APPENDIX A

INPUTS AND OUTPUTS FOR THE SFWMM V5.5

I. Input Description

Data input to the SFWMM is accomplished via data files in regular text (ASCII) and binary formats (grid_io and HECDSS). The SFWMM uses the basic American Standard Code for Information Interchange (ASCII) 128-character set. Grid_io is a binary format consistent with a general software library for storing and retrieving two-dimensional data. This library was developed in-house by Perkins (1991) and subsequently modified by Van Zee (1993). It is a collection of C routines which read, write and search a binary data file containing a time series of information (typically stages or flow vectors) assigned to all grids in a two-dimensional convex grid network; while the cells are uniform rectangles, the grid boundary need not be rectangular. HECDSS or DSS, on the other hand, stands for Data Storage System developed by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers (USACE, 1994). It was designed for storing and retrieving data most commonly used in water resources applications. By using a block of sequential data as a basic unit of storage, DSS results in a more efficient access of time series or other uniquely related data (USACE, 1991). In the SFWMM, it is primarily used to store discharge information for most of the structures simulated in the model. Some of the names of the input files were changed in version 5.5.

A brief description of all input files read by the model is given below. The approximate file sizes are given for a typical CERP input file; sometimes, a suffix is added to the names below for specific runs. A complete description is given in Appendix B where the UNIX manpages are presented for each ASCII input file.

ASCII Format

ALTWMM = Input data locator file, which contains the explicit location (full pathname) of input files required to run the SFWMM. Current size is ~2 Kb.

asrinput.dat = This data file provides the ASR input data set. It defines ASR system information including parameters for canals, reservoirs, LOK, and EAA basin runoff as sources and/or destination for ASR. It also identifies the grid location of the reservoirs used for injection and/or recovery for ASR. This file is assigned to unit number 17 in ALTWMM and is read in subroutine *ASR_INPUT.F*. Current size is ~5 Kb.

canal_grid_loc.dat = This data file defines the grid cell location(s) of canals to be simulated. Also, canals which are modeled in a special (non-generic) way are listed here as well as relevant special input, including:

- canals with unique surface water interaction coefficients; and
- canals for which head drop is computed on a daily basis.

This file is assigned to unit number 23 in ALTWMM and is read in subroutine *GEN_MODEL_DEF_PARAM.F*. Under earlier versions, this file was called canal22. Current size is ~13 Kb.

canal_struc_specs.dat = This data file provides the physical parameters for each canal. It defines data related to canals to be simulated such as geometry, conductivity, basin location, mean seasonal head drops along canal, number of canal outlet structures, etc. In addition, data such as number of water supply branches, canal maintenance levels, etc. are defined when appropriate. Data related to each outlet structure are defined in several records. Input data consists of geometry, headwater/tailwater location, recipient of discharge from structure, type/purpose of structure, discharge coefficient, capacity, flood control operations, priority in water supply network, constraints/triggers to flow, etc. The input format depends on the type of outlet structure. In addition, a distinction is made between structures that are modeled by general code and structures modeled by special code. Special operating criteria are also input for several structures. Near the end of the file, structure names that cannot be automated for the "B" part of the output DSS file (daily_str_flw.dss) are listed. This file is assigned to unit number 11 in ALTWMM and is read in subroutine *CNLDATA.F*. Under earlier versions, this file was called cndta22. Current size is ~83 Kb.

clim_ann_index2.dat = This data file provides the SFWMM with the ASCII data array of seasonal LOK inflows (million acre-feet) from 1914 2000 for any given simulation and includes the following:

- the initial year of climate data (1914 currently); and
- the year and 12 consecutive seasonal inflow values for each month (1914 - 2000).

This file is assigned to unit number 109 in ALTWMM and is read in subroutines *LOK_BNDRY_INPUT_DATA.F* and *OPEN_ASCII_OUTPUT_FILES.F*. Current size is ~9 Kb.

drawdown.dat = This data file specifies structural operations and constraints for structures that are used to drawdown canals during pre-storm events. This file is assigned to unit number 136 in ALTWMM and is read in subroutine *CNLDATA.F*. Current size is ~2 Kb.

dual_ops.dat = This data file specifies special (dual) structural operations when regulatory releases are made from WCA-3A to the South Dade Conveyance System. This file is assigned to unit number 157 in ALTWMM and is read in subroutine *CNLDATA.F*. Current size is ~2 Kb.

eaa_canal_profiles_v2.2 = This data file provides water surface elevation profile information for major EAA canals and contains a 2-way look-up table that defines water surface profiles for the major EAA conveyance canals in terms of downstream stage-upstream stage and discharge. This file summarizes the HW-TW-STG relationships in the major EAA conveyance canals. These relationships were determined via backwater analysis using the water surface profile computer code HEC-2 for a practical range of tailwater and discharge combinations. This file is assigned to unit number 13 in ALTWMM and is read in subroutine *GEN_MODEL_DEF_PARAM_DATA.F* from source file *GEN_MODEL_DEF_PARAM.F*. Current size is ~23 Kb.

ETp_1965-2000_17stn_plsLOK_Kr.dat = This data file provides the daily reference ET for the ten weather stations used to assign reference ET for each grid cell in the model. Read one month of daily Penman-Monteith potential evapotranspiration (PET) (referenced to grass) for each of the ten new ET basins into petstn array. Calculate reference ET for each node in the potet array based on weights. Potet data is summed monthly to be used later for evapotranspiration

reductions. This file is assigned to unit number 28 in ALTWMM and is read in subroutines *RAIN_PET_SETUP.F* and *OPEN_ASCII_OUTPUT_FILES.F*. Under earlier versions, this file was called pet6590. Current size is ~1.6 Mb.

ETp_weights_17stn_TIN_wmm.dat = This file provides weights assigned to each grid cell corresponding to each weather station used in reference ET calculations. Potential evapotranspiration (PET) weights are given to each grid cell using the inverse distance squared from the ten PET stations. Set ietzon for each node = node number itself (temporary fix). The potet (reference) is calculated for each node based on weights, except in the LEC in areas east of levees where the old ET basins are still maintained. Read the PET weights assigned to each node based on inverse distance squared from the node to the ten PET stations. This file is assigned to unit number 12 in ALTWMM and is read in subroutine *GRID_CELL_BASED_DATA.F*. Under earlier versions, this file was called petweights. Current size is ~186 Kb.

general_model_def_param.dat = This file provides the SFWMM with the required definition parameter data for any given simulation and includes the following:

- simulation starting and ending years and months;
- model domain size (number of rows and total number of cells for SFWMM and NSM);
- grid spacing (miles in north-south and east-west orientation);
- time step intervals (model time step and overland flow time steps);
- mode of operation (calibration or simulation);
- type of simulation (current operations or future operations); and
- lp flags for various printing and output options.

This file is assigned to unit number 112 in ALTWMM and is read in subroutine *GEN_MODEL_RUN_DEF_PARAM.F*. Current size is ~6 Kb.

general_nodal_dep_struc.dat = This file defines discharge parameters used to calculate flows from structures discharging from areas outside the WCAs which are dependent on grid cell water depths or levels. Contains input data for structures simulated that are dependent on stages at one cell or a group of grid cells. Only structures discharging from areas outside the WCAs (e.g. S-8, S-140A, S-3) are included. This file is assigned to unit number 101 in ALTWMM and is read in *LOK_O_WCA_IN_STRUC_DTA.F*. NOTE: All structures input in this file for simulation must have names input in master list in model definition data file (previously known as lecdef*). Current size is ~6 Kb.

import.nsm462_CERP1 = This file provides a time series of NSM-based target stages, including stage target time series at all locations potentially used for rainfall driven operations. This file is assigned to unit number 84 in ALTWMM and is read in gen_model_def_param.dat. Under earlier versions, this file was called import.nsm. Current size is ~2.9 Mb.

Istokpoga_Sltrib_65-00.dat = Current size is ~797 Kb.

known_flow_route_specs.dat = This file is the flow point definition file. It contains the known flow specification data. These data are used to route measured (historical) discharges or simulated discharges computed in *ROUTE.F*, *LAKE_REG_WCA.F*, *LAKE_NONREG_WCA.F* and *WCAOUT.F* subroutines to appropriate locations specified in data below. The boundary

inflow structures and/or other structures using measured flows are listed first in the order the structure names are input in the model_definition_info.dat file. Next the structures input in gen_nodal_dep_struc.dat file (for *ROUTE.F*, *LAKE_REG_WCA.F*, *LAKE_NONREG_WCA.F* subroutines) and caoflpts (for *WCAOUT.F* subroutine) file are included here in the order they are simulated. This file designates where the structure flow is going to be routed. The actual routing for structures below occurs in the *KNFLOWS.F* subroutine. Each structure contains two or more records of data, depending on the number of destination points. Anything known or measured must be in this file. This file is assigned to unit number 22 in ALTWMM and is read in subroutine *KNFLOWS.F* of *CNLDATA.F*. Under earlier versions, this file was called kflpts2. Current size is ~7 Kb.

lec_et.cf = This file is the control file for Lower East Coast unsaturated zone accounting. It opens files used for the LEC ET calculations and reads appropriate data. This file is assigned to unit number 20 in ALTWMM and is read in subroutine *LEC_ET_INITIAL_READ.F*. Current size is ~1 Kb.

levee_spg_input.dat = This data file is the specification file for computation of localized seepage underneath levees and definition of groundwater curtain wall components. This file is assigned to unit number 104 in ALTWMM and is read in subroutine *CNLDATA.F*. Current size is ~11 Kb.

lok_wca_oper_sched.dat = This data file provides the input data for operational schedules for Lake Okeechobee, appropriate WCAs, Holey Land, and Rotenberger tract. Any proposed calendar-based operational schedule for additional reservoir(s) may also be input. This file is assigned to unit number 102 in ALTWMM and is read in subroutine *OPER_SCHED_DATA.F*. Current size is ~43 Kb.

max_go_tbl = Table of maximum allowable gate openings for S-354, S-351 and S-352. This file is a 2-way look-up table relating downstream stage, upstream stage and maximum gate opening for the major EAA gravity structures. This file is a summary of the HW-TW-GO relationships based on the rating curves for some EAA gravity structures. Maximum gate openings are imposed so as to prevent scouring downstream of the structures. This file is assigned to unit number 15 in ALTWMM and is read in subroutine *GEN_MODEL_DEF_PARAM_DATA.F* from source file *GEN_MODEL_DEF_PARAM.F*. Current size is ~5 Kb.

model_definition_info.dat = This file is the primary model definition file. It contains general parameters such as landuse types, ET, overland and seepage parameters, and other simulation options. Provides general definition for model input, system parameters, and output. Specific definitions are found in other input files pertaining to specific features. In general, data found in this file are:

1. Multipliers for model input such as: runoff, rainfall, inflows, backpumping to LOK, structure and canal design conveyance, and diversion of excess LOK water to proposed reservoirs.
2. Options for: municipal wellfield input, demands and flow, maximum number of days for water supply backpumping into LOK, makeup water, SSM for LOK environmental water

supply, mode of operation of regulatory release to WCAs, Estuaries' proposed reservoirs, Estuaries' demands, and Estuaries' regulatory releases, prioritize proposed reservoirs in LOSA, splitting LOK into 2 sections, prioritize LOK water supply, BMPs in EAA, meeting environmental targets and/or demands in Holey Land, Rotenberger Tract, and WCA-3A, conveyance, flood control operations, divert excess water into EAA reservoirs, bypass STA-2 for water supply from LOK, bypass runoff from Hillsboro Canal basin, Holey Land, routing runoff to proposed reservoirs, injecting runoff to ASR, environmental water supply for Loxahatchee Slough Reuse.

3. Parameters for: structure information, overland flow, LOK initial stage, forepumping, backpumping, minimum level for EAA canals, minimum LOK stage for water supply, demands, regulatory releases, reservoirs, EAA basins, conveyance canals, Estuaries, SSM, environmental water supply, environmental target areas, reuse plants, demands in Lake Worth Drainage District, flow routing to STAs, monitoring points output to daily stage monitoring point output file.

This file is assigned to unit number 2 in ALTWMM. Under earlier versions, this file was called lecdef. Current size is ~53 K.

monthly_lok_et_rf_1965-2000.dat = This data file contains the total monthly historical LOK pan ET and rainfall data. This file is assigned to unit number 36 in ALTWMM. Under earlier versions, this file was called mlketrf. Current size is ~12 Kb.

multi_seas_index_65_00.dat = This file is a data array of multi-seasonal LOK inflows (10^6 acre-feet) from 1914-2000. The first record is the initial year of climate data (1914) followed by an array 14 columns wide (YYYY, 12 consecutive Monthly Inflow values formatted as F6.2 in 10^6 acre-feet, flag indicating strength of the Atlantic Multidecadal Oscillation) by 87 rows long (1914-2000). The file has a single YYYY value at the top of the file that sets the beginning year of climate data (ibeg_yr_multi). This file is assigned to unit number 135 in ALTWMM and is read in subroutines *OPEN_ASCII_OUTPUT_FILES.F* and *LOK_BNDRY_INPUT_DATA.F*. Current size is ~3 Kb.

num_trop_storm.dat = This file is a data array with the number of annual tropical storms from 1914-2000. The first record has the initial year of climate data (1914) in addition to threshold numbers of storms for Lake Okeechobee regulatory releases to the Estuaries and for the operation of WCA-3A according to an alternative schedule. The first record is followed by an array 2 columns wide (YYYY, number of tropical storms during year YYYY) by 87 rows long (1914-2000). This file is assigned to unit number 108 in ALTWMM and is read in subroutines *OPEN_ASCII_OUTPUT_FILES.F* and *LOK_BNDRY_INPUT_DATA.F*. Current size is ~1 Kb.

pdsi_14_00.dat = This file is a data array of monthly values of the Palmer Drought Severity Index (PDSI), an indicator of a seasonal moisture anomaly from what is climatically expected. This data is used in options associated with the drought watch and drought warning lines in Lake Okeechobee (see model_definition_input.man and lok_wca_oper_sched.man). This file is assigned to unit number 148 in ALTWMM and is read in subroutines *LOK_BNDRY_INPUT_DATA.F* and *OPEN_ASCII_OUTPUT_FILES.F*. Current size is ~9 Kb.

res_ops_drawdown.dat = This file specifies constraints for inflow into reservoirs and operations of reservoir outlet structures during pre-storm drawdown. This file is assigned to unit number 147 in ALTWMM and is read in subroutine *CNLDATA.F*. Current size is ~1 Kb.

res_grid_loc.dat = This file defines the grid location of reservoirs/STAs and other leveed systems to be simulated. This file is assigned to unit number 145 in ALTWMM and is read in subroutine *RESERV_INPUT_DATA.F*. Current size is ~6 Kb.

reservoir_input.dat = This file describes inflow and outflow structures for STAs and proposed reservoirs. Defines data related to reservoirs/STAs to be simulated. This file is assigned to unit number 103 in ALTWMM and is read in subroutine *RESERV_INPUT_DATA.F*. Current size is ~182 Kb.

srs_rf_plan_rf_et.dat = This file contains WCA-3A rainfall and ET data to be used for optional computation of ENP rainfall formula water deliveries, including rainfall and ET time series for rainfall driven plan calculation for Taylor Slough. This file is assigned to unit number 59 in ALTWMM and is read in gen_model_def_param.dat. Under earlier versions, this file was called brfrfm. Current size is ~362 Kb.

stage_import_specs.dat = This file contains parameters related to areas affected by environmental triggers, trigger locations, threshold depths and other parameters related to the Everglades rain-driven operations. It contains header information for daily import file for WCAs. This file contains information pertaining to target (trigger) locations to import (or export flow) to (or from) WCAs and the Park. This file is assigned to unit number 105 in ALTWMM and is read in gen_model_def_param.dat. Current size is ~9 Kb.

static_grid_values.dat = This file defines model static data for each grid cell including: land surface elevation, storage coefficient, land use, canal basin identifier, initial groundwater stage, aquifer depth, aquifer permeability, infiltration rate, acreage for six irrigation use types, effective root zone depth, maximum soil moisture holding capacity, fraction of urban landscape irrigation receiving water from public water supply wells, and fraction of golf course irrigation receiving water from treated wastewater. Under earlier versions, this file was called statdta. This file is assigned to unit number 60 in ALTWMM and is read in subroutine *GRID_CELL_BASED_DATA.F*. Current size is ~232 Kb.

storms.dat = This file lists the dates when pre-storm drawdown operations were initiated (~3 days before storm was forecast to hit) from 1965-2000. This file is assigned to unit number 137 in ALTWMM and is read in subroutine *CNLDATA.F*. Current size is ~2 Kb.

trginput_062003.dat = This file is the trigger module input file. It defines public water supply and irrigation cutback parameters. This file defines the parameter values for implementing short-term water supply restrictions in the Lower East Coast of South Florida. The file primarily contains trigger water levels (as indicators for saltwater intrusion) at pre-defined trigger well locations and corresponding irrigation and public water supply cutbacks. This file is assigned to unit number 94 in ALTWMM and is read in subroutine *TRIGGER_INPUT.F*. Current size is ~9 Kb.

wca_out_struc_specs.dat = This file provides inflow/outflow structure properties for all Water Conservation Areas (WCAs). NOTE: The names assigned to all structures input in this file must appear in the master list of structure names in model definition data file (previously known as lecdef*). This file is assigned to unit number 21 in ALTWMM and is read in *WCAS_INPUT_DATA.F*. Under earlier versions, this file was called caoflpts. Current size is ~145 Kb.

weekly_excess2_65_00_S65.dat = This data file provides the SFWMM model with the ASCII data array of "pseudo" weekly Kissimmee net rainfall (inches) and weekly s65e flows (cfs) from 1914-2000. There are 48 weeks per year in this file and 4 periods per month (7.6 days per week) for any given simulation. This file includes the following:

- the initial year of climate data (1914 currently); and
- an array of the year, month, day, net rainfall and s65e flow.

This file is assigned to unit number 134 in ALTWMM and is read in subroutines *MAIN.F* and *OPEN_ASCII_OUTPUT_FILES.F*. Current size is ~60 Kb.

weir_specs.dat = This file specifies the locations and properties of fixed-crest passive weirs where overland flow can be modified (as used in the Restudy Alt.D13R). This file is assigned to unit number 133 in ALTWMM and is read in *WCAS_INPUT_DATA.F*. Current size is ~2 Kb.

well_ind_rss_2000base.dat = This file contains simulation wellfield pumpage for industrial, residential and self-supplied irrigation; daily pumping rate for each of the 12 months of the year. This file is assigned to unit number 37 in ALTWMM and is read in subroutine *MUNIC_WELL_PUMP_SETUP.F*. Current size is ~82 Kb.

well_pumpage.dat = This file contains simulation wellfield pumpage for public water supply; daily pumping rate for each of the 12 months of a year. This file is assigned to unit number 18 in ALTWMM and is read in subroutine *MUNIC_WELL_PUMP_SETUP.F*. Under earlier versions, this file was called welprdt. Current size is ~100 Kb.

Grid_io Format

rain_v2.0_nsm_wmm.bin = daily_pet_crop, daily_etu, daily_etiu
daily_et_input.bin = urban_landscape, nursery, golf_course, ag_low-volume, ag_overhead, ag_other
daily_nirrdmd.bin = daily net irrigation demands for six irrigation use types

HECDSS Format

flow.dss = known (historical) daily time series of structure discharges, cfs. Current size is ~6.7 Mb.
dmdro.dss = daily demand and runoff time series for lumped basins, acre-ft/day. Current size is ~2.0 Mb.

II. Output Description

Similar to model input, the South Florida Water Management Model generates several output files in three different formats: HECDSS, ASCII, grid_io (listed as ".bin" files). The following is a sampling of output text files. Depending upon the features (e.g. multiple storage area outputs) the output list can expand dramatically. A short description is provided in a few cases where the title is insufficient to convey the contents.

HECDSS Format Output

daily_canal_stg.dss = daily simulated water levels at downstream end of canals, ft NGVD
daily_str_flow.dss = daily simulated structure discharges, cfs

ASCII Format

ann_canl_bud.dat
ann_excess_ovlf_vol_lim.dat
daily_asr_bud.dat
daily_c43_basin_bud.dat
daily_c44_basin_bud.dat
daily_canal_headdrop.dat
daily_canal_stg.dat
daily_eaa_summary.dat
daily_flw_to_res_gw.dat
daily_levee_spg.dat
daily_lok_et.dat
daily_losa_other_summary.dat
daily_losa_ssm_summary.dat
daily_lok_reg_est.dat
daily_lok_reg_wca.dat
daily_minlvl_specs.dat
daily_rf_cnl_ops_indx.dat
daily_stg_mon_pts.dat
daily_tribal_summary.dat
daily_weirflow.dat
daily_ws_str_capac_flw.dat
echo_grid_statdta.dat
eomth_lok_rfetsto.dat
losa_dmnd_runff_supply.dat
mthly_canl_bud.dat
mthly_levee_spg.dat
trigecho = echo file for trigger module input file
trigoutp = primary output file for trigger module
trigwell = pumpage reduction file for trigger module
daily_north_stor_bud.dat
daily_tcnbs_stor_bud.dat

daily_c43_basin_res.dat
daily_c43_res_bud.dat
daily_c44_basin_res.dat
daily_c44_res_bud.dat
daily_c43_asr_bud.dat
daily_l8res_budg.dat
daily_c4imp_budg.dat
daily_r85sta_budg.dat
daily_r332b_bud.dat
daily_r332c_bud.dat
daily_r332dn_bud.dat
daily_r332ds_bud.dat
daily_cpbres_bud.dat
daily_l8bprs_bud.dat

Binary Format

daily_stg_minus_lsel.bin
daily_tot_et.bin
eomth_avg_cell_stage.bin
eomth_cell_stor.bin
eomth_ponding.bin
eomth_stage.bin
eomth_unsatdph.bin
mthly_asrrec_vol.bin
mthly_tot_canal_evap.bin
mthly_tot_et.bin
mthly_tot_et_components.bin
mthly_tot_et_unsat_unacct.bin
mthly_tot_est_et.bin
mthly_tot_est_etiu_unrestr.bin
mthly_tot_flw.bin
mthly_tot_gw_flw.bin
mthly_tot_infilt_perc.bin
mthly_tot_ovflw_to_canal.bin
mthly_tot_pumpage.bin
mthly_tot_pws_supply.bin
mthly_tot_pws_shortage.bin
mthly_tot_rainfall.bin
mthly_tot_seep_to_canal.bin
mthly_tot_surface_flw.bin

The following table presents the output file options available in the SFWMM. Print options with interdependencies depend on selections or exclusions of other files.

Table A-1 Output File Options

Option	File Name	Dependency
Print static input data	echo_grid_statdta.dat	Single Dependency
Print yearly canal budget summaries	ann_canal_bud.dat	Single Dependency
Print monthly canal budget summaries	mthly_canal_bud.dat	Single Dependency
Print end-of-month stage, ponding, max monthly stages to ASCII file	mthly_key_output.dat	Single Dependency
Print inundation frequencies to ASCII file	mthly_key_output.dat	Single Dependency
Print end-of-month stages	eomth_stage.bin, eomth_stage_pond_et.dat, daily_stage_pond_et.dat, mthly_tot_surface_flw.dat, daily_tot_surface_flw.dat	Interdependency
Print end-of-month ponding	eomth_ponding.bin, eomth_stage_pond_et.dat, daily_stage_pond_et.dat, mthly_tot_surface_flw.dat, daily_tot_surface_flw.dat	Interdependency
Print monthly total evapotranspiration	mthly_tot_et.bin, mthly_tot_infilt_perc.bin, daily_infilt_perc.bin, pumpage.bin, rainfall.bin, eomth_stage_pond_et.dat, daily_stage_pond_et.dat, mthly_tot_surface_flw.dat, daily_tot_surface_flw.dat, eomth_unsatdph.bin, daily_unsatdph.bin	Interdependency
Print daily information instead of end_of_month (including some binary files).	daily_tot_surface_flw.bin, mthly_tot_surface_flw.bin	Interdependency
print daily canal stages	daily_canal_stg.dat	Single Dependency

Table A-1 (*cont.*) Output File Options

Option	File Name	Dependency
Print monthly volumes of surface and groundwater that flows to neighboring nodes to the east and to the south	mthly_tot_gw_flw.bin, daily_gw_flw.bin, mthly_tot_surface_flw.bin, daily_tot_surface_flw.bin, eomth_stage_pond_et.dat, daily_stage_pond_et.dat, mthly_tot_surface_flw.dat, daily_tot_surface_flw.dat	Interdependency
Print stage, ponding, and canal stage for the last day of simulation; to be used as a restart file for succeeding simulations	restart_output	Single Dependency
Output daily total et [if ip(18) is on]	daily_tot_et.bin	Interdependency
Print monthly output to binary files	eomth_stage_pond_et.dat, daily_stage_pond_et.dat, mthly_tot_surface_flw.dat, daily_tot_surface_flw.dat	Interdependency
Print daily summary of water supply deliveries at major structures (daily_ws_str_capac_flw.dat)	daily_stg_minus_lsel.bin, daily_ws_str_capac_flw.dat	Interdependency
Output overland flow (runoff) to canal on a monthly basis for all grid cells to binary file ovlflw_to_cnl.bin	mthly_tot_canal_evap.bin, mthly_tot_ovlf_to_canal.bin, mthly_tot_seep_to_canal.bin	Interdependency
Print daily LOK ET	daily_lok_et.dat	Single Dependency
Output mean number of days per year volume limit for overland flow is reached	ann_excess_ovlf_vol_lim.dat	Single Dependency
Output passive weir flow in Everglades	daily_weirflow.dat	Single Dependency

Table A-1 (*cont.*) Output File Options

Option	File Name	Dependency
Print daily information instead of end_of_month(including some binary files). Information used	mthly_tot_gw_flw.bin, daily_gw_flw.bin, mthly_tot_infilt_perc.bin, daily_infilt_perc.bin, eomth_stage.bin, eomth_stage_pond_et.dat, daily_stage_pond_et.dat, mthly_tot_surface_flw.dat, daily_tot_surface_flw.dat, eomth_unsatdph.bin, daily_unsatdph.bin	Interdependency
Print daily levee seepage values	daily_levee_spg.dat	Single Dependency

Examples of ".dat" Files

Excerpts from three different ".dat" files are provided below. The excerpts were edited for presentation within this appendix. These files, which represent a specific regions, hydrologic features, or reservoirs, provide specific components of the water budget. Hence, they are very useful in reviewing modeling results for reasonableness and in water budget analyses. The files are in ASCII format and are part of the modeling output (i.e., not post processed). In the last two excerpts, the first part of the file provides a list of the column headings. In some files, the headings are listed first to avoid an excessively wide presentation of data.

mthly_canal_bud.dat

```
CHANNEL FLOW SUMMARY FOR   1/1965

     -----  FT. MSL  -----   -------------------- ACRE FEET -----------------  ERROR TERM
   CNL    CRE   CSMA   CSM    COUT  SEEPAGE  INFLO     OVLF  RAIN     ET  DSWLM    DIFF
1  DPRES  9.0  18.84  18.45      0.     44.      0.     -38.    2.     9.    -2.     0.
2  CORBT 20.5  19.18  18.77      0.     47.      0.       0.    3.    14.    36.     0.
3  MOCLB  0.0  17.02  16.73   5783.   1352.    4476.      0.    2.    11.    37.     0.
4  MOCUB  0.0  18.48  16.98   6687.   3249.    3400.      0.    3.    15.   -50.     0.
5  L8     0.0   6.38   2.73  30678.  22425.    2420.   5776.   10.    64.   -99.   -13.
6  STA3C  0.0  10.29  10.02      0.    -67.    6338.  -6251.    0.     6.    14.     0.
7  MCNL   0.0  18.49  18.17   3074.    545.   11715.  -9226.    4.    23.   -59.     0.
8  C17DR  7.5   7.57   7.51   4896.   4917.       0.      0.    4.     9.    16.     0.
9  C17    7.0   7.03   6.98   3521.  -1330.    4896.      0.    3.    11.    37.     0.
10 L10    0.0  11.99  11.55      0.    -65.       0.      0.    0.    12.   114.   168.     0.
11 NNRFG  0.0   4.50   3.98   1621.   1633.       0.      0.    1.     6.     7.     0.
12 L20    0.0  10.99  10.68      0.    -26.       0.      0.    0.    13.   272.  -285.     0.
13 WPCB   0.0  12.95  10.78      0.    -14.       0.      0.    0.     4.   -18.     0.
14 LWD1  16.0  15.85  15.78      0.  -2470.    2775.      0.    4.    88.   221.     0.
15 LW2DR 17.3  16.51  15.31      0.     19.       0.      0.    0.     5.    14.     0.
17 LWD3  13.0  13.02  11.95    107.   -127.       0.      0.    6.    31.  -260.     0.
18 WELDN 17.0  13.70  13.24      0.     43.       0.      0.    1.     6.    38.     0.
19 C1324 11.6  11.66  11.60   1217.   1233.       0.      0.    0.     3.    13.     0.
20 L25    0.0  10.99  10.77      0.     13.       0.      0.    9.    88.   -67.     0.
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daily_eaa_summary.dat

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YEAR
MONTH
DAY
TDMDEAA         TOTAL EAA CROP REQUIREMENTS (AC-FT)
TDMDMBYRF       EAA DMND MET BY RAIN (AC-FT)
TDMDMBLSTO      EAA DMND MET BY LOCAL STORAGE (AC-FT)
TSDMDEAA        TOTAL SUPP DMND IN EAA (AC-FT)
SDMDLOKEAA      TOTAL SUPP DMND IN EAA TO BE MET BY LOK (AC-FT)
SDMDLKMIA       SUPP DMND IN MIAMI BASIN (INCLUDG SUGAR RANCH) TO BE MET BY LOK (AC-FT)
SDMDLKNNRH      SUPP DMND IN NNRHIL BASIN TO BE MET BY LOK (AC-FT)
SDMDLKWPB       SUPP DMND IN WPB CANAL BASIN TO BE MET BY LOK (AC-FT)
SSUGDMND        SUPP DMND IN SUGAR RANCH PLANTATION (AC-FT)
TWSLOKEAA       TOTAL WS DELIV MADE TO EAA FROM LOK (AC-FT)
WSLOKMIAB       SUPP WS DELiv TO MIAMI CANAL BASIN (INCLUDG SUGAR RANCH) FROM LOK (AC-FT)
WSLOKNNRC       SUPP WS DELIV TO NNR CANAL BASIN FROM LOK (AC-FT)
WSLOKHILL       SUPP WS DELIV TO HILL CANAL BASIN FROM LOK (AC-FT)
WSLOKWPBB       SUPP WS DELIV TO WPB CANAL BASIN FROM LOK (AC-FT)
MIAREMAIN       TOTAL EXCESS WATER REMAINING IN MIAMI CANAL BASIN IN EAA (AC-FT)
NNRHREMAIN      TOTAL EXCESS WATER REMAINING IN NNR-HIL CANAL BASIN IN EAA (AC-FT)
WPBREMAIN       TOTAL EXCESS WATER REMAINING IN WPB CANAL BASIN IN EAA (AC-FT)
WPBTHILDIV      DIVERSION OF WPB CANAL BASIN RUNOFF TO HILL BASIN (AC-FT)
EXCWSOMIA       EXCESS WATER GOING SOUTH FROM MIAMI CANAL BASIN (AC-FT)
EXCWSONNR       EXCESS WATER GOING SOUTH FROM NNR CANAL BASIN (AC-FT)
EXCWSOHILL      EXCESS WATER GOING SOUTH FROM HILL CANAL BASIN (AC-FT)
EXCWSOWPB       EXCESS WATER FROM WPB CANAL BASIN (AC-FT)
ETREDEAA        TOTAL ET REDUCTION IN EAA
MIAFORPMP       INDEX FOR FOREPUMPING THRU S-354(1-YES,0-NO)
NNRHFORPMP      INDEX FOR FOREPUMPING THRU S-351(1-YES,0-NO)
WPBFORPMP       INDEX FOR FOREPUMPING THRU S-352(1-YES,0-NO)
DATA
1965    1    1  1687.75     210.53    1477.22       0.00       0.00       0.00     ...
1965    1    2  1762.64      27.92    1731.24       3.47       0.00       0.00     ...
1965    1    3  1977.94     628.97     668.07     680.90     168.51     168.51     ...
1965    1    4  1768.92     841.75     297.11     630.06     333.18     333.18     ...
1965    1    5  1678.50     346.61     412.12     919.77     384.72     384.72     ...
1965    1    6  2025.92     449.25     241.66    1335.01     896.26     504.76     ...
1965    1    7  1826.36     482.14     124.44    1219.78    1219.78     464.36     ...
1965    1    8  1746.67     493.89      74.86    1177.92    1177.92     467.71     ...
1965    1    9  1729.29     480.94      66.42    1181.92    1181.92     466.05     ...
1965    1   10  1875.51     480.52      69.25    1325.73    1325.73     492.37     ...
1965    1   11  1834.04     715.84      69.53    1048.67    1048.67     296.44     ...
1965    1   12  1530.07     408.73     130.56     990.78     990.78     305.31     ...
1965    1   13  1676.62     348.61      92.88    1235.13    1235.13     401.82     ...
1965    1   14  1932.02     356.55      73.09    1502.38    1502.38     458.24     ...
1965    1   15  1787.39     418.18      72.56    1296.65    1296.65     349.41     ...
1965    1   16  1630.31     376.43      47.67    1206.21    1206.21     418.82     ...
1965    1   17  1932.95     275.10      63.12    1594.73    1594.73     490.00     ...
1965    1   18  1854.72     258.88      47.47    1548.37    1548.37     506.41     ...
1965    1   19  1915.62     220.73      47.58    1647.31    1647.31     498.54     ...
1965    1   20  1899.34     229.45      46.98    1622.90    1622.90     497.89     ...
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YEAR
MONTH
DAY
RESSTAGE       RESERVOIR STAGE
CELLSTAGE      CELL STAGE OUTSIDE RESERV AT KEY LOCATION
RAINFALL       RAINFALL(ACRE_FT)
RECFASR        RECOVERY FROM ASR(ACRE-FT)
STRINFLOW      STRUCTURAL INFLOW(ACRE-FT)
ET             EVAPOTRANSPIRATION(ACRE-FT)
SEEPTGW        SEEPAGE TO LOCAL GROUNDWATER(ACRE-FT) OR ELSEWHERE
STROUTFLW      STRUCTURAL OUTFLOW(ACRE-FT)
LVSEEP         LEVEE SEEPAGE LOSS ACROSS EVERGLADES/LEC BARRIER(ACRE-FT)
INJTASR        INJECTION OF WATER TO ASR(ACRE-FT)
RESID          RESIDUAL(ACRE-FT)
DATA
 1965  1  1   21.00  21.00     0.     0.     0.     5.     0.     0.     0.     0.     0.
 1965  1  2   21.13  20.99     0.     0.    95.     6.     0.     0.     0.     0.     0.
 1965  1  3   21.33  20.99     0.     0.   163.     7.     0.    11.     0.     0.     0.
 1965  1  4   21.48  20.98     2.     0.   143.     6.     0.    30.     0.     0.     0.
 1965  1  5   21.57  20.97     0.     0.   119.     7.     0.    46.     0.     0.     0.
 1965  1  6   21.67  20.96     0.     0.   135.     8.     0.    59.     0.     0.     0.
 1965  1  7   21.71  20.95     0.     0.   102.     7.     0.    69.     0.     0.     0.
 1965  1  8   21.79  20.95     0.     0.   145.     6.     0.    77.     0.     0.     0.
 1965  1  9   21.76  20.94     0.     0.    61.     6.     0.    81.     0.     0.     0.
 1965  1 10   21.74  20.93     0.     0.    71.     8.     0.    78.     0.     0.     0.
 1965  1 11   21.82  20.92     1.     0.   147.     7.     0.    83.     0.     0.     0.
 1965  1 12   21.85  20.91     0.     0.   121.     6.     0.    93.     0.     0.     0.
 1965  1 13   21.75  20.90     0.     0.    28.     7.     0.    87.     0.     0.     0.
 1965  1 14   21.71  20.89     0.     0.    54.     7.     0.    76.     0.     0.     0.
 1965  1 15   21.75  20.89     0.     0.   105.     7.     0.    75.     0.     0.     0.
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List of Major Discharge Variable Names

Table A-2 provides a listing of the major structure tags used by the SFWMM to denote the structure and purposes of flows.

Table A-2. Structure Definition Glossary for SFWMM v5.5

STRUCTURE DEFINITION GLOSSARY	
2x2 tag	**Definition**
27NSA3	Water supply from proposed canal along western side of U.S. 27 between NNRC and C-11 ro meet Service Area 3 demands (origin of water is from Lake Okeechobee/WCA-3A).
298ST1	Portion of "298" Districts runoff diverted to STA-1W.
298ST2	Portion of "298" Districts runoff diverted to STA-2.
298ST3	Portion of "298" Districts runoff diverted to STA-3.
333FCN	Non regulatory flow through s-333 in excess of target flow for NESRS. Some or all of the flow may be passed through S-334 to SDCS (part of ISOP/IOP).
333FCR	Regulatory flow through S-333 from WCA-3A in excess of target flow for NESRS. Some or all of the flow may be passed through S-334 into SDCS (part of ISOP/IOP).
333FLC	Total flow through S-333 from WCA-3A in excess of target flow for NESRS. Some or all of the flow may be passed through S-334 into SDCS (part of ISOP/IOP).
351RG	Lake Okeechobee regulatory discharge via S351.
351WS	Glades environmental releases + LEC water supply met by Lake Okeechobee via S351.
352RG	Lake Okeechobee regulatory discharge via S352.
352TLK	Volume of WPB basin runoff in EAA routed to Lake Okeechobee via S352 for water supply purposes.
352WS	Glades environmental releases + LEC water supply met by Lake Okeechobee via S352.
354RG	Lake Okeechobee regulatory discharge via S354
354WS	Glades environmental releases + LEC water supply met by Lake Okeechobee via S354.
356GRD	Flow through S-356 to grid cell in WCA-3B.
356L29	Flow through S-356 to L-29 canal.
ACCPBR	Discharges from proposed ACME reservoir to proposed Central Palm Beach Reservoir.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

ACLWDD	Water supply discharges from proposed ACME reservoir to maintain canals in LWDD.
ACME12	Flood control pump discharging from ACME Basin B to the LNWR. Represents ACME1 & ACME2 pump stations.
ACME2	Water supply intake pump from the LNWR to ACME Basin B. Represents intake capability at ACME2 pump station.
ACME3	Flood control gravity discharge from ACME Basin A to C-51 canal. Represents gravity discharge capability at ACME3 pump station.
ACME4W	Flood control pump discharging from ACME Basin A to C-51 canal. Represents ACME4 pump station.
ACME6	Flood control pump discharging from ACME Basin A to C-51 canal (west of S-155A). Represents ACME6 pump station.
ACMEBA	Water supply gravity discharge from ACME Basin B to ACME Basin A. Represents culverts under Pierson Road.
ACMECU	Flood control gravity discharge from ACME Basin A to ACME Basin B. Represents culverts under Pierson Road.
ACMERF	ACME District runoff into WCA-1.
ACMEWS	ACME District water supply met by WCA-1.
ACRFAS	Recovery from ACME Basin B ASR sent to Lake Worth Drainage District canal.
ADDSLW	Additional water supply release to LWDD from WCA-1 thru S-5AS and S5AE.
AGQ	Discharge from Lake Okeechobee to 298 districts.
AGQRF	298 District runoff into Lake Okeechobee.
AGQWS	298 District water supply from Lake Okeechobee.
AM4WS1	Water supply intake pump from C-51 to ACME Basin A. Represents intake capability at ACME3 pump station.
AM4WS2	Water supply intake pump from C-51 to ACME Basin A. Represents intake capability at ACME4 pump station.
ASRBRC	Volumes of recovery from ASR wells to maintain canals in Broward County.
ASRCA1	Volumes of recovery from ASR wells to maintain canals in WCA – 1.
ASRCA2	Volumes of recovery from ASR wells to maintain canals in WCA – 2.
ASRCA3	Volumes of recovery from ASR wells to maintain canals in WCA – 3.
ASRDAC	Volumes of recovery from ASR wells to maintain canals in Dade County.
ASRLake Okeechobee	Recovery from proposed Lake Okeechobee ASR to Lake Okeechobee if stage in Lake Okeechobee is sufficiently low.
ASRPBC	Volumes of recovery from ASR wells to maintain canals in Palm Beach County.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

ASRSA1	Discharge through structures from ASR within LECSA-1.
ASRSA2	Discharge through structures from ASR within LECSA-2.
ASRSA3	Discharge through structures from ASR within LECSA-3.
BDOUT	Flow along C-44 canal out of the model area.
BERM1E	Volume of flow eastward over berm from grid location R11C22 to R11C23 near Taylor Slough in ENP.
BERM2E	Volume of flow eastward over berm from grid location R10C22 to R10C23 near Taylor Slough in ENP.
BERM3S	Volume of flow southward over berm from grid location R10C23 to R9C23 near Taylor Slough in ENP.
BERM4S	Volume of flow southward over berm from grid location R10C24 to R9C24 near Taylor Slough in ENP.
BFLTL8	Backflow to Lake Okeechobee via L-8 for water supply purposes.
BKMCL8	Backflow from M-Canal to L-8 if M-Canal is sufficiently high.
BPRC51	Outflow from proposed L8 reservoir (up to 300 cfs) to C-51 (Alt. D only).
BPRL8S	Outflow from proposed L-8 reservoir for water supply purposes to southern L-8 canal; (Alt. D only).
BRDROT	Outflow from Bird Drive Basin reservoir (due to localized seepage) to designated location.
BRDRWS	Water supply volumes from Bird Drive reservoir to C-4.
BRI95Q	Outflow from BRI95 canal to H6BSE canal.
C103D1	Drainage pumped from C103D canal to C103S canal.
C103D2	Drainage pumped from C103D canal to L31S canal.
C103D3	Drainage pumped from C103D canal to C103N canal.
C10ABK	Backflow from L-8 canal to Lake Okeechobee.
C10Q	Tidal outflow from C-10 canal.
C11CVO	Outflow for flood control purposes into C-11W from proposed diversion canal to route excess NNRC water; (Alt. A only).
C11DP1	Drainage pumped from C11DR canal to C11W canal.
C11DQ1	Drain from C11DR canal to C-11W canal.
C11DQ2	Drain from C11DR canal to C-11W canal.
C11DQ3	Drain from C11DR canal to C-11W canal.
C11DQ4	Drain from C11DR canal to C-11W canal.
C11ED1	Drainage into C-11 canal east of S-13A.
C11ED2	Drainage into C-11 east of S-13A.
C11RIN	Inflow into proposed C-11 reservoir.
C11RO	Flood control (spillover) releases from proposed C-11 reservoir.
C11RSO	Outflow from proposed C-11 reservoir to be routed through S-9.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

C11WDV	Excess flow from C-11W through proposed divide structure and S-9.
C11WP1	Drainage pumped from C11D1 canal to C11W canal.
C13DRQ	Drain from C13DR canal to C-13 canal.
C13DWS	Water supply from C-13 canal to local canal C13DR.
C14DQ1	Flow from C14DR canal to PDMP canal.
C14DQ2	Flow from C14DR canal to C14WD canal.
C14DRQ	Drain from C14DR canal to POMP canal.
C14SNQ	Water supply delivery from C14 canal to SUNWD canal.
C14WNQ	Flow from C14WN canal to C14WD canal.
C14WQ1	Drain from C14WD to C-14 canal.
C14WQ2	Drain from C14WD to C-14 canal.
C14WQ3	Flow from C14WD canal to C14 canal.
C17CAT	Pumpage from C-17 through proposed STA into WPB catchment area.
C17DRQ	Drain from C17DR canal to C-17 canal.
C18D1	Drain from canals in C-18 basin to C-18 and Loxahatchee River.
C18D2	Drain from canals in C-18 basin to C-18 and Loxahatchee River.
C18D3	Drain from canals in C-18 basin to C-18 and Loxahatchee River.
C18DN1	Drainage from C18DN to C-18 canal.
C18DN2	Drainage from C18DN to C-18 canal.
C18DQ1	Drainage from C18DR to C-18 canal.
C18DQ2	Drainage from C18DR to C-18 canal.
C18WR	Flow from C18W canal to C-18 canal.
C2ALB1	Rain-driven operated outflow from WCA-2B to ENP via S356; (Alts. B, C & D).
C2ALB2	Rain-driven operated outflow from WCA-2B to ENP via S356; (Alts. B, C & D).
C2ALB3	Rain-driven operated outflow from WCA-2B to ENP via S356; (Alts. B, C & D).
C2WOVF	Excess water from C-4 West into C-2; (Alts. B, C & D).
C304O	Flow through gap of levee along C304 into marsh in WCA-3B.
C42PLQ	Water supply from NNRC to PLNTW canal in plantation.
C4DQ1	Drain from C4DR canal to C-4 canal.
C4DQ2	Drain from C4DR canal to C-4 canal.
C4DQ3	Drain from C4DR canal to SNCRE canal.
C4LSP1	Seepage from C-4 Impoundment to C-4 canal.
C4LSP2	Seepage from C-4 Impoundment to Dade Broward Levee Canal.
C4LSP3	Seepage from C-4 Impoundment to own grid cell.
C4Q1	Outflow from C-4 canal to CGBLS canal (1995 Base run).
C4QCG	Drainage from C-4 canal to Coral Gables canal.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

C4QCG	Flow from C-4 canal to CGBLS canal.
C4TBDR	Proposed diversion of excess water from C-4 to Bird Drive Basin reservoir.
C51BKP	Backpumping from C-51 (east of S155A) via C-51W to proposed L-8 reservoir; (Alt. D only).
C51BPR	Backpumping of water from C-51W into proposed L-8 reservoir; (Alt. D only).
C51CAT	Pumpage from C-51 through proposed STA into WPB catchment area.
C51FAS	Recovery from ASR wells to maintain C-51 during dry periods.
C51LGQ	Water supply to Loxahatchee groves WCD from C51.
C51TAS	Injection of excess water from C-51 into ASR wells.
C6DIVS	Flow through a proposed divide structure in western C-6 into eastern C-6.
C6DRQ	Drain from C6DR canal to C-6 canal.
C6EQ	Tidal outflow from C-6E canal.
C6WLKB	Diversion of water from western C-6 (west of proposed divide structure) into Lakebelt region.
C7DQ1	Drainage from C7DR to C-7 canal.
C7DQ2	Drainage from C7DR to C-7 canal.
C7TLKB	Diversion of excess water from C-7 into proposed Lakebelt reservoir.
C85STA	Culvert discharging from STA just south of 8.5 Square Mile Area into 332B Reservoir.
C8DRQ	Flow from C8DR canal to C8 canal.
C9DENQ	Local drainage into western C-9 from the north.
C9DESQ	Local drainage into western C-9 from the south.
C9DRSQ	Drain from C9DRS canal to C-9 canal.
C9DW1Q	Flow from C9DW1 canal to C9 canal.
C9RSIN	Inflow into proposed C-9 reservoir of LEC buffer from excess C-9 runoff.
C9RSO	Outflow from proposed C-9 reservoir to Lakebelt reservoir.
C9RWS	Water supply from proposed C-9 reservoir to C-9 canal.
C9THWD	Discharge for water supply purposes from C-9 to maintain canal near Hollywood.
C9TLBN	Diversion of C-9 runoff to Northern Lakebelt reservoir; (Alts. B, C & D).
C9W2Q1	Flow from C9DW2 canal to C9 canal.
C9W2Q2	Flow from C9DW2 canal to C9 canal.
CA1NQ1	Discharge from northern WCA-1 through proposed structure in L-40 (western side of WCA-1) if stage in northern WCA-1 is sufficiently high.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

CA1NQ2	Discharge from northern WCA-1 through proposed structure in L-7 (eastern side of WCA-1) if stage in northern WCA-1 is sufficiently high.
CABKRE	Water supply culvert ABK discharging from C-18 to Reese Property.
CAEST	Lake Okeechobee releases to meet estuarine demands for Caloosahatchee estuary.
CAIRR	Lake Okeechobee releases to meet irrigation demands in the Caloosahatchee basin.
CAN1EV	Outflow through interior structures in WCA-1 for environmental (_EV), flood control (_RG) and water supply, (_WS) purposes (note: structure always closed).
CAN1RG	< see CAN1EV >
CAN1WS	< see CAN1EV >
CAN2EV	< see CAN1EV >
CAN2RG	< see CAN1EV >
CAN2WS	< see CAN1EV >
CAREG	Regulatory releases for flood control only from Lake Okeechobee thru S-77.
CARES	Lake Okeechobee delivery into proposed reservoir in the Caloosahatchee basin.
CATASR	Injection of water from WPB Catchment Area to ASR wells.
CATMWS	Water supply releases from WPB Catchment Area to recharge Jupiter and Seacoast wellfields in Northern Palm Beach county.
CDRNQ	Drain from C-DRN canal to C-51 canal.
CGBLEQ	Flow from CGBLE canal to tidewater.
CGTC4	Flow from Coral Cables (G93up) canal to C4 canal.
CL8R1	Outflow from L-8 restoration area into L-8 canal.
CL8R2	Outflow from L-8 restoration area into L-8 canal.
COMBQ	Flow from L31N canal to L-31 canal; S331+S173.
CORBT1	Outflow for flood control purposes from Corbett Area within L-8 basin to L-8 canal (first outlet).
CORBT2	Outflow for flood control purposes from Corbett Area within L-8 basin to L-8 canal (second outlet).
CPBFAS	Recovery from ASR wells in Central Palm Beach County reservoir to meet demands in Lake Worth Drainage District; same as CPBTLW.
CPBRWS	Discharge from Central Palm Beach County Agricultural Reservoir (excluding ASR well recovery) to maintain E-1 and E-2 canals in the Lake Worth Drainage District.
CPBTAS	Injection of water from Central Palm Beach County Agricultural reservoir to ASR wells.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

CPBTLW	Recovery from ASR wells in Central Palm Beach County Agricultural reservoir to maintain E-1 and E-2 (LWD1 & LWD2 in model) in Lake Worth Drainage District.
CRESLO	Backpumping from proposed Caloosahatchee reservoir to Lake Okeechobee when stages in the reservoir are sufficiently high.
CS12	Flow from C-51 canal to LWD2 canal.
CS17E	Flow from HLSB canal to LWDSO and LWDSE canals (LWDD canals near Boca wellfields).
CS17W	Flow from HLSB canal to LWD1 canal.
CS2	Flow from C-51 canal to LWD1 canal.
CS9	Flow from C-51 canal to LWD2 canal.
CTASRR	Recovery from ASR wells in the WPB Catchment Area.
CULV	Flow from C-111 to L-31W (part of the C-111 GRR).
DBLEVQ	Flow from DBLEV canal to C-4 canal.
DIVERS	Diversion of runoff from WPB canal basin in EAA into Hillsboro canal and STA-2 (part of ECP).
DMDSEM	Brighton Seminole Indian demands met by Lake Okeechobee.
DPRESO	Outflow for flood control purposes from Dupuis Reserve into the L-8 canal.
E1TPBR	Diversion of excess water from E-1 (LWD1 in model) to Central Palm Beach County Agricultural Reservoir.
EAASAO	Emergency overflow from one proposed EAA reservoir (Compartment 1) into another proposed EAA reservoir (Compartment 2A).
EARIN1	Inflow into proposed EAA reservoir (Compartment 1) from Miami canal (runoff + LOK regulatory releases).
EARIN2	Inflow into proposed EAA reservoir (Compartment 1) from NNR canal (runoff + LOK regulatory releases).
EARMA1	Outflow from proposed EAA reservoir (Compartment 1) to meet Miami canal basin supplemental demands.
EARMA2	Outflow from proposed EAA reservoir (Compartment 1) to meet Miami canal basin supplemental demands that TALMA1 does not meet.
EARNH1	Outflow from proposed EAA reservoir (Compartment 1) to meet NNR-HILL canal basin supplemental demands.
EARNH2	Outflow from proposed EAA reservoir (Compartment 1) to meet NNR-HILL canal basin supplemental demands that EARNH1 does not meet.
EARSNO	Spillover from northern surge tank in EAA reservoir to southern surge tank in the proposed EAA reservoir.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

ETKCWS	Proposed water supply releases from C-12 to local canal along east side of FL turnpike.
ETPKCO	Outflow for flood control purposes from canal along FL turnpike in eastern Broward County into C-12 canal.
EVBLSN	Environmental water supply from subsurface water down to 1.5 feet below land surface from northern surge tank in the EAA reservoir; (Alts. C & D only).
EVBLSS	Environmental water supply from subsurface water down to 1.5 feet below land surface from southern surge tank in the EAA.
FLIMPH	Import Glades water met by Lake Okeechobee via HLSB canal thru S351.
FLIMPM	Import Glades water met by Lake Okeechobee via Miami canal thru S354.
FLIMPN	Import Glades water met by Lake Okeechobee via NNR canal thru S351.
FLIMPW	Import Glades water met by Lake Okeechobee via WPB canal thru S352.
FLWIMP	FLIMPH + FLIMPM + FLIMPN + FLIMPW
G123	Flow from NNRC canal to WCA-3A via L38E canal in WCA-2B and S-142.
G124	Flow from C51W canal to C-51 canal.
G136EA	Flow from outside model boundary to EAA_MIAMI basin.
G136SO	Portion of G136 flow routed South to STA3&4.
G1553A	G155 flow from WCA-3A (occurs when G155 flow is negative).
G155PS	Portion of G155 flow (positive flows) routed to NW corner of WCA-3A.
G200OT	Outflow through G-200B from Holey Land to Miami Canal in the EAA (2050 Base Run only).
G204	Holey Land outflow from CULV1 canal to DCLV2 canal.
G205	Holey Land outflow from CULV2 canal to DCLV2 canal.
G206	Holey Land outflow from CULV3 canal to DCLV3 canal.
G211	Flow from L31NC canal to L31N canal.
G211N	Flow from L31N canal to L31NC canal.
G261	Outflow from L-8 restoration area into L-8 canal.
G262	Outflow from L-8 restoration area into L-8 canal.
G263	Outflow from L-8 restoration area into L-8 canal.
G311	Outflow from STA-1E when stages in STa-1E get sufficiently high to either STA-1W or WCA-1 depending on conditions.
G404	Total outflow through the proposed G-404 structure discharging from confluence of Miami Canal and L-5 borrow canal to L-4 borrow canal.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

G420	Represents G-420 and G-422 pumps discharging from C-4 canal into C-4 Impoundment for flood control.
G421	G-421 spillway discharging from C-4 Impoundment back into C-4 canal when levels have receded.
G54	Flow from NNRC canal to C-57 canal.
G56	Flow from HLSB canal to HLBSE canal.
G57	Flow from POMP canal to G57DN canal.
G57DNQ	Tidal outflow from G57DN canal [estuary downstream of Pompano canal (G-57) and C-14 (S-37A)].
G57DRQ	Flow from G57DR canal to G57DN canal.
G65	Flow from C-14 canal to POMP canal.
G72	Flow from C-6 canal to C-7 canal.
G86N	Culvert located in the drainage ditch on the west side of U.S. 27 discharging into the north side of C-11.
G86S	Culvert located in the drainage ditch on the west side of U.S. 27 discharging into the south side of C-11.
G92	Flow from SIRWD canal to C-18 canal.
G92TRV	Water supply from C-18 thru G-92 to maintain 50 cfs flow in North Fork of Loxahatchee River.
G93	Outflow from CGBLS (Coral Cables) canal to estuary (CBBLE canal) via G93.
G94AB	Culverts on the L-40 borrow canal discharging into Lake Worth Drainage District canal for water supply.
G94C	Culvert on the L-40 borrow canal discharging into Lake Worth Drainage District canal for water supply.
G97	Tidal outflow from CGBLS (Coral Gables) canal.
HLBEQ	Flow from HLBE canal to C-14 canal.
HLBSWQ	Flow from HLBSW canal to C14WD canal.
HLFASR	Recovery of water from proposed regional ASR wells to maintain Hillsboro canal in Eastern Palm Beach county during dry periods.
HLRSIN	Inflow into proposed Site1 reservoir in LEC from excess flow from Hillsboro canal between S-39 and G-56.
HLRT2A	Excess outflow (beyond depth of 4.5 ft) from proposed Site1 reservoir into WCA-2A.
HLSBEQ	Tidal outflow from Hillsboro via G-56 and estuary downstream (HLBSE canal).
HLSBR	Flow from Hillsboro (HLSB) canal to local canal in Deerfield Agricultural District (HLSP) canal.
HLSBR1	Water supply from HLSB canal to HLSP canal in Deerfield Agriculture District.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

HLSBR2	Water supply from HLSB canal to HLBE canal.
HLSBRG	Lake Okeechobee regulatory discharge via Hillsboro canal.
HLSOQ	Water supply from HLSB canal to LWDSO canal in LWDD.
HLSPQ1	Flow from HLSP canal to HLBSW canal.
HLSPQ2	Flow from HLSP canal to HLBE canal.
HLTASR	Injection of excess water from Hillsboro canal in Eastern Palm Beach county into proposed regional ASR wells.
HLTI95	Water supply from Hillsboro canal between S-39 and G-56 to canal along I-95 in North Broward County.
HLWDCO	Outflow from HLWDC canal to C10 canal.
HLYDS	Outflow from Holey Land directly to WCA-3A for flood control purposes only.
HLYL4	Outflow from Holey Land via L-4 and L-28 through S-140 to meet stage targets at Gage 3A-2.
HLYNW	Outflow from Holey Land to meet NSM stage target at WCA-3A_NW.
HLYQIN	Inflow into Holey Land from EAA-Miami basin runoff.
HW290Q	Outflow #0 from HW29 borrow canal to outside the SFWMM model domain.
HW291O	Outflow #1 from HW29 borrow canal to outside the SFWMM model domain.
HW292O	Outflow #2 from HW29 borrow canal to outside the SFWMM model domain.
HW293O	Outflow #3 from HW29 borrow canal to outside the SFWMM model domain.
HW294O	Outflow #4 from HW29 borrow canal to outside the SFWMM model domain.
HW295O	Outflow #5 from HW29 borrow canal to outside the SFWMM model domain.
I75L4Q	Flow from I75L4 canal in Big Cypress Basin to L4 canal.
IPGTLK	Runoff from Istakpoga Basin to Lake Okeechobee.
ITLBO	Outflow from lower basin in Indian Trail Water Control District to C-51 Canal.
ITLTMC	Proposed outflow from lower basin in Indian Trail Water Control District to WPB Catchment Area via M-Canal.
ITUBO	Outflow from upper basin in Indian Trail Water Control District to lower basin.
ITUTMC	Proposed outflow from upper basin in Indian Trail Water Control District to WPB Catchment Area via M-Canal.
JOEBQ1	Outflow from Joe Bay to tidewater in Western ENP.
JOEBQ2	Outflow from Joe Bay to tidewater in Western ENP.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

JUPWS	Water supply from C18 Canal or WPB Catchment Area to recharge wellfields in Jupiter.
L101OT	Outflow from L101 Inflow & Distribution Works Basin between STA1E & STA1W.
L28WQ	Flow from L28W canal out of western boundary of model.
L30DBL	Water supply from L-30 canal to Dade-Broward levee canal; origin of water is WCA-3A/Lake Okeechobee; (Alt. A only).
L30SP1	Levee seepage from WCA-3 to L-30 being diverted elsewhere.
L30SP2	Levee seepage from WCA-3 to L-30 being diverted elsewhere.
L30SP3	Levee seepage from WCA-3 to L-30 being diverted elsewhere.
L30SP4	Levee seepage from WCA-3 to L-30 being diverted elsewhere.
L30SP5	Levee seepage from WCA-3 to L-30 being diverted elsewhere.
L31FAS	Recovery from regional ASR wells to L31N for water supply purposes.
L31TAS	Injection of excess water in L-31N to regional ASR wells.
L33TLB	Outflow from L33 borrow canal (including L37TLB) destined for Central Lake Belt Storage.
L35SP1	Levee seepage from WCA-2B to L35 borrow canal being diverted elsewhere.
L35SP2	Levee seepage from WCA-2B to L35 borrow canal being diverted elsewhere.
L35SP3	Levee seepage from WCA-2B to L35 borrow canal being diverted elsewhere.
L37TLB	Outflow from L37 borrow canal destined for Central Lake Belt storage.
L8BPOT	Emergency overflow from proposed southern L8 reservoir to southern L8 canal.
L8BPSP	Seepage from L-8 Borrow Pit Reservoir into its own cell.
L8BPWS	Total outflow from proposed southern L8 reservoir for water supply purposes to southern L8 canal and to C51 for injection into ASR wells; (Alt. D only).
L8C51W	Flood control discharges from L-8 into C-51W, i.e. C-51 west of G-124 or proposed S155A.
L8CP	Discharge from Lake Okeechobee to maintain L-8 canal.
L8RNF	Total outflow from L-8 canal for flood control.
L8TBPR	Volume of excess water from southern L8 to proposed L8 reservoir; (Alt. D only).
L8TCA1	Flood control discharges from L-8 to WCA-1 via S-5AS.
LBBBY1	Outflow from Lakebelt storage toward Central Biscayne Bay via SNCRE and C2 (S-22 outlet structure).
LBBBY2	Not used.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

LBFC11	Outflow from western C-11 basin to Lakebelt storage.
LBT3B	Environmental water supply discharge from Central Lakebelt storage to WCA-3B.
LBTC2	Outflow from North (Alts. B, C & D) or Central (Alt. A) Lakebelt storage for water supply purposes to C2/C4.
LBTC6	Outflow from North (Alts. B, C & D) or Central (Alt. A) Lakebelt storage for water supply purposes to C6.
LBTC9	Outflow from North (Alts. B, C & D) or Central (Alt. A) Lakebelt storage for water supply purposes to C9.
LBTDBL	Water supply from proposed Lakebelt Reservoir to Dade-Broward Levee borrow canal.
LBTL30	Water supply from proposed Lakebelt Reservoir to L-30 to meet South Dade Conveyance System needs.
LBTPK	Environmental water supply discharge from Central Lakebelt storage to NESRS.
LBTSC	Water supply from proposed Lakebelt Reservoir to meet needs of Snapper Creek extension and C-2/C-4.
LCWSS1	Local excess water volume within LEC-SA1 meeting SA1 demands.
LCWSS2	Local excess water volume within LEC-SA2 meeting SA2 demands.
LCWSS3	Local excess water volume within LEC-SA3 meeting SA3 demands.
LGROVQ	Outflow from Loxahatchee Groves Water Control District to C51.
LKBLIN	Inflow into Lakebelt reservoir from C-11W via proposed 2,500 cfs canal west of U.S.27.
LKBLTO	Emergency overflow from Lakebelt reservoir into L-30 canal.
LKEAAR	Total excess water from Lake Okeechobee diverted into proposed reservoir(s) in the EAA.
LKMNGQ	Outflow from Lake Mangonia near west Palm Beach to C-51.
LKRSM1	Excess water from Lake Okeechobee via Miami Canal to northern surge tank of the EAA reservoir.
LKRSM2	Excess water from Lake Okeechobee via Miami Canal to southern surge tank of the EAA reservoir.
LKRSN1	Excess water from Lake Okeechobee via NNRC to northern surge tank of the EAA reservoir.
LKRSN2	Excess water from Lake Okeechobee via NNRC to southern surge tank of the EAA reservoir.
LKTFPL	Flow from Lake Okeechobee to FPL reservoir.
LKTIPG	Water supply delivery from Lake Okeechobee to meet demands in Lake Istakpoga basin.
LKTNEL	Water supply from Lake Okeechobee to Northeast Lake Shore agricultural areas.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

LKTNLS	Water supply from Lake Okeechobee to North Lake Shore agricultural areas.
LKTNRS	Diversion of excess water from Lake Okeechobee into proposed North Storage reservoir.
LKTROT	Water supply from Lake Okeechobee via STA-5 to maintain appropriate schedule in Rotenberger Tract.
LKTSEM	Water supply from Lake Okeechobee to meet supplemental BCR Seminole demands.
LKTSGH	Water supply from Lake Okeechobee to meet demands in ~11,000-acre Sugar Ranch (FBASE) in the EAA.
LMDBQ1	Flow from Little Madeira Bay to tidewater in western ENP.
LMDBQ2	Flow from Little Madeira Bay to tidewater in western ENP.
LMDBQ3	Flow from Little Madeira Bay to tidewater in western ENP.
LOKASR	Injection of excess Lake Okeechobee water into proposed Lake Okeechobee ASR wells.
LOkTPK	Water supply delivery from Lake Okeechobee to meet ENP flow targets.
LOXRVQ	Tidal outflow from Loxahatchee River (LOXRV).
LOXSLQ	Flow from WPB catchment area into Loxahatchee Slough.
LSPC6	Levee seepage from node (27,29) in WCA-3B to C-6 canal.
LSPL33	Levee seepage from node (27,29) in WCA-3B to L-33 borrow canal.
LSPWS1	Portion of levee seepage used to maintain canals in LECSA-1.
LSPWS2	Portion of levee seepage used to maintain canals in LECSA-2.
LSPWS3	Portion of levee seepage used to maintain canals in LECSA-3.
LW2DRQ	Outflow from LW2DR canal to LWD2 (E-2 in LWDD) canal.
LWDD	Water supply releases from WCA-1 into LWDD via G-94A & G-94B.
LWSEQ	Flow from LWDSE canal to HLBSE canal.
LXSLWS	Water supply pumped from C-18 to meet stage targets in Loxahatchee Slough.
LXTRBQ	Flow from LXTRB canal to LOXRV canal.
M1Q	Flow from M-1 canal to C-51 canal.
MCELMG	Outflow from reach of M-Canal downstream of WPB catchment area to Lake Mangonia.
MCMCLE	Outflow from M-Canal in WPB catchment area to canal reach downstream of WPB catchment.
MDSLK	Net Modified-Delta-Storage term for Lake Okeechobee.
MIAST3	Runoff from Miami Basin, 298 District, S236 Basin, and G136 to STA3&4 through Miami Canal and G372.
NELTLK	Runoff from Northeast lake Shore agricultural areas to Lake Okeechobee.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

NEWC4	Discharge from Western C-4 canal through proposed structure located just east of Dade-Broward levee.
NLSTLK	Runoff from North Lake Shore agricultural areas to Lake Okeechobee.
NNRCRG	Lake Okeechobee regulatory discharge via North New River canal.
NNRDIV	Proposed divide structure outflow from NNRC upstream (west) to NNRC downstream (east); (Alts. B, C & D).
NNRFAS	Recovery of water from proposed regional ASR wells to maintain NNRC during dry periods in coastal Broward county.
NNRFP	Flow from NNRFG canal to NNRC canal.
NNRPMP	Diversion (pumpage) of excess water from NNR Canal in LEC to proposed reservoir (WPA).
NNRST3	NNRC Basin runoff routed to STA3&4 through North New River Canal and G370.
NNRTAS	Injection of excess water from NNRC in coastal Broward county into proposed regional ASR wells.
NPBDRQ	Drain from NPBDR to LOXRV canal.
NR1FG	Flow from NNRFG canal to NNRC canal.
NR2FG	Flow from NNRFG canal to NNRC canal.
NR3FG	Flow from NNRFG canal to NNRC canal.
NRCPLQ	Water supply from NNRC to Plantation WLD.
NRIVQ	Flow from North River to tidewater in western ENP.
NRSTLK	Outflow from proposed North Storage reservoir to Lake Okeechobee.
NSIMP1	Pump #1 in North Springs Improvement District pump station No. 1 discharging into Hillsboro Canal via L-36 borrow canal.
NSIMP2	Pysically the same pump as NSIMP1 when it is discharging into WCA-2A.
NSIMP3	Composite pump representing pumps #1, #2, #3 in NSID pump station no 1 discharging into WCA-2A.
NSIMP4	Pump #1 in NSID pump station no. 2 discharging into Hillsboro Canal via L-36 borrow canal.
NSIMP5	Composite pump representing pumps #2 and #3 in NSID pump station no. 2 discharging into Hillsboro Canal via L-36 borrow canal.
NSMPB	Outflow from NSMP2 to NSMp1 (flow within North Springs Improvement District).
NWFCLQ	Flow from NWFCL canal to C-4 canal.
NWWFLD	Flow from L-30 canal to SNCRE canal.
PBDRQ	Tidal outflow from local drainage in the vicinity of U.S.1 near West Palm Beach, Lake Worth and Lantana (PBDR).

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

PBUFO1	Outflow from Buffer Strip as part of C-111 GRR west of L-31N into ENP. Buffer Strip receives pumped flow from L-31N borrow canal.
PBUFO2	Outflow from Buffer Strip as part of C-111 GRR west of L-31N into ENP. Buffer Strip receives pumped flow from L-31N borrow canal.
PIPCA1	Total water supply to Service Area 1 from Lake Okeechobee/EAA runoff through conceptual pipeline(s) under WCA-1.
PIPE2A	Total water supply to Service Area 2 from Lake Okeechobee/EAA runoff through conceptual pipeline(s) under WCA-2A.
PIPE3A	Total water supply to Service Area 3 from Lake Okeechobee/EAA runoff through conceptual pipeline(s) under WCA-3A.
PLMEC4	Outflow for flood control from C-6 via canal along Palm Expressway to C-4.
PLMEC7	Outflow for flood control from C-6 via canal along Palm Expressway to C-7.
PLNTWS	Water supply from C-13 canal to C-12 canal.
PLTC12	Outflow from local canals in Plantation into C-12 canal.
PLTWQ1	Flow from PLNTW canal to NNRC canal.
PLTWQ2	Flow from PLNTW canal to NNRC canal.
PLTWQ3	Flow from PLNTW canal to C-57 canal.
POMPDQ	Outflow structure from canal POMP.
PPHLWP	Water supply to SA-1 from Lake Okeechobee and EAA runoff through conceptual pipeline underneath Hillsboro Canal in WCA-1.
PPS150	Water supply to SA-3 from Lake Okeechobee and EAA runoff through S150 and conceptual pipeline.
PSAC	Flow from CA-1 canal to ACMDR canal.
Q1C57	Flow from C-57 canal to C-10 canal.
Q1C9D	Drain from C9DR canal to C-9 canal.
Q1LW1	Flow from LWD1 canal to C-51 canal.
Q1LW2	Flow from LWD2 canal to HLSB canal.
Q1LW3	Flow from LWD3 canal to C-51 canal.
Q1LWSO	Flow from LWDSO canal to HLBSE canal.
Q1WDN	Flow from WELDN canal to C51.
Q1WDR	Drain from WELDR canal to C51W canal.
Q1WDS	Flow from WELDS canal to C51.
Q2C57	Tidal outflow from C-57 which is an estuary downstream of C-11(S13) and NNRC (G-54).
Q2C9D	Outflow from local drainage system in C9 basin (C9DR canal) to C-9 canal.
Q2LW1	Flow from LWD1 canal to HLSB canal.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

Q2LW2	Flow from LWD2 canal to C-51 canal.
Q2LW3	Flow from LWD3 canal to C-51 canal.
Q2LWSO	Flow from LWDSO canal to LWDSE canal.
Q2WDR	Drain from WELDR canal to C51W canal.
Q2WDS	Flow from WELDS canal to C51.
Q3C9D	Drain from C9DR canal to C-9 canal.
Q3LW2	Flow from LWD2 canal to LWDSO canal.
Q3WDR	Drain from WELDR canal to C51W canal.
Q4C9D	Drain from C9DR canal to C-9 canal.
Q5C9D	Drain from C9DR canal to C-9 canal.
QC13E	Outflow to ocean from estuary (C-13E canal in SFWMM) receiving flow from C-13 via S36.
RESL8O	Emergency overflow from Indian Trails reservoir to L-8 canal.
RESTL8	Flood control releases from reservoir in Indian Trails Water Control District into L-8 canal.
REUBDR	Routing of West Dade reuse to Bird Drive Recharge Area; (Alt. D only).
REUWS1	Discharge through structures used for water reuse within LECSA-1.
REUWS2	Discharge through structures used for water reuse within LECSA-2.
REUWS3	Discharge through structures used for water reuse within LECSA-3.
RFTST2	Flow to STA-2 from Hillsboro basin and 298 District runoff water supply from Lake Okeechobee.
RFWPBB	Runoff from WPB canal basin in EAA.
RGTCAE	Portion of Lake Okeechobee regulatory discharge which may be used to meet Caloosahatchee estuarine demands.
RGTSLE	Portion of Lake Okeechobee regulatory discharge which may be used to meet St. Lucie estuarine demands.
ROBRVQ	Flow from Roberts River to tidewater in Western ENP.
ROOKBQ	Flow from Rookery Branch Creek to tidewater in Western ENP.
ROTOL4	Portion of outflow from Rotenberger Tract routed through S-140A to help meet NSM stage target at monitoring point 3A-2.
ROTONW	Outflow from Rotenberger Tract to WCA-3A to help meet NSM target at monitoring point 3A-NW via L-4.
ROTOT1	Outflow from northern canal in Rotenberger Tract.
ROTOT2	Outflow from Rotenberger Tract.
ROTOT3	Additional outflow for flood control from Rotenberger Tract.
ROTTS8	Outflow from Rotenberger Tract through S-8 into WCA-3A.
ROTTWS	Portion of outflow from Rotenberger Tract routed to meet BCR Seminole demands.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

RSTEAA	Total water supply deliveries from proposed reservoir(s) in the EAA to meet supplemental EAA demands.
RTECV1	Unregulated flow through existing culverts from Rotenberger Tract into Miami Canal (1995 Base run only).
RTECV2	Unregulated flow through existing culverts from Rotenberger Tract into Miami Canal (1995 Base run only).
RTTHLY	Outflow from Rotenberger Tract into Holey Land through G-200.
RTTSEM	Portion of outflow from Rotenberger Tract routed to help meet BCR Seminole demands.
RTTWCA	Portion of outflow from Rotenberger Tract into northwestern corner of WCA-3A.
RVBDRQ	Tidal outflow from local drainage system in eastern Riviera Beach (RVBDR canal).
S10	Total outflow from L40 borrow canal in WCA-1 to nodes (29,44), (30,43) and (32,42) in WCA-2A.
S10E	Flow from L40 borrow canal in WCA-1 to node (28,46) in WCA-2A thru S-10E.
S10EEV	Flow for environmental water supply purposes from WCA-1 to WCA-2A thru S-10E.
S10ENV	Flow for environmental water supply purposes from WCA-1 to WCA-2A through S-10A, C and D.
S10ERG	Flood control discharges thru S-10E from WCA-1 to WCA-2A node (28,46).
S10EWS	Flow for water supply purposes to LEC Service Area (0) through S-10E.
S10REG	Flood control (regulatory) discharges thru S-10's from WCA-1 into WCA-2A.
S10WS	Flow for water supply purposes to LEC Service Area (0) through S-10A, C and D.
S11	Flow from L-38 canal in WCA-2A to conveyance canal within WCA-3A (CA-3 canal).
S118	Flow from C100 canal to C100A canal in Dade county.
S119	Flow from C100C canal to C100A canal in eastern Dade county.
S11ENV	Flow for environmental water supply purposes from WCA-2A to WCA-3A through S-11.
S11REG	Flood control (regulatory) discharges thru S-11's from WCA-2A into WCA-3A.
S11WS	Flow for water supply purposes to LEC Service Area (0) through S-11.
S12	Flow from CA-3 canal to L68 canal along Tamiami Trail in western ENP.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

S123	Tidal outflow from C100A canal.
S124	Flow from C-13 canal to NNRC canal.
S125	Flow from C-13 canal to NNRC canal.
S12A	WCA-3A discharge to ENP via S12A.
S12B	WCA-3A discharge to ENP via S12B.
S12C	WCA-3A discharge to ENP via S12C.
S12D	WCA-3A discharge to ENP via S12D.
S12ENV	Environmental/water supply releases via S-12 to ENP.
S12RG	WCA-3A regulatory discharge to ENP via S12.
S13	Flow from C-11 canal to C-10 canal.
S1324P	S-361 pump discharging from sections 13 & 24 (R40E, T44S) to STA-1E for flood control.
S1324W	Weir discharging from sections 13 & 24 (R40E, T44S) to C-51 canal (west of S-155A).
S13A	Flow from C-11W canal to C-11 canal.
S140	Flow from L-28 canal to C-60 canal in WCA-3A.
S140A	Total flow from L-28 canal to C-60 canal in WCA-3A.
S140FC	Flow from L-28 canal to C-60 canal through S140 for local flood protection.
S141	Flow from node (29,36) to L38E canal.
S142E	Portion of flow through S142 eastward (from WCA-3).
S142W	Portion of flow through S142 westward into WCA-3 pumped through G-123 from NNR canal.
S143	Flow from L-38 canal to L38E canal in WCA-2B destined for NNRC in Eastern Broward county.
S144	Flow from L-38 canal in WCA-2A to node (29,37) in WCA-2B.
S144EV	Flow for environmental water supply purposes from WCA-2A to WCA-2B through S-144.
S144RG	Flow for flood control purposes from WCA-2A to WCA-2B through S-144.
S144WS	Water supply to LEC service area from WCA-2A via S-144.
S145	Flow from L-38 canal in WCA-2A to node (30,37) in WCA-2B.
S145EV	Flow for environmental water supply purposes from WCA-2A to WCA-2B through S-145.
S145RG	Flow for flood control purposes from WCA-2A to WCA-2B through S-145.
S145WS	Water supply to LEC service area from WCA-2A via S-145.
S146	Flow from L-38 canal in WCA-2A to node (31,37) in WCA-2B.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

S146EV	Flow for environmental water supply purposes from WCA-2A to WCA-2B through S-146.
S146RG	Flow for flood control purposes from WCA-2A to WCA-2B through S-146.
S146WS	Water supply to LEC service area from WCA-2A via S-146.
S148	Flow from C-1P canal to S-21 canal.
S149	Flow from C-1N canal to S-21 canal.
S150	Discharge from EAA_NNR/HLSB basin to conveyance canal in WCA-3A (CA3 canal).
S151RG	WCA-3A regulatory discharge to WCA-3B via S151.
S151WS	Water supply discharges from WCA-3A/Lake Okeechobee to Service Area 3 via S-151 and C-304 canal in WCA-3B.
S155	Tidal outflow from C-51 canal.
S155A	Flow from C-51W canal to C-51 canal.
S165	Flow from C102 canal to C102N canal.
S166	Flow from C103N canal to S-179 canal.
S167	Flow from C103S canal to S-179 canal.
S174	Flow from L-31 canal to L31W canal.
S175	Flow from L31W canal to S175D canal.
S176	Flow from L-31 canal to C111 canal.
S177	Flow from C111 canal to C111E canal.
S178	Flow from S178U canal to C111E canal.
S179	Flow from S179 canal to C-NO canal.
S18C	Flow from C111E canal to S197 canal.
S194	Flow from L-31 canal to C102 canal.
S196	Flow from L-31 canal to C103S canal.
S197	Tidal outflow from C-111 canal reach between S-18C and S-197 (S197 canal).
S1ATHL	Recovery from proposed ASR wells in Site1 area to Hillsboro Canal for water supply purposes.
S2	Total discharge from Lake Okeechobee to EAA_NNR/HLSB basin.
S20	Tidal outflow from MODLD canal.
S20F	Tidal outflow from C-103 canal in south Dade county.
S20G	Tidal outflow from MILIT canal.
S21	Tidal outflow from C-1 canal.
S21A	Tidal outflow from C102N canal.
S22	Tidal outflow from C-2 canal.
S235TC	Discharge from S4 basin to Caloosahatchee River.
S236RO	Runoff from S-236 basin backpumped thru S-236 into Lake

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

	Okeechobee.
S236SO	Portion of runoff from S-236 basin routed south to appropriate STAs.
S236WS	Water supply delivery from Lake Okeechobee via S-236 to meet agricultural needs in S-236 basin.
S25	Flow from CMFT canal to C-6E canal.
S25A	Flow from C-4 canal to Comfort canal (CFMT) near Miami.
S25B	Flow from C-4 canal to estuary downstream of S-26 (Miami River).
S26	Flow from C-6 canal to Miami River (C-6E canal).
S27	Tidal outflow from C-7 canal.
S28	Tidal outflow from C-8 canal.
S29	Drain from C-9 canal to S29DN canal.
S29DNQ	Tidal outflow from S29DN canal.
S2PMP	Backupumping of runoff from EAA_NNR/HLSB basin to Lake Okeechobee via S2.
S2TMCL	Flow from L-8 to M-Canal via pump.
S3	Total discharge from Lake Okeechobee to EAA_MIAMI basin.
S30	Total discharge through S-30 (from L-33 borrow canal to C-9).
S308	Net discharge from Lake Okeechobee to St. Lucie River.
S308BK	Backflow from C-44 to Lake Okeechobee via S-308.
S308OT	Outflow from Lake Okeechobee through S-308.
S308RG	Lake Okeechobee regulatory discharge to St. Lucie canal via S308 (part/all of this could used to meet St. Lucie estuary minimum).
S309	Pumpage of runoff from L-8 west of S-76 to Lake Okeechobee via proposed S-309.
S30FC	Flood control release from L-33 canal to C-9 canal.
S31	Flow from C304 canal in WCA-3B to C-6 canal.
S316	Flow from northern half of L-8 to southern half of L-8 via proposed S-316.
S319	Flow from western C-51 basin into STA-1E via S-319.
S319WS	Water supply to C-51 from STA-1E via S-319.
S31ENV	Excess water from WCA-3B through S-31 into Central Lakebelt storage.
S31REG	WCA-3A Regulatory discharge to tide via Miami canal.
S31RG	WCA-3A regulatory discharge to tide via Miami canal.
S31TBY	Outflow through S31 from WCA-3B (excess water only) destined for Central Biscayne Bay.
S31WS	Water supply to C-6 canal from WCA-3B via S-31.
S32	Flow from L-33 borrow canal to C-6 canal.
S32A	Void (no longer used).

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

S32ENV	Outflow from L33 borrow canal to L30 destined for NESRS.
S33	Flow from C-12 canal to C-57 canal.
S331FC	Flood control pumping thru S-331 pumps located along the L-31N borrow canal.
S331PM	Flow through S331 that is pumped.
S331WS	Water supply pumping thru S-331 pumps located along the L-31N borrow canal.
S332	Flow from L31W canal to node (23,10).
S332A	Flow from L-31N between S-331 and S-176 into Buffer Strip (part of C111 GRR) via proposed S332A.
S332B	Flow from L-31N between S-331 and S-176 into Buffer Strip (part of C111 GRR) via proposed S332B.
S332C	Outflow through S-332C from L31N between S331 and S176 to R332C Reservoir in Everglades National Park.
S332D	Flow from L-31N between S-331 and S-176 into Buffer Strip (part of C111 GRR) via proposed S332D.
S332E	Flow from C-111E (downstream of S-177) into proposed spreader canal directed eastward via proposed S332E (part of C111 GRR).
S333	Total flow from CA-3 canal to L-29 canal.
S333EV	Environmental/water supply releases to ENP via S333 (to meet stage or flow targets).
S333RG	WCA-3A regulatory discharge to ENP via S333.
S334	Flow from L-29 borrow canal to L-31N upstream of G-211 (L31NC canal).
S334FC	WCA-3A Regulatory discharge to the South Dade Conveyance System via S-333/S-334 route.
S335	Flow from L-30 canal to L-31N upstream of G-211 (L31NC canal).
S336	Flow from L31NC canal to C-4 canal.
S336BK	Backflow from western C-4 through S-336 to L-31N.
S337	Water supply discharges from C304 canal in WCA-3B originating from WCA-3A/Lake Okeechobee to L-30 canal.
S337FC	WCA-3A Regulatory discharge to the South Dade Conveyance System via S-337/S-335 route.
S338	Flow from L31NC canal to C-1P canal.
S339	Flow from L-23E canal to C123 canal.
S34	Flow from L-38E canal to NNRC canal; water supply releases to NNRC originating from WCA-2A or Lake Okeechobee.
S340	Flow from C123 canal to CA-3 canal.
S343	Flow from CA-3 canal to TAMIA canal.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

S344	Flow from L28B canal to L28A canal.
S345	Flow from CA-3 canal to node (25,28).
S345A	Outflow through S-345A from CA3 canal in WCA-3A to marsh in WCA-3B.
S345B	Outflow through S-345B from CA3 canal in WCA-3A to marsh in WCA-3B.
S345C	Outflow through S-345C from CA3 canal in WCA-3A to marsh in WCA-3B.
S346	Flow from L68 canal to L-29 canal.
S349	Total outflow through S349 contributing to flow through S345 structures into WCA-3B.
S349A	Divide structure downstream of S-345A; open for water supply purpose only.
S349B	Divide structure downstream of S-345B; open for water supply purpose only.
S349C	Divide structure downstream of S-345C; open for water supply purpose only.
S349EV	Outflow through S349 contributing to flow through S345 into WCA-3B that meets environmental needs in NESRS.
S349WS	Outflow through S349 for water supply purposes only.
S34RG	WCA-2A regulatory discharge to tide via NNR canal.
S34WS	Water supply releases from WCA-2A into NNR canal.
S351	Total flow from Lake Okeechobee into EAA_NNRC/HLSB basin via S-351.
S351PK	Flow from Lake Okeechobee through S351 to help meet ENP flow targets.
S352	Total flow from Lake Okeechobee into EAA_WPB basin via S-352.
S352L8	Discharge from Lake Okeechobee via S352 into L-8 canal.
S354	Total flow from Lake Okeechobee into EAA_MIAMI basin via S-354.
S354PK	Flow from Lake Okeechobee through S354 to help meet ENP flow targets.
S355	Flow from node (24,23) in WCA-3B to L-29 canal in NESRS.
S355EV	Environmental/water supply discharge to ENP via proposed S355.
S355RG	WCA-3A regulatory discharge to ENP via S355 (proposed structure).
S356	Pumped flow from L-31N canal to L-29 borrow canal as part of Modified Deliveries to ENP GDM via proposed S-356.
S356A	Pumped flow from L-31N upstream of G-211 into NESRS (alternative to S-356).
S356B	Pumped flow from L-31N upstream of G-211 into NESRS (alternative to S-356).
S357	Flow from proposed structure in 8.5 Square Mile area to L31N canal.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

S36	Flow from C-13 canal to C-13E canal.
S37A	Flow from C-14E canal to G57DN canal.
S37B	Flow from C-14 canal to C-14E canal.
S38	Flow from conveyance canal in WCA-2A (L-38 canal) to C-14 canal.
S380L	Represents S-380 structure discharges from C-4 canal into western C-4 canal (when heads allow) during wet season when S-380 remains open.
S380R	S-380 structure discharging from western C-4 canal into C-4 canal for flood control and water supply S381. Structure remains open during the wet season.
S381	S-381 spillway discharging from C-11 canal to westernmost C-11 canal reach for flood control.
S381BK	Backflow from C11W canal on eastern side of S381 (divide structure) to western side of S381.
S381E	S-381 spillway discharging from westernmost C-11 canal reach to the east for water supply.
S38ENV	Environmental water supply releases from S-38.
S38REG	WCA-2A regulatory discharge to C-14 canal via S-38.
S38WS	Water supply discharge to maintain C-14 and C-13 canals via S-38.
S39	Flow from L-40 canal in WCA-1 to Hillsboro canal.
S39RG	WCA-1 regulatory discharge to Hillsboro canal via S-39.
S39WS	Water supply discharges from WCA-1 to Hillsboro canal via S-39.
S3PMP	Flow backpumped for flood control to Lake Okeechobee from EAA_Miami basin.
S40	Tidal outflow from C-15 canal.
S41	Tidal outflow from C-16 canal.
S44	Flow from C-17 canal to LOXRV canal.
S46	Flow from C-18 canal to LOXRV canal.
S4BTLK	Flow from S4 Basin to Lake Okeechobee.
S4DMD	Water supply delivery from Lake Okeechobee to S4 basin to meet irrigation requirements.
S5A1	Discharge from EAA_WPB basin to WCA-1 or STA-1W and STA-1E through S-5A pumps.
S5A2	Net flow from WPCB canal to CA1 canal thru S5AS.
S5A2NO	Water supply discharges from WCA-1 via S-5AS through WPCB (S5A complex) canal into L8/C-51/LWDD.
S5A2SO	Total flow to WCA-1 via S-5AS.
S5A3	Net flow from L-8 canal to WPCB canal.
S5A3NO	Water supply releases from WCA-1 to L-8 canal.
S5A3SO	Outflow from L-8 canal.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

S5A4	Flow from WPCB canal to C51W canal via S5AE.
S5A4E	Portion of flow through S5AE going eastward into C-51.
S5A4W	Westward flow from C-51W canal (only for emergency flood control measures).
S5ASTA	Portion of flow through S5A complex (via structure S5A1) diverted to STA1W and STA1E.
S5AWC1	Water supply from Lake Okeechobee that bypasses STA-1W to meet Lower East Coast demands.
S6	Discharge from EAA_NNR/HLSB basin to WCA-1 (current operation) or to STA-2 (proposed operations).
S6LCWS	Water supply from Lake Okeechobee and EAA runoff to LEC that by-passes STA-2.
S6NBYP	EAA runoff in excess of capacity of S6 into STA-2; potential (not actual) for bypass into WCA-2A.
S7	Discharge from EAA_NNR/HLSB basin to L-38 canal in WCA-2A.
S76	Discharge thru S-76 southward into L-8.
S77	Net discharge from Lake Okeechobee to Caloosahatchee River.
S77BK	Backflow from Caloosahatchee River into Lake Okeechobee into Lake Okeechobee via S-77.
S77OUT	Outflow from Lake Okeechobee into Caloosahatchee River via S-77.
S77RG	Lake Okeechobee regulatory discharge to Caloosahatchee canal via S77(part/all of this could used to meet Caloosahatchee estuary minimum).
S79	Flow from Caloosahatchee River into estuary.
S7BPMR	Emergency bypass of untreated EAA runoff around STA3&4 through S7 into WCA-2A.
S7GRAV	Gravity flow through S-7 spillway into WCA-2A.
S7NBYP	EAA runoff in excess of design for G370 into STA3&4; potential (not actual) for bypass through S-7.
S7PUMP	Pumped flow thru S-7 pump.
S7TCA3	Outflow from STA3+4 into WCA-3A via S-150; (Alt. A only).
S8	Discharge from EAA_MIAMI basin to L-23E canal in northwestern WCA-3A.
S80	Total flow to St. Lucie Estuary via S-80.
S8BPMR	Emergency bypass of untreated EAA runoff around STA3&4 through S8 into WCA-2A.
S8GRAV	Gravity flow thru S-8 spillway into WCA-3A.
S8NBYP	EAA runoff in excess of design for G372 into STA 3&4; potential (not actual) for bypass through S-8.
S8PUMP	Pumped flow thru S-8 pump.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

S9	Pumped flow from C-11W canal to WCA-3A which includes seepage into L-37 and L-33 borrow canals.
S9XN	Flow from L-37 canal to C-11W canal.
S9XS	Flow from L-33 canal to C-11W canal.
SCREWS	Water supply discharges through Snapper Creek extension (to maintain canals in Dade County) from western C-6 through proposed divide structure; (Alts. B, C & D).
SCRLTO	Flood control discharges from lateral canal just south of proposed Central Lakebelt storage to Snapper Creek extension (SNCRE in model).
SCRWWS	Water supply discharges to maintain Snapper Creek extension at specified minimum levels; (Alts. B, C & D).
SEACWS	Water supply from C-18 to local canals near the Seacoast wellfield.
SEMWS	Water supply to Big Cypress Seminole Indian reservoir from Rotenberger Tract.
SIRWDO	Flow from SIRWD to canal along SR706 in northern PB county.
SITWCD	Flow for flood control purposes from upper basin of Indian Trails Water Control District (WCD) to Indian Trails WCD reservoir.
SLRSLO	St. Lucie Reservoir backflow to Lake Okeechobee.
SMDNLK	Seminole irrigation demand met from Rotenberger and STA-6.
SNCREQ	Flow from SNCRE canal to C-4 canal.
SNCRWO	Flood control releases from Snapper Creek extension to C-2 canal.
SNCRWS	Total water supply to Snapper Creek extension (NW wellfield protection canal) from proposed Lakebelt reservoir or regional system in order to maintain Snapper Creek extension.
SPL31N	Volume of levee seepage to L31N canal.
SPTL30	Volume of levee seepage to L30 canal.
SR706Q	Flow from SR706 canal to LOXRV canal.
ST1C51	Water supply from STA1E to C-51W.
ST1EEO	Outflow from eastern cell (Col32, Row53) of STA-1E to western cell (Col31, Row53) of STA-1E.
ST1EI1	Inflow into STA-1E via L-101 (up to 1,200 cfs runoff from EAA_WPB basin).
ST1EQ1	Flow from STA-1E into WCA-1.
ST1EW0	Outflow from western cell (Col31, Row53) of STA-1E to eastern cell (Col32, Row53) of STA-1E.
ST1TAS	Injection of water from proposed Site1 reservoir to proposed ASR wells.
ST1WI1	Inflow into STA-1W.
ST1WQ1	Flow from STA-1W into WCA-1.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

ST2BYP	Volume of EAA runoff that bypasses STA-2 untreated into WCA-2A.
ST2OT1	Flow from STA-2 into WCA-2A.
ST2REX	Volume of excess water from Hillsboro canal basin plus the diversion from WPB canal basin above the inflow capacity into STA-2 (volume of excess water - inlet capacity).
ST3BYP	Volume of EAA runoff the bypasses STA-3&4 untreated into WCAs.
ST3NEA	Portion of outflow from STA-3&4 routed by gravity into northeastern WCA-3A.
ST3OT1	Discharge to WCA-3A from STA3 & STA4.
ST3OT2	Discharge to WCA-3A from STA3 & STA4.
ST3OT3	Discharge to WCA-3A from STA3 & STA4.
ST3QIN	Inflow into STA3 and STA4.
ST3REX	Volume of excess water from Miami & NNRC canal basins in the EAA greater than the total inflow capacity into STA-3&4 (in cfs-day), i.e., volume of excess water - inflow capacity.
ST3S71	Portion of outflow from STA-3&4 that potentially could be routed through S7.
ST3S81	Portion of outflow from STA-3&4 that potentially could be routed through S8.
ST3THL	Outflow from STA3&4 to maintain inflow schedule in Holey Land.
ST3TL4	Portion of outflow from STA3&4 routed westward via L-4, then southward along canal west of L-28, then through S-140A into WCA-3A to meet NSM target at monitoring point 3A-2.
ST3TNE	Inflow into WCA-3A from STA3&4 directly to WCA-3A.
ST3TNW	Inflow into WCA-3A from STA3&4 to meet NSM stage target at monitoring point 3A-NW via L-4.
ST3TS7	Portion of outflow from STA3&4 actually routed through S7 into WCA-2A.
ST3TS8	Portion of outflow from STA3&4 actually routed through S8 into WCA-3A (Miami Canal).
ST5OT1	Discharge from STA5 into Rotenberger Tract.
ST5REX	Inflow from western basins in excess of inlet structure capacity into STA-5.
ST5TCL	Portion of outflow from STA-5 routed into northern rim canal in Rotenberger Tract.
ST5TMR	Portion of outflow from STA-5 routed into the marsh in Rotenberger Tract.
ST6OT1	Total discharge from STA6.
ST6REX	Volume of potential inflow from appropriate basins greater than the inflow capacity for STA-6.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

ST6SEM	Portion of excess flow from STA-6 meeting Big Cypress Seminole demands.
ST6TL4	Discharge from STA-6 via L-4 and S-140 into WCA-3A to meet stage target at Gage 3A-2.
ST6WCA	Discharge from STA-6 into WCA-3A.
ST6WS	Portion of discharge from STA-6 used for meeting Big Cypress Seminole demands.
STA2EO	Outflow from eastern cell (Col26, Row44) of STA-2 to western cell (Col25, Row44) of STA-2.
STA5IQ	Inflow into STA5 from runoff from Hendry county (G-88,G-89 & G-155).
STA5WO	Flow from STA_5W to STA_5E.
STA6IQ	Inflow into STA6 from USSGR Plantation.
STEST	Flow from Lake Okeechobee to meet St. Lucie estuary demands.
STIRR	Flow from Lake Okeechobee to meet St. Lucie basin irrigation demands.
STLRES	Lake Okeechobee delivery into proposed reservoir in the St. Lucie basin.
STREG	Regulatory discharge from Lake Okeechobee thru S-308.
SUGDMD	Demand in ~11,000-acre Sugar Ranch in the EAA (> 0 if Sugar Ranch is handled separately, as in the future base case).
SUGREX	Runoff from unit 2 (Sugar Ranch) in excess of inflow capacity of STA-6.
SUGRF	Runoff from ~11,000-acre Sugar Ranch in the EAA (> 0 if Sugar Ranch is handled separately, as in the future base case).
SUNWDQ	Outflow from Sunshine Water Control District toward C14 in Broward County.
TALIN1	Inflow into proposed EAA reservoir (Talisman property) from Miami canal (runoff + Lake Okeechobee regulatory releases).
TALIN2	Inflow into proposed EAA reservoir (Talisman property) from NNR canal (runoff + Lake Okeechobee regulatory releases).
TALMA1	Outflow from proposed EAA reservoir to meet Miami canal basin supplemental demands.
TALMA2	Outflow from proposed EAA reservoir to meet Miami canal basin supplemental demands that TALMA1 does not meet.
TALMNO	Emergency overflow from one proposed EAA reservoir (TALISMAN_PROP) into another proposed EAA reservoir (EAA_RES or EAA_RESERVOIR_NORTH).
TALNH1	Outflow from proposed EAA reservoir to meet NNR-HILL canal basin supplemental demands.

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

TALNH2	Outflow from proposed EAA reservoir to meet NNR-HILL canal basin supplemental demands that TALNH1 does not meet.
TCNSQ	Portion of Taylor Creek/Nubbin Slough outflow to Lake Okeechobee which bypasses proposed Taylor Creek/Nubbin Slough reservoir.
TCRTLK	Outflow from proposed Taylor Creek/Nubbin Slough reservoir to Lake Okeechobee.
TREUSE	Total reuse water in southeast Dade County used to supply Biscayne Bay.
U1TL28	Excess water from Unit 1 of USSG routed to L-28 canal that is eventually pumped into WCA-3A via S140A or sent into STA6 when Full ECP is in place.
UISTLK	Runoff from Upper Istokpoga Basin into Lake Okeechobee.
WC3TLB	Outflow through proposed structure near S9 destined for Central Lakebelt storage via L-37 and L-33 borrow canals; (Alts. C & D).
WCS2	Outflow from C-4 through proposed eastern divide structure to C-4E (S25B hw).
WCS4	Environmental water supply releases to WCA-3A via STA 3&4 from proposed EAA reservoir.
WCS4N	Outflow (surface water only) for environmental water supply purposes from northern surge tank of the EAA reservoir to WCA-3A via STA3&4; (Alts. C & D).
WCS4S	Outflow (surface water only) for environmental water supply purposes from southern surge tank of the EAA reservoir to WCA-3A via STA3&4; (Alts. C & D).
WIER1E	Outflow from WCA-3A over proposed weirs along L-67AC into WCA-3B; (Alts. C & D).
WIER1W	Backflow from WCA-3B over proposed weirs along L-67AC into WCA-3A; normally zero; (Alts. C & D).
WIER2E	< see WIER1E >
WIER2W	< see WIER1W >
WIER3E	< see WIER1E >
WIER3W	< see WIER1W >
WIER4E	< see WIER1E >
WIER4W	< see WIER1W >
WIER5E	< see WIER1E >
WIER5W	< see WIER1W >
WIER6E	< see WIER1E >
WIER6W	< see WIER1W >
WIER7E	< see WIER1E >
WIER7W	< see WIER1W >

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

WIER8E	< see WIER1E >
WIER8W	< see WIER1W >
WL1351	Water supply from Lake Okeechobee to LEC SA2 via NNRC in the EAA.
WL2351	Water supply from Lake Okeechobee (thru S-351) to LEC SA2 via Hillsboro canal in the EAA.
WL3351	Water supply from Lake Okeechobee (thru S-351) to LEC SA3 via NNRC thru S-150 in the EAA.
WLC351	Water supply discharges to LEC from Lake Okeechobee via S-351.
WLC352	Water supply discharges to LEC from Lake Okeechobee via S-352.
WLC354	Water supply discharges to LEC from Lake Okeechobee via S-354.
WLES6	Portion of untreated runoff from Hillsboro basin in the EAA used to meet SA-1 demands in the LEC via existing S6.
WLES7	Portion of untreated runoff from NNRC basin in the EAA used to meet SA-2 demands in the LEC via existing S7.
WLES8	Portion of untreated runoff from Hillsboro basin in the EAA used to meet SA-3 demands in the LEC via existing S8.
WPBCAT	Flow from WPB catchment area to Loxahatchee Slough.
WSC1	Outflow from proposed SITE1 reservoir for water supply to Hillsboro canal.
WSC10A	Water supply discharges from Lake Okeechobee into L-8 by gravity thru C10A
WSEAA	Total water supply releases from Lake Okeechobee to meet EAA irrigation requirements.
WSFWPB	Water supply to L-8 canal via S-352 and WPB canal (S5A) from Lake Okeechobee.
WSHOLY	Water supply (environmental) releases from Lake Okeechobee to Holey Land.
WSL8S	Water supply discharges from WCA-1 to L-8/M-canal.
WSS151	Water supply discharges from WCA-3A and Lake Okeechobee through S-151 to meet SA-3 demands.
WSSCC2	Water supply to C-2/C-4 from Snapper Creek extension (NW wellfield protection canal).
WSSCC4	Outflow from Snapper Creek extension (SNCRE) to C-4 (S25B hw) for water supply purposes; (Alts. B, C & D).
WSSDCS	Water supply discharges to South Dade Conveyance System from western C-4 (C2W in model); (Alts. B, C & D).
WSST1E	Water supply (environmental) discharge to STA-1E from Lake Okeechobee to maintain minimum levels.
WSST1W	Water supply (environmental) discharge from Lake Okeechobee to

Table A-2 (*cont.*) Structure Definition Glossary for SFWMMv5.5

	STA-1W.
WSST5E	Total flow from Lake Okeechobee to STA_5E.
WSSTA	Total water supply (environmental) discharge from Lake Okeechobee to STAs to maintain minimum levels.
WSSTA2	Water supply (environmental) discharge from Lake Okeechobee to STA2.
WSSTA3	Water supply (environmental) discharge from Lake Okeechobee to STA-3&4.
WSSTA5	Water supply (environmental) discharge from Lake Okeechobee to STA5.
WSSTA6	Water supply (environmental) discharge from Lake Okeechobee to STA6 via S-354 and Miami canal.
WSTC11	Water supply discharges to western C-11 through proposed divide structure near S-9; source of water is seepage from WCA-3A.
WSTC12	Water supply to C-12 from C-13 (source of water: WCA-2A thru S-38).
WSTC2W	Water supply discharges to proposed reach of C-4 west of C-2 from Snapper Creek extension; (Alts. B, C & D).
WSTC6W	Water supply discharges from proposed enlarged canal along US27 between C-11 and C-9 to C-6 west of the divide structure to maintain canals in Dade county; origin of water is from WCA-3A and Lake Okeechobee; (Alts. B, C & D).
WSTDBL	Regional (from WCA and Lake Okeechobee) water supply deliveries to Dade-Broward levee borrow canal.
WSTLXR	Water supply to North Fork of Loxahatchee River to meet base flow of 50 cfs (source of water: 1.SIRWCD canals, then 2. C-18 canal).
WSTMB	Water supply to Miami Canal basin in the EAA from compartment of proposed EAA reservoir receiving Lake Okeechobee regulatory releases and overflow from the other compartment of the same proposed EAA reservoir.
WSTNRH	Water supply to NNR-HILL canal basin in the compartment of the proposed EAA reservoir receiving Lake Okeechobee regulatory releases and overflow from the other compartment of the same proposed EAA reservoir.
WSTSEA	Water supply to Seacoast Utilities from C-18 or other sources.

III. Post Processing

Post processing output data from continuous and distributed hydrologic models like the SFWMM is necessary to effectively analyze the results of a particular modeling run. The South Florida Water Management Model simulates both stages and flows across more than 1,700 grid cells and at least 300 discharge points for 13149 time steps (1965-2000) -- over 52 million distinct values. The following grid input/output (grid_io) post processing tools have been developed and enhanced through the years in order to help summarize the massive amounts of output generated by the model.

addlake2 = adds Lake Okeechobee (LOK) stage data to a *grid_io* formatted binary file that includes only computational grid cells within the model domain. The output is also a *grid_io* binary file.

cell_cat = produces an ASCII output file with the entire time-series of data for a cell or group of cells, as defined in a binary input file in *grid_io* format.

cell_plot = functions similar to *cell_cat* but produces a time series plot.

cell_sum = produces ASCII tabular monthly and yearly sums of input binary data that is in *grid_io* format, for user specified cell(s).

gr_bud = performs water budget for the Natural System Model.

gr_cut = produces a binary file in *grid_io* format containing an areal subset of an existing binary file in *grid_io* format. It requires an ASCII control file that defines the extent of the areal subset.

grid_freq = produces a binary file in *grid_io* format that contains frequency statistics from spatial data stored in *grid_io* format.

grid_math = performs simple mathematical operations (+,-,*,/) on two *grid_io* formatted binary files and produces a *grid_io* formatted binary file. The utility is interactive but can be run on batch mode using an ASCII control file defining the input binary files and the type of operation, among others.

grid_peek = produces the following text description of a binary file in *grid_io* format: header information, grid extents, and date tags of all grid snapshots.

grid_shot = extracts in two different ASCII formats, binary data contained in *grid_io* format for a specified snapshot in time.

gr_summary = produces several statistical summary files like annual and monthly averages, annual and monthly sums, etc. in *grid_io* format for daily or

monthly data stored in a *grid_io* format.

hydroperiod = computes hydroperiods from daily ponding data stored in a *grid_io* data format. Output is also in *grid_io* format.

line_sum = like *cell_sum*, produces ASCII tabular monthly and yearly sums of input binary data that is in *grid_io* format, for user specified line of cell(s). In addition to row & column location of cell(s), user has to specify the direction of flow.

xgridview = a utility to view the individual snapshots in a binary file in *grid_io* format; one dimensional spatial data can be viewed as different colors and two-dimensional data can be viewed as vectors. Needs a *.gridview* control file. Requires *PHIGS*™ license (available only on some District machines).

Upon completion of a model run, several scripts are run as part of an initial post processing step. These scripts utilize the above grid_io post processing tools to generate maps and water budget output files. Reservoir water budget output files are user-specified options. Some of the key water budget scripts, run routinely, are:

C43C44_bud = a script to create monthly, yearly, average, dry season and wet season water budget output files for the Caloosahatchee and St. Lucie Basins.

eaa econ = a script to create economic and ET summary information for the EAA, and a Supply-side Management summary for LOSA.

lec_econ = a script to create water shortage and ET summary information for the LEC by service area.

wwm_wbud = a script to create monthly, yearly and average water budget output files for various subregions in the gridded domain of the model.

Example of Post Processed Water Budget File

The following example, Annbud, is an excerpt from a post processed water budget files. As the name implies, it provides annual water budget information for all the components associated with a particular reservoir or region such as Lake Okeechobee or the Lower East Coast. The excerpt was edited for presentation in this appendix and only shows the last six years of the period of record for modeling followed by the overall mean values. Annbud contains many regions and reservoirs, starting with Lake Okeechobee, in sequential order. The file is in ASCII format.

Annbud

SFWMM/NSM Water Budget Post-Processor Version 1.24
SFWMM Run Title = SFWMM v5.4.3.1 – Example Run

ANNUAL(JAN-DEC)WATER BUDGET SUMMARY FOR LAKE_OKEECHOBEE
SUBBASIN AREA (square miles) = 728.

(All values in thousand acre-feet)

	1995	1996	1997	1998	1999	2000	MEAN
RAINFALL	1997.2	1558.0	1594.9	1852.0	1642.3	1122.3	1667.0
ET	2158.0	2182.1	2087.4	2167.8	2158.1	2161.6	2104.7
GRASRREC	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PUMPAGE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PWS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IND&RSS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OFIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OFOUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GWIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GWOUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LSPGIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LSPGOUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STQSIN	3822.5	1803.5	2158.4	4162.1	2855.0	1036.8	2060.6
MDSPOS	975.7	433.5	866.6	1271.0	1027.1	444.2	599.6
S2PMP	8.3	0.0	0.0	14.0	34.1	23.2	6.9
S3PMP	56.5	11.5	0.1	1.2	57.2	31.1	12.0
S65EFR	2172.6	1119.5	902.8	2317.4	1236.0	382.1	956.8
TCNSQ	238.6	55.3	84.8	150.9	179.3	17.6	137.6
UISTLK	248.7	48.7	90.3	226.3	113.3	5.3	105.0
C10ABK	39.8	70.2	116.4	35.9	35.3	37.2	75.9
S236RO	14.5	9.8	9.0	12.3	9.8	6.3	9.0
AGQRF	32.8	23.7	20.9	31.3	24.2	21.8	25.0
S77BK	0.0	0.0	0.0	0.0	0.0	0.0	15.5
S308BK	0.0	18.8	52.4	71.9	103.4	55.2	87.0
IPGTLK	11.1	3.7	2.4	7.4	6.3	0.9	4.2
S4BTLK	12.9	4.6	10.5	13.5	23.1	9.2	18.8
NLSTLK	0.0	0.0	0.1	0.1	0.2	0.2	0.1
NELTLK	11.0	4.2	1.9	9.0	5.7	2.5	7.0
STQSOUT	4137.9	2601.7	1089.7	3664.1	2002.6	1583.6	1651.4
MDSNEG	178.6	271.4	128.9	342.8	416.0	505.5	315.4
S77OUT	2099.6	828.5	85.1	1295.7	429.6	224.7	371.4
S308OT	790.0	258.2	18.9	492.9	104.5	44.5	107.1
S352	87.3	86.5	72.9	114.7	134.6	152.3	102.2
S351	440.0	587.7	312.2	845.9	374.8	206.2	326.3
S354	428.3	388.9	376.7	415.3	398.9	207.7	298.1
L8CP	34.5	56.6	8.4	33.5	19.8	49.8	19.3
AGQWS	8.5	11.0	6.5	15.7	14.7	20.6	11.5
S4DMD	17.7	39.3	20.8	30.2	28.7	61.2	29.6
S236WS	4.9	6.3	3.8	9.0	8.4	11.8	6.6
DMDSEM	15.3	27.7	20.6	29.1	31.9	47.8	26.2
LKTFPL	22.8	22.9	22.8	22.8	22.8	22.9	22.8
LKTIPG	3.0	6.2	4.6	6.0	6.8	14.0	6.4
LKTNEL	6.7	9.4	6.9	8.7	9.2	12.5	7.1
LKTNLS	0.6	1.1	0.6	1.0	1.0	2.2	0.7
WSSTA5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
WSSTA6	0.0	0.0	0.0	0.6	0.9	0.0	0.5
SUMIN	5819.7	3361.5	3753.3	6014.1	4497.3	2159.1	3727.6
SUMOUT	6295.9	4783.9	3177.1	5832.0	4160.7	3745.2	3756.0
STOCH	-476.2	-1422.3	576.2	182.2	336.6	-1586.1	-28.2
RESIDUAL	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
%RES/INF	0.00	0.00	0.00	0.00	0.00	0.00	0.00

IV. Performance Measures and Performance Indicators

Performance measures are quantitative indicators of how well (or poorly) an alternative meets a specific objective. Features of good performance measures are that they are:

1. Quantifiable,
2. have a specific target,
3. indicate when that target has been reached, or
4. measure the degree of improvement toward the target when it has not been reached

Achieving hydrologic targets does not necessarily guarantee ecological restoration of natural areas nor does achieving hydrologic targets in the Lower East Coast Service Area necessarily guarantee future water supplies. It does provide the best available indication of future conditions, and this information can be used as a basis for decision making in terms of directing ecological recovery and future water allocation.

Performance Indicator**s,** in contrast to performance measures, do not have a specific target, but are used to provide an indication of the relative behavior of alternatives. For example a stage hydrograph without specific stage targets is considered a hydrologic performance indicator.

A brief description of some of the types of performance measures and performance indicators used are listed below. Performance measures are not separated from performance indicators; they are listed together. On the web page the performance measures (including indicators) will be organized geographically into those pertaining to particular regions. Performance measures that pertain to the entire modeled domain have been placed in a regional group.

Types of Performance Measures

Different types of performance measures are displayed for each geographic region. In some cases, the type of measure is specific to that particular region while in many cases it is common to all regions. It should be noted that during the Restudy, many targets were based on the performance of the Natural System Model (NSM). The NSM simulates the pre-drainage Everglades and is used in conjunction with the SFWMM to understand how the drained system performs in comparison to simulated historical conditions. The Natural System Model (NSM) output is not comparable to output from the subregional groundwater models.

Stage hydrographs

Stage hydrographs represent the time series of a water stage at a particular location. Stage hydrographs can be used to compare hydrograph characteristics with those of different alternatives at the specific location, providing information on how well each alternative performs with regard to the duration and severity of seasonal water level fluctuations, minimum and maximum levels, the occurrence and frequency of dry out or the duration and severity of water restrictions.

Stage duration curves
Stage duration curves provide an indication of the cumulative probability that a particular stage is exceeded or not exceeded. Stage duration curves are produced at the same locations as the stage hydrographs. From the duration curve the probability of exceeding a given stage is easily quantified for each alternative. It is useful to understand how the area performs during the high and low water extremes.

Normalized stage hydrographs and duration curves
Normalized stage hydrographs and normalized stage duration curves are used to reference stages with respect to land elevation rather than NGVD to facilitate comparison of ponding depths. This is important in comparing stages from different alternatives where land subsidence has occurred. Comparing ground water heads measured relative to NGVD is useful for understanding water levels near the salt-water interface or wellfields.

Hydroperiod Distributions
Hydroperiod distribution maps of the model area and histograms indicate the total area inundated for 30-day inundation period classes for each of the alternatives compared. Hydroperiod distribution maps display the spatial distribution of the average hydroperiod for the period of record. In addition, a histogram is generated for each natural area of interest summing the acreage in each hydroperiod class. Both the map and the histogram are divided into 30-day inundation period classes.

Indicator Regions
Performance of alternative designs will be evaluated in selected regions in natural areas. These "indicator" regions, typically represent hydrologically distinct areas of interest, and are strategically located throughout the Lower East Coast Service Area, Water Conservation Areas and Everglades National Park. Indicator regions are intended as tools to examine the hydrological behavior of small, logical subregions in the remaining Everglades. Use of indicator regions to average model output over multiple, similar cells avoids single cell comparisons and permits model output to be examined on a larger scale. Performance measures and indicators for these regions include Weekly Normalized Stage Hydrograph, Weekly Normalized Stage Duration Curve, High and Low Water Level Criteria Summary Tables, and Inundation Duration Summary Table.

Water Budget
The water budget performance measures present graphically the volume of water that comes into (positive) or leaves (negative) each particular area on average annually. Each term of the water budget is shown for each alternative. Water budget terms include rainfall, evapotranspiration, groundwater flows, structure flows, water supply withdrawals, and changes in storage. A residual term is also shown to verify conservation of mass and accounting.

Groundwater Flow: Seepage and Transects

Groundwater flows are integral to several performance measures and indicators. Groundwater flows across a transect are summed for a specific duration (usually monthly or annually). Transects are usually located near a water management feature, structure, levee or canal, to understand how the magnitude and timing of groundwater flows are affected. To measure groundwater flow from the Water Conservation Areas and Everglades National Park to the Lower East Coast Service Areas transects are located along the protective levees.

Water Supply Restrictions

There are several performance measures that characterize the severity and duration of water supply cutbacks imposed on legal water users when regional or local storage is diminished during droughts. Water supplies are reduced (cutback) due to low groundwater stages in selected "trigger" cells in the Lower East Coast, low surface water stages in Lake Okeechobee or continuation of the restriction through the end of the dry season. Maps show the location of low ground water levels, bar charts display the average annual volume cutback by use type as well as the annual volume of cutbacks by the cause, and stage hydrographs are produced for the trigger cells in the Lower East Coast Service Area.

Performance Measure Examples

As part of the CERP the programmatic regulations, interim goals and targets were developed to help quantify benefits to the natural system. To achieve these objectives, performance measures are extensively utilized. Table A-3 entries attempts to infer the parameters needed from the regional model. For the regional modeling tools to be successful, the tools will be required to provide results that can be used to quantify the performance measures in terms of output variables, temporal and spatial resolution, and level of uncertainty. The table provides examples, it is not a comprehensive list since other performance measures are available and under development.

Table A-3 Examples of System-wide Performance Measures

PM	Title	Desired Model Results
Northern Estuaries		
NE-E1	St. Lucie Salinity Envelope	Mean monthly flow
NE-E2	Lake Worth Lagoon Salinity Envelope	Daily flow and daily salinity
NE-E3	Caloosahatchee Estuary Salinity Envelope	Daily flow
Lake Okeechobee		
LO-E1	Lake Okeechobee Extreme Low Lake Stage	Daily stage
LO-E2	Lake Okeechobee Prolonged Moderate Low Lake Stage	Daily stage
LO-E3	Lake Okeechobee Extreme High Lake Stage	Daily stage
LO-E4	Lake Okeechobee Prolonged Moderate High Lake Stage	Daily stage
LO-E5	Spring Recession for Lake Okeechobee	Monthly stage
LO-E10	Lake Okeechobee Stage Envelope	Daily stage
Greater Everglades		
GE-E1	Number and Duration of Dry Events for Shark River Slough	Daily overland flow depth
GE-E2	Inundation Pattern in the Greater Everglades Wetlands	Daily overland flow depth
GE-E3	Extreme High and Low Events in the Greater Everglades	Daily overland flow depth

	Wetlands	
GE-E4	Seasonal Amplitude and Inter-annual Variability of Water Levels in the Greater Everglades Wetlands	Daily overland flow depth
GE-E5	Monthly and Seasonal and Overland Flow Volume in Greater Everglades Wetlands	Daily overland flow vector
GE-E6	Species Richness Suitability for Everglades Tree Islands	Daily water depth
GE-E11	Periphyton HSI	Daily overland flow depth
GE-E12	Alligator HSI	Daily overland flow depth
GE-E13	Wading Bird HSI	Daily overland flow depth
GE-E14	Ridge and Slough HSI	Daily overland flow depth

Table A-3 (*cont.*) Examples of System-wide Performance Measures

PM	Title	Desired Model Results
Greater Everglades (cont.)		
GE-E15	Tree Island Flooding/Drought HSI	Daily overland flow depth
GE-E16	Fish HSI	Daily overland flow depth
GE-E17	Apple Snail Reproduction	Daily overland flow depth
GE-E18	Snail Kite Foraging Habitat Vegetation Structure	Daily overland flow depth
GE-E19	Snail Kite Individual-based Model	Daily overland flow depth
GE-E20	Long-Legged Wading Birds Foraging Conditions	Daily overland flow depth
GE-E22	White-Tailed Deer Breeding Potential	Daily overland flow depth
GE-E23	Alligator Production Index Model	Daily overland flow depth
Southern Estuaries		
SE-E1 (Interim)	Surface Water Discharges to Biscayne Bay	Daily overland flow volume
SE-E2 (Interim)	Salinity in Florida Bay Coastal Basins Estimated from Upstream Water Stages	Monthly salinity
SE-E2 (Proposed)	Frequency of Low Salinities and High Salinities in Florida Bay Coastal Embayments	Monthly salinity
SE-E3	Freshwater Flow to Biscayne Bay from the Miami River	Daily flow
SE-E4	Salinity Patterns in, and Timing of Freshwater Inputs to, Manatee Bay and Coastal Embayments of Barnes Sound	Monthly salinity
SE-E5	South Biscayne Bay - re-establish and maintain seasonal salinity gradients from freshwater to coastal wetlands with continuous estuarine conditions near-shore along the western shore of Biscayne Bay between Shoal Point and Turkey Point	Monthly salinity
SE-E6	North Biscayne Bay - Surface Water Discharges to North Biscayne Bay to Preserve Existing Seagrass Communities	Daily flow
SE-E7	Central Biscayne Bay	Monthly flow
SE-E8	Snake Creek	Monthly flow and salinity
Water Supply		
WS-E1	Frequency of Water Restrictions for Lake Okeechobee Service Area	Monthly lake stage and ground water level
WS-E2	Frequency of Water Restrictions for the Lower East Coast Service Area	Monthly lake stage and ground water level
WS-E3	Potential for High Water Levels in South Miami-Dade Agricultural Area	Daily stage
WS-E4	Prevent Saltwater Intrusion of the Biscayne Aquifer - Meet MFL Criteria for Biscayne Aquifer	Canal stage and ground water levels
WS-E5	Prevent Saltwater Intrusion of the Biscayne Aquifer in South Miami-Dade County	Canal stage and ground water levels
WS-E6	Comparison of Stage Differences of Water Levels in South Miami-Dade Agricultural Area	Daily stage and ground water level
WS-E7	Duration and Severity of Water Restrictions in Lake Okeechobee Service Area	Daily stage and ground water level
WS-E8	Duration and Severity of Water Restrictions for Lower East Coast Service Area	Daily stage and ground water level

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