Water & Phosphorus Balances for EAA & WCA Inflows
Software Documentation

prepared for

South Florida Water Management District
Department of Everglades Regulation
Contract C-8510, Task 9

by
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Draft
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Documentation Sheets
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Sample Output Sheets
CrossTab
EAAReport
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Visio Flow Charts (S5A, S6, S7, S8 Basins)
Charts can be viewed in workbook

Software & Data Contained in File 'TASK9.ZIP'

EAABAL.XLS
Water & Phosphorus Balances for EAA & WCA Inflows
W. Walker for SFWMD, Everglades Regulation
D R A F T
June 8, 1998

Directory for This Workbook:	e:\sfwmd\task9
Name of This Workbook:	eaabal.xls
Directory for GIS Output File:	e:\sfwmd\task9\gis
GIS Output File Name:	gisout.dbf

Update Data Files <--- press this button to update source data files and load calculations for individual terms

Date Range in Data Set: 197810 to 199712

Date Range for Summarizing Data (Inclusive):

	Year	Month	
First Date	1994	5	<--- modify date range for calculations here
Last Date	1997	4	

Update Results <--- press this button if you change date range for summarizing data

Generate GIS Output File <--- press this button to generate output GIS file

Audit Results (vs. Basin Workbook)

Difference in EAA Basin Total Runoff		Period = 199405 to 199704
Flow	-0.02%	
Load	-0.05%	

Current EAA total runoff flows & loads should match those computed with EAABASIN.XLS workbook.
Historical flows & load (frozen in EAABASIN.XLS) will not necessarily match, however.

Sheet Index EAABAL.XLS Tab= Index

Sheet	Description	Type
Intro	Introduction & Control Buttons	Control
Index	Sheet Index	Documentation
Doc	Program Documentation, List of Files, Updating Procedures	Documentation
NewTerms	Defines Data Used to Create New Terms Outside of EAA Mass Balance	Documentation
Glossary	Glossary of Mass Balance Units & Flux Terms	Documentation
Data	Monthly Flows & Load (Input Data Read from Disk File)	Input
Calcs	Calculation of Average Yearly Flows & Loads for Specified Time Period	Calc
Audit	Compares Basin Total Runoff & Load with Results from EAABASIN.XLS	Calc
CrossTab	Total Flows & Loads to and from Each Mass Balance Unit	Output
EAAReport	Output Report for Each EAA Basin	Output
EAAReport2	Output Report for Each EAA Basin (alternative format)	Output
WCAReport	Output Report for WCA & Holeyland Inflows	Output
S5ASchematic	Schematic of S5A Basin Calcs (Linked to Visio File S5ABASIN.VSD)	Output
S6Schematic	Schematic of S6 Basin Calcs (Linked to Visio File S6BASIN.VSD)	Output
S7Schematic	Schematic of S7 Basin Calcs (Linked to Visio File S7BASIN.VSD)	Output
S8Schematic	Schematic of S8 Basin Calcs (Linked to Visio File S8BASIN.VSD)	Output
Monthly	Monthly or 12-Month Rolling Time Series for Specified Terms	Output
Yearly	Yearly Time Series for Specified Terms	Output
GIS_Coefs	Specifications for GIS Output File	Input & Documentation
GIS	GIS Output File (Accessed by ArcView & Visio)	Output
C_12Month	Charts of 12-Month Rolling Flow-Weighted-Mean Concentrations	Output
C_Yearly	Charts of Yearly EAA Runoff & WCA Inflow Time Series	Output
C_EAAOutflows	Charts of EAA Outflows by Basin	Output
C_WCAInflows	Charts of WCA Inflows by Source	Output

File Descriptions EAABAL.XLS Tab= Doc

File	Description
eaabal.xls	excel workbook & macros
go.bat	batch file for updating data files & calculating loads edit top of file to indicate directory containing basin files
ctpld.exe	generalized version of EAATPLD.EXE for calculating loads
merge.exe	utility for merging concentration data sets
dbcopy.exe	utility for copying data set from .wk1 to .fix format
dbswap.exe	utility for swapping station codes
dbswap.dat	instructions for renaming stations
cflow.wk1	historical flow data for locations not in eaa basin calcs period October 1978 thru December 1997 add new columns to this file when adding new stations to calculations no missing flows
cflow.upd	flow update file (>= Jan 1998), retreived from oracle
cflow.fix	cflow.wk1 + cflow.upd
eaawbal.fix	complete flow data set >= Oct 1978 cflow.fix + eaaflow.fix + additional flows calculated by eaawbal.for
cflow.dat	dbkeys for flow stations not in basin calcs correspond to columns in cflow.wk1
cflow.com	sql to retrieve new flow data
cflow.spl	flow download file
ctp.fix	sample data for stations not in eaatp.fix
ctp_upd.fix	update file for ctp.fix
ctp_his.fix	historical data (L3 renamed as L3USED, <=870421)
samples.fix	merged sample data for all stations eaatp.fix + ctp_his.fix + ctp.fix
ctp.com	sql to retrieve new sample data
ctp.spl	sample download file
*.vsd	visio (version 5.0, standard) files water & mass balance schematics for each eaa basin copies of these figures are stored in eaabal.xls workbook (linked) linked to gis output file 'gisout.dbf' in /GIS directory
eaabal.job	input file for load calculations (similar to format used in basin calcs)
loads.xtb	output monthly load crosstab (for reference)
flows.xtb	output monthly flow crosstab (for reference)
eaabal.mon	output monthly flows & loads for each term (accessed by eaabal.xls)
eaabal.apr	ArcView project

Procedure for Installing Software EAABAL.XLS Tab= Doc

Copy TASK9.ZIP file to a new, empty directory
Expand using -d switch: >PKUNZIP -d TASK9
Edit the batch file 'GO.BAT' to indicate disk directory at top of file
Install Visio, Version 5.0 (Full Installation)
Install ODBC data source (links Visio files to program output)
    From Win95 Control Panel, Run '32Bit ODBC'
    Select 'Add'
    Select "Microsoft Dbase Driver **.DBF", then 'Finish"
    Enter Data Source Name = "GIS Output"
    Enter Description = "Output from EAA Mass Balance Calculations"
    Select Version = "Dbase Version IV"
    Uncheck Box that indicates 'Use Current Directory"
    Click 'Select Directory" box
    Select directory containing file 'gisout.dbf' (installed with program)
    Select "OK"
    Output file 'gisout.dbf' created by this workbook is now linked to visio drawings (*.vsd)
Load EAABAL.XLS
Enter Disk Directories on Intro Sheet
Edit All links to reflect locations of linked files (Visio Drawings, Basin Workbook)

Procedure for Adding New Term EAABAL.XLS Tab= Doc

Retrieve Historical Flow values (<= 961231); add column to CFLOW.WK1; no missing values
Identify Flow DBKEY for new flows (>=970101)
Edit SQL file (CFLOW.COM); always retreive flow record starting 970101
Edit DBKEY file (CFLOW.DAT)

Edit EAAWBAL.FOR
- If new flow is measured, add to list of input flows
- If new flow is calculated:
  - Add to list of calculated flows in DATA statement at top of program
  - Add formula to calculate flow
  - Add to list of output flows in WRITE statement at bottom of program

Identify Water Quality Station Code
Edit SQL file for Sample Data (CTP.COM)
Edit DBSWAP.DAT if the new station(s) are to be renamed
Edit load calculation control file EAABAL.JOB

Modify Excel Workbook
- Add term to Glossary sheet
  - Define 'to' and'from' fields only for terms which have unique source & destination
  - i.e., terms linking two mass balance units, as defined at top of Glossary Sheet
- Add term to Calcs sheet
  - If term is calculated externally
    - Add to bottom of first table (blue)
    - Redefine data table
      - Select Blue Cells (A22..E61) + new rows
      - Run Excel 'Data Table' procedure
      - Select Cell A17 for Column Input Cell
    - copy formulas in colums F-I
  - If term is calculated in workbook, add to second table (red)
    - Add to bottom of second table (red)
    - Enter formulas in cols B & C to calculate flow & load from other terms
    - Copy formulas in columns D-I
- Add term to GIS sheet
  - Follow pattern for other terms
  - Enter values in Columns A-L
  - If term is to be displayed in ArcView
    - Obtain X,Y coordinates (state planar) for structure
    - Use values (Xb,Yb) to shift display arrows from X,Y location
    - Use values (View1, View2) to turn on (1) or off (0) display of term
      - View 1 eaa mass balance terms only
      - View 2 other (user -defined)
  - Copy formulas in Column M-U

Modify Visio Schematic for appropriate EAA basin to reflect new term

Procedure for Adding New Mass Balance Unit (STA) EAABAL.XLS Tab= Doc

Update Glossary
Update Flow , & Load Cross-Tabs in Crosstab Sheet
    Add new column & row to each 2-way table
    Select table (Flows = A9.P23 or Loads = A29.P43)
    Select Excel 'Data Table'
    Select 'Row Input' = A4, 'Col Input' = B4
Update Concentrations in Crosstab Sheet (A47.P65)
    Add new column & row
    Copy formulas from other table entries
Modify Visio Schematic to reflect new unit and connected terms

Procedure for Modifying Visio Schematic

Update EAABAL.XLS and save GIS output file
Double Click on schematic for appropriate eaa basin (S5ASchematic, S6Schematic...)
Add new mass balance unit(s)
Add new connectors (terms) by copying other connectors (preserves database link)
Right-Click on connector to Select DataBase Record corresponding to new term
Save File

New Terms (outside of EAA Mass Balance) are described below EAABAL.XLS Tab= New Terms

Term	Description	Flow Data	DBKEY	Concentration Data	Type	Notes
L3	L3 Canal Total Discharge	L3-DFS Historical Flows: L3 USGS, Revised, <= 9/90 SFWMM 10/90 - 6/95 L3-DFS > 6/95	16245	L3BRS ** (>870421) USL3BRS ** L3 ** (<870421) ** data combined & renamed L3USED	Grab Composite Grab	Historical Flow Data May Need Refinement
S140	S140 Discharge to WCA-3A	S140 Spillway S140 Pump Station	06753 06752	S140	Grab	Historical Flow Data May Need Refinement
S190	S190 Discharge to L28 Interceptor	S190	15987	S190	Grab	Historical Flow Data May Need Refinement
S9	S9 Pump Station from C11W to WCA-3A	S9 Pump Station	15015	S9	Grab & Composite	
G251	ENRP Outflow to WCA-1	ENR Pump Station	15848	ENR012	Grab & Composite	Starts August 1994

Glossary of Terms Used in Mass Balance Calculations

Mass Balance Units

Unit	Description
EAA-S5A	EAA - S5A Basin
EAA-S6	EAA - S6 Basin
EAA-S7	EAA - S7 Basin
EAA-S8	EAA - S8 Basin
Lake	Lake Okeechobee
WCA-1	Water Conservation Area 1
WCA-2A	Water Conservation Area 2A
WCA-3A	Water Conservation Area 3A
STA-1W	Stormwater Treatment Area 1W / ENRP
STA-6	Stormwater Treatment Area 6
C139	C139 Basin
Holeyland	Holeyland
C51W	C51 West Basin
C11W	C11 West Basin
Seminoles	Seminole Territory (S190)
EAA*	All EAA Basins
WCA*	All Water Conservation Areas
STA*	All Stormwater Treatment Areas
*	Total

Mass Balance Terms

Terms in Red are calculated in this workbook (Calcs Sheet)

Terms in Blue are calculated externally (CTPLD.EXE Fortran Program)

Define "From" and "To" Fields only for Terms which have a single source and a single destination (unit)

Term	Description	EAATPLD or Equation	Basin	From	To	Notes
S5A_OUT	Outflow from WPB Canal to WCA-1 via S5A	S5A1OUT	S5A			
S6_OUT	Outflow from Hillsboro Canal to WCA-1 via S6	S6OUT	S6			
S7_OUT	Outflow from North New River Canal to WCA-2A	S7OUT	S7			
S150_OUT	Outflow from North New River Canal to WCA-3A?	S150OUT	S7			
S8_OUT	Outflow from Miami Canal to WCA-3A	S8OUT	S8			
G88	Inflow to EAA from C139 Basin via L-4	G88	S8			included in
G136	Inflow to EAA from C139 Basin via L-1	G136	C139	C139	WCA-3A	
G200	Outflow from Miami Canal to Holeyland via G200	G200	S8			
G250	Inflow to ENR from L-7 (WPB Canal) via G250	G250	S5A			
G600	Inflow to STA-6 from EAA via G600	G600	S8			
G605	STA-6 Bypass to L-4 via G605	G605	S8	EAA-S8	WCA-3A	
G606	STA-6 Outflow to L-4 via G606	G606	S8	STA-6	WCA-3A	
S2S7_OUT	Outflow from S7 Basin to Lake via S2	S2/7OUT	S7	EAA-S7	Lake	
S2S6_OUT	Outflow from S6 Basin to Lake via S3	S2/6OUT	S6	EAA-S6	Lake	
S352_OUT	Outflow from S5A Basin to Lake via S352	HGS5OUT	S5A	EAA-S5A	Lake	
S3_OUT	Outflow from S8 Basin to Lake via S3	S3OUT	S8	EAA-S8	Lake	
XT_S150	NNR Canal Flow-Thru from S150 to S7	S7THRS150	S7	WCA-3A	WCA-2A	
XT_S7	NNR Canal Flow-Thru from S7 to S150	S7THRSS7	S7	WCA-2A	WCA-3A	
FT_S5AB	Flow-Thru from Lake to S5A Basin via S352	S5ATHRU	S5A			
FT_S6B	Flow-Thru from Lake to S6 Basin via S2	S6THRU	S6			
FT_S7B	Flow-Thru from Lake to S7 Basin via S2	S7THRU	S7			
FT_S8B	Flow-Thru from Lake to S8 Basin via S3	S8THRU	S8			
FT_G200	Flow-Thru from Lake to Holeyland via G200		S8	Lake	Holeyland	
FT_G250	Flow-Thru from Lake to ENRP via G250		S5A	Lake	STA-1W	
FT_S150	Flow-Thru from Lake to WCA-3A via S150		S7	Lake	WCA-3A	
S5A_IN	Total Inflow to EAA from S5A		S5A			
S6_IN	Total Inflow to EAA from S6		S6			
S7_IN	Total Inflow to EAA from S7		S7			
S150_IN	Total Inflow to EAA from S150		S7			
S8_IN	Total Inflow to EAA from S8		S8			
S3_IN	Total Lake Release to S8 Basin via S3		S8			

S2S7_IN	Total Lake Release to S7 Basin via S2		S7			
S2S6_IN	Total Lake Release to S6 Basin via S2		S6			
S352_IN	Total Lake Release to S5A Basin via S352		S5A			
L3	Total Runoff from C139 Basin		C139	C139	WCA-3A	These term
G251	Outflow from ENRP to WCA-1		S5A	STA-1W	WCA-1	
S140	Outflow from S140 to WCA-3A					These term
S190	Outflow from S190 to L28 Interceptor		Seminoles	Seminoles	WCA-3A	These term
S9	Outflow from S9 Pump Station to WCA-3A		C11W	C11W	WCA-3A	These term
IL_S5AB	Irrigation Supply to S5A Basin from Lake via S352	S352_IN - FT_S5AB	S5A	Lake	EAA-S5A	
FT_S5A	Flow-Thru from Lake to WCA-1 via S5A	FT_S5AB - FT_G250	S5A	Lake	WCA-1	
R_S5A	Runoff from S5A Basin to WCA-1 via S5A	S5A_OUT - FT_S5A	S5A	EAA-S5A	WCA-1	
R_G250	Runoff from S5A Basin to ENRP via G250	G250 - FT_G250	S5A	EAA-S5A	STA-1W	
IL_S6B	Irrigation Supply to S6 Basin from Lake via S2	S2S6_IN - FT_S6B	S6	Lake	EAA-S6	
FT_S6	Flow-Thru from Lake to WCA-1 via S6	FT_S6B	S6	Lake	WCA-1	
R_S6	Runoff from S6 Basin to WCA-1 via S6	S6_OUT - FT_S6	S6	EAA-S6	WCA-1	
IL_S7B	Irrigation Supply to S7 Basin via S2	S2S7_IN - FT_S7B	S7	Lake	EAA-S7	
FT_S7	Flow Thru from Lake to WCA-2A via S7	FT_S7B - FT_S150	S7	Lake	WCA-2A	
R_S7	Runoff from S7 Basin to WCA-2A via S7	S7_OUT - FT_S7	S7	EAA-S7	WCA-2A	
R_S150	Runoff from S7 Basin to WCA-3A via S150	S150_OUT - FT_S150	S7	EAA-S7	WCA-3A	
IL_S8B	Irrigation Supply to S8 Basin via S3	S3_IN - FT_S8B	S8	Lake	EAA-S8	
FT_S8	Flow Thru from Lake to WCA's via S8	FT_S8B - FT_G200	S8	Lake	WCA-3A	
E_S8	Total External Inflows to S8 Basin above S8	G88 + G605 + G606 + G136	S8			
R_S8	Runoff from S8 Basin to WCA-3A via S8	S8_OUT - E_S8 - FT_S8	S8	EAA-S8	WCA-3A	
R_G200	Runoff from S8 Basin to Holeyland via G200	G200 - FT_G200	S8	EAA-S8	Holeyland	
STA6IN	Inflow to STA-6 Treatment Cells from S8 Basin	G600 - G605	S8	EAA-S8	STA-6	
IW_S150	Irrigation Supply to S7 Basin from WCA-3A via S150	S150_IN - XT_S150	S7	WCA-3A	EAA-S7	
IW_S7	Irrigation Supply to S7 Basin from WCA-2A via S7	S7_IN - XY_S7	S7	WCA-2A	EAA-S7	
S2_OUT	Total Runoff from S6/S7 Basins to Lake via S2	S2S6_OUT + S2S7_OUT				
S2_IN	Total Release from Lake Okee to S6/S7 Basins via S2	S2S6_IN + S2S7_IN				
R_S5AB	Total Runoff from S5A Basin	R_S5A+R_G250+S352_OUT	S5A			
R_S6B	Total Runoff from S6 Basin	R_S6+S2S6_OUT	S6			
R_S7B	Total Runoff from S7 Basin	R_S7+R_S150+S2S7_OUT	S7			
R_S8B	Total Runoff from S8 Basin	R_S8+R_G200+G600+S3_OUT	S8			
I_S5AB	Total Irrigation Supply to S5A Basin	IL_S5AB+S5A_IN	S5A			
I_S6B	Total Irrigation Supply to S6 Basin	IL_S6B+S6_IN	S6			
I_S7B	Total Irrigation Supply to S7 Basin	IL_S7B+IW_S7+IW_S150	S7			
I_S8B	Total Irrigation Supply to S8 Basin	IL_S3B+S3_IN	S8			

IW_S5A	Irrigation Supply to S5A Basin from WCA-1 via S5A	S5A_IN	S5A	WCA-1	EAA-S5A
IW_S6	Irrigation Supply to S6 Basin from WCA-2A via S6	S6_IN	S6	WCA-1	EAA-S6
IW_S8	Irrigation Supply to S8 Basin from WCA-3A via S8	S8_IN	S8	WCA-3A	EAA-S8

Flows in kac-ft/yr Basin: All Date Range: 199405 to 199704

From	To---> Lake	EAA*	STA*	Holeyland	WCA*	WCA-1	WCA-2A	WCA-3A	STA-1W	STA-6	EAA-S5A	EAA-S6	EAA-S7	EAA-S8	*
Lake		265.4	62.5	15.0	204.0	105.0	62.8	36.3	62.5		66.4	121.8	10.5	66.7	546.9
EAA*	52.9		68.7	31.0	1250.3	643.8	239.8	366.7	68.7	0.0					1403.0
STA*					129.0	129.0		0.0							129.0
WCA*		7.4			0.2		0.2	0.0			6.4	0.0	0.6	0.4	7.6
C139					229.2			229.2							229.2
Seminoles					118.7			118.7							118.7
C11W					267.4			267.4							267.4
STA-1W					129.0	129.0									129.0
STA-6					0.0			0.0							0.0
EAA-S5A	0.0		68.7		279.8	279.8			68.7						348.6
EAA-S6	13.5				364.0	364.0									377.5
EAA-S7	25.2				272.5		239.8	32.7							297.7
EAA-S8	14.2		0.0	31.0	334.1			334.1		0.0					379.3
*	52.9	272.8	131.3	46.0	2198.9	877.8	302.6	1018.5	131.3	0.0	72.8	121.8	11.2	67.0	2701.8
ECP	52.9	265.4	131.3	46.0	1812.5	877.8	302.4	632.3	131.3	0.0	66.4	121.8	10.5	66.7	2308.0
Other	0.0	7.4	0.0	0.0	386.3	0.0	0.2	386.2	0.0	0.0	6.4	0.0	0.6	0.4	393.7

Loads in metric tons/year Basin: All Date Range: 199405 to 199704

From	To---> Lake	EAA*	STA*	Holeyland	WCA*	WCA-1	WCA-2A	WCA-3A	STA-1W	STA-6	EAA-S5A	EAA-S6	EAA-S7	EAA-S8	*
Lake		30.6	10.9	1.5	21.8	11.9	5.8	4.2	10.9		11.7	12.3	0.9	5.6	64.7
EAA*	11.3		7.4	6.7	168.5	102.5	26.4	39.7	7.4	0.0					193.9
STA*					3.5	3.5		0.0							3.5
WCA*		0.7			0.0		0.0	0.0			0.7	0.0	0.0	0.0	0.7
C139					64.5			64.5							64.5
Seminoles					18.8			18.8							18.8
C11W					4.7			4.7							4.7
STA-1W					3.5	3.5									3.5
STA-6					0.0			0.0							0.0
EAA-S5A	0.0		7.4		62.5	62.5			7.4						69.8
EAA-S6	3.0				40.1	40.1									43.1
EAA-S7	5.7				27.5		26.4	1.1							33.2
EAA-S8	2.6		0.0	6.7	38.5			38.5		0.0					47.8
*	11.3	31.3	18.2	8.2	281.7	117.9	32.0	131.8	18.2	0.0	12.3	12.3	0.9	5.7	350.8
ECP	11.3	30.6	18.2	8.2	258.3	117.9	32.0	108.3	18.2	0.0	11.7	12.3	0.9	5.6	326.6
Other	0.0	0.7	0.0	0.0	23.5	0.0	0.0	23.5	0.0	0.0	0.7	0.0	0.0	0.0	24.2

Concentrations in ppb Basin: All Date Range: 199405 to 199704

From	To---> Lake	EAA*	STA*	Holeyland	WCA*	WCA-1	WCA-2A	WCA-3A	STA-1W	STA-6	EAA-S5A	EAA-S6	EAA-S7	EAA-S8	*
Lake		93	141	81	86	92	73	94	141		143	82	71	69	96
EAA*	173		87	175	109	129	89	88	87						112
STA*					22	22									22
WCA*		75			18		18	58			82		26	42	74
C139					228			228							228
Seminoles					128			128							128
C11W					14			14							14
STA-1W					22	22									22
STA-6															
EAA-S5A			87		181	181			87						162
EAA-S6	183				89	89									93
EAA-S7	183				82		89	28							90
EAA-S8	146			175	93			93							102
*	173	93	113	144	104	109	86	105	113		137	82	69	68	105
ECP	173	93	113	144	115	109	86	139	113		143	82	71	69	115
Other		75			49		18	49			82		26	42	50

EAA Basin Report **Period: 199405 to 199704**

Total Flows (kac-ft/yr)

	Basin	S5A	S6	S7	S8
EAA Runoff					
To Lake	52.9	0.0	13.5	25.2	14.2
To STA's	68.7	68.7			0.0
To Holey	31.0				31.0
To WCA's	1250.3	279.8	364.0	272.5	334.1
Total	1403.0	348.6	377.5	297.7	379.3
EAA Irrigation					
From Lake	265.4	66.4	121.8	10.5	66.7
From WCA's	7.4	6.4	0.0	0.6	0.4
Total	272.8	72.8	121.8	11.2	67.0
Total Outflows to WCA's, Holeyland, & STA's from Lake or EAA					
EAA Runoff	1350.1	348.6	364.0	272.5	365.1
Lake Flow-Thru	281.5	114.1	53.5	83.2	30.8
Total	1631.6	462.7	417.4	355.6	395.8
Total Outflows from Lake Okeechobee					
Irrigation	265.4	66.4	121.8	10.5	66.7
Lake Flow-Thru	281.5	114.1	53.5	83.2	30.8
Total	546.9	180.5	175.2	93.7	97.4

Total Phosphorus Loads (mtons/yr)

	Basin	S5A	S6	S7	S8
EAA Runoff					
To Lake	11.3	0.0	3.0	5.7	2.6
To STA's	7.4	7.4			0.0
To Holey	6.7				6.7
To WCA's	168.5	62.5	40.1	27.5	38.5
Total	193.9	69.8	43.1	33.2	47.8
EAA Irrigation					
From Lake	30.6	11.7	12.3	0.9	5.6
From WCA's	0.7	0.7	0.0	0.0	0.0
Total	31.3	12.3	12.3	0.9	5.7
Total Outflows to WCA's, Holeyland, & STA's from Lake or EAA					
EAA Runoff	182.6	69.8	40.1	27.5	45.2
Lake Flow-Thru	34.1	18.2	4.6	8.1	3.2
Total	216.7	88.0	44.6	35.6	48.4
Total Outflows from Lake Okeechobee					
Irrigation	30.6	11.7	12.3	0.9	5.6
Lake Flow-Thru	34.1	18.2	4.6	8.1	3.2
Total	64.7	29.9	16.9	9.0	8.9

Phosphorus Concentrations (ppb)

	Basin	S5A	S6	S7	S8
EAA Runoff					
To Lake	173		183	183	146
To STA's	87	87			
To Holey	175				175
To WCA's	109	181	89	82	93
Total	112	162	93	90	102
EAA Irrigation					
From Lake	93	143	82	71	69
From WCA's	75	82		26	42
Total	93	137	82	69	68
Total Outflows to WCA's, Holeyland, & STA's from Lake or EAA					
EAA Runoff	110	162	89	82	100
Lake Flow-Thru	98	129	70	79	85
Total	108	154	87	81	99
Total Outflows from Lake Okeechobee					
Irrigation	93	143	82	71	69
Lake Flow-Thru	98	129	70	79	85
Total	96	134	78	78	74

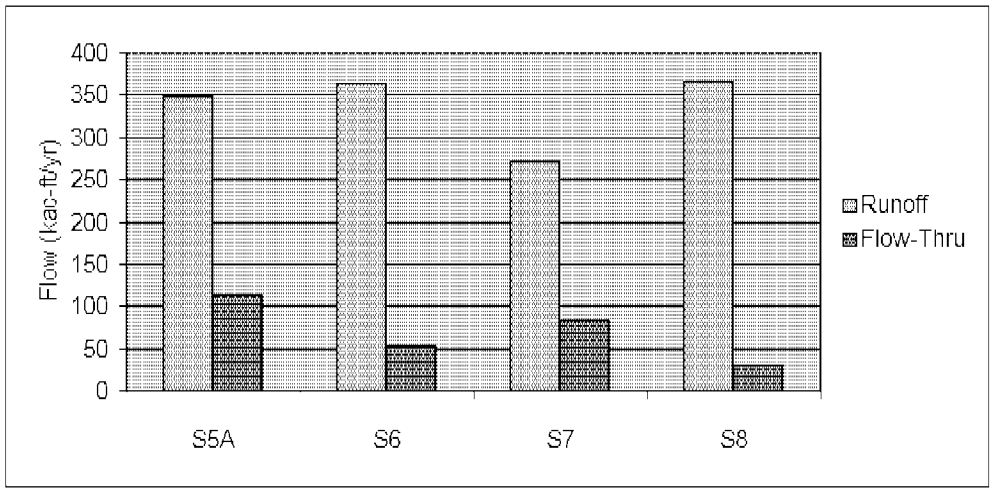
EAA Basin Report **Period: 199405 to 199704**

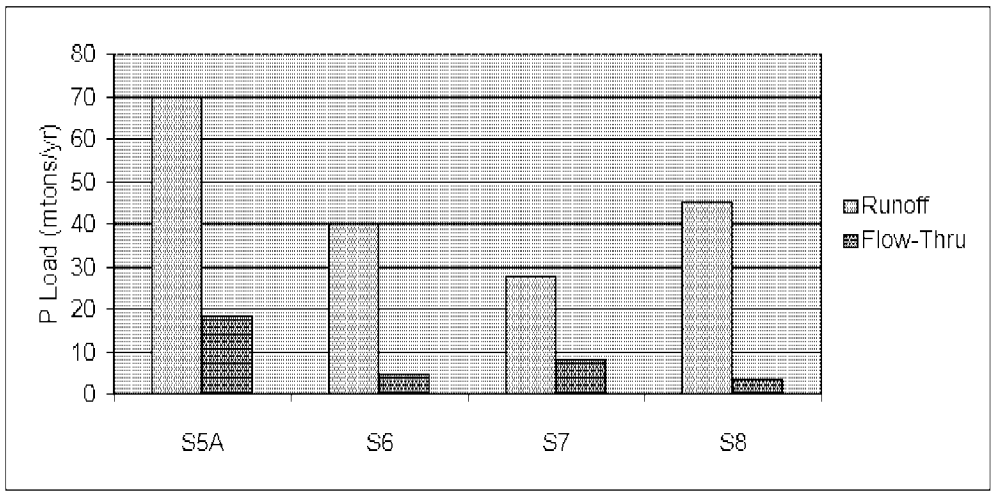
	EAA Total Basin			S5A			S6			S7			S8		
	Flow	Load	Conc	Flow	Load	Conc	Flow	Load	Conc	Flow	Load	Conc	Flow	Load	Conc
EAA Runoff															
To Lake	52.9	11.3	173	0.0	0.0		13.5	3.0	183	25.2	5.7	183	14.2	2.6	146
To STA's	68.7	7.4	87	68.7	7.4	87	0.0	0.0		0.0	0.0		0.0	0.0	
To Holey	31.0	6.7	175		0.0			0.0			0.0		31.0	6.7	175
To WCA's	1250.3	168.5	109	279.8	62.5	181	364.0	40.1	89	272.5	27.5	82	334.1	38.5	93
Total	1403.0	193.9	112	348.6	69.8	162	377.5	43.1	93	297.7	33.2	90	379.3	47.8	102
EAA Irrigation															
From Lake	265.4	30.6	93	66.4	11.7	143	121.8	12.3	82	10.5	0.9	71	66.7	5.6	69
From WCA's	7.4	0.7	75	6.4	0.7	82	0.0	0.0		0.6	0.0	26	0.4	0.0	42
Total	272.8	31.3	93	72.8	12.3	137	121.8	12.3	82	11.2	0.9	69	67.0	5.7	68
Total Outflows to WCA's, Holeyland, & STA's from Lake or EAA															
EAA Runoff	1350.1	182.6	110	348.6	69.8	162	364.0	40.1	89	272.5	27.5	82	365.1	45.2	100
Lake Flow-Thru	281.5	34.1	98	114.1	18.2	129	53.5	4.6	70	83.2	8.1	79	30.8	3.2	85
Total	1631.6	216.7	108	462.7	88.0	154	417.4	44.6	87	355.6	35.6	81	395.8	48.4	99
Total Outflows from Lake Okeechobee															
Irrigation	265.4	30.6	93	66.4	11.7	143	121.8	12.3	82	10.5	0.9	71	66.7	5.6	69
Lake Flow-Thru	281.5	34.1	98	114.1	18.2	129	53.5	4.6	70	83.2	8.1	79	30.8	3.2	85
Total	546.9	64.7	96	180.5	29.9	134	175.22	16.911	78	93.7	9.0	78	97.4	8.9	74

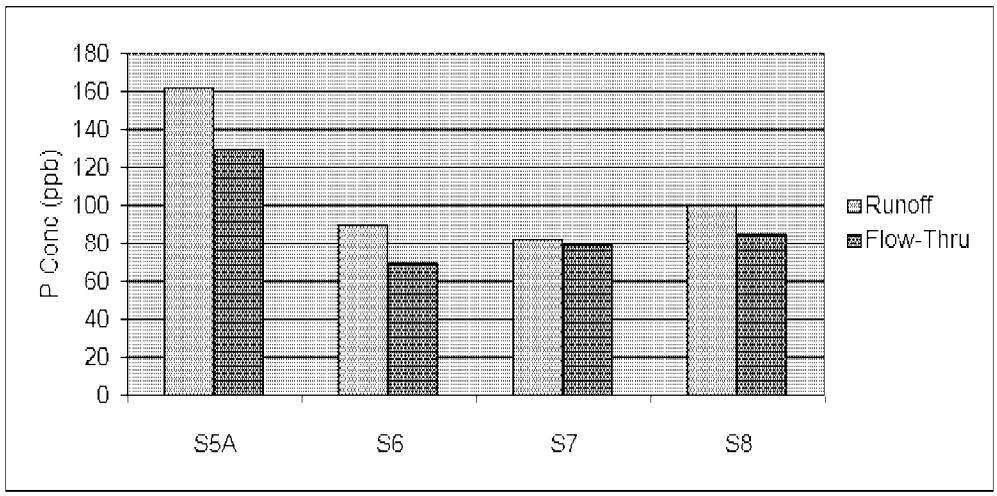
Inflows to WCA's & Holeyland **Period:** **199405 to 199704**

	Total	WCA-1	WCA-2A	WCA-3A	Holey.
Flows (kac-ft/yr)					
Lake Release	218.9	105.0	62.6	36.3	15.0
EAA Runoff	1281.4	643.8	239.8	366.7	31.0
STA Outflow	129.0	129.0		0.0	
C139	229.2			229.2	
Seminoles	118.7			118.7	
C11W	267.4			267.4	
Total	2244.7	877.8	302.4	1018.5	46.0
Total ECP	1858.5	877.8	302.4	632.3	46.0
Phosphorus Loads (mtons/yr)					
Lake Release	23.3	11.9	5.6	4.2	1.5
EAA Runoff	175.2	102.5	26.4	39.7	6.7
STA Outflow	3.5	3.5		0.0	
C139	64.5			64.5	
Seminoles	18.8			18.8	
C11W	4.7			4.7	
Total	289.9	117.9	32.0	131.8	8.2
Total ECP	266.5	117.9	32.0	108.3	8.2
Phosphorus Concentrations (ppb)					
Lake Release	86	92	73	94	81
EAA Runoff	111	129	89	88	175
STA Outflow	22	22			
C139	228			228	
Seminoles	128			128	
C11W	14			14	
Total	105	109	86	105	144
Total ECP	116	109	86	139	144

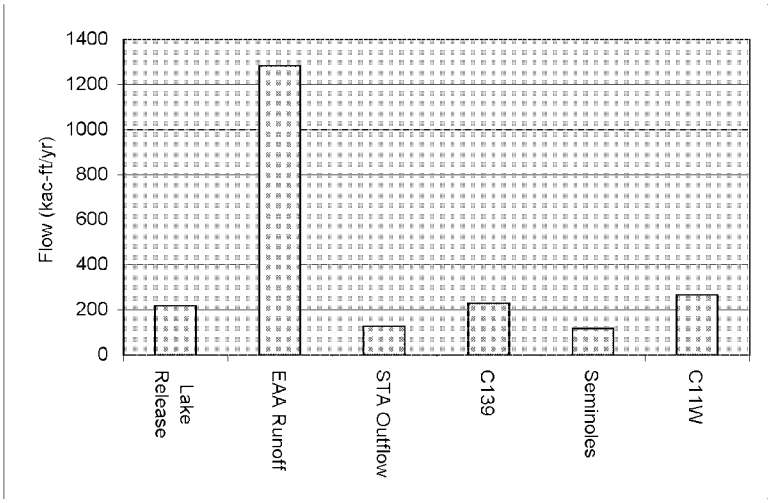
EAA Outflows to WCA's, STA's & Holeyland 199405 to 199704

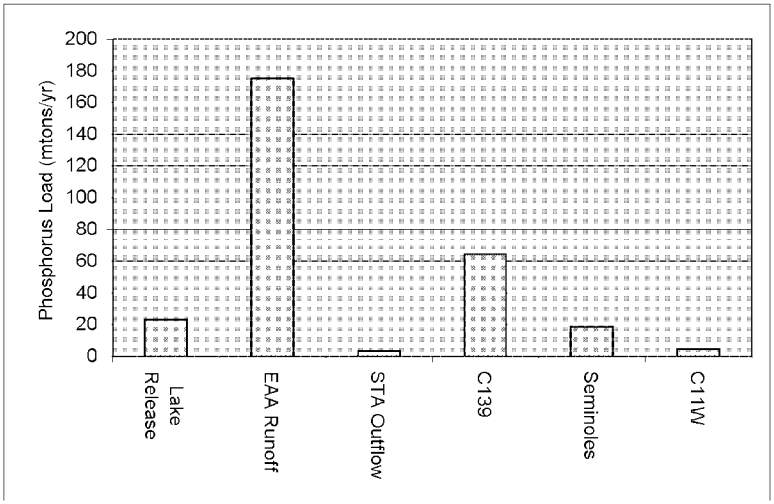


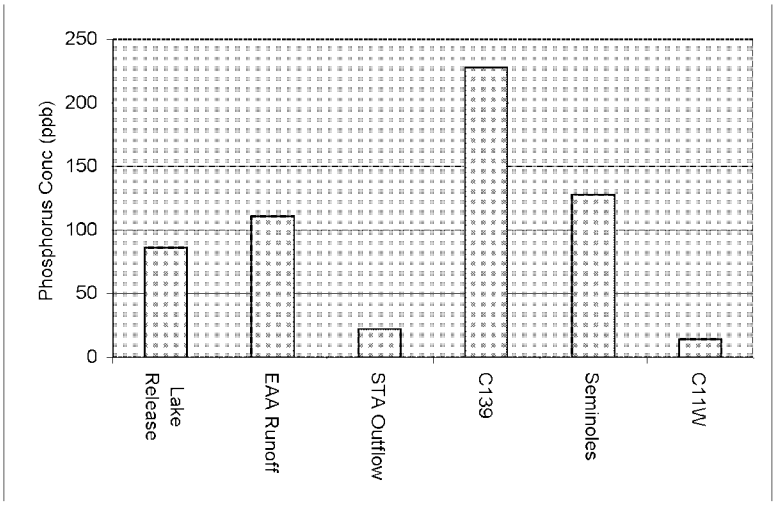




WCA & Holeyland Inflows by Source 199405 to 199704







Yearly Concentration Time Series