of outflow from STA-3&4 that potentially could be routed through S7
LC101 Inflow#1	4800.	
ST1WI1	3250.; 911 x (stg@r53c30 – 16.0)$^{1.5}$	inflow into STA-1W
ST1EI1	1750.; 304 x (stg@r53c30 – 16.5)$^{1.5}$	inflow into STA-1E via L-101 (up to 1,750 cfs runoff from EAA_WPB basin)
STA2 Inflow#1	3375.	Combined capacity for S-6 (2,925 cfs) & G-328 (450 cfs)
STA2 Inflow#2	450.	
ST2OT1	3040.; 667 x (stg@r44c26 – 11.25)$^{1.5}$	flow from STA-2 into WCA-2A
ST1WQ1	3490.; 759 x (stg@r52c28 – 11.25)$^{1.5}$	flow from STA-1W into WCA-1
STA1E Inflow#2	3980.	Flow from C51W basin through S319
STA1E Inflow#3	50.	Drainage from Sections 13 & 14 (Range 40E, Township 44S)
ST1EQ1	4200.; 810 x (stg@r53c31 – 15.45)$^{1.5}$	flow from STA-1E into WCA-1
S319WS	940 x (stg@r53c31 - 14.25)$^{0.5}$	water supply to C-51 from STA-1E via S-319
STA5 Inflow#1	2510.	
ST5OT1	200 x (stg@r46c14 – 13)$^{1.5}$	discharge from STA5 into Rotenberger Tract; 240 cfs goes to marsh and the rest goes through the northern canal.
STA6 Inflow#1 (U1TL28)	500.	Inflow from USSC Unit 2
STA6 Inflow#2 (SUGRF)	250.	Inflow from C-139 Annex
STA6 Inflow#3	Unlimited; controlled by available inflow volume and available storage in STA6	Drainage from C-139 Basin
ST6OT1	275 x (stg@r42c14 - 14.25)$^{1.5}$	total discharge from STA6
ROTOT1	463 x (stg@ROTEN - 12)$^{0.5}$	outflow from northern canal ROTEN in Rotenberger Tract
ROTOT2	144 x (stg@r45c16 - 12)$^{0.5}$	outflow from Rotenberger Tract
ROTOT3	96 x (stg@r44c16 - 12)$^{0.5}$	additional outflow for flood control from Rotenberger Tract
L8RESERVOIR Inflow#1	1100.	
RESTL8	55 x (stg@r59c29 - 21)$^{1.5}$	flood control releases from reservoir in Indian Trails Water Control District into L-8 canal
RESL8O	55 x (stg@r59c29 - 27.5)$^{1.5}$	emergency overflow from Indian Trails reservoir to L-8 canal
S343A&B(total)	390.	flow from CA-3 canal to TAMIA canal

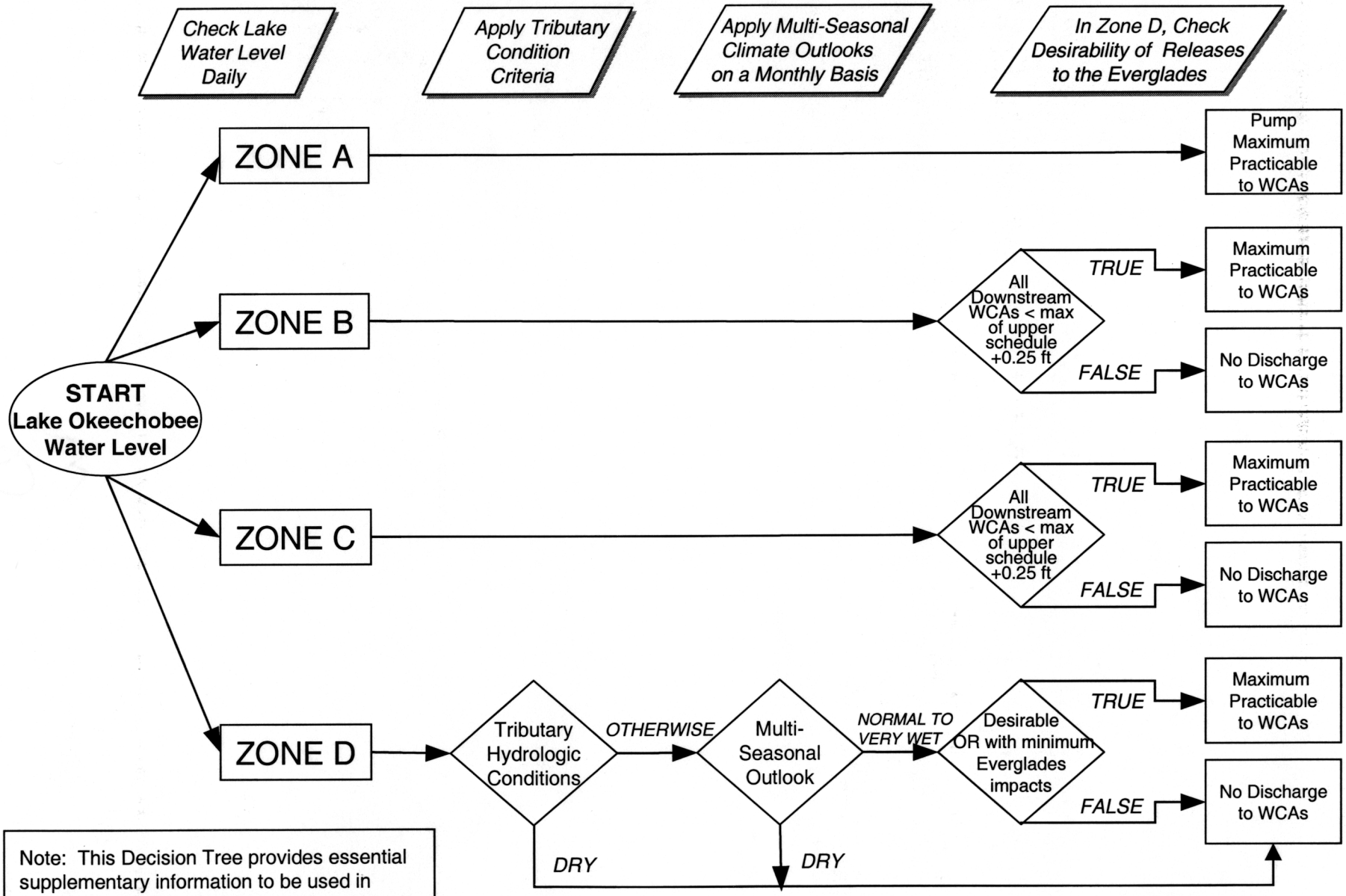
L28WQ	$6.22x35x(stg@r33c16 - 10)^{1.5}$	Assumed weir length is 35 ft.
S9	2880.	pumped flow from C-11W canal to WCA-3A which includes seepage into L-37 and L-33 borrow canals
S319	3600.	flow from western C-51 basin into STA-1E via S-319
ACMEWS	135.	ACME District water supply met by WCA-1
NSIMP2	100.	Represents 50,00 GPM pump in NSID Pump Sta.1
NSIMP3	330.	Represents 3x50,000 GPM pumps in NSID Pump Sta.1
G200	750.	
S5A1	4800.	discharge from EAA_WPB basin to WCA-1 or STA-1W and STA-1E through S-5A pumps
S8	4170.	discharge from EAA_MIAMI basin to L-23E canal in northwestern WCA-3A
S7	2490.	discharge from EAA_NNR/HLSB basin to L-38 canal in WCA-2A
S6	2925.	discharge from EAA_NNR/HLSB basin to WCA-1 (current operation) or to STA-2 (proposed operations)
S150	1000.	discharge from EAA_NNR/HLSB basin to conveyance canal in WCA-3A (CA3 canal)
S140A	1300.	total flow from L-28 canal to C-60 canal in WCA-3A

Notes:

Output directory: ../ECP/O_ECP_BASERR1_V3.8.1
Input directory: ../ECP/INPUT/V3.8.1
Input files: reservoir_input.dat
cndta22_rr1
lecdef
gen_nodal_dep_struc.dat

WSE Operational Guidelines Decision Tree

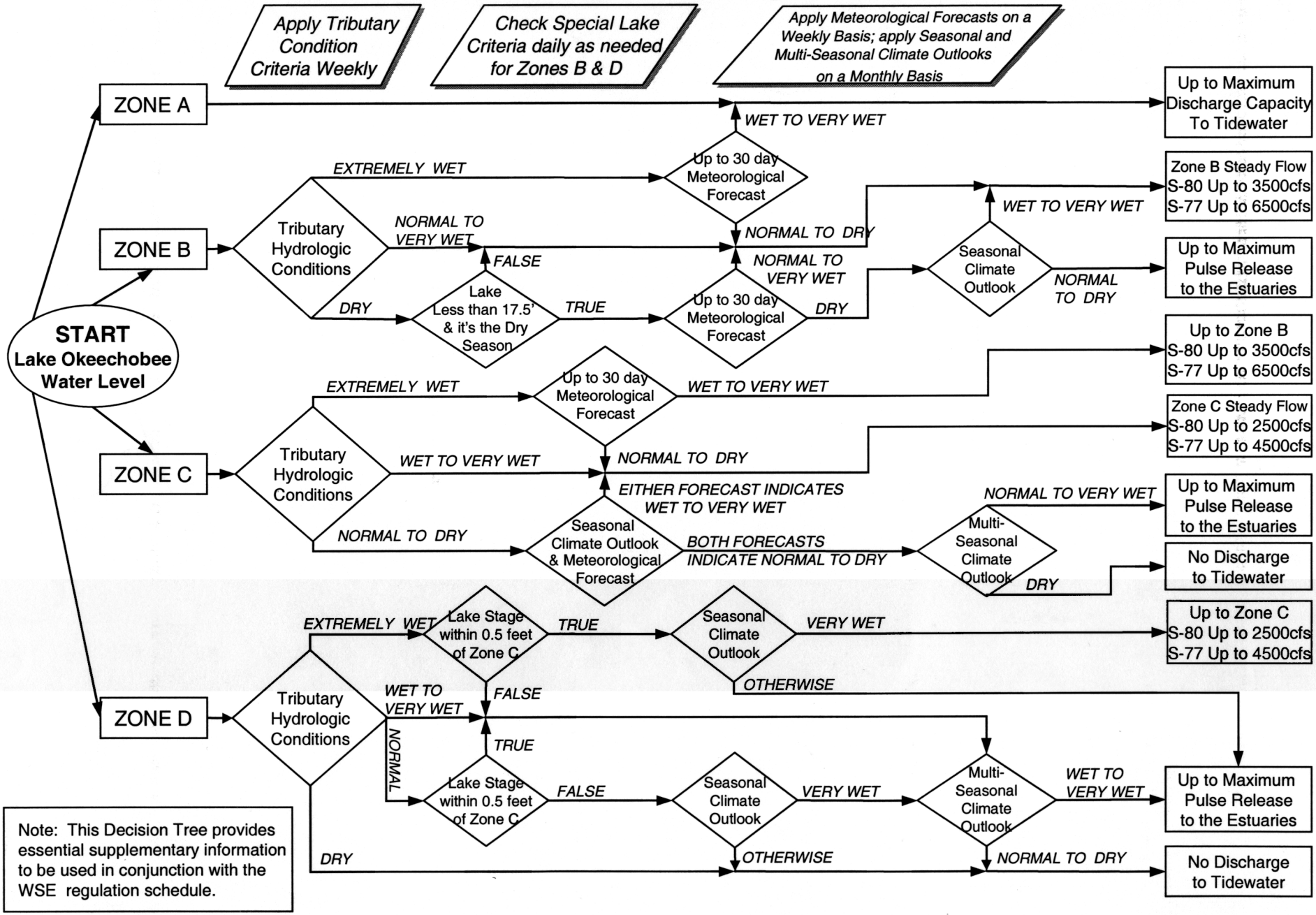
Part 1: Define Lake Okeechobee Discharges to the Water Conservation Areas



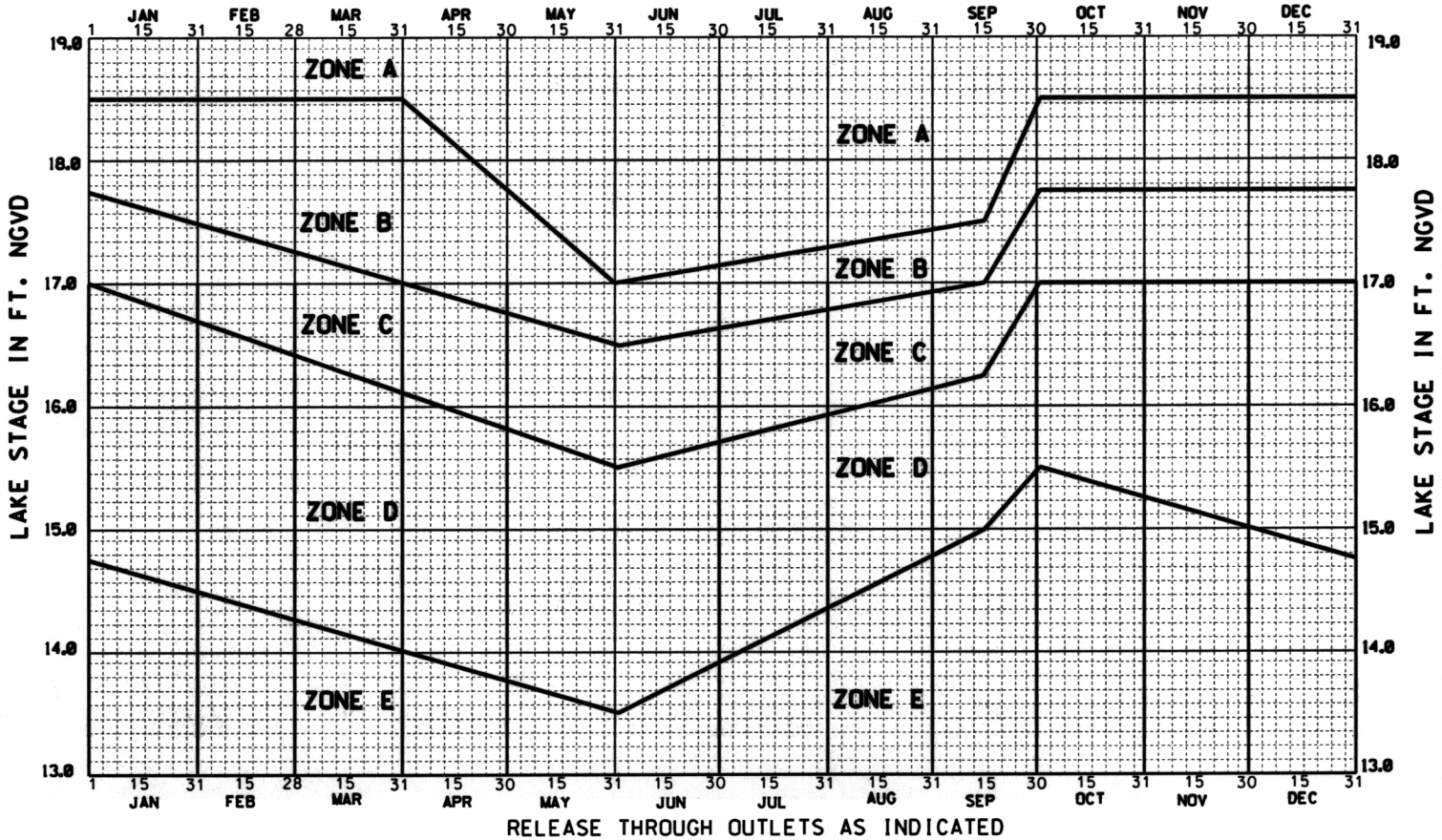
Note: This Decision Tree provides essential supplementary information to be used in conjunction with the WSE regulation schedule.

WSE Operational Guidelines Decision Tree

Part 2: Define Lake Okeechobee Discharges to Tidewater (Estuaries)



Note: This Decision Tree provides essential supplementary information to be used in conjunction with the WSE regulation schedule.



ZONE	AGRICULTURAL CANALS To WCAs (1.2)	CALOOSAHATCHEE RIVER AT S-77 (1.2.4)	ST. LUCIE CANAL AT S-80 (1.2.4)
A	PUMP MAXIMUM PRACTICABLE	UP TO MAXIMUM CAPACITY	UP TO MAXIMUM CAPACITY
B (3)	MAXIMUM PRACTICABLE RELEASES	NORMAL TO WET: UP TO 6500 CFS DRY: UP TO MAXIMUM PULSE RELEASE	NORMAL TO WET: UP TO 3500 CFS DRY: UP TO MAXIMUM PULSE RELEASE
C (3)	MAXIMUM PRACTICABLE RELEASES	WET: UP TO 4500 CFS NORMAL: UP TO MAXIMUM PULSE RELEASE DRY: NONE	WET: UP TO 2500 CFS NORMAL: UP TO MAXIMUM PULSE RELEASE DRY: NONE
D (3.5)	AS NEEDED TO MINIMIZE ADVERSE IMPACTS TO THE LITTORAL ZONE WHILE NOT ADVERSELY IMPACTING THE EVERGLADES. (SEE NOTE 5.)	VERY WET: UP TO MAXIMUM PULSE RELEASE OTHERWISE: NONE	VERY WET: UP TO MAXIMUM PULSE RELEASE OTHERWISE: NONE
E	NO REGULATORY DISCHARGE	NO REGULATORY DISCHARGE	NO REGULATORY DISCHARGE

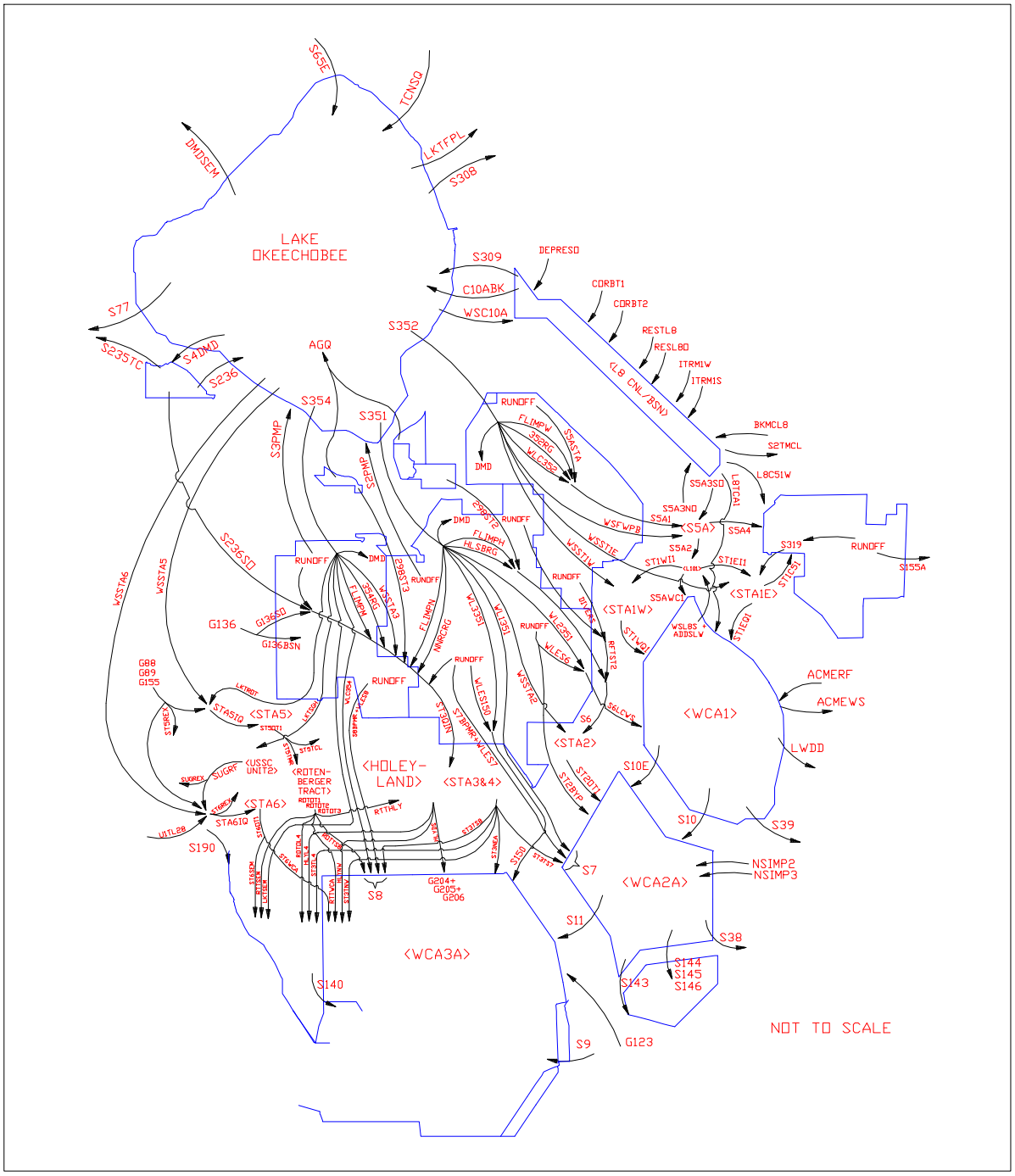
NOTES: (1) SUBJECT TO FIRST REMOVAL OF RUNOFF FROM DOWNSTREAM BASINS
(2) GUIDELINES FOR WET, DRY AND NORMAL CONDITIONS ARE BASED ON: 1) SELECTED CLIMATIC INDICES AND TROPICAL FORECASTS AND 2) PROJECTED INFLOW CONDITIONS. RELEASES ARE SUBJECT TO THE GUIDELINES IN THE WSE OPERATIONAL DECISION TREE, PARTS 1 AND 2.
(3) RELEASES THROUGH VARIOUS OUTLETS MAY BE MODIFIED TO MINIMIZE DAMAGES OR OBTAIN ADDITIONAL BENEFITS. CONSULTATION WITH EVERGLADES AND ESTUARINE BIOLOGISTS IS ENCOURAGED TO MINIMIZE ADVERSE EFFECTS TO DOWNSTREAM ECOSYSTEMS.
(4) PULSE RELEASES ARE MADE TO MINIMIZE ADVERSE IMPACTS TO THE ESTUARIES
(5) ONLY WHEN THE WCAs ARE BELOW THEIR RESPECTIVE SCHEDULES

CENTRAL AND SOUTHERN FLORIDA
INTERIM REGULATION SCHEDULE
LAKE OKEECHOBEE

DEPARTMENT OF THE ARMY, JACKSONVILLE DISTRICT
CORPS OF ENGINEERS, JACKSONVILLE, FLORIDA
DATED: 5 NOVEMBER 1999

WSE (WITH CLIMATE OUTLOOK)

Figure 7-1



ECP BASERR1 Flow Distribution Diagram from South Florida Water Management Model.

APPENDIX 3-3. Combining Flow with Phosphorus Data

The observed water quality data and simulated flows were combined for each basin to create a complete 31-year period of daily data. Numerous methods of combining simulated flow with observed phosphorus data were evaluated. The key factors in evaluating the various methods are presented below in order of priority.

1. Does the method preserve the long-term (31-year) hydrologic variability (minimum, average and maximum) associated with the 31-year rainfall/runoff characteristics for each basin?
2. Does the method preserve the observed variability in phosphorus concentrations?
3. Does the method preserve the observed long-term flow-weighted mean phosphorus concentrations?
4. Is the method consistent across all the basins?

Subsequent evaluation of alternative water quality solutions will be based on anticipated flows representing future conditions; hence preservation of the long-term flow weighted mean phosphorus concentration was determined to be more critical than preserving the total phosphorus loads observed during the period of record. Adjustments to the flows and phosphorus loads will be estimated in a subsequent work effort prior to evaluation of alternative water quality solutions.

A summary of the alternative methods of combining flow and phosphorus data is presented below.

1. **Use the observed flow and phosphorus data, i.e., do not use the simulated flows.**
   A. Preserve the long-term hydrologic variability? – No, due to the limited period of record of phosphorus data in all basins, and limited flow data in some basins.
   B. Preserve observed variability in concentrations (minimum, average, and maximum)? – Yes, subject to the length of the period of record for the phosphorus data.
   C. Preserve the observed long-term flow-weighted mean phosphorus concentrations? – Yes, subject to the length of the period of record for the phosphorus data.
   D. Consistent across all the basins? – No, due to the variability in the length of the available historic records varies among the basins.

2. **Apply the long-term flow-weighted mean concentration to the simulated 31-year flows to generate a time series of phosphorus values.**
   A. Preserve the long-term hydrologic variability? – Yes.
   B. Preserve observed variability in concentrations (minimum, average, and maximum)? – No temporal variability of phosphorus concentrations is preserved.
   C. Preserve the observed long-term flow-weighted mean phosphorus concentrations? – Yes, to the degree that the simulated flows accurately reproduce the actual flows.
   D. Consistent across all the basins? – Yes.

3. **Modification to Method 2. For the period WY1990-1999, apply the annual/monthly flow-weighted mean concentration to the flows within that year's/month's simulation.**

A. Preserve the long-term hydrologic variability? – Yes.
B. Preserve observed variability in concentrations (minimum, average, and maximum)? – No, limited to annual/monthly variability during data period of record.
C. Preserve the observed long-term flow-weighted mean phosphorus concentrations? – Limited to the degree that the simulated flows accurately reproduce the actual flows. Method 2 would be used for the remainder of the 31-year period of simulation.
D. Consistent across all the basins? – Yes, subject to the period of record limitation identified above.

4. **Develop a regression model correlating observed phosphorus concentrations to observed flow, and apply this regression model to the 31-year period of simulated flows.**
   A. Preserve the long-term hydrologic variability? – Yes.
   B. Preserve observed variability in concentrations (minimum, average, and maximum)? – This will capture variability, although it may not reproduce the extreme (minimum and maximum) values. In addition, we could develop a wet/dry seasonal regression equation to capture seasonality.
   C. Preserve the observed long-term flow-weighted mean phosphorus concentrations? – Use of the ordinary least squares method will preserve the long-term arithmetic mean, yet may not reproduce the flow-weighted mean. This method would also be limited to the period of record for phosphorus and only to the degree that the simulated flows accurately reproduce the actual flows.
   D. Consistent across all the basins? – Yes, subject to the period of record limitation identified above.

5. **Same as Method 4, except using regression of annual flow-weighted means with annual flow volumes for the WY1990-1999 period of record.**
   A. Preserve the long-term hydrologic variability? – Yes.
   B. Preserve observed variability in concentrations (minimum, average, and maximum)? – Limited to cumulative annual values, and not daily time series. This will capture variability, although it may not reproduce the extreme (minimum and maximum) values.
   C. Preserve the observed long-term flow-weighted mean phosphorus concentrations? – Limited to the accuracy of the regression equation to predict phosphorus concentrations as a function of annual flow. This method would also be limited to the period of record for phosphorus and only to the degree that the simulated flows accurately reproduce the actual flows. Another method would need to be used for the remainder of the 31-year period. In addition, co-relating flow against flow-weighted mean concentrations violates the need for independence of the variables, and the resulting regression could be spurious correlation.
   D. Consistent across all the basins? – Yes, subject to the period of record limitation identified above.

6. **Same as Method 4, except use interpolated daily phosphorus values regressed against daily interpolated flows, after trying to recreate the basin simulated flows to match historic values.** While the evaluation is similar to Method 4, it would be very time

consuming and difficult to simulate period of record historic flows for each of the basins due to the uncertainty of the operational conditions that may have existed during the time period. The only benefit would potentially be an improved comparison of phosphorus for the period of record; another method would have to be used for the balance of the 31-year period of simulation.

7. **Combine Method 2 for WY1965-1989, and Method 6 for WY1990 through WY1995.** The uncertainty of whether or not this will improve the phosphorus data limits the applicability of this combined methodology. Subject to the same inability to preserve the variability of phosphorus for 1965-1989 as Method 2.

8. **Modification of Method 4.** In lieu of regression equations, estimate phosphorus concentrations within 2-4 specific ranges of flows, for example, between 0 and 500 cfs, 500-1000 cfs, 1000-2000 cfs, and greater than 2000 cfs. This approach could use the arithmetic average of all phosphorus concentrations within a specific flow range. The benefit would potentially be to better predict the relationship between flow and phosphorus, although the ordinary least squares regression by definition will produce the best prediction. Hence, there would be no benefit over Method 4.

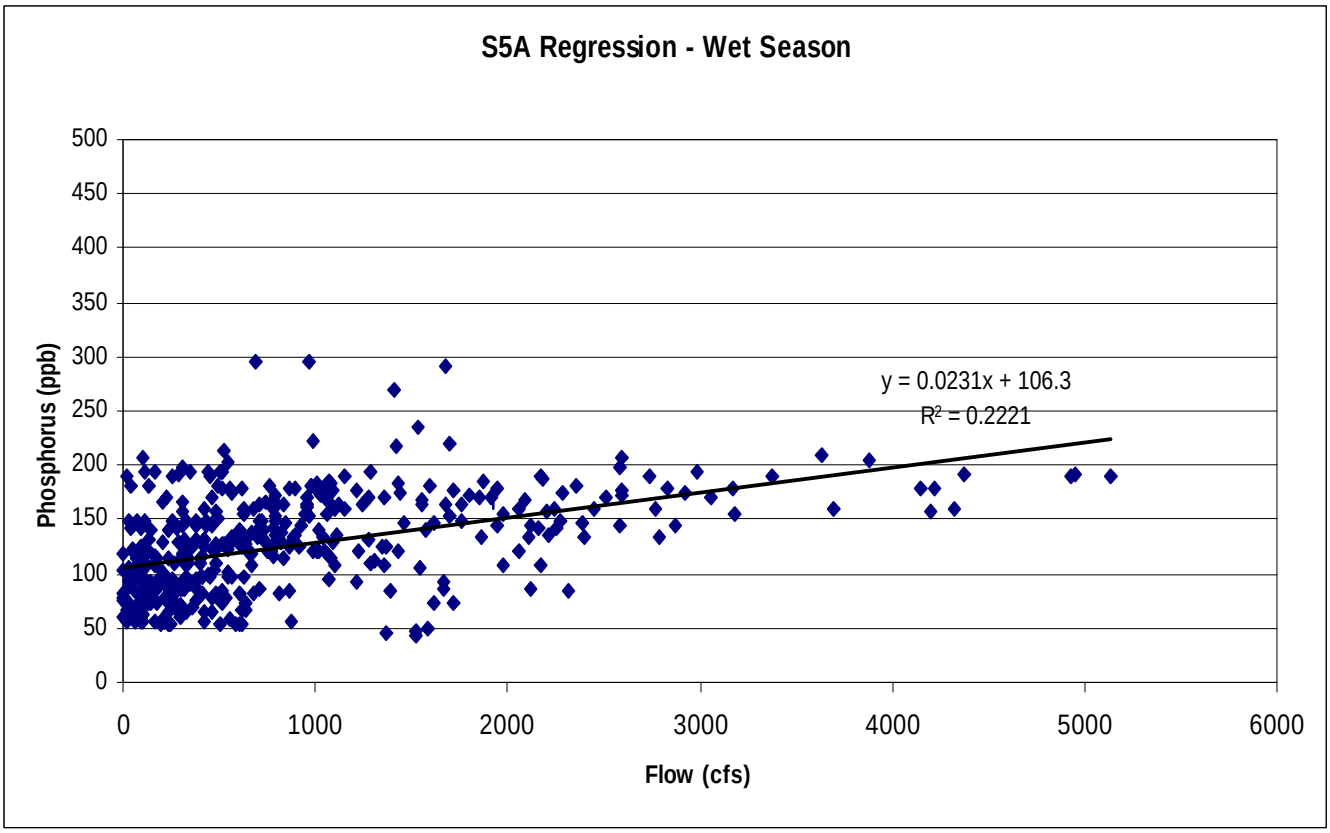
9. **Modification of Method 2.** For stations with no flow data, could use the arithmetic average phosphorus concentration. This method was used for North New River Canal Basin structure G-123.

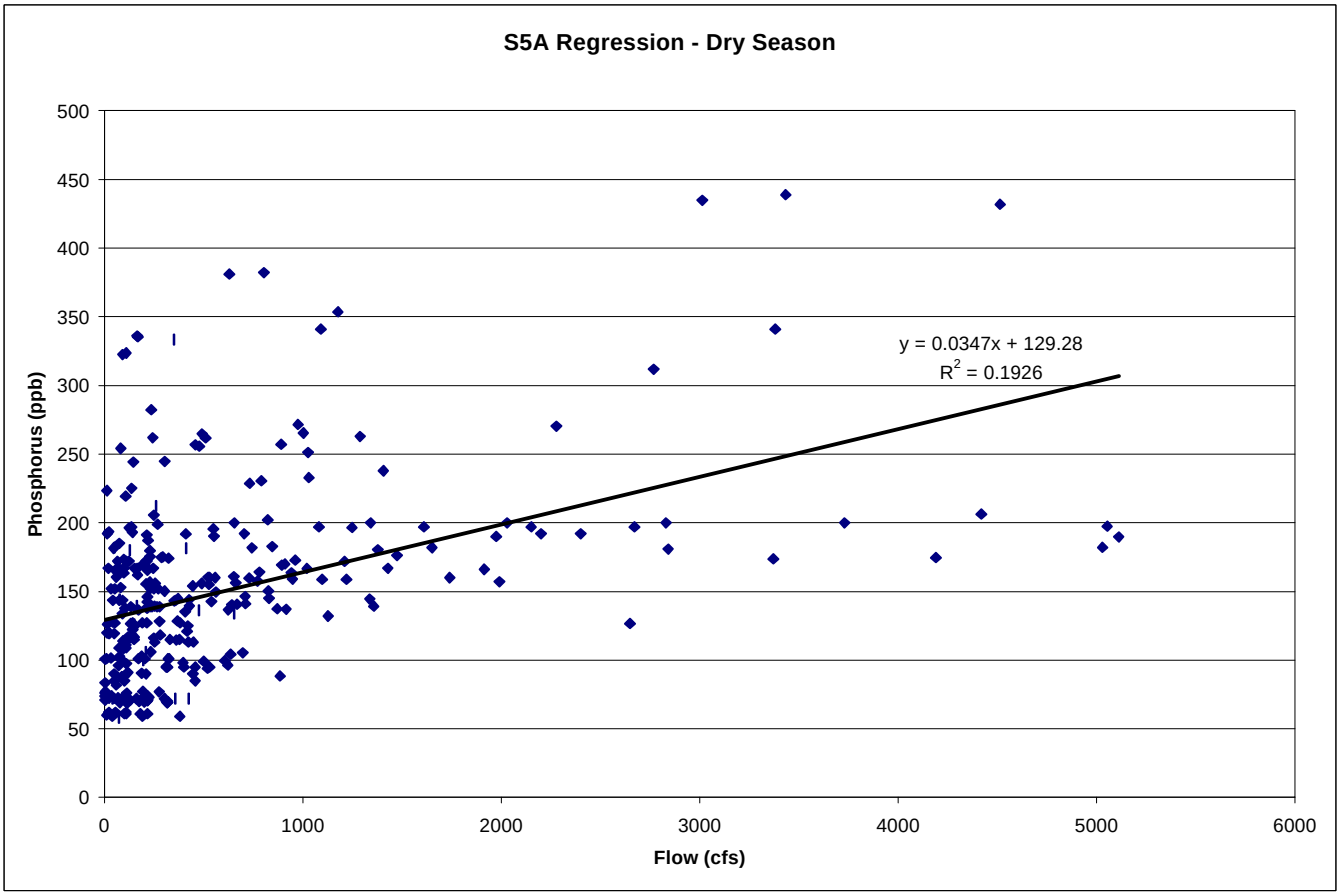
10. **For each year, identify the year with the closest amount of rain during the baseline period (WY90-99), and use that year's flow-weighted mean phosphorus concentration to develop the baseline phosphorus data set.** Determine the annual rainfall amounts for each basin for the years 1965-1995. The perceived benefit would be to better (relative to Method 2) reproduce the variability in phosphorus concentrations as a function of annual rainfall volumes. Another method would need to be used for the remainder of the 31-year period. However, Method 4 captures this in a more rigorous approach.

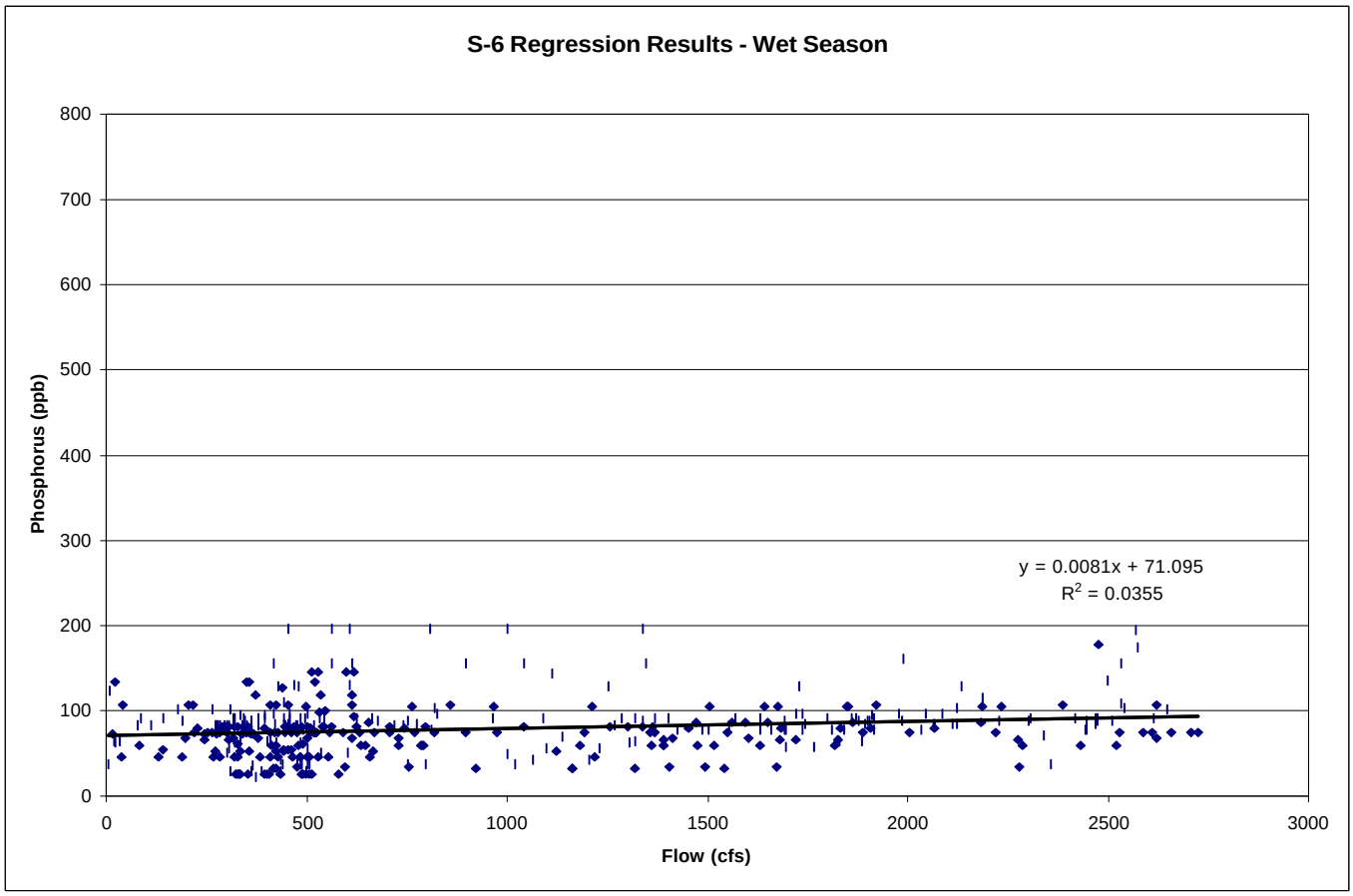
11. **Similar to Method 9, but use annual observed flows instead of annual observed rainfall for each basin.** The perceived benefit would be to better (relative to Method 2) reproduce the variability in phosphorus concentrations as a function of annual flows. Due to the limited flow data set in some of the basins, this method may have limited applicability. Another method would need to be used for the remainder of the 31-year period. Again, Method 4 captures this in a more rigorous approach.

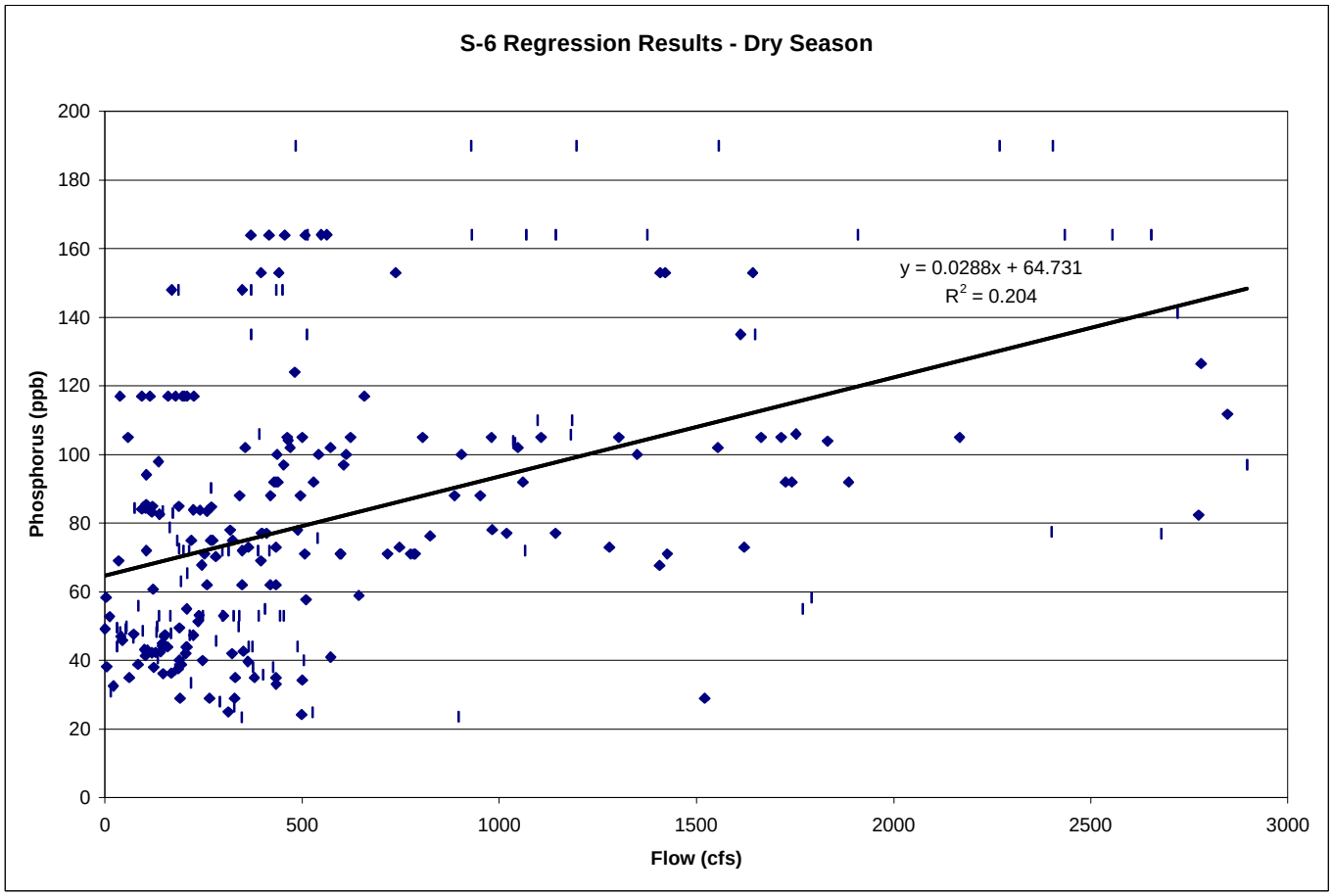
12. **Modification of Method 2: could add random error term to simulate the variability in phosphorus concentrations.** In addition to the benefits of Method 2, the added benefit of synthesizing the variability in phosphorus concentrations is appealing. However, Method 4 captures this in a more rigorous approach.

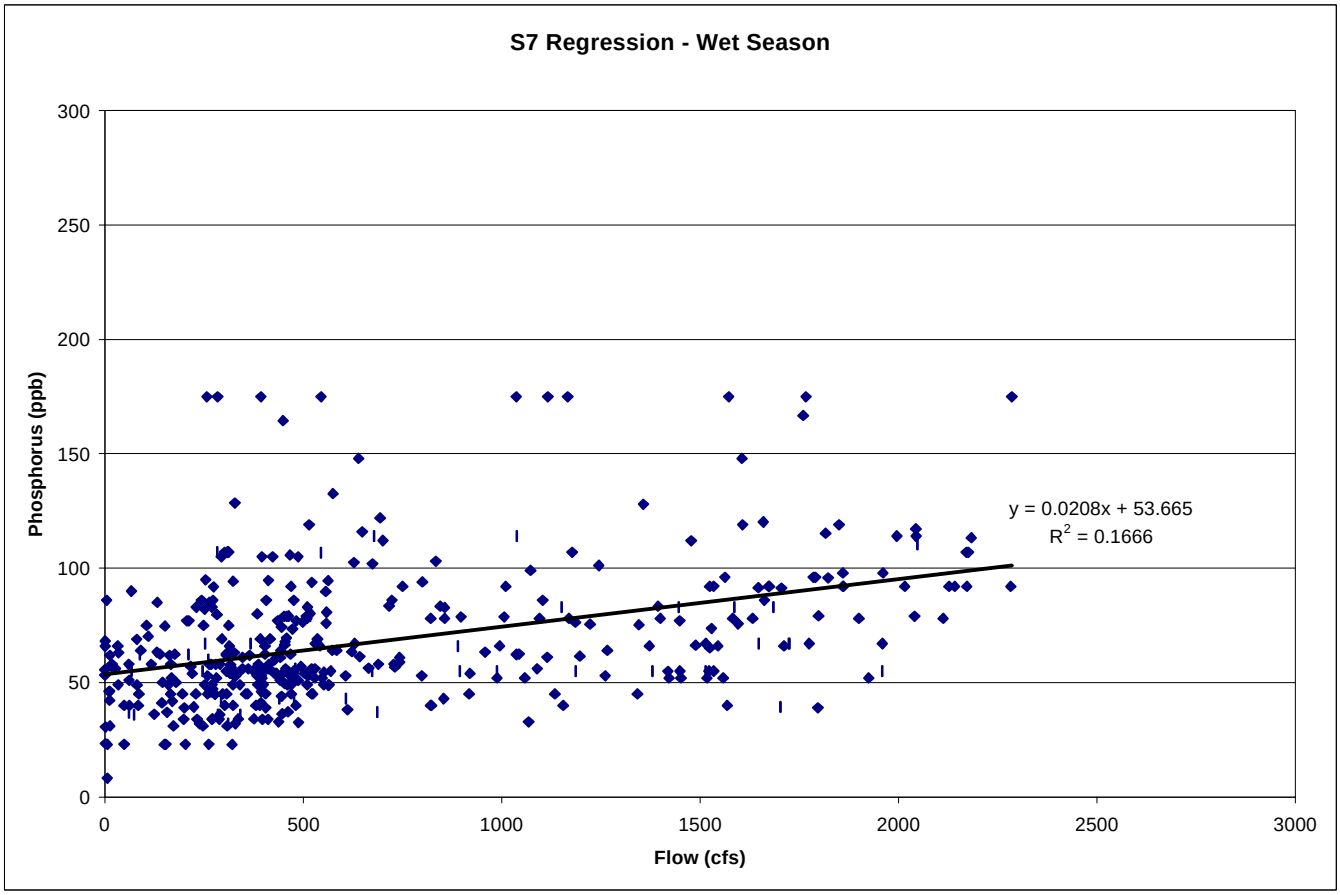
Appendix 3-3 Figures (scatter plots)

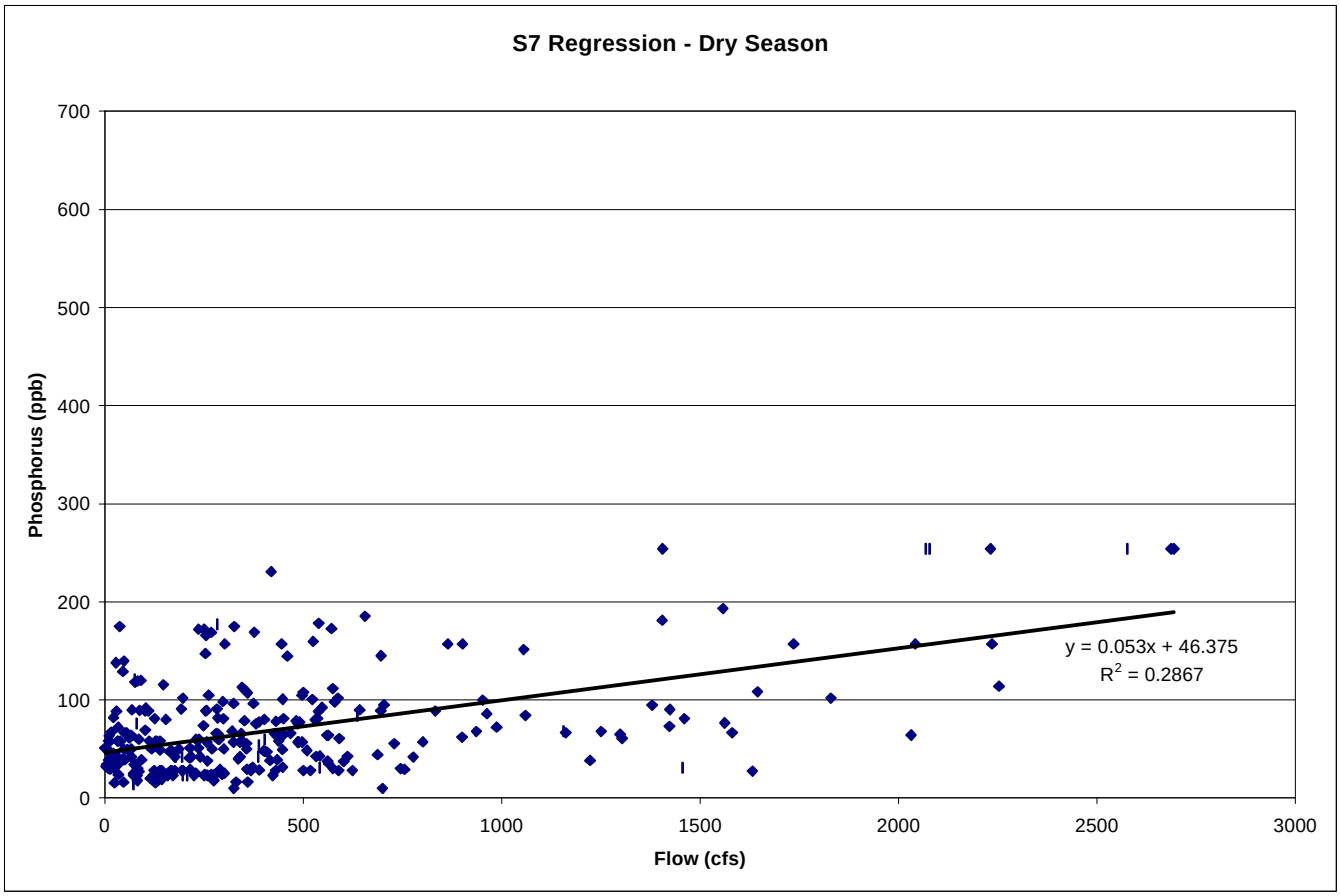


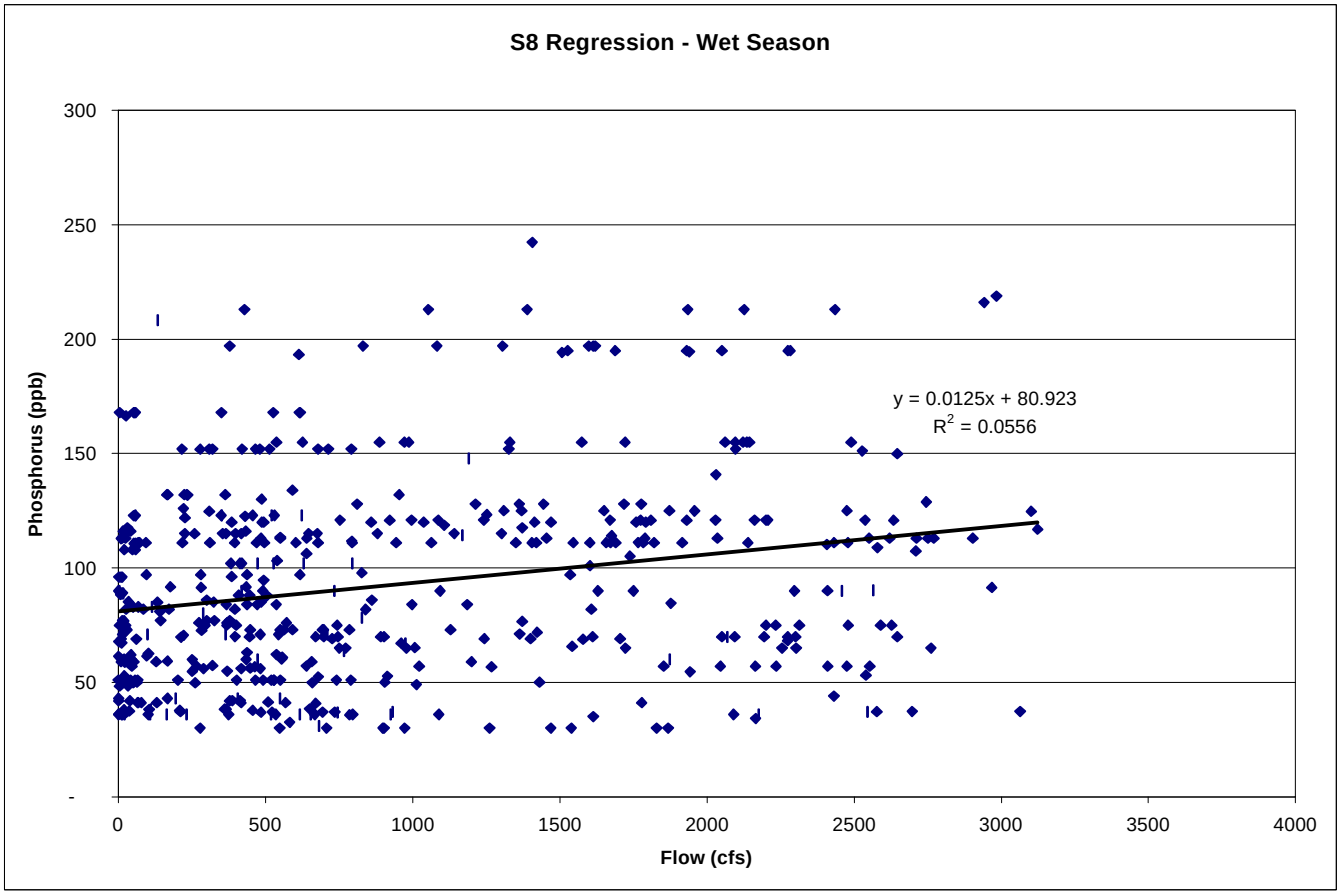


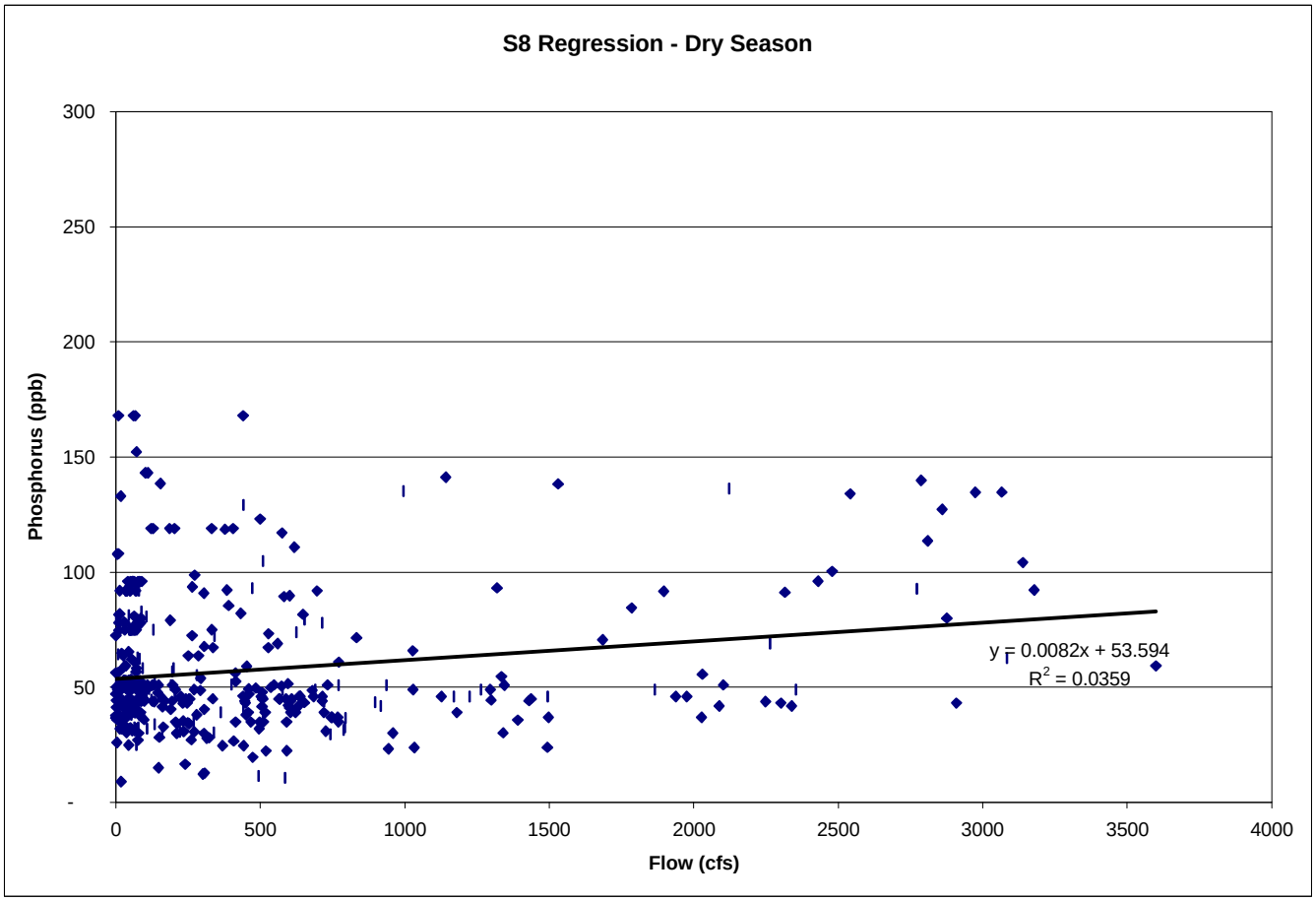

S-6 Regression Results - Wet Season
Phosphorus (ppb)
Flow (cfs)
y = 0.0081x + 71.095
R2 = 0.0355
0
100
200
300
400
500
600
700
800
0
500
1000
1500
2000
2500
3000

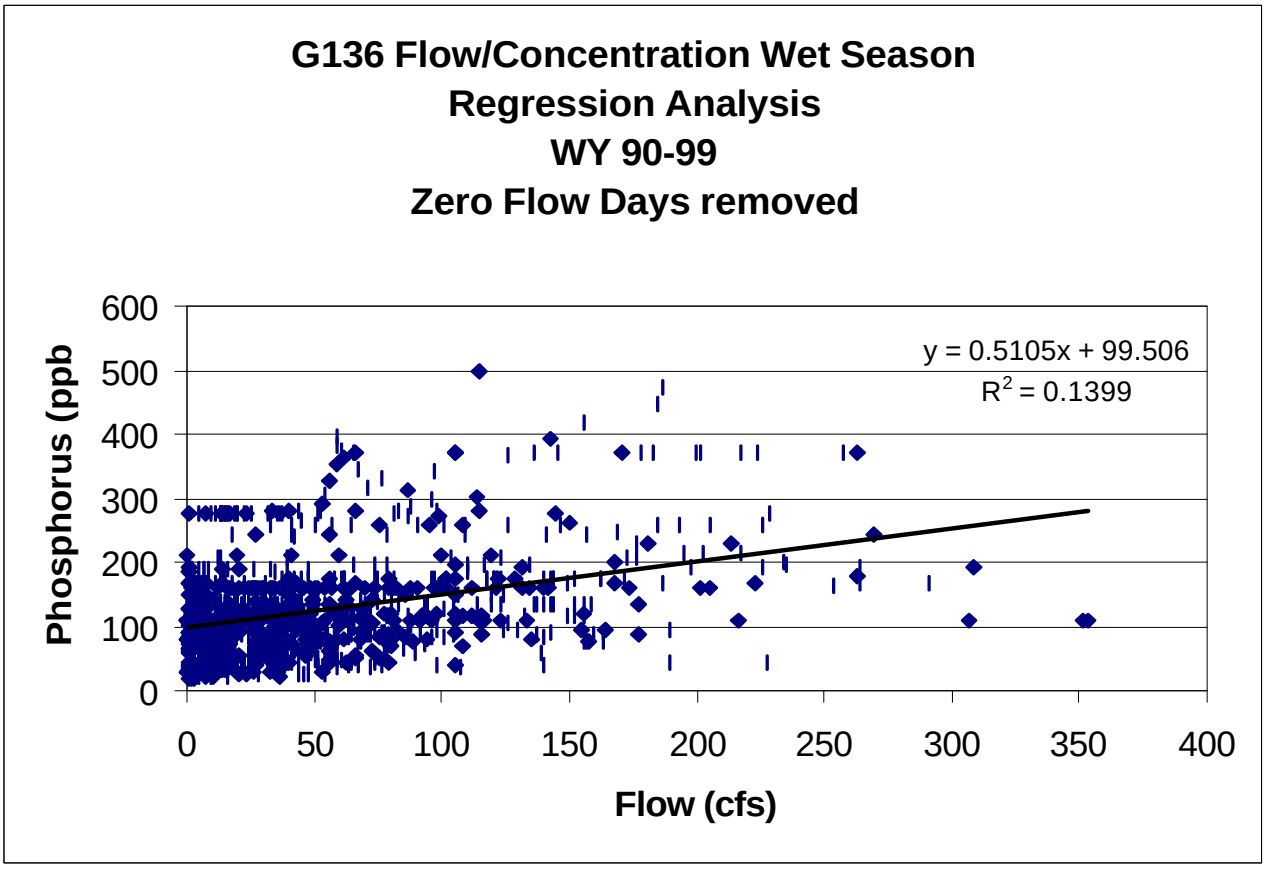

S-6 Regression Results - Dry Season
Phosphorus (ppb)
Flow (cfs)
y = 0.0288x + 64.731
R2 = 0.204
0
20
40
60
80
100
120
140
160
180
200
0
500
1000
1500
2000
2500
3000

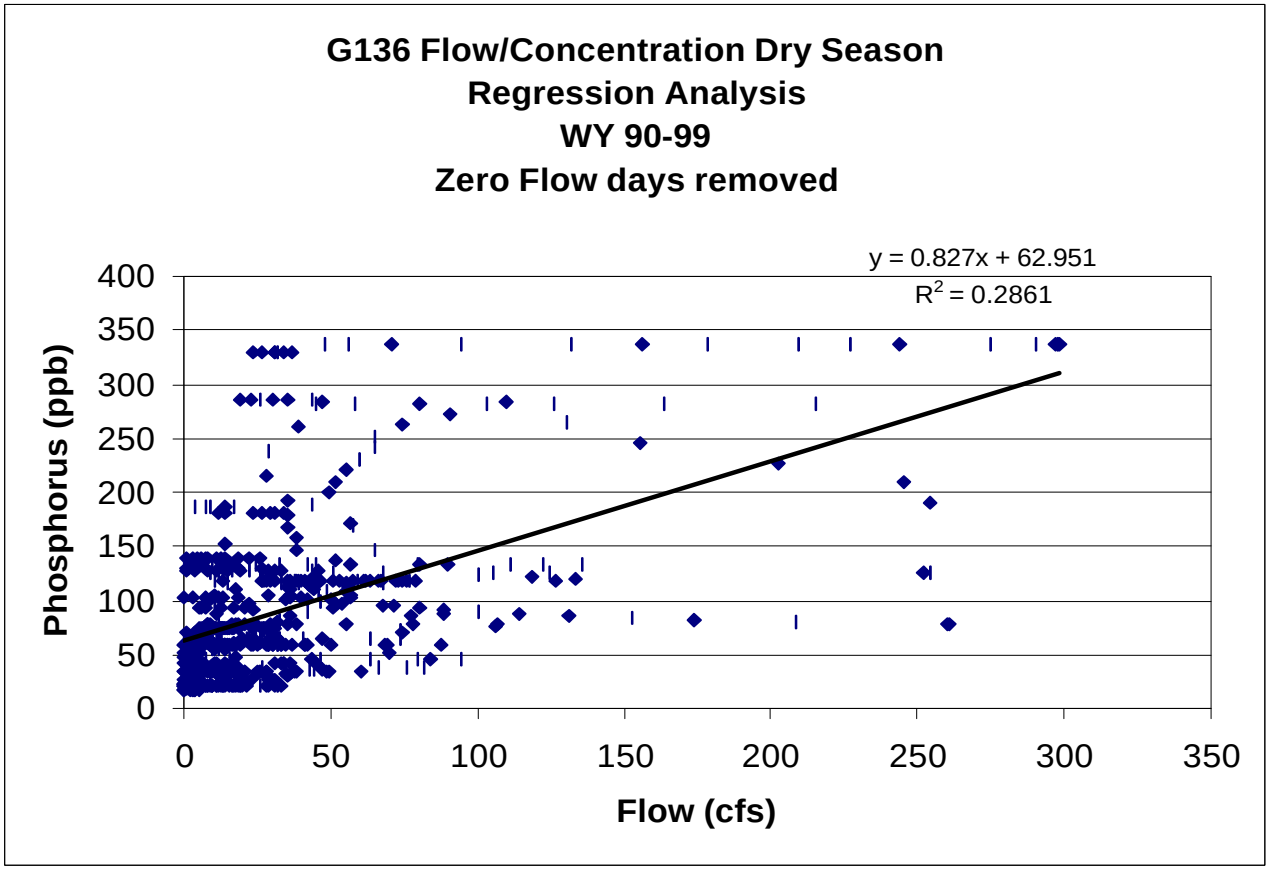

S7 Regression - Wet Season
Phosphorus (ppb)
Flow (cfs)
y = 0.0208x + 53.665
R2 = 0.1666
0
50
100
150
200
250
300
0
500
1000
1500
2000
2500
3000

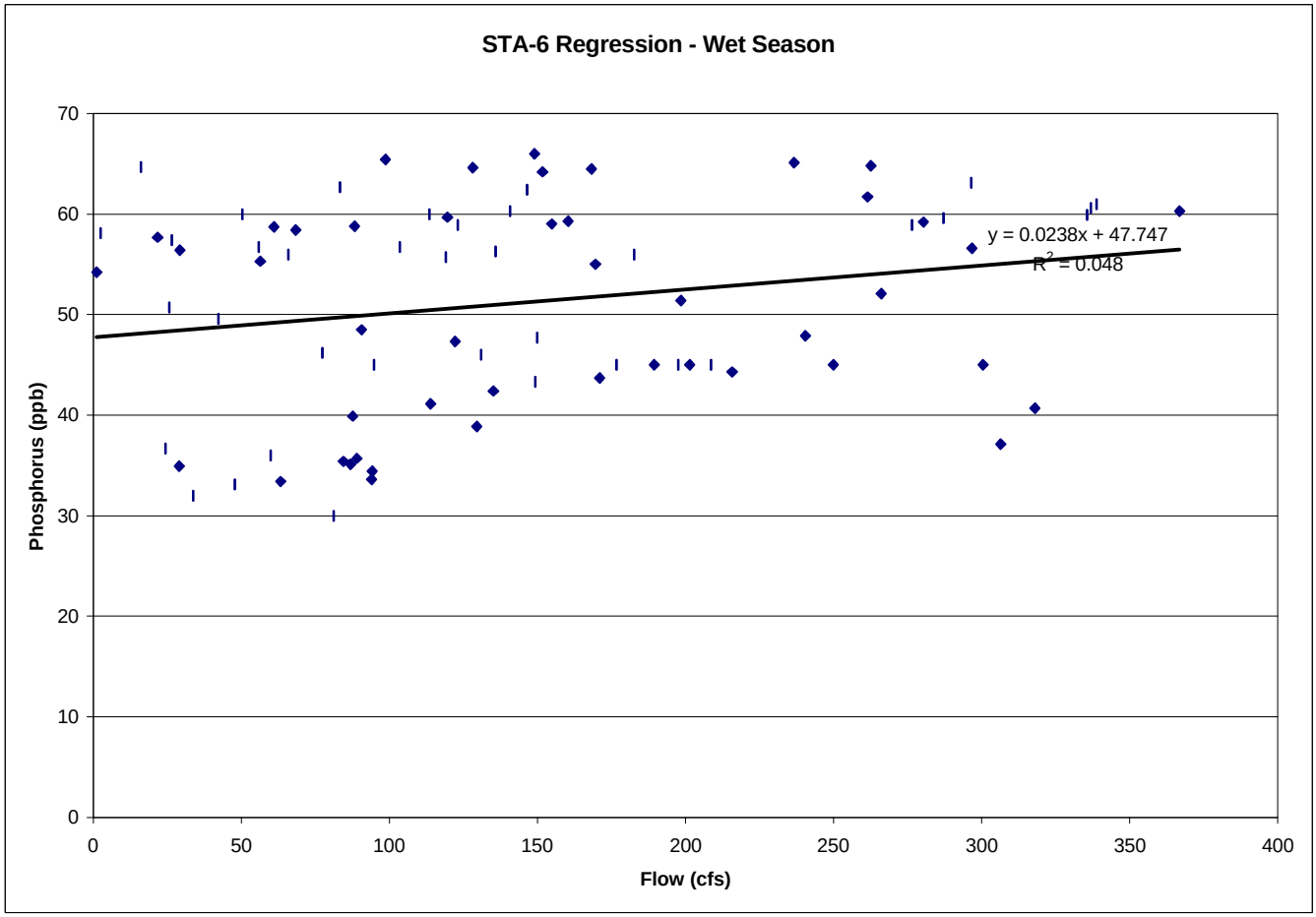

S7 Regression - Dry Season
Phosphorus (ppb)
Flow (cfs)
y = 0.053x + 46.375
R2 = 0.2867
0
100
200
300
400
500
600
700
0
500
1000
1500
2000
2500
3000

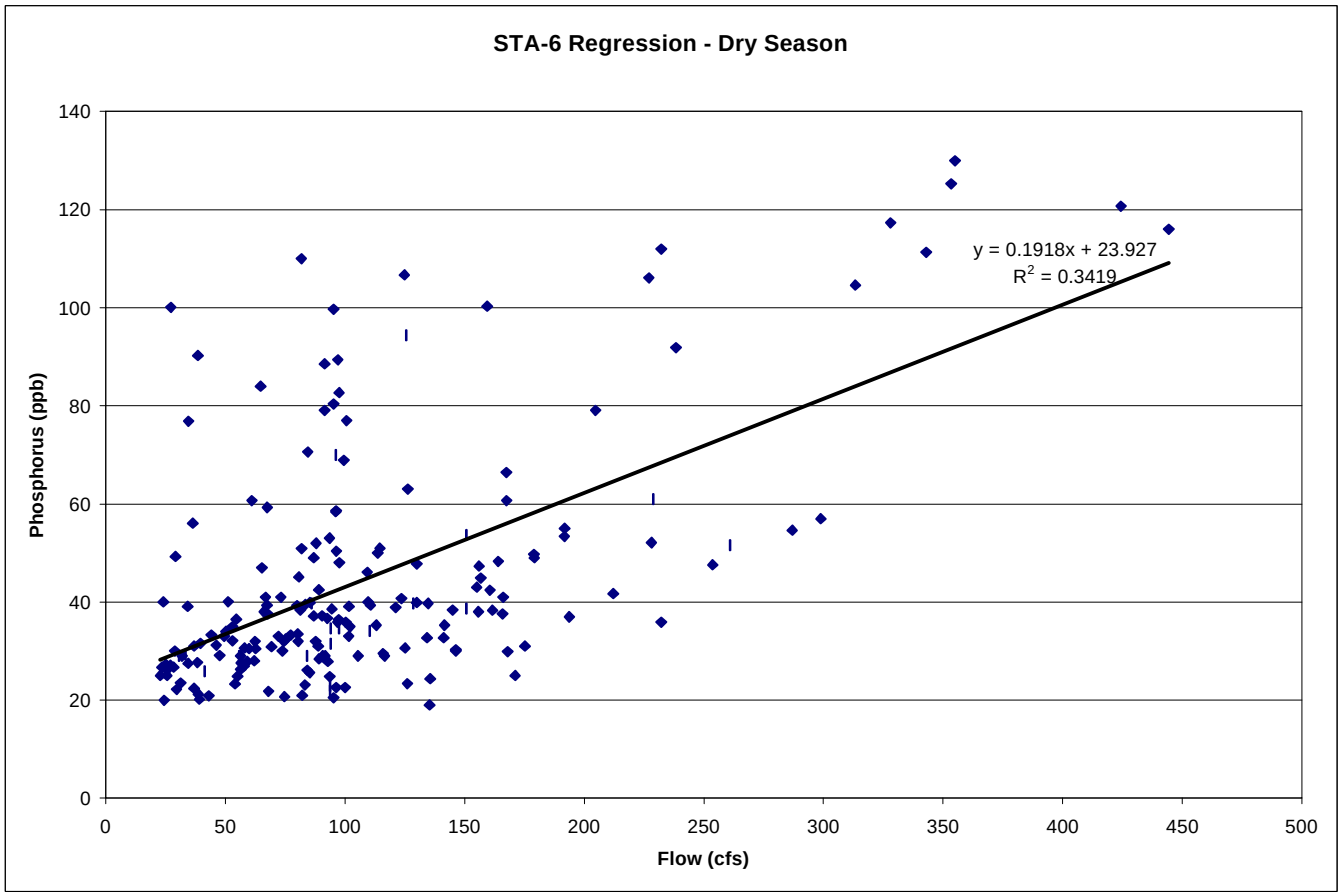

S8 Regression - Wet Season
Phosphorus (ppb)
Flow (cfs)
y = 0.0125x + 80.923
R2 = 0.0556
300
250
200
150
100
50
-
0
500
1000
1500
2000
2500
3000
3500
4000

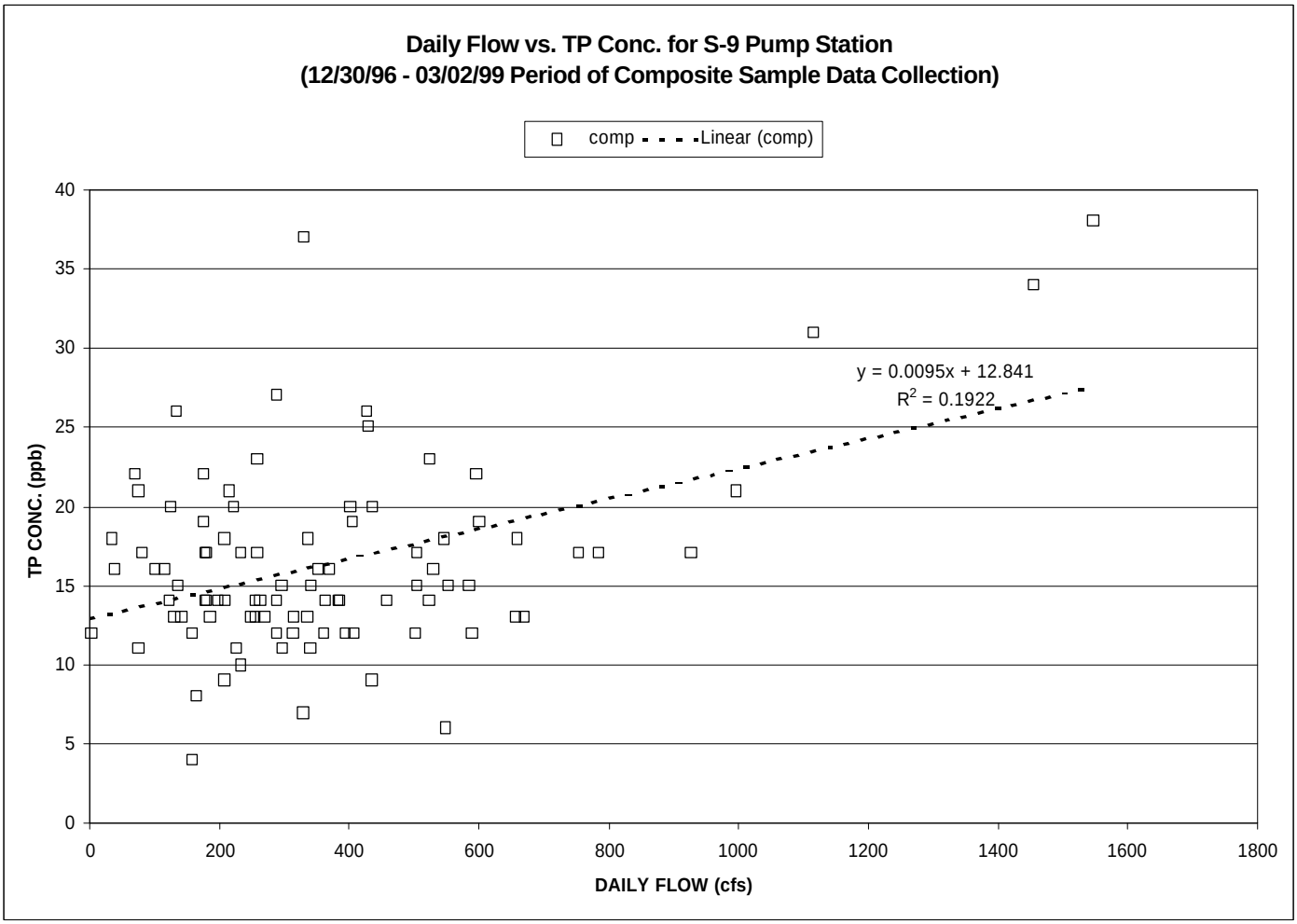

S8 Regression - Dry Season
Phosphorus (ppb)
Flow (cfs)
y = 0.0082x + 53.594
R2 = 0.0359
300
250
200
150
100
50
-
0
500
1000
1500
2000
2500
3000
3500
4000

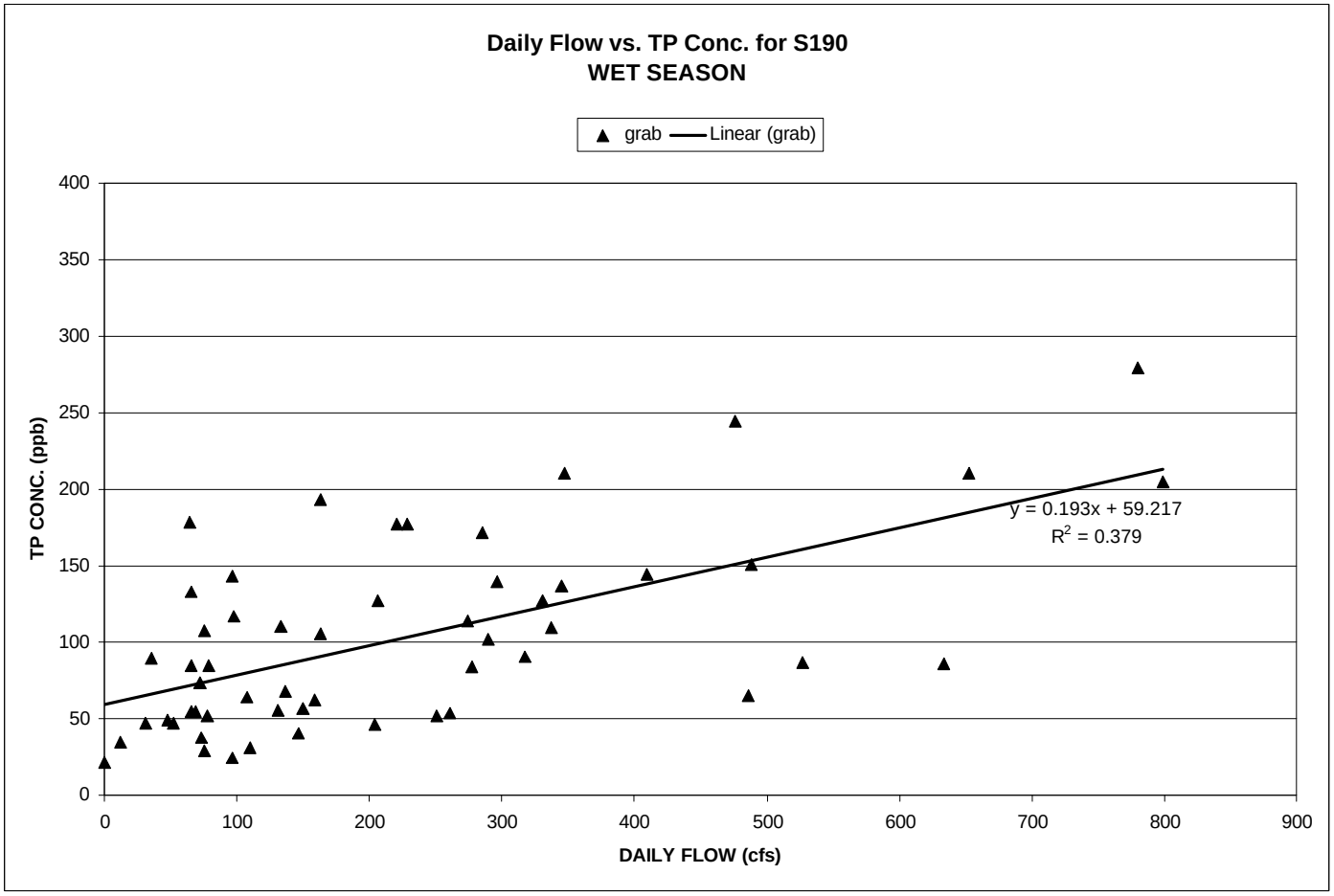

G136 Flow/Concentration Wet Season
Regression Analysis
WY 90-99
Zero Flow Days removed
y = 0.5105x + 99.506
R2 = 0.1399
Phosphorus (ppb
600
500
400
300
200
100
0
0
50
100
150
200
250
300
350
400
Flow (cfs)

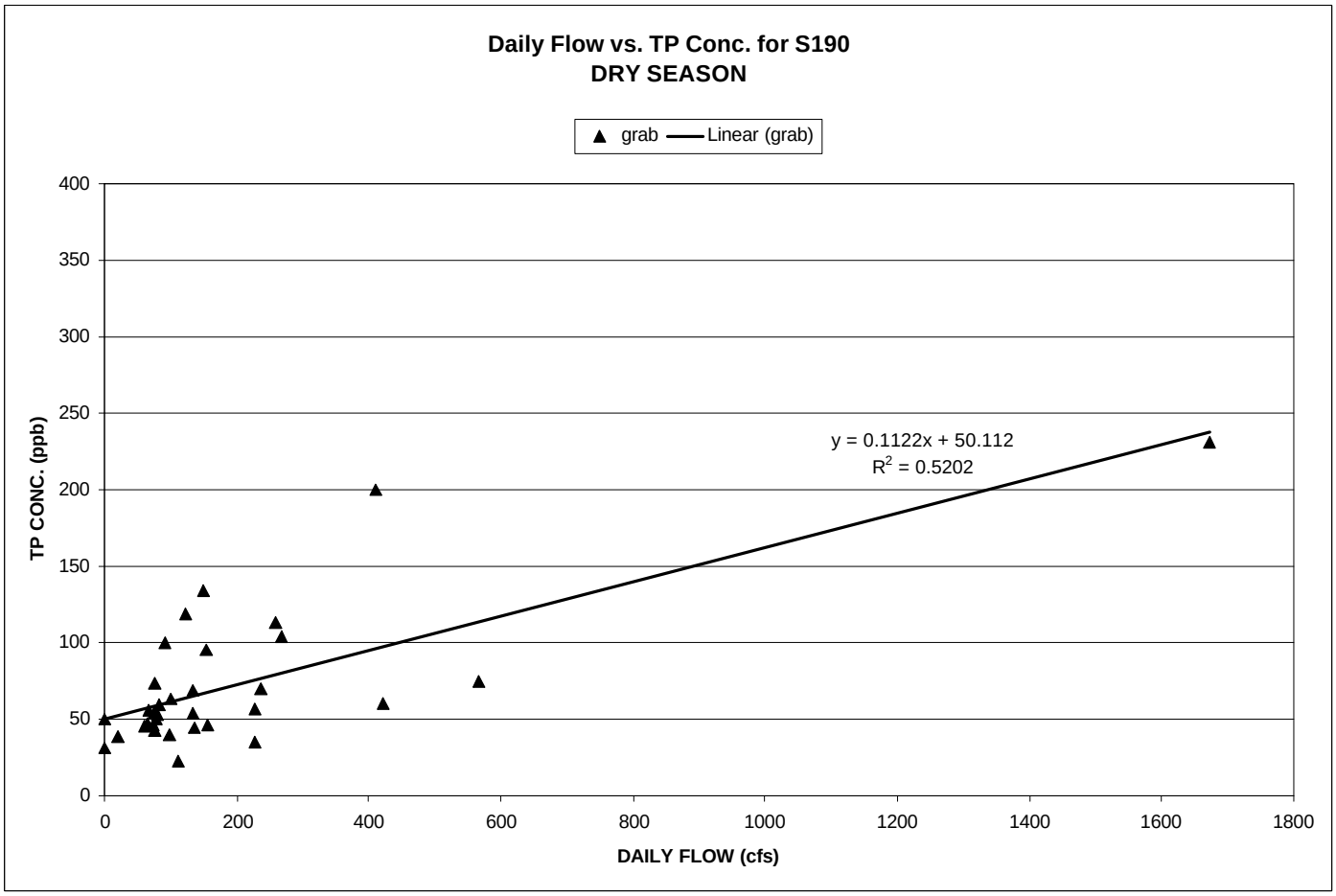

G136 Flow/Concentration Dry Season
Regression Analysis
WY 90-99
Zero Flow days removed
y = 0.827x + 62.951
R2 = 0.2861
Phosphorus (ppb)
400
350
300
250
200
150
100
50
0
0
50
100
150
200
250
300
350
Flow (cfs)


STA-6 Regression - Wet Season
y = 0.0238x + 47.747
R2 = 0.048
Phosphorus (ppb)
Flow (cfs)
0
10
20
30
40
50
60
70
0
50
100
150
200
250
300
350
400


STA-6 Regression - Dry Season
y = 0.1918x + 23.927
R2 = 0.3419
Phosphorus (ppb)
Flow (cfs)
0
20
40
60
80
100
120
140
0
50
100
150
200
250
300
350
400
450
500


Daily Flow vs. TP Conc. for S-9 Pump Station
(12/30/96 - 03/02/99 Period of Composite Sample Data Collection)
comp
Linear (comp)
y = 0.0095x + 12.841
R2 = 0.1922
TP CONC. (ppb)
DAILY FLOW (cfs)
0
5
10
15
20
25
30
35
40
0
200
400
600
800
1000
1200
1400
1600
1800


Daily Flow vs. TP Conc. for S190
WET SEASON
grab
Linear (grab)
y = 0.193x + 59.217
R2 = 0.379
TP CONC. (ppb)
DAILY FLOW (cfs)
0
50
100
150
200
250
300
350
400
0
100
200
300
400
500
600
700
800
900


Daily Flow vs. TP Conc. for S190
DRY SEASON
grab
Linear (grab)
y = 0.1122x + 50.112
R2 = 0.5202
TP CONC. (ppb)
DAILY FLOW (cfs)
0
50
100
150
200
250
300
350
400
0
200
400
600
800
1000
1200
1400
1600
1800

Appendix 5-1. Historic Flows and Loads - S-5A Basin

Water Year (May-April)	Basin Runoff Flow AF/yr	Basin Runoff Phosphorus kg/yr	Basin Runoff Phosphorus ppb	Lake Releases Flow AF/yr	Lake Releases Phosphorus kg/yr	Lake Releases Phosphorus ppb	Total Flows Flow AF/yr	Total Flows Phosphorus kg/yr	Total Flows Phosphorus ppb
1990	143,956	25,275	142	23,158	4,147	145	167,114	29,422	143
1991	210,012	76,238	294	-	-	-	210,012	76,238	294
1992	179,887	35,754	161	3,979	423	86	183,866	36,177	159
1993	407,546	99,922	199	179,718	21,810	98	587,264	121,732	168
1994	281,300	72,023	208	444	62	113	281,744	72,085	207
1995	474,581	97,060	166	115,466	15,873	111	590,047	112,933	155
1996	331,544	64,238	157	169,866	27,113	129	501,410	91,351	148
1997	240,921	40,918	138	54,884	11,243	166	295,805	52,161	143
1998	318,848	72,428	184	66,815	18,908	229	385,663	91,336	192
1999	195,348	42,059	175	125,462	28,511	184	320,810	70,570	178
Total	2,783,942	625,916	182	739,792	128,090	140	3,523,734	754,006	173
Average	278,394	62,592	182	73,979	12,809	140	352,373	75,401	173
4-yr Average	271,665	54,911	164	104,256	21,444	167	375,922	76,355	165
Minimum	143,956	25,275	138	-	-	86	167,114	29,422	143
Maximum	474,581	99,922	294	179,718	28,511	229	590,047	121,732	294

Appendix 6-1. Historic Flows and Loads - S-6 Basin

Water Year (May-April)	Basin Runoff Flow AF/yr	Basin Runoff Phosphorus kg/yr	Basin Runoff Phosphorus ppb	Lake Releases Flow AF/yr	Lake Releases Phosphorus kg/yr	Lake Releases Phosphorus ppb	Total Flows Flow AF/yr	Total Flows Phosphorus kg/yr	Total Flows Phosphorus ppb
1990	62,072	11,720	153	-	-	-	62,072	11,720	153
1991	125,343	23,712	153	778	67	70	126,121	23,779	153
1992	209,900	16,784	65	782	67	70	210,681	16,851	65
1993	357,890	61,296	139	131,967	13,242	81	489,856	74,539	123
1994	228,763	15,809	56	324	19	48	229,087	15,828	56
1995	542,201	62,402	93	81,212	6,897	69	623,412	69,299	90
1996	368,082	35,737	79	61,515	4,341	57	429,597	40,078	76
1997	244,560	22,787	76	6,987	751	87	251,547	23,538	76
1998	328,348	40,635	100	22,920	2,505	89	351,268	43,139	100
1999	188,377	23,999	103	27,375	2,652	79	215,752	26,651	100
Total	2,655,534	314,880	96	333,860	30,541	74	2,989,394	345,422	94
Average	265,553	31,488	96	33,386	3,054	74	298,939	34,542	94
4-yr Average	282,342	30,789	88	29,699	2,562	70	312,041	33,352	87
Minimum	62,072	11,720	56	-	-	48	62,072	11,720	56
Maximum	542,201	62,402	153	131,967	13,242	89	623,412	74,539	153

Appendix 7-1. Historic Flows and Loads - S-7 Basin

	Basin Runoff			Lake Releases			Total Flows		
Water Year (May-April)	**Flow AF/yr**	**Phosphorus kg/yr**	**Phosphorus ppb**	**Flow AF/yr**	**Phosphorus kg/yr**	**Phosphorus ppb**	**Flow AF/yr**	**Phosphorus kg/yr**	**Phosphorus ppb**
1990	224,179	31,142	113	244,672	23,729	79	468,851	54,871	95
1991	179,102	23,596	107	10,741	1,289	97	189,842	24,885	106
1992	284,244	26,438	75	125,407	8,497	55	409,651	34,935	69
1993	390,473	48,854	101	345,675	26,967	63	736,148	75,821	83
1994	237,259	22,188	76	4,293	405	77	241,553	22,593	76
1995	349,465	40,544	94	105,474	7,333	56	454,939	47,877	85
1996	237,282	19,977	68	99,657	13,682	111	336,940	33,659	81
1997	201,174	21,479	87	34,753	2,699	63	235,928	24,179	83
1998	220,518	21,701	80	1,461	134	74	221,979	21,835	80
1999	163,167	23,270	116	89,405	8,536	77	252,572	31,806	102
Total	2,486,863	279,190	91	1,061,539	93,272	71	3,548,402	372,461	85
Average	248,686	27,919	91	106,154	9,327	71	354,840	37,246	85
4-yr Average	205,535	21,607	85	56,319	6,263	90	261,855	27,870	86
Minimum	163,167	19,977	68	1,461	134	55	189,842	21,835	69
Maximum	390,473	48,854	116	345,675	26,967	111	736,148	75,821	106

Appendix 7-2. Historic Flows and Loads - S-8 Basin

	Basin Runoff			Lake Releases			Total Flows		
Water Year (May-April)	**Flow AF/yr**	**Phosphorus kg/yr**	**Phosphorus ppb**	**Flow AF/yr**	**Phosphorus kg/yr**	**Phosphorus ppb**	**Flow AF/yr**	**Phosphorus kg/yr**	**Phosphorus ppb**
1990	85,766	21,231	201	50,265	4,605	74	136,030	25,836	154
1991	108,122	25,623	192	6,211	356	47	114,332	25,980	184
1992	259,723	30,339	95	35,992	2,096	47	295,715	32,435	89
1993	425,292	66,818	127	395,310	29,377	60	820,601	96,195	95
1994	236,854	29,791	102	29,553	2,169	59	266,407	31,960	97
1995	454,974	71,180	127	29,272	2,399	66	484,246	73,578	123
1996	349,917	49,476	115	38,262	4,795	102	388,179	54,271	113
1997	329,455	36,291	89	54,004	4,498	68	383,459	40,789	86
1998	404,520	29,821	60	16,545	1,408	69	421,066	31,229	60
1999	216,012	30,066	113	136,620	13,382	79	352,632	43,448	100
Total	2,870,634	390,636	110	792,034	65,085	67	3,662,668	455,721	101
Average	287,063	39,064	110	79,203	6,509	67	366,267	45,572	101
4-yr Average	324,976	36,413	91	61,358	6,021	80	386,334	42,434	89
Minimum	85,766	21,231	60	6,211	356	47	114,332	25,836	60
Maximum	454,974	71,180	201	395,310	29,377	102	820,601	96,195	184

Appendix 8-1. Historic Flows and Loads - C-139 Basin

Water Year (May - April)	L3 Flow AF/yr	L3 Phosphorus kg/yr	L3 Phosphorus ppb	G136 Flow AF/yr	G136 Phosphorus kg/yr	G136 Phosphorus ppb
1990	44,391	5,304	97	1,249	172	112
1991	41,843	4,663	90	3,498	328	76
1992	91,305	11,271	100	8,483	995	95
1993	125,623	24,063	155	11,671	2,211	154
1994	116,360	18,797	131	20,114	2,952	119
1995	236,270	56,337	193	35,987	5,554	125
1996	214,972	45,046	170	20,791	3,440	134
1997	151,443	42,614	228	13,091	2,471	153
1998	149,156	30,244	164	20,777	5,389	210
1999	122,059	31,400	209	13,735	4,179	247
Total	1,293,420	269,739	169	149,395	27,692	150
Average	129,342	26,974	169	14,939	2,769	150
Minimum	41,843	4,663	90	1,249	172	76
Maximum	236,270	56,337	228	35,987	5,554	247

Appendix 9-1. Historic Flows and Loads - STA-6

Water Year (May-April)	Inflow Flow AF/yr	Inflow Phosphorus kg/yr	Inflow Phosphorus ppb	Outflow Flow AF/yr	Outflow Phosphorus kg/yr	Outflow Phosphorus ppb
1990	-	-	-	-	-	-
1991	-	-	-	-	-	-
1992	-	-	-	-	-	-
1993	-	-	-	-	-	-
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-
1996	-	-	-	-	-	-
1997	-	-	-	-	-	-
1998	26,101	1,631	51	23,984	484	16
1999	40,119	3,037	61	24,035	657	22
Total	66,221	4,668	57	48,019	1,141	19
Average	46,744	3,295	57	33,896	805	19
4-yr Average	46,744	3,295	57	33,896	805	19
Minimum	40,119	3,037	61	24,035	657	22
Maximum	40,119	3,037	61	24,035	657	22

Notes:

1. **STA-6 began flow-through operation in December 1997.**
2. **STA-6 outflows are included in S-8 basin flows.**

Appendix 10-1. Historic Flows and Phosphorus - Acme Basin B

Water Year (May-April)	L40-1 Flow AF/yr	L40-1 Phosphorus kg/yr	L40-1 Phosphorus ppb	L40-2 Flow AF/yr	L40-2 Phosphorus kg/yr	L40-2 Phosphorus ppb	Total Flow AF/yr	Total Phosphorus kg/yr	Total Phosphorus ppb
1990	2,894	640	179	2,503	343	111	5,397	983	148
1991	17,018	1,231	59	13,780	2,450	144	30,798	3,681	97
1992	25,134	1,606	52	22,501	1,136	41	47,635	2,742	47
1993	35,085	1,591	37	31,064	2,439	64	66,149	4,029	49
1994	10,666	848	64	12,454	1,260	82	23,120	2,108	74
1995	28,317	2,415	69	26,630	3,622	110	54,947	6,038	89
1996	22,172	4,841	177	22,244	4,800	175	44,416	9,641	176
1997	17,168	1,421	67	12,911	1,346	85	30,079	2,767	75
1998	26,393	2,972	91	20,898	2,597	101	47,291	5,569	95
1999	19,776	3,594	147	16,930	3,761	180	36,705	7,355	162
Total	204,622	21,158	84	181,916	23,755	106	386,538	44,913	94
Average	20,462	2,116	84	18,192	2,375	106	38,654	4,491	94
Minimum	2,894	640	37	2,503	343	41	5,397	983	47
Maximum	35,085	4,841	179	31,064	4,800	180	66,149	9,641	176

Appendix 11-1. Historic Flows and Phosphorus - NSID Basin

Water Year (May-April)	Flow AF/yr	Phosphorus kg/yr	Phosphorus ppb
1990	239	4	13
1991	12,059	280	19
1992	10,421	249	19
1993	7,797	471	49
1994	5,146	201	32
1995	10,807	810	61
1996	5,005	456	74
1997	1,970	172	71
1998	7,364	344	38
1999	6,757	225	27
Total	67,566	3,213	39
Average	6,757	321	39
Minimum	239	4	13
Maximum	12,059	810	74

Appendix 13-1. Historic Flows and Phosphorus - C-11 West Basin (S-9 Pump Station)

Water Year (May-April)	Flow AF/yr	Phosphorus kg/yr	Phosphorus ppb
1990	72,674	1,812	20
1991	118,368	2,224	15
1992	201,577	3,682	15
1993	251,164	5,002	16
1994	182,903	3,290	15
1995	320,621	5,467	14
1996	239,292	4,571	15
1997	242,415	4,519	15
1998	250,342	5,347	17
1999	221,414	5,197	19
Total	2,100,771	41,112	16
Average	210,077	4,111	16
Minimum	72,674	1,812	14
Maximum	320,621	5,467	20

Appendix 14-1. Historic Flows and Phosphorus - L-28 Basin (S-140 Pump Station)

Water Year (May-April)	Flow AF/yr	Phosphorus kg/yr	Phosphorus ppb
1990	50,079	3,383	55
1991	45,888	2,385	42
1992	124,860	5,704	37
1993	139,820	5,737	33
1994	82,701	3,132	31
1995	238,707	9,447	32
1996	133,966	7,188	43
1997	101,975	5,180	41
1998	155,848	6,994	36
1999	94,479	6,362	55
Total	1,168,323	55,511	39
Average	116,832	5,551	39
Minimum	45,888	2,385	31
Maximum	238,707	9,447	55

Appendix 15-1. Historic Flows and Phosphorus - Feeder Canal Basin (S-190)

Water Year (May-April)	Flow AF/yr	Phosphorus kg/yr	Phosphorus ppb
1990	20,121	2,568	103
1991	17,894	1,743	79
1992	106,830	20,900	159
1993	121,224	11,622	78
1994	57,843	8,853	124
1995	199,787	32,589	132
1996	95,118	15,610	133
1997	61,073	9,898	131
1998	70,317	6,995	81
1999	47,467	4,446	76
Total	797,674	115,222	117
Average	79,767	11,522	117
Minimum	17,894	1,743	76
Maximum	199,787	32,589	159

Appendix 16-1

May 2001 Report Revisions
Baseline Data for the Basin-Specific Feasibility Studies to Achieve the Long-term Water Quality Goals for the Everglades

I. General Revisions

A. Revised Simulated Flows

ALT1, the SFWMM simulation run which provided the flows for the May 2000 Baseline Data report, was subsequently revised to refine the manner in which some basins and STA components were modeled. A new simulation run, BASERR1, was completed in December 2000. With BASERR1, several key refinements were made to the ALT1 simulation:

- The basin runoff transfers for STA-1E and STA-1W were not properly accounted for in the ALT1 simulation. This was corrected in BASERR1.
- The ALT1 simulation did not include STA-6 Section 2, which we felt should be included in analyses performed for the purpose of long-term water quality planning. STA-6 Section 2 was therefore added to the BASERR1 run.
- BASERR1 revised the manner in which NSID Basin runoff was simulated. The ALT1 NSID Basin flows were estimated as a function of total simulated runoff in the model grid cells representing NSID. The pumps that divert part of this runoff were not explicitly modeled in ALT1. A scaling factor was applied to the total simulated runoff such that historic flow data can be reasonably matched. With BASERR1, the flows from NSID to WCA-2A were explicitly modeled. The simulated annual average discharge of 6,168 acre-feet for the period of record 65-95 is in line with the historic (WY 90-99) average annual flow of 6,757 acre-feet.
- Revised topographic information for the Rotenberger Wildlife Management Area was incorporated into BASERR1. This topographic data update was part of a mid-2000 interagency effort to refine the interim operating schedule for the Rotenberger.
- The extent of the C-11W Basin was expanded from ALT1 to BASERR1 to more accurately represent S-9 pumpage from this basin to WCA-3A.

BASERR1 produced revised 31-year flow data sets for all of the basins and STAs except the Feeder Canal Basin since inflow to this basin is primarily input boundary conditions in the model and thus, did not change. Although the flows for some STAs and basins changed only slightly in the revised simulation, for consistency, the baseline data sets for all STAs and basins (with the exception of the Feeder Canal Basin) were revised in the May 2001 Baseline Data report.

B. Revised Historic Flow Data

Following completion of the May 2000 Baseline Data report, the 10-year historic flow data sets for two basins, Acme Basin B and the C-139 Basin, were revised.

Flow/concentration regression relationships were performed for the revised historic data sets and the results were analyzed to determine whether regression relationships or flow-weighted mean concentrations should be used to develop the 31-year daily data sets. The results are described in the following sections.

II. Section Revisions

Section 1 – Executive Summary

Table 1-1 was revised to reflect the revised flows and loads presented in the individual basin/STA sections of the report.

The term "C & SF Project Restudy" was replaced with the term "Comprehensive Everglades Restoration Plan or CERP" throughout the text.

The text about the completion date for the feasibility studies was changed from December 2001 to June 2002.

Section 2 - Introduction

A note was added that two of the Everglades Stormwater Program basins, C-111 Basin and Boynton Farms Basin, will be addressed through other District programs.

Figure 2-2 was revised to replace "C & SF Project Restudy" with "CERP". The "Feasibility studies and conceptual designs" activity note was changed to read "this report begins this effort".

The paragraph about legislative and permit-related deadlines was revised. The first item about submitting the final strategy to the Army Corps, the DEP and others was deleted since the item has been completed. The second item about STA-2 discharges was deleted because it was revised in a revision to the Army Corps 404 permit.

The schematic (Figure 2-3) and the text about the steps leading up to the completion of the basin-specific conceptual designs were revised.

Section 3 - Methodology

The statement that NSID Basin needed additional analyses to develop the baseline flow data set was removed from the "Flow" section of the report since BASERR1 simulated flows for NSID were more in line with the historic flow data.

The "Flow" section was revised to include a note that the BASERR1 simulation corrected the discrepancies between historic and simulated data in the ALT 1 simulation.

The "Combining Flow with Phosphorus Data" section including Table 3-1 was revised to reflect changes in the Acme historic data set and the C-139 historic data set. Reference to the "draft baseline data report" was changed to read "November 1999 draft baseline data report."

Table 3-2 was revised to reflect the revised STA outflow coefficients for the BASERR1 inflow and outflow data sets. In the May 2001 document, the procedure used to develop the ratio for calculating the outflow loads was modified for STA-5 and STA-6. For a complete description of the procedure used for these two STAs, refer to the individual report sections.

Section 4 – STA-1East

The simulated inflow and outflow daily data sets were revised using the results of the BASERR1 simulation.

Spreadsheet "sta1e_out tp.xls" was revised to correct errors in load calculations. Specifically, there were three problems: 1) Outflow loads were included on days when there were no outflows but there were inflow loads. 2) Outflow loads were not included on days when there were outflows but there were no inflow loads. 3) Some concentration calculations were inordinately high on some days when inflow loads/volumes were much higher than outflow loads/volumes (e.g., concentration values as high as 39,081 ppb). Outflow concentrations were capped at 200 ppb.

The spreadsheet formulas used to calculate some of the annual flows and loads in Tables 4-1 and 4-2 were corrected.

Table 4-1, Table 4-2, Figure 4-2, and Figure 4-3 were revised.

Section 5 – STA-1West

The simulated inflow and outflow daily data sets were revised using the results of the BASERR1 simulation.

Spreadsheet "sta1w_out tp.xls" was revised to correct errors in load calculations. Specifically, there were three problems: 1) Outflow loads were included on days when there were no outflows but there were inflow loads. 2) Outflow loads were not included on days when there were outflows but there were no inflow loads. 3) Some concentration calculations were inordinately high on some days when inflow loads/volumes were much higher than outflow loads. Outflow concentrations were capped at 200 ppb.

The spreadsheet formulas used to calculate some of the annual flows and loads in Tables 5-2 and 5-3 were corrected.

Table 5-2, Table 5-3, Figure 5-5, and Figure 5-6 were revised.

Section 6 – STA-2

The simulated inflow and outflow daily data sets were revised using the results of the BASERR1 simulation.

Spreadsheet "sta2_out tp.xls" was revised to correct errors in load calculations. Specifically, there were three problems: 1) Outflow loads were included on days when there were no outflows but there were inflow loads. 2) Outflow loads were not included on days when there were outflows but there were no inflow loads. 3) Some concentration calculations were inordinately high on some days when inflow loads/volumes were much higher than outflow loads. Outflow concentrations were capped at 200 ppb.

The text about the simulated bypass flows for STA-2 was revised to reflect the results of the BASERR1 simulation.

The spreadsheet formulas used to calculate some of the annual flows and loads in Tables 6-2 and 6-3 were corrected.

Table 6-2, Table 6-3, Figure 6-5, and Figure 6-6 were revised.

Section 7 – STA-3/4

The C-139 Basin runoff data used to develop the G-136 portion of the STA-3/4 inflow baseline data set presented in the May 2000 report was a result of best professional judgment of District staff and others at that time. We were aware that there were some deficiencies with the data, such as missing data, and data collection, measurement, and calculation errors. In a separate process, the C-139 Rulemaking effort, the C-139 runoff data set was being analyzed for possible correction, however, at the time of finalizing the May 2000 report, the data was still being analyzed. As a result of the C-139 Rulemaking effort, which included input from District staff, stakeholders, and other interested parties, a continuous daily data set was developed for the C-139 Basin runoff.

The G-136 portion of the revised historic C-139 Basin data set was used to develop the STA-3/4 baseline inflow data set. This data came from the Excel spreadsheet "c139_final_flows&loads.xls" dated March 8, 2001, prepared by W. Walker for the C-139 Rulemaking effort. The spreadsheet uses flow and phosphorus data from various sources, locations and structures. For a complete description of the data sources, please refer to the document titled "Final Report - Models for Tracking Runoff & Phosphorus Loads from the C139 Basin" dated November 17, 2000, by W. Walker.

A revised flow/concentration regression analysis was performed using the ten-year period WY 90-99 of the G-136 portion of the revised historic C-139 Basin data set. A seasonal (wet/dry) relationship was shown to improve the results, therefore a seasonal relationship was applied to the January 1965 to September 1978 portion of the 31-year simulated daily flow data set to develop daily concentrations for this portion of the data set. For the period October 1978 to December 1995, the G-136 daily flows, loads and concentrations were used unaltered from the spreadsheet "c139_final_flows&loads.xls".

The simulated inflow and outflow daily data sets were also revised using the results of the BASERR1 simulation. The text about the simulated bypass flows for STA-2 was deleted to reflect the results of the BASERR1 simulation; the STA-2 bypass flows were minimal and were not added to the STA-3/4 baseline inflows in the May 2001 report.

Spreadsheet "sta34_out tp.xls" was revised to correct errors in load calculations. Specifically, there were three problems: 1) Outflow loads were included on days when there were no outflows but there were inflow loads. 2) Outflow loads were not included on days when there were outflows but there were no inflow loads. 3) Some concentration calculations were inordinately high on some days when inflow loads/volumes were much higher than outflow loads. Outflow concentrations were capped at 200 ppb.

The spreadsheet formulas used to calculate some of the annual flows and loads in Tables 7-3 and 7-4 were corrected.

Table 7-3, Table 7-4, Figure 7-8, and Figure 7-9 were revised.

Section 8 – STA-5

The C-139 Basin runoff data used to develop the L3 (G-88, G-898, and G-155) portion of the STA-5 inflow baseline data set presented in the May 2000 report was a result of best professional judgment of District staff and others at that time. We were aware that there were some deficiencies with the data, such as missing data, and data collection, measurement, and calculation errors. In a separate process, the C-139 Rulemaking effort, the C-139 runoff data set was being analyzed for possible correction, however, at the time of finalizing the May 2000 report, the data was still being analyzed. As a result of the C-139 Rulemaking effort, which included input from District staff, stakeholders, and other interested parties, a continuous daily data set was developed for the C-139 Basin runoff.

The L3 portion of the revised historic C-139 Basin data set was used to develop the STA-5 baseline inflow data set. This data came from the Excel spreadsheet "c139_final_flows&loads.xls" dated March 8, 2001, prepared by W. Walker for the C-139 Rulemaking effort. The spreadsheet uses flow and phosphorus data from various sources, locations and structures. For a complete description of the data sources, please refer to the document titled "Final Report - Models for Tracking Runoff & Phosphorus Loads from the C139 Basin" dated November 17, 2000, by W. Walker.

A revised flow/concentration regression analysis was performed using the ten-year period WY 90-99 of the L3 portion of the revised historic C-139 data set. A seasonal (wet/dry) relationship was shown to improve the results, therefore a seasonal relationship was applied to the January 1965 to September 1978 portion of the 31-year simulated daily flow data set to develop daily concentrations for this portion of the data set. For the period October 1978 to December 1995, the L3 daily flows and loads from the spreadsheet "c139_final_flows&loads.xls" were multiplied by 65%.

The daily phosphorus concentration values were used unaltered from the same spreadsheet.

The simulated inflow and outflow daily data sets were also revised using the results of the BASERR1 simulation.

A portion of the daily outflow data set was developed by applying a ratio of inflows to outflows to the daily inflows. For a complete description of the procedure used to develop the daily outflows, refer to the STA-5 section of the report.

Spreadsheet "sta5_out tp.xls" was also revised to correct errors in load calculations. Specifically, there were three problems: 1) Outflow loads were included on days when there were no outflows but there were inflow loads. 2) Outflow loads were not included on days when there were outflows but there were no inflow loads. 3) Some concentration calculations were inordinately high on some days when inflow loads/volumes were much higher than outflow loads. Outflow concentrations were capped at 200 ppb.

The spreadsheet formulas used to calculate some of the annual flows and loads in Tables 8-2 and 8-3 were corrected.

Table 8-1, Table 8-2, Table 8-3, Figure 8-2, Figure 8-3, Figure 8-4, Figure 8-5, and Figure 8-6 were revised.

Section 9 – STA-6

STA-6 Section 2 was added to the BASERR1 simulation, therefore, daily simulated inflow and outflow data sets were developed for STA-6 Sections 1 and 2 as a part of this revised report.

The L3 portion of the revised historic C-139 Basin data set was used to develop the STA-6 baseline inflow data set. This data came from the Excel spreadsheet "c139_final_flows&loads.xls" dated March 8, 2001, prepared by W. Walker for the C-139 Rulemaking effort. The spreadsheet uses flow and phosphorus data from various sources, locations and structures. For a complete description of the data sources, please refer to the document titled "Final Report - Models for Tracking Runoff & Phosphorus Loads from the C139 Basin" dated November 17, 2000, by W. Walker.

A revised flow/concentration regression analysis was performed using the ten-year period WY 90-99 of the L3 portion of the revised historic C-139 data set. A seasonal (wet/dry) relationship was shown to improve the results, therefore a seasonal relationship was applied to the January 1965 to September 1978 portion of the 31-year simulated daily flow data set to develop daily concentrations for this portion of the data set. For the period October 1978 to December 1995, the L3 daily flows and loads from the spreadsheet "c139_final_flows&loads.xls" were multiplied by 35%. The daily phosphorus concentration values were used unaltered from the same spreadsheet.

The simulated inflow and outflow daily data sets were revised using the results of the BASERR1 simulation.

Spreadsheet "sta6_out tp.xls" was revised to correct errors in load calculations. Specifically, there were three problems: 1) Outflow loads were included on days when there were no outflows but there were inflow loads. 2) Outflow loads were not included on days when there were outflows but there were no inflow loads. 3) Some concentration calculations were inordinately high on some days when inflow loads/volumes were much higher than outflow loads. Outflow concentrations were capped at 200 ppb.

The spreadsheet formulas used to calculate some of the annual flows and loads in Tables 9-2 and 9-3 were corrected.

Table 9-2, Table 9-3, Figure 9-5, and Figure 9-6 were revised.

Section 10 - Acme Basin B

Subsequent to the production of the May 2000 Baseline Data report, it was brought to our attention that there were some problems with the Acme Basin B historic flow data which was used to prepare the report. This data, which is collected and reported by Acme, then entered into DBHYDRO by District staff, contained some miscalculated pump flows during the years 1994 through 1997. In early 2001, the pump flow data was corrected, re-entered into DBHYDRO, then re-extracted for use in this revised report. A summary of the revised historic data set is presented in Appendix 10-1 of this report. The historic flow/concentration regression analyses were then redone for this basin. Although the t-test was met for ACME2 flows, it was not met for ACME1 flows, therefore, a regression equation was not used to calculate daily phosphorus concentrations. Similar to what was done in the May 2000 report, the flow-weighted mean concentration was applied to the simulated flows to develop the 31-year daily flow and water quality data set for Acme Basin B.

The simulated daily flow data set was revised using the results of the BASERR1 simulation.

The spreadsheet formulas used to calculate some of the annual flows and loads in Table 10-2 were corrected.

Table 10-1, Table 10-2, Figure 10-2, Figure 10-3, Figure 10-4, and Figure 10-5 were revised.

Section 11 – NSID Basin

The simulated daily flow data set was revised using the results of the BASERR1 simulation.

Text about the discrepancies in the historical and simulated flow values was deleted since the BASERR1 (the new SFWMM simulation) flows were more in line with historic flows. Because of this, the regression analysis between historic and simulated flows was no longer needed. Figure 11-5. Regression Analysis of Historical and Simulated Flows for NSID (1/85 to 12/95 Daily) was deleted.

The spreadsheet formulas used to calculate some of the annual flows and loads in Table 11-2 were corrected.

Figure 11-6 from the May 2000 report was renamed Figure 11-5.

Table 11-2 was revised. Note, scaling of the simulated flows was no longer needed. Figure 11-6 was revised.

Section 12 - North New River Canal Basin

The simulated daily flow data set was revised using the results of the BASERR1 simulation.

The spreadsheet formulas used to calculate some of the annual flows and loads in Table 12-2 were corrected.

Table 12-2 and Figure 12-2 were revised.

Section 13 – C-11West Basin

The simulated daily flow data set was revised using the results of the BASERR1 simulation.

The spreadsheet formulas used to calculate some of the annual flows and loads in Table 13-2 were corrected.

Table 13-2 and Figure 13-5 were revised.

Section 14 – L-28 Basin

The simulated daily flow data set was revised using the results of the BASERR1 simulation.

The spreadsheet formulas used to calculate some of the annual flows and loads in Table 14-2 were corrected.

Table 14-2 and Figure 14-5 were revised.

Section 15 – Feeder Canal Basin

No changes.

Section 16 – Summary

Table 16-1 was revised to reflect the revised flows and loads presented in the individual basin/STA sections of the report.

References

A reference to W. Walker's C-139 Basin Runoff report was added.

A reference to the 1997 Final Design Report for STA-5 by Burns & McDonnell was added.

III. Appendices

Appendix 3-2 – SFWMM input parameters

Basic Land Use map revised to indicate ECP SFWMM V3.8.

Grid Elevation map revised to indicate ECP SFWMM V3.8 and Rotenberger topographic data was revised.

Soil Infiltration Capacity map was revised to indicate ECP SFWMM V3.8.

Mean Annual Rainfall map was revised to indicate ECP SFWMM V3.8.

Average Daily Well Field Demands map was revised to indicate ECP BASERR1

Structure Capacities table was revised to indicate ECP BASERR1 and structure data was revised as needed to reflect changes from ALT1 to BASERR1.

Flow Distribution Diagram was revised to indicate ECP BASERR1 and components were revised as needed to reflect changes from ALT1 to BASERR1.

Appendix 3-3 Figures (scatter plots)

The G-136 wet season and dry season plots were revised to reflect results of revised regression analysis performed for this May 2001 document. The G-155 scatter plots were deleted from the Appendices.

Appendix 8-1 – Historic Flows and Loads – C-139 Basin

Revised flow data was used to prepare the summary of the historic flows and loads for the ten-year period WY 90-99.

Appendix 10-1 – Historic Flows and Phosphorus – Acme Basin B

Revised flow data was used to prepare the summary of the historic flows and loads for the ten-year period WY 90-99.