SCCSID = asrinput.man v1.1 02/21/03

Prepared by: Alaa Ali
Date Created: 19 February, 2002
Hydrologic Systems Modeling Division

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SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

asrinput.dat = Defines ASR System information including Parameters for Canalas, Reservoirs, LOK, and EAA basin runoff as sources and/or destination for ASR. Also, Identifies the grid location of the reservoirs used for injection and/or recovery for ASR. (unit no. 17; read in subroutine sr_input.F)

COLUMNS	VARIABLE NAME	FORMAT	DESCRIPTION
1. TOTAL NUMBER OF ASR SYSTEMS AND SOME OPTIONS FOR THE ESTUARIES			
..-..	NTOTASR	Free	Total Number of ASR systems in the model domain.
..-..	cal_asr_flag	Free	Flag for Caloosahatchee basin/reservoir(1-ASR exists,0-noASR exists)
..-..	stl_asr_flag	Free	Flag for ST Lucie Basin/reservoir(1-ASR exists,0 - no ASR exists)
..-..	iuse_asr_env1	Free	Option to use ASR to meet Caloosahatchee estuarine requirements (1-yes,0-no)
..-..	iuse_asr_env2	Free	Option to use ASR to meet St Lucie estuarine requirements (1-yes,0-no)
2 through 10 are repeated NTOTASR times			
2. READ the asr capacites (injection and recovery) in MGD and recovery efficiency C factor(a 0.6 factor means 60% recovery, 40% loss),also read minimum bubble C size required for recovery rate can be larger than injection rate.			
1-10	asr_incap(I)	F10.3	ASR Injection capacity(MGD) for System #I
11-20	asr_outcap(I)	F10.3	ASR Recovery Capacity (MGD) for System #I
21-30	asreffic(I)	F10.3	Recovery efficiency (0.7 means 70% recovery , 30% loss)
31-40	rmin_bubble_sze_add_rec(I)	F10.3	Minimum bubble size (acre-ft) required before recovery rate is able to exceed injection rate,if desired.
3. FOR SYSTEM # I, NUMBER OF CANAL SOURCES, NAME AND TRIGGER (MINIMUM) STAGE IN EACH CANAL FOR INJECTION INTO ASR. IMPORTANT: FOR CALOOS & STLUCIE ASRS, DEFINE NUMBER OF CANAL SOURCES = 0			

1–5	ncnl_src_to_asr(I)	I5, 2X	Number of Canal sources for ASR system #I
..–..	nl_src_name(J)	A5, 2X	Names for all ncnl_src_to_asr(I) Canal sources.
..–..	cnl_stg_trig_inj_asr(I,J)	F6.2,2x	Trigger stage for all ncnl_src_to_asr(I) Canal sources.

4. FOR SYSTEM #I, NUMBER OF RESERVOIR SOURCES, NAME OF RESERVOIRS, AND ASR CAPACITY FRACTION EACH SOURCE CAN USE
IMPORTANT: FOR CALOOS & STLUCIE ASRS, DEFINE NUMBER OF RESERVOIR SOURCES = 0

1–5	nres_src_to_asr(I)	I5, 2X	Number of reservoir sources for SR system #I
..–..	res_src_name(J)	A6, 2x	Names for all nres_src_to_asr(I) reservoir sources
..–..	frac_cap_src(I,J)	F6.2,2x	Fraction of total ASR capacity each source can use

4.1 FOR SYSTEM #I, READ THIS RECORD ONLY IF NUMBER OF RESERVOIR SOURCES FOR SYSTEM #I IS GREATER THAN 0

1–6	charid_asr(I,J)	2x, A6	Character id.
..–..	trig_asr(I,J)	F7.1	Trigger level (ft. NGVD) above which injection to ASR occurs for each reservoir source.

5. FOR SYSTEM #I, NUMBER OF EAA BASIN RUNOFF SOURCES AND BASIN NUMBER FOR EACH SOURCE.
(1– Miami Canal basin,2–NNRC–HILL basin,3–WPB Canal basin)
IMPORTANT: FOR CALOOS & STLUCIE ASRS, DEFINE NUMBER OF EAA RUNOFF SOURCES = 0

1–5	neaa_src_to_asr(I)	I5	Number of EAA basin runoff sources to ASR
..–..	eaa_src_num(I,J)	I5	EAA basin number for each of the neaa_src_to_asr(I) sources. (1– Miami Canal basin,2–NNRC–HILL basin,3–WPB Canal basin)

6. FOR SYSTEM #I, NUMBER OF LOK SOURCES, LAKE ID NUMBER OF EACH SOURCE. (1 – LOK)

1–5	nlok_src_to_asr(I)	I5	Number of LOK Sources
..–..	lake_src_num(I,J)	I5	Lake ID Number for each of the nlok_src_to_asr(I) sources.

7. FOR SYSTEM #I, NUMBER AND NAMES OF THE CANAL DESTINATIONS FOR RECOVERY FROM ASR
IMPORTANT: FOR CALOOS & STLUCIE ASRS, DEFINE NUMBER OF CANAL DESTINATIONS = 0

1–5	ncnl_dest_from_asr(I)	I5, 2x	Number of Canal destinations for recovery ASR system #I
..–..	cnl_dest_name(J)	A5, 2x	Canal names for all ncnl_dest_from_asr(I) canals

7.1 FOR SYSTEM #I, READ THIS RECORD ONLY IF NUMBER OF CANAL DESTINATIONS FOR SYSTEM #I IS GREATER THAN 0
FOR SYSTEM #I, AND DESTINATION #J, NUMBER AND NAMES OF THE CANALS BEING SERVED BY ASR

1–5	no_cnl_ws(i,j)	I5, 2x	Number of canals served by destination j and ASR i
..–..	icnl_no_ws_name(k)	A5, 2x	Names of each of the no_cnl_ws(i,j) canals

8. FOR SYSTEM #I, NUMBER AND NAMES OF THE RESERVOIR DESTINATIONS FOR RECOVERY FROM ASR
IMPORTANT: FOR CALOOS & STLUCIE ASRS, DEFINE NUMBER OF RESERVOIR DESTINATIONS = 0

1–5	nres_dest_from_asr(I)	I5, 2x	Number of Reservoir destinations for recovery ASR system #I
..–..	res_dest_name(J)	A5, 2x	Reservoir names for all nres_dest_from_asr(I) Reservoirs

8.1 FOR SYSTEM #I, READ THIS RECORD ONLY IF NUMBER OF RESERVOIR DESTINATIONS FOR SYSTEM #I IS GREATER THAN 0
FOR SYSTEM #I, AND DESTINATION #J, NUMBER AND NAMES OF THE RESERVOIRS BEING SERVED BY ASR

1-8	charid_asr_rec(i,j)	2x, A6	Character id for destination j
..-..	trig_asr_rec(I,J,1)	F7.1	Reservoir stage (ft.) below which recovery from ASR is triggered for each reservoir destination.
..-..	trig_asr_rec(I,J,2)	F7.1	Reservoir stage (ft.) above which recovery from ASR is still allowed for each reservoir destination.

9. FOR SYSTEM #I, NUMBER OF EAA BASIN RUNOFF DESTINATIONS AND BASIN NUMBER FOR EACH DESTINATION.
(1- Miami Canal basin,2-NNRC-HILL basin,3-WPB Canal basin)
IMPORTANT: FOR CALOOS & STLUCIE ASRS, DEFINE NUMBER OF EAA RUNOFF DESTINATIONS = 0

1-5	neaa_dest_from_asr(I)	I5	Number of EAA basin runoff destination to ASR
..-..	eaa_dest_num(I,J)	I5	EAA basin number for each of the neaa_src_to_asr(I) destinations. (1- Miami Canal basin,2-NNRC-HILL basin,3-WPB Canal basin)

10. FOR SYSTEM #I, NUMBER OF LOK DESTINATIONS, LAKE ID NUMBER OF EACH DESTINATION. (1 - LOK)

1-5	nlok_dest_from_asr(I)	I5	Number of LOK destinations for system #I
..-..	lake_dest_num(I,J)	I5	Lake ID Number for each of the nlok_dest_from_asr(I) destinations.

11. READ THIS RECORD AS MANY TIMES AS THE TOTAL NUMBER OF RESERVOIRS AVAILABLE FOR ASR INJECTION AND ASR RECOVERY
TWO RECORD MAY EXIST FOR ONE RESERVOIR IF IT IS USED FOR INJECTION AS WELL AS FOR RECOVERY

11.1 READ THIS RECORD IF THE NUMBER OF RESERVOIRS AVAILABLE FOR ASR INJECTION IS GREATER THAN ZERO

..-..	nnodes_res_to_asr(ia,j)	Free	Number of grid cells for Reservoir ia and ASR # j (we usually have 1 ASR)
..-..	icol_asr(ia,j,k)	Free	Column number of each of the nnodes_res_to_asr(ia,j) cells.
..-..	irow_asr(ia,j,k)	Free	Row number of each of the nnodes_res_to_asr(ia,j) cells.

11.2 READ THIS RECORD IF THE NUMBER OF RESERVOIRS AVAILABLE FOR ASR RECOVERY IS GREATER THAN ZERO

..-..	nnodes_res_from_asr(ia,j)	Free	Number of grid cells for Reservoir ia and ASR # j (we usually have 1 ASR)
..-..	icol_asr_rec(ia,j,k)	Free	Column number of each of the nnodes_res_to_asr(ia,j) cells.
..-..	irow_asr_rec(ia,j,k)	Free	Row number of each of the nnodes_res_to_asr(ia,j) cells.

END OF DESCRIPTION FOR INPUT FILE "asrinput.man"

SCCSID = canal_grid_loc.man v1.2 08/06/03

Prepared by: Michelle M. Irizarry, Raul Novoa, Alaa Ali
Date: 10/28/02
Hydrologic Systems Modeling Division

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SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

canal_grid_loc.dat (previously known as canal22*)

canal_grid_loc.dat == defines 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:

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

assigned unit number 23 in ALTWMM
read in subroutine:
gen_model_def_param.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. CANAL NAME & NUMBER OF REACHES: (1 record per canal) (A5,I3)			
@ NOTE: N is a canal counter.			
1-5	CNM(N)	A5	Character string identification of canal. Canal name and order should match that of the canal_struc_specs.dat input file.
6-8	NODCR(N)	I3	Number of grid cells through which canal passes.
2. CANAL LOCATION DEFINITION: (1 or more records per canal) (5X,11(2I3,I2,1X))			
@ NOTE: A maximum of 11 grid cell locations can be specified in each line. Input as many lines as needed to define the total number of reaches. IC is a grid cell counter.			

1–5	BLANK	5X	

@ NOTE: The format below is repeated in each line for up to 11 grid cell definitions per line.

6–8	XCN(N,IC)	I3	Column location of cell where canal segment is located.
9–11	YCN(N,IC)	I3	Row location of cell where canal segment is located.
12–13	ICL(N,IC)	I2	Orientation of canal segment at grid location. If 1: Canal is oriented east–west at grid location. 2: Canal is oriented north–south at grid location. 3: Canal is oriented diagonally at grid location. The indices for orientation are used to calculate the length of canal segment within each grid cell. Canal segments are assumed to be centered in the grid cells.
14	BLANK	1X	

@ NOTE: A record with 'NOCNL' as canal name needs to be defined after the definition of all other canals.

---

3. SPECIAL CANAL NAMES: (1 or more records)
FORMAT(I3,2X,17(A5,1X),3(/5X,17(A5,1X)))

1–3	NO_CANL_NAMES_SPEC	I3	Number of canals with special/unique code.
4–5	BLANK	2X	

@ NOTE: A maximum of 17 canal names can be defined in the first record. The arrays below are defined and the read format is repeated for I=1,min(NO_CANL_NAMES_SPEC,17).

6–10	CANL_NAMES_SPEC(I)	A5	Character string identification of canal with special/unique code. Needs to match canal name in canal_struc_specs.dat.
11–11	BLANK	1X	

@ NOTE: If there are more than 17 canals with special (NO_CANL_NAMES_SPEC>17), the format of the following records is slightly different (The first 5 columns are blank, 5X).

@ NOTE: The location (index) of a canal name in this array is hardcoded in the SFWMM with the purpose of providing some flexibility in naming canals. Therefore, extreme care should be exercised to keep the canal name at its correct location (i.e. to associate the right canal name with the correct index).

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4. NUMBER OF CANALS WITH UNIQUE SURFACE WATER INTERACTION COEFFICIENTS: (1 record total)
   FREE FORMAT

NO_CANL_SW_INT	FREE	Number of canals with surface water interaction unique to canal.

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5. CANALS WITH UNIQUE SURFACE WATER INTERACTION COEFFICIENTS:
   (NO_CANL_SW_INT records total)
   FREE FORMAT

@ NOTE: NC is a counter of canals with unique surface interaction coefficients.
NC=1,NO_CANL_SW_INT

CANL_NAMES_SW_INT	FREE	Character string identification of canal with different surface water interaction coefficients. Needs to match canal name in canal_struc_specs.dat.
OFMC_CANL(NC,1)	FREE	A coefficient for overland flow into canal within a grid cell.
OFMC_CANL(NC,2)	FREE	b coefficient for overland flow into canal within a grid cell.
OFMC_CANL(NC,3)	FREE	A coefficient for overland flow out of canal within a grid cell.
OFMC_CANL(NC,4)	FREE	b coefficient for overland flow out of canal within a grid cell.

@ NOTE: Coefficients A and b are used for defining Manning’s n for grid cell to canal surface water interaction: n* = A*H^b, where H=average ponded depth in grid cell.

DETENC_CANL(NC)	FREE	Grid cell ponding depth (ft) below which no surface water−canal interaction is allowed to occur.

@ NOTE: The A and b coefficients and detention depth, defined in the lecdef input file as function of landuse, are used for canals not defined in this section.

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6. CANALS FOR WHICH HEAD DROP IS COMPUTED DAILY: (1 or more records)
FORMAT(A5,2x,2f7.2,4i5,7F5.1)

@ NOTE: KK is a counter of canals for which head drop is computed daily.

1–5	CANAL_NAME_DVSLOPE(KK)	A5	Character string identification of canal for which head drop is computed daily. Needs to match canal name in canal_struc_specs.dat.
6–7	BLANK	2X	
8–14	RMEAN_CNL_BOT_ELEV(KK)	F7.2	Mean canal bottom elevation (ft NGVD).
15–21	FLOW_RESISTVTY_COEF(KK)	F7.2	Manning’s n coefficient for canal flow.
22–26	IXUPSLOPE(KK)	I5	Column location of cell where upstreaam canal segment is located.
27–31	IYUPSLOPE(KK)	I5	Row location of cell where upstreaam canal segment is located.
32–36	IXDNSLOPE(KK)	I5	Column location of cell where downstream canal segment is located.
37–41	IYDNSLOPE(KK)	I5	Row location of cell where downstreaam canal segment is located.

@ NOTE: –901 in any of these fields means that data is not applicable for the calculation of head drop (or slope) of water surface along canal. In this case, head drop along canal would be strictly a function of the canal inflows and outflows and the canal’s resistance to flow (assuming a linear slope and a rectangular canal cross–section). If actual data is input then the head drop along the canal is assumed to be the same as the difference in cell stage at the upstream and downstream ends of canal times a factor (HDROP_FACT(KK) defined below).

42–46	RF_DRAWDWN_DPH0(1,ll) for ll=1	F5.1	Dry season flood control drawdown level (ft NGVD) for heavier rainfall conditions (4 inches in 2 weeks to 6 inches in 2 weeks) during normal operations.
47–51	RF_DRAWDN_DPH0(1,ll) for ll=2	F5.1	Wet season flood control drawdown level (ft NGVD) for heavier rainfall conditions

			(4 inches in 2 weeks to 6 inches in 2) weeks during normal operations.
52−56	RF_DRAWDWN_DPH0(2,ll) for ll=1	F5.1	Dry season flood control drawdown level (ft NGVD)for even heavier rainfall conditions (> 6 inches in 2 weeks) during normal operations.
57−61	RF_DRAWDWN_DPH0(2,ll) for ll=2	F5.1	Wet season flood control drawdown level (ft NGVD)for even heavier rainfall conditions (> 6 inches in 2 weeks) during normal operations.
62−66	HDROP_FACT(KK)	F5.1	Multiplier for canal head drop in terms of head drop defined by the difference in grid cell stages at upstream and downstream ends of canal (e.g. 1.0 means head drop in canal is the same as the drop in grid cell stages between the upstream and downstream ends of canal).
67−71	HDROP_MAX(KK)	F5.1	Maximum allowable simulated head drop in canal, which is comparable to the maximum experienced in the field.
72−76	HDROP_MIN(KK)	F5.1	Minimum allowable simulated head drop in canal, which is comparable to the minimum experienced in the field.

END OF DESCRIPTION FOR INPUT FILE "canal_grid_loc.man"

SCCSID = canal_struc_specs.man v1.2 08/06/03

Prepared by: Michelle M. Irizarry, Raul Novoa, Alaa Ali
Date: 11/22/02
Hydrologic Systems Modeling Division

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SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

canal_struc_specs.dat (previously known as cndta22*)

canal_struc_specs.dat == 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 is 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.

assigned unit number 11 in ALTWMM
read in subroutine:
cnldata.F

*** See water_supply_canal_network.ppt for more information on how to setup the LEC Water Supply Network ***

COLS.	VAR.NAME	FORMAT	DESCRIPTION

1. LIST OF STRUCTURES WITH DOWNSTREAM STAGE TARGETS LIMITING FLOW: (1 or more records)

FREE FORMAT

NO_OF_STRUC_W_DS_TARG_NO_RES
FREE — Number of structures with downstream nodal stage targets as limit to flow.

@ NOTE: The arrays below are defined for K=1,NO_OF_STRUC_W_DS_TARG_NO_RES.

STRUC_NAME_W_TARG(K)	FREE	Character string identification of structure with downstream nodal stage target as limit to flow (max of 6 characters).
FRC_FLOW_TARG(K)	FREE	Fraction of flow released when stage is ABOVE stage target.

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2. LIST OF STRUCTURES SIMULATED BY SPECIAL CODE: (1 or more lines)
FORMAT(I5,2X,20(A6,1X),5(/7X,20(A6,1X)))

1–5	NO_STRUC_SPEC	I5	Number of structures simulated by special code.
6–7	BLANK	2X	

@ NOTE: I is a counter of the number of structures simulated by special code.

8–13	STRNAME_SPEC(I)	A6	Character string identification of structure simulated by special code (max of 6 characters).
14–14	BLANK	1X	

@ NOTE: A maximum of 20 structures can be defined in each line. Input as many lines as needed to define the total number of structures. If more than 20 structures are simulated using special code (NO_STRUC_SPEC>20), the format of the following lines are slightly different (The first 7 columns are blank, 7X).

@ NOTE: The location (index) of a structure name in this array is hardcoded in the SFWMM with the purpose of providing some flexibility in naming structures. Therefore, extreme care should be exercised to keep the structure name at its correct location (i.e. to associate the right structure name with its corresponding index).

@ NOTE: This section is followed by a blank line.

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3. CANAL INFORMATION: (1 record)

FORMAT(A5,1X,2F5.1,5F7.1,2X,A5,4I5,2x,A2)

1–5	CNME	A5	Character string identification of canal (max of 5 characters). Canal name and order should match that of the canal_grid_loc.dat input file.
6–6	BLANK	1X	

@ NOTE: N is a canal counter. I is a season counter.

7–11	HDC(N,I) for I=1	F5.1	Dry season mean head drop (ft) of water surface along the canal from upstream to downstream end.
12–16	HDC(N,I) for I=2	F5.1	Wet season mean head drop (ft) of water surface along the canal from upstream to downstream end.
17–23	WIDTH(N)	F7.1	Average width of canal (ft).
24–30	CHHC(N)	F7.1	Channel hydraulic conductivity (ft/day/ft of head difference).
31–37	CRMIN(N,I) for I=1	F7.1	If canal is NOT a flow–through canal (as specified in the lecdef input file), the specified value is the desired dry season minimum canal stage (ft NGVD) to be maintained by local and/or regional water supply sources; –9.5 means that canal is NOT maintained by the water supply network. If canal acts as flow–through for water supply deliveries to downstream canals (as specified in the lecdef input file), the specified value is the dry season minimum stage (ft NGVD) at which canal may be used as a local source of water for meeting downstream water supply needs. That is, if canal stage is greater than the specified value then local water can be delivered from the canal to maintain downstream canals. However, if canal stage is lower than the specified value, water from the regional system can be delivered through the canal to maintain downstream canals (i.e. if there is a connection to the regional system, inflows into the

			canal flow out immediately). −9.5 means that canal is NOT used as a local source of water.
38−44	CRMIN(N,I) for I=2	F7.1	Equivalent to CRMIN(N,I) for I=1 above, but values are for the wet season.
45−51	BEGSTG(N)	F7.1	Initial stage (ft NGVD) at downstream end of canal.
52−53	BLANK	2X	
54−58	UPSTRM_CANAL_NAME(N)	A5	If there are upstream water supply needs for computation of total water supply needs in the network branch, input the upstream water supply canal. If there are NO upstream water supply needs for computation of total water supply needs in the network branch input 'NOCNL'.
59−63	NBRANCH(N)	I5	Number of downstream branches in the water supply network. If NONE, enter 1. This number must equal the number of downstream canals in the network which list this canal as the upstream water supply canal.
64−68	LCNB(N)	I5	Hydrologic basin identifier of canal. This identifier determines whether canal has surface water interaction with the grid cell(s) through which it passes. If identifier is same as identifier input for grid cell(s) in the statdta file, then surface water interaction exists between the canal and the grid cell. Otherwise, no surface water interaction exists.
69−73	NOUT(N)	I5	Number of outlet structures simulated as fixed crest weirs.
74−78	ISERV_AREA_LOC(N)	I5	Lower East Coast Service Area in which canal is located. If 1: Palm Beach and Northern Broward counties.

			2: Remainder of Broward County. 3: Miami–Dade County.
79–80	BLANK	2X	
81–82	COUNTY_LOC	A2	County in which canal is located: If PB: Palm Beach County. BR: Broward County. DA: Miami–Dade County.

---

4. WEIR INFORMATION: (NOUT(N) records)
FORMAT(A6,2X,A5,2X,2(2i6,1X),F7.2,2F7.1)

@ NOTE: N is a canal counter. I is a counter of fixed crest weirs.

1–6	WEIR_NAME(N,I)	A6	Character string identification of weir (max of 6 characters).
7–8	BLANK	2X	
9–13	CINTO(N,I)	A5	Character string identification of canal receiving discharge from weir (max of 5 characters). If OCEAN: Structure discharges directly to ocean. If LAND: Structure discharges to grid cell.
14–15	BLANK	2X	
16–21	COLPOS_WU(I)	I6	Column location of cell where headwater canal reach is located.
22–27	ROWPOS_WU(I)	I6	Row location of cell where headwater canal reach is located.
28–28	BLANK	1X	
29–34	COLPOS_WD(I)	I6	Column location of cell where tailwater is located. If –901: Weir discharges out of the model grid domain.
35–40	ROWPOS_WD(I)	I6	Row location of cell where tailwater is located. If –901: Weir discharges out of the model grid domain.

41–41	BLANK	1X	
42–48	STRCF(N,I)	F7.2	Discharge coefficient (cfs) if structure is actually a fixed crest weir and discharge data is available. Otherwise, it is simply a calibration coefficient.
49–55	CREL(N,I)	F7.1	Weir crest elevation (ft NGVD). Headwater stage above which discharge occurs.
56–62	GWDTH(N,I)	F7.1	Crest length (ft) which should be less than or equal to canal width.

@ NOTE: Discharge equation is of the following form:
DISCHARGE = DISCGF * CREST LENGTH * (HW − CREST ELEVATION) ** 1.5
WHERE:
HW IS HEADWATER (FT NGVD) AT STRUCTURE

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5. STRUCTURE INFORMATION: (1 record)
FORMAT(3X,I3,6I5)

@ NOTE: N is a canal counter. I is a counter of fixed crest weirs or other structures whose outflow is directly to ocean.

1–3	BLANK	3X	
4–6	NTIDEOUT(N)	I3	Number of simulated fixed crest weirs or other structures whose outflow is directly to ocean.

@ NOTE: Array YCNLNODE(N,I) below is defined and the read format is repeated for I=1,NTIDEOUT(N). Input for last element of YCNLNODE(N,I) ends in column X.

7–11	YCNLNODE(N,I)	I5	Row location of cell where structure discharging directly to ocean is located.
X+1–X+5	NSTRCTR(N)	I5	Number of additional outlet structures simulated whose rating curve is known (source: structure books, personal communication, etc.). @ NOTE: Total number of outlet structures from canal is equal to NOUT(N)+NSTRCTR(N).

---

6. STRUCTURE NAME: (1 record)
FORMAT(A6)

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	STR_ID(N,I)	A6	Character string identification of structure (max of 6 characters).

---

7. GRID LOCATION OF HEADWATER AND TAILWATER: (1 record)
FORMAT(4I6)

@ NOTE: I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	COLPOS_SU(I)	I6	For gravity structures, column location of cell where headwater canal reach is located and at which operations are specified. For pumps, column location of cell along canal at which operations are specified (not necessarily cell immediately upstream of pump).
7–12	ROWPOS_SU(I)	I6	For gravity structures, row location of cell where headwater canal reach is located and at which operations are specified. For pumps, row location of cell along canal at which operations are specified (not necessarily cell immediately upstream of pump).
8–18	COLPOS_SD(I)	I6	Column location of cell where tailwater is located.
19–24	ROWPOS_SD(I)	I6	Row location of cell where tailwater is located.

@ NOTE: −901 in any of these fields means that location is NOT used for structure.

---

8. TYPE OF CODE USED: (1 record)
FORMAT(I6)

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	ISPEC(N,I)	I6	Index for type of code used to simulate

structure.
If 0: general code
1: special code unique to structure

---

9. TYPE OF RECIPIENT OF DISCHARGE FROM STRUCTURE: (1 record)
FORMAT(I6)

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	IRCEIVE(N,I)	I6	Index for type of recipient of discharge from structure. If 1: canal 2: grid cell(s) 3: hydrologic basin

---

10. IDENTIFICATION OF RECIPIENT OF DISCHARGE FROM STRUCTURE: (1 record)
VARIABLE FORMAT DEPENDING ON VALUE OF IRCEIVE(N,I)

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

*IF IRCEIVE(N,I) = 1 (canal receives discharge from structure):
FORMAT(A5)

1–5	CIDNCNL(N,I)	A5	Character string identification of canal receiving discharge from structure (max of 5 characters)

*IF IRCEIVE(N,I) = 2 (grid cell(s) receive discharge from structure):
FORMAT(5X,I3,20I5)

1–5	BLANK	5X	
6–8	NCELLS_REC(N,I)	I3	Number of grid cells receiving discharge from structure.

@ NOTE: The arrays below are defined and the read format is repeated for J=1,NCELLS_REC(N,I).

9–13	IXRCV(N,I,j)	I5	Column location of cell receiving discharge from structure.

14–18	IYRCV(N,I,j)	I5	Row location of cell receiving discharge from structure.

*IF IRCEIVE(N,I) = 3 (hydrologic basin receives discharge from structure):
FORMAT(5X,10I5)

1–5	BLANK	5X	
6–10	IRVBSN(N,I)	I5	Hydrologic basin number receiving discharge from structure. @ NOTE: Number needs to match CBN value in statdta input file.

---

11. PRIORITY FOR WATER SUPPLY DISCHARGES: (1 record)
FORMAT(I6)

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	NPRTY(N,I)	I6	Priority Index for water supply discharges. If 0: Shared adversity. The same percentage of demand is met downstream of each structure. Non–zero: Number in priority list. 1 means structure is first priority in meeting demands downstream from canal. 2 means structure is second priority in meeting demands downstream of canal...

---

12. OPEN/ON CANAL STAGE FOR OPERATING STRUCTURE FOR FLOOD CONTROL PURPOSES:
(1 record)
FORMAT(2F6.2)

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known. J is a season counter.

1–6	RMXSTG(N,I,J) for J=1	F6.2	Dry season stage (ft NGVD) at downstream end of canal, gates (for spillways and gated culverts) are open full or pumps are turned on for flood control purposes.

7–12	RMXSTG(N,I,J) for J=2	F6.2	Wet season stage (ft NGVD) at downstream end of canal, gates (for spillways and gated culverts) are open full or pumps are turned on for flood control purposes.

---

13. CLOSE/OFF CANAL STAGE FOR OPERATING STRUCTURE FOR FLOOD CONTROL PURPOSES:
(1 record)
FORMAT(2F6.2)

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known. J is a season counter.

1–6	RMXSTGS(N,I,J) for J=1	F6.2	Dry season stage (ft NGVD) at downstream end of canal, the gates (for spillways and gated culverts) are closed or pumps are turned off for flood control purposes.
7–12	RMXSTGS(N,I,J) for J=2	F6.2	Wet season stage (ft NGVD) at downstream end of canal, the gates (for spillways and gated culverts) are closed or pumps are turned off for flood control purposes.

---

14. FACTORS LIMITING DISCHARGE FROM STRUCTURE: (1 record)
FORMAT(F6.2,1X,I2,1X,I2,5(2I3,F6.2))

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	RMINHD(N,I)	F6.2	Minimum head difference (ft) across structure for discharge to occur.
7–7	BLANK	1X	
8–9	IDES_CAP_LIMIT(N,I)	I2	Index indicating if structure discharge is limited to capacity. If 0: Discharge from structure is NOT limited to capacity. 1: Discharge from structure is limited to capacity.
10–10	BLANK	1X	
11–12	NDSGLIM(N,I)	I2	Number of downstream grid locations limiting discharge from structure.

@ NOTE: The arrays below are defined and the read format is repeated for J=1,NDSGLIM(N,I).

13–14	IXGLIM(N,I,J)	I3	Column location of downstream grid cell limiting discharge from structure.
15–17	IYGLIM(N,I,J)	I3	Row location of downstream grid cell limiting discharge from structure.
18–23	FL_TRIG_CONSTRT(N,I,J)	F6.2	Stage (ft NGVD) above which discharge from structure would be zero.

@ NOTE: If stage at ANY ONE of NDSGLIM(N,I) locations is ABOVE the threshold, discharge from structure is zero.

---

15. RESERVOIRS RECEIVING DISCHARGE FROM STRUCTURE: (1 record)
FORMAT(I6,2X,5(A6,2X,F5.2,2X,A5,2X,I1,2X,A6,2X))

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	NRES(N,I)	I6	Number of reservoirs receiving discharge from structure.
7–8	BLANK	2X	

@ NOTE: The arrays below are defined and the read format is repeated for IR=1,NRES(N,I).

9–14	RES_NAME_FRM_CNL(N,I,IR)	A6	Character string identification of reservoir receiving discharge from structure (max of 6 characters).
15–16	BLANK	2X	
17–21	PCTRES(N,I,IR)	F5.2	Fraction of discharge through structure entering reservoir.
22–23	BLANK	2X	
24–28	TARG_NAME_BYP_RES(IR)	A5	Name of target area referenced in file stage_import_specs.dat. Used to decide if outflow from structure is routed to reservoir or not.
29–30	BLANK	2X	
31–31	IOPT_TO_DEIVER_BEL_TARG(N,I,IR)	I1	Index indicating criteria for routing outflow from structure to reservoir.

			If 0: Outflow from structure is delivered to reservoir if stage at target location is ABOVE target level. 1: Outflow from structure is delivered to reservoir if stage at target location is BELOW target level.
32–33	BLANK	2X	
34–39	NAME_OF_INFLOW_STRUC_RES(N,I,IR)	A6	Name of inflow structure in reservoir used as limit to discharge from outlet structure.
40–41	BLANK	2X	

---

16. CANALS WHICH HAVE A MAXIMUM STAGE ALLOWED FOR INFLOW OF UPSTREAM FLOOD CONTROL DISCHARGES: (1 record)
FORMAT(I6,2X,5(A5,2X,F7.2,2X))

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	NDSCLIM(N,I)	I6	Number of canals which have a maximum stage allowed for inflow of upstream flood control discharges.
7–8	BLANK	2X	

@ NOTE: The arrays below are defined and the read format is repeated for J=1,NDSCLIM(N,I).

9–13	DS_CANAL_NAME_LIM(N,J)	A5	Character string identification of canal which has a maximum stage allowed for inflow of upstream flood control discharges (max of 5 characters).
14–15	BLANK	2X	
16–22	CNLSTG(N,I,J)	F7.2	Maximum stage (ft NGVD) allowed on canal DS_CANAL_NAME_LIM(N,J) for flood control discharges through STR_ID(N,I) to occur.
23–24	BLANK	2X	

@ NOTE: For S–333 and S–355: L29 stage constraint during wet season.

---

17. NUMBER OF FLOW MANAGEMENT REGIMES FOR EACH STRUCTURE: (1 record)
FORMAT(I6)

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	NCOEFF(N,I)	I6	Number of flow management regimes for each structure which would require different discharge coefficients.

@ NOTE: Additional information is input here for COMBQ (Combination of S–331 and S–173), S–333, S–355 and S–197.

**********START OF ADDITIONAL INPUT FOR COMBQ, S–333, AND S–355**********

A. CELL STAGE TRIGGERS FOR DETERMINATION OF FLOOD CONTROL DISCHARGES: (1 record) FORMAT(I6,2X,5(F6.2,1X))

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	N_TRIGGER_FC(N,I)	I6	Number of cell stage triggers for determination of flood control discharges from structure.
7–8	BLANK	2X	

@ NOTE: The arrays below are defined and the read format is repeated for J=1,N_TRIGGER_FC(N,I).

9–14	STG_TRIGGER_FL(N,I,J)	F6.2	Stages (ft NGVD) at cell trigger location triggering flood control discharges from structure. For COMBQ: Stage triggers at Angel’s Well. S–333: G–3273 stage constraint. S–355: G–3273 stage constraint.
15–15	BLANK	1X	

B. CANAL STAGE TRIGGERS FOR DETERMINATION OF FLOOD CONTROL DISCHARGES: (1 record) FORMAT(I6,2X,5(F6.2,1X))

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1–6	N_STG_MIN_CNL(N,I)	I6	Number of canal stage triggers for determination of flood control discharges from structure.
7–8	BLANK	2X	

@ NOTE: The arrays below are defined and the read format is repeated for
J=1,N_STG_MIN_CNL(N,I).

9-14	STG_MIN_FC(N,I,J)	F6.2	Stages (ft NGVD) at canal trigger location triggering flood control discharges from structure. For COMBQ: Headwater stages used to limit flood control. S-333: Dry season L29 stage constraint. S-355: Dry season L29 stage constraint.
15-15	BLANK	1X	

**********END OF ADDITIONAL INPUT FOR COMBQ, S-333, AND S-355**********

**********START OF ADDITIONAL INPUT FOR S-355**********

A. ADDITIONAL CRITERIA FOR DETERMINATION OF FLOOD CONTROL DISCHARGES THRU S-355:
(1 record)
FREE FORMAT

FRAC_REG_FLOW_NESRS_S355	FREE	Fraction of regulatory releases through S-355 to NESRS when stage at G-3273 is ABOVE threshold.

**********END OF ADDITIONAL INPUT FOR S-355**********

**********START OF ADDITIONAL INPUT FOR S-333**********

A. ADDITIONAL CRITERIA FOR DETERMINATION OF FLOOD CONTROL DISCHARGES THRU S-333/S-334:
(1 record)
FREE FORMAT

FRAC_REG_FLOW_NESRS_S333	FREE	Fraction of regulatory releases through S-333 to NESRS when stage at G-3273 is ABOVE threshold.
IOPT_FOR_REG_RELEASES_S334	FREE	Option for releases thru S-333 and S-334 to help WCA-3A and Sparrow. If 0: NEVER have releases thru S-334. 1: Releases thru S-334 when AT LEAST S-12A is closed. 2: Releases when AT LEAST S-12A and S-12B are closed. 3: Releases thru S-334 when AT LEAST S-12A, S-12B, and S-12C are closed.

		4: Releases thru S334 when AT LEAST S−12A, S−12B, S−12C, and S−12D are closed. 5: UNCONDITIONAL − WCA3A releases thru S−334 regardless of status of S12 structures. 6: Releases thru S−334 when WCA−3A stage is greater then the user specified depth ABOVE bottom of ZONE A and continues until WCA−3A stage is BELOW Zone A regardless of status of S12 structures. @ NOTE: For options 1−4, S−334 is also open when WCA−3A stage is greater then the user specified depth ABOVE bottom of ZONE A and continues until WCA−3A stage is BELOW Zone A even when appropriate S12 structures are open to lessen the chance of excessive high water in WCA−3A toward the end of the wet season.
S333S334RG_OFFSET	FREE	Depth (ft) ABOVE bottom of ZONE A of WCA−3A regulation schedule releases thru S334 occur regardless of status of S−12A, S−12B, S−12C, or S−12D.

B. ADDITIONAL CRITERIA FOR DETERMINATION OF FLOOD CONTROL DISCHARGES THRU S−333/S−334:
(1 record)
FREE FORMAT

IS334_OPEN_FLG	FREE	Option to open S−334 for passing water for benefit of Sparrow. If 0: closed 1: open
FRAC_AVAIL_CAP_S333	FREE	Fraction of remaining S−333 conveyance used to pass additional water that the S12’s cannot pass.
FRAC_AVAIL_CAP_S334	FREE	Fraction of S−333 additional water passed through S−334.

**********END OF ADDITIONAL INPUT FOR S−333**********

**********START OF ADDITIONAL INPUT FOR S-197**********

A. OPTION FOR SIMULATION OF S-197: (1 record)
(5X,A3)

1-5	BLANK	5X	
6-8	EARTH_PLUG_OPT	A3	Option to simulate S-197 with 3 culverts and an earthen plug or with 13 culverts. If YES: S-197 is modeled with 3 culverts and an earthen plug. NO: S-197 is modeled as 13 culverts.

B. CANALS TRIGGERING FLOOD CONTROL DISCHARGES FROM S-197:
(1 record)
(I6,2X,5(A5,1X,I3,2X))

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1-6	N_TRIGGER_FC_CNL(N,I)	I6	Number of canals used to trigger flood control discharges from S-197.
7-8	BLANK	2X	

@ NOTE: The arrays below are defined and the read format is repeated for J=1,N_TRIGGER_FC_CNL(N,I).

9-13	CNL_NAME_FC(J)	A5	Name of canal triggering flood control discharges from S-197.
14-14	BLANK	1X	
15-17	N_TRIG_FOR_OPER(N,I,J)	I3	Number of stage triggers for operation of structure for each canal used for triggering flood control discharges from S-197.
18-19	BLANK	2X	

C. CANAL STAGE TRIGGERS FOR DETERMINATION OF FLOOD CONTROL DISCHARGES:
(N_TRIGGER_FC_CNL(N,I) records total)
(5(F6.2,1X))

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known. J is a counter of the number of canals triggering flood control discharges from S-197. The arrays below are defined and the read format is repeated for K=1,N_TRIG_FOR_OPER(N,I,J)

1-6	STG_TRIG_OPER(N,I,J,K)	F6.2	Stage (ft NGVD) at canal trigger location triggering flood control discharges from structure.
7-7	BLANK	1X	

**********END OF ADDITIONAL INPUT FOR S-197**********

---

18. NUMBER OF COMPONENTS SIMULATED FOR STRUCTURE: (1 record)
FORMAT(I6)

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known.

1-6	NSUBSTR(N,I)	I6	Number of components simulated for structure. Most structures consist of only one component. COMBQ (Combination of S-331 and S-173) is an exception. The combination of S-331 and S-173 contains the S-331 pump, and S-173 which is primarily used for gravity discharge for water supply purposes. Thus, the combination of S-173 and S-331 has 2 components which require input.

---

19. OPERATIONS FOR EACH COMPONENT SIMULATED FOR STRUCTURE: (NSUBSTR(N,I) records)
FREE FORMAT

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known. NS is a counter of components simulated for structure.

IPURPSE(N,I,NS)	FREE	Index for purpose of discharge. If 1: Water Supply only. 2: Flood Control only. 3: Both Water Supply and Flood Control.

@ NOTE: Arrays below are repeated for each flow management regime (for J=1,NCOEFF(N,I)).

IRATING(N,I,NS,J)	FREE	Index for type of structure. If 1: Gated spillway or culvert.

		2: Pump. 3: Culvert with flashboards or structure with impediment to flow other than diameter of pipe or gate opening.
STRDCAP(N,I,NS,J)	FREE	Design capacity of structure (cfs), which MAY OR MAY NOT be upper limit to discharge. @ NOTE: See Section 14 above.
DISCOEF(N,I,NS,J)	FREE	Discharge coefficient (cfs) with gates open full for gated structures, or maximum capacity for pumps.
PWR(N,I,NS,J)	FREE	Exponent used in rating curve equation. Usually 0.5 for gated spillway or culvert.
STGINTKE(N,I,NS,J)	FREE	Intake level (ft NGVD) of structure (used mainly for pumps). Intake level is the lowest headwater stage allowed for discharge, which could be operational or due to hydraulic limitations. @ NOTE: Value should be lower of equal to off level of pump (RMXSTGS(N,I,J)). −901 means intake level is NOT used for structure.

@ NOTE: Discharge equation is of the following form when structure rating is available:

DISCHARGE = DISCHARGE COEFFICIENT * FRAC_GO * (HW − TW) ** EXPON

WHERE:

HW IS HEADWATER (FT NGVD) AT STRUCTURE

TW IS TAILWATER (FT NGVD) AT STRUCTURE

FRAC_GO IS FRACTION OF GATE OPENING

$$= \frac{(\text{HW AT STRUCTURE} - \text{STAGE GATES CLOSED})^{**2}}{(\text{STAGE GATES OPEN FULL} - \text{STAGE GATES CLOSED})^{**2}}$$

@ NOTE: Section 20 below is only input for pumps.

---

20. ADDITIONAL INPUT FOR PUMPS: (NSUBSTR(N,I) records total)
    FORMAT(I6,1X,F6.2,2X,A3) − FOR S−9
    FORMAT(I6,1X,F6.2,I3) − FOR S−356
    FORMAT(I6,1X,F6.2) − OTHER STRUCTURES

@ NOTE: N is a canal counter. I is a counter of additional outlet structures simulated whose rating curve is known. NS is a counter of components simulated for structure.

1–6	INGVHDOPT(N,I,NS)	I6	Option to discharge ONLY if tailwater is greater than headwater. If 1: Pump ONLY if tailwater is greater than headwater 0: Pump REGARDLESS of headwater and tailwater conditions.
7–7	BLANK	1X	
8–13	PUMP_EFFIC(N,I,NS)	F6.2	Pump efficiency.

@ NOTE: Additional fields are input here for S–9 and S–356.

**********START OF ADDITIONAL INPUT FOR S–9**********

14–15	BLANK	2X	
16–18	BACK_SP_PUMP_S9_OPT	A3	Option for S–9 to backpump L–33 and L–37 seepage into WCA–3A. If YES: Seepage into L–33 and L–37 is backpumped into WCA–3A. NO: Seepage into L–33 and L–37 is NOT backpumped into WCA–3A.

**********END OF ADDITIONAL INPUT FOR S–9**********

**********START OF ADDITIONAL INPUT FOR S–356**********

14–16	ISEEP_LIM_S356_OPT	I3	Option to pump ONLY seepage thru S–356. If 1: ONLY pump seepage thru S–356. 0: PUMP all flows thru S–356.

**********END OF ADDITIONAL INPUT FOR S–356**********

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21. NUMBER OF STRUCTURES WITH MONTHLY–VARYING CAPACITY: (1 record)
FREE FORMAT

	NO_STRUC_TVARY	FREE	Number of structures with monthly–varying capacity.

---

22. NAME OF STRUCTURES WITH MONTHLY–VARYING CAPACITY: (NO_STRUC_TVARY records)
FREE FORMAT

	STRUC_TVARY_NAME	FREE	Character string identification of

structure with time-varying capacity.
(max of 6 characters).

---

23. TIME VARYING CAPACITY: (NO_STRUC_TVARY records total)
FREE FORMAT

@ NOTE: The array below is defined and the read format is repeated for IM=1,12.

FRAC_STRUC_CAP(ICANAL_STRUC_VARY,IM)	FREE	Multiplier of structure capacity during month IM.

---

24. NUMBER OF CANALS TO BE MAINTAINED AT SPECIAL LEVELS WHEN WCA'S ARE BELOW FLOOR:
(1 record)
FREE FORMAT

NO_CANL_MIN_MOD_BEL_FLR	FREE	Number of canals to be maintained at lower levels when Water Conservation Areas are BELOW their floor elevation.
MONTH_BEG_MIN_MOD_FLR	FREE	Starting month for maintaining canals at lower levels if WCA's are BELOW floor (1-12).
IDAY_BEG_MIN_MOD_FLR	FREE	Starting day for maintaining canals at lower levels if WCA's are BELOW floor (1-31).
MONTH_END_MIN_MOD_FLR	FREE	Ending month for maintaining canals at lower levels if WCA's are BELOW floor (1-12).
IDAY_END_MIN_MOD_FLR	FREE	Ending day for maintaining canals at lower levels if WCA's are BELOW floor (1-31).

---

25. CANALS AND SPECIAL LEVELS TO BE MAINTAINED WHEN WCA'S ARE BELOW FLOOR:
(NO_CANL_MIN_MOD_BEL_FLR records total)
FREE FORMAT

@ NOTE: IC is a counter of canals to be maintained at lower levels when Water Conservation Areas are BELOW their floor elevation. I is a season counter.

CANL_MIN_MOD_NAME	FREE	Character string identification of canal to be maintained at lower levels when

			WCA's are BELOW floor (max of 5 characters).
	CRMIND_BLFR(IC,I) for I=1	FREE	Desired dry season minimum canal stage (ft NGVD) to be maintained by local and/or regional water supply sources when WCA's are BELOW their floor elevation.
	CRMIND_BLFR(IC,I) for I=2	FREE	Desired wet season minimum canal stage (ft NGVD) to be maintained by local and/or regional water supply sources when WCA's are BELOW their floor elevation.

---

26. NUMBER OF WEIRS WITH SEASONALLY-VARYING CREST ELEVATION: (1 record)
FREE FORMAT

	NREG_SEAS	FREE	Number of fixed crest weirs with seasonally-varying flood control crest elevation.

---

27. WEIRS WITH SEASONALLY-VARYING CREST ELEVATION: (NREG_SEAS records total)
FORMAT(A5,2X,A6,2F6.1)

1-5	CANAL_NAME_REG_SEAS	A5	Character string identification of canal with fixed crest weir with seasonally-varying flood control crest elevation. (max of 5 characters).
6-7	BLANK	2X	
9-13	STRUC_NAME_REG_SEAS	A6	Character string identification of weir (max of 6 characters) with seasonally-varying flood control crest elevation.

@ NOTE: K is a season counter.

14-19	REG(K) for K=1	F6.1	Dry season crest elevation (ft NGVD).
20-25	REG(K) for K=2	F6.1	Wet season crest elevation (ft NGVD).

@ NOTE: Records below list names that cannot be automated for the "B" part of the output DSS file (daily_str_flw.dss) containing simulated flows.

---

28. NUMBER OF SPECIAL CONDITIONS TO OUTPUT: (1 record)

FREE FORMAT

NO_IF_CONDITIONS	FREE	Number of special conditions to output.

29. ADDITIONAL STRUCTURES TO OUTPUT: (NO_IF_CONDITIONS records)
FORMAT(I5,2X,20(A6,1X),10(/7X,20(A6,1X)))

@ NOTE: The format below is repeated for NO_IF_CONDITIONS records. Structure names are listed in a record if certain conditions are met:

RECORD #	Condition to be met for listing structures in record:
1	List unconditionally.
2	If there are STA's in the simulation.
3	If there are STA's in the simulation or BMP Makeup Water Rule is in effect.
4	If EAA runoff is routed to STA-3/4.
5	If L-8 Basin current plumbing system and operation is simulated (ip flag #23 in lecdef input file equals 0).
6	If proposed L-8 Basin plumbing system and operation is simulated (ip flag #23 in lecdef input file equals 1).
7	If Rainfall Plan or NSM-based targets are used for deliveries to Shark River Slough (as specified in lecdef input file).
8	If North Storage is simulated for Lake Okeechobee.
9	If Seminole demands in Big Cypress Basin are simulated.
10	If runoff from any major EAA Basins is diverted to ASR.
.	.....
.	.....
.	.....
NO_IF_CONDITIONS	.....

1-5	NADDSTR	I5	Number of structures that meet criteria above for listing in record.
6-7	BLANK	2X	

@ NOTE: I is a counter of additional structures to output.

8-13	STRNAME(I)	A6	Character string identification of structure (max of 6 characters).
14-14	BLANK	1X	

@ NOTE: A maximum of 20 structures can be listed in each line. Input as many lines as needed to define the total number of structures for the record. If more than 20 structures are listed (NADDSTR>20), the format of the subsequent lines is slightly

different (The first 7 columns are blank, 7X).

---

30. ADDITIONAL STRUCTURES TO OUTPUT IF STA'S RECEIVE INFLOW FROM SOURCE OTHER THAN RESERVOIR: (1 record)
FORMAT(7X,10(A6,1X))

@ NOTE: I is a counter of additional structures to output.

1–7	BLANK	7X	
8–13	STRNAME(I)	A6	Character string identification of structure to list if STA's receive inflow from source other than reservoir in the simulation (max of 6 characters).
14–14	BLANK		

---

31. ADDITIONAL STRUCTURES TO OUTPUT IF THERE ARE INFLOW STRUCTURES TO RESERVOIRS FROM EAA BASINS: (1 or more lines)
FORMAT(I5,2X,20(A6,1X),10(/7X,20(A6,1X)))

@ NOTE: I is a counter of additional structures to output.

1–5	NADDSTR	I5	Number of additional structures to output.
6–7	BLANK	2X	
8–13	STRNAME(I)	A6	Character string identification of structure to list if there are inflow structures to reservoirs from EAA Basins (max of 6 characters).
14–14	BLANK	1X	

@ NOTE: A maximum of 20 structures can be listed in each line. Input as many lines as needed to define the total number of structures. If more than 20 structures are listed (NADDSTR>20), the format of the subsequent lines is slightly different (The first 7 columns are blank, 7X).

---

32. ADDITIONAL STRUCTURES TO OUTPUT: (1 or more lines)
FORMAT(7X,20(A6,1X),10(/7X,20(A6,1X)))

@ NOTE: The format below is repeated for several lines. Structure names are listed in a line if certain conditions are met:

LINE #	Condition to be met for listing structures:
1	If there is environmental water supply from MORE THAN ONE EAA Reservoir.
2	If there are reservoir outlets to the EAA Basin.
3	If runoff from any of major EAA basins is diverted to proposed reservoir(s). or proposed Reservoir/ASR system.
4	If there is recovery from ASR in a reservoir to a canal.

1-7	BLANK	7X	
8-13	STRNAME(I)	A6	Character string identification of structure to list (max of 6 characters).
14-14	BLANK	1X	

@ NOTE: I is a counter of additional structures to output.

@ NOTE: A maximum of 20 structures can be listed in each line.

END OF DESCRIPTION FOR INPUT FILE "canal_struc_specs.dat"

SCCSID = clim_index2.man v1.1 02/15/03

Documentation by: Cary White
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

clim_index2.dat

THIS DATA FILE PROVIDES THE SFWMM MODEL WITH THE ASCII DATA ARRAY OF SEASONAL LOK INFLOWS (million acre−feet) FROM 1914 − 2000

FOR ANY GIVEN SIMULATION AND INCLUDES THE FOLLOWING:
A) THE INITIAL YEAR OF CLIMATE DATA (1914 CURRENTLY)
B) THE YEAR AND 12 CONSECUTIVE SEASONAL INFLOW VALUES FOR EACH MONTH (1914 − 2000)

THIS FILE IS ASSIGNED TO UNIT NUMBER 109 IN THE ALTWMM FILE
AND IS READ UNIT 109 IN SUBROUTINES:
lok_bndry_input_data.F
open_ascii_output_files.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. BEGINNING YEAR OF SEASONAL LOK INFLOWS			
	RECORD 1: FORMAT(4I)		
1	ifyr	I5	BEGINNING YEAR OF CLIMATIC SEASONAL MONTHLY LOK INFLOWS
2. LOK CLIMATIC SEASONAL MONTHLY INFLOWS ARRAY			
	RECORDS 87: FORMAT(4X,12F8.2)		
1−13	climate_index	(4X,12F8.2)	INPUT OF WSE SCHEDULE CLIMATE VARIABLES FOR LOK AND WCA OPERATIONS. YYYY & THE CORRESPONDING JANUARY − DECEMBER MONTHLY VALUES.

END OF DESCRIPTION FOR INPUT FILE "clim_index2.dat" (cwhite 2/3/2003)

SCCSID = drawdown.man v1.1 01/31/03

Prepared by: Michelle M. Irizarry, Danielle Lyons
Date: 9/17/02
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

drawdown.dat

drawdown.dat == ASCII file specifying structural operations and constraints for structures that are used to drawdown canals during pre-storm events.

assigned unit number 136 in ALTWMM
read in subroutine:
cnldata.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. NUMBER OF DAYS OF PRE-STORM DRAWDOWN: (1 record total) FREE FORMAT			
	NDAYS_PRESTORM_DRAWDOWN	FREE	Number of days of pre-storm drawdown. Same value used for all canals. If 0: no pre-storm drawdown (file not used).
2. PRE-STORM DRAWDOWN OPERATIONS: (any number of records) FREE FORMAT			
@ NOTE: IDRWN is a counter of the number of canals with pre-strom drawdown. J is a counter of tailwater constraints.			
	CANAL_NAME_DRAWDOWN(IDRWN)	FREE	Canal name
	STRUC_NAME_DRAWDOWN(IDRWN)	FREE	Name of structure
	RMXSTG_DRAWDOWN(IDRWN)	FREE	Open/on operating criteria during pre-storm drawdown

RMXSTG_DRAWDOWN(IDRWN)	FREE	Close/off operating criteria during pre−storm drawdown
TW_MAX_STRUC_INFLW_DRWDWN(IDRWNIDRWN,J)	FREE	Tailwater constraint(s) (J=1,3) for structure. First value corresponds to TW constraint for canal immediately downstream of structure, second value corresponds to TW constraint 2 reaches downstream of structure, ... If canal stage is higher than value specified, structure will not be operated. −901 means there is no TW constraint during pre−storm operations. This value will only be used if NDSCLIM (# of canals having a maximum stage allowed for inflow of upstream flood control discharges) in canal_struc_specs.dat is greater or equal to 1.

END OF DESCRIPTION FOR INPUT FILE "drawdown.dat"

SCCSID = dual_ops.man v1.1 01/31/03

Prepared by: Michelle M. Irizarry, Danielle Lyons
Date: 9/17/02
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

dual_ops.dat

dual_ops.dat == ASCII file that specifies special (dual) structural operations when regulatory releases are made from WCA−3A to the South Dade Conveyance System.

assigned unit number 157 in ALTWMM
read in subroutine:
cnldata.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. NUMBER OF SPECIAL FLOW CONDITIONS: (1 total record)			
	no_of_flow_cond	FREE	Number of special flow conditions different from normal operations. If 0: No special flow conditions (file not used)

@ NOTE: Sections 3., 4. and 5. are repeated no_of_flow_cond times (one for each special flow condition).

2. NUMBER OF CANALS WITH SPECIAL OPERATIONS FOR FLOW CONDITION no: (1 total record)			
@ NOTE: no is a counter of special flow conditions different from normal operations.			
	ndual_canal_ops(no)	FREE	Number of canals with special operations for flow condition no.
3. SPECIAL OPERATIONS: (ndual_canal_ops(no) total records)			

FREE FORMAT

@ NOTE: no is a counter of special flow conditions different from normal operations; no1 is a counter of canals with special operations for flow condition no.

canal_name_dual_ops	FREE	Source (Upstream) canal name
struc_name_dual_ops(no1,no)	FREE	Name of structure number no1.
rmxstg_dual_ops(no1,no)	FREE	Open/on operating criteria during special operations. A very high value (greater than maximum possible stage at canal) means that structure is not operated under special operations.
rmnstg_dual_ops(no1,no)	FREE	Close/off operating criteria during special operations. A very high value (greater than maximum possible stage at canal) means that structure is not operated during special operations.
canal_dest_name_dual_ops	FREE	Destination (Downstream) canal name NOCNL means structure does not discharge into a canal. In this case, the next two values (col, row of destination cell) are required.
ndual_col_dest(no1,no)	FREE	Column number of destination cell. −901 means that destination is a canal. In this case, the previous value (name of destination canal) is required.
dual_row_dest(no1,no)	FREE	Row number of destination cell. −901 means that destination is a canal. In this case, the previous value (name of destination canal) is required.

END OF DESCRIPTION FOR INPUT FILE "dual_ops.dat"

SCCSID = eaa_canal_profiles.man v1.1 02/15/03

Prepared by: Lehar Brion, Cary White
Date: 02/03/03
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

eaa_canal_profiles == 2-way look-up table that defines water surface profles for the major EAA conveyance canals in terms of downstream stage-upstream stage and discharge;
(unit no. 13) read in subroutine gen_model_def_param_data from source file gen_model_def_param.F)

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

COLUMNS	VARIABLE NAME	FORMAT	DESCRIPTION
1. NUMBER OF CANAL REACHES: (1 record total)			
1-5	nreach	I5	number of EAA canal reaches where water surface profiles will be defined; equal to nine (for now)
	note: Set of records 2 through 4 is read in nreach times.		
2. WATER SURFACE PROFILE DEFINITION: (1 record total)			
1-5	ireach	I5	reach number
6-10	ntws(ireach)	I5	number of canal downstream/tailwater stages to read in
11-15	n_eaaflows(ireach)	I5	number of (steady-state) discharge values to read in
	note: Set of records 3 and 4 is read in for j = 1, ntws(ireach) times.		
3. DOWNSTREAM STAGE DATA: (1 record total)			
1-10	dsstage(j,ireach)	F10.0	canal downstream/tailwater stage (ft NGVD) for canal reach "ireach"
	note: Record 4 is read in for i = 1,n_eaaflows(ireach) times.		
4. DISCHARGE AND UPSTREAM STAGE DATA: (n_eaaflows(ireach) records total)			

1–10	eaaflow(i,j,ireach)	F10.0	(steady–state) discharge (cfs)
11–20	usstage(i,j,ireach)	F10.0	canal upstream/headwater stage (ft NGVD) corresponding to (steady–state) discharge eaaflow(i,j,ireach) and canal downstream/tailwater stage dsstage(j,ireach)

note: Typically, ireach = 1,2,3 and 4 are used for a no–STA simulation while ireach = 5,6,7,8 and 9 are used for a with–STA simulation.

note: Since the look–up table is monotonic, the 2–way interpolation routine associated with it expects dsstage() and usstage() to change (increase decrease) in the same direction as they are defined in this file.

Additional notes:

The current EAA reaches defined in this input file are:

ireach	upstream	downstream	description
1	S354_hw	S8_tw	canal reach along the Miami canal between S354 and S8 (about 26.2 miles long)
2	S351_hw	S7_tw	canal reach along the North New River canal between S351 and S7 (about 28.6 miles long)
3	S351_tw	S6_hw	canal reach along the Hillsboro canal between S351 and S6 (about 23.7 miles)
4	S352_tw	S5A_hw	canal reach along the West Palm Beach canal between S352 and S5A (about 20.8 miles long)
5	S354_tw	S8NEW_hw	canal reach along the upper Miami canal between S354 and location of STA diversion structure (referred to as S8NEW) (about 19.3 miles long)
6	S351_tw	S7NEW_hw	canal reach along the upper North New River canal between S351 and location of STA diversion structure (referred to as S7NEW) (about 24.6 miles long)
7	S351_tw	S6_hw	canal reach along the Hillsboro canal (with revised cross–sections) between S351 and S6 (about 23.7 miles long)
8	S8NEW_tw	S8_hw	canal reach along the lower Miami canal between location of STA diversion structure (referred to as S8NEW) and S8 (about 6.9 miles long)
9	S7NEW_tw	S7_hw	canal reach along the lower North New River canal between location of STA diversion structure (referred to as S7NEW) and S7 (about 4.0 miles long)

SCCSID = gen_model_def_param.man v1.1 02/15/03

Documentation by: Cary White
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT FILE DOCUMENTATION

"gen_model_def_param.dat"

THIS DATA FILE PROVIDES THE SFWMM MODEL WITH THE REQUIRED DEFINITION PARAMETER DATA
FOR ANY GIVEN SIMULATION AND INCLUDES THE FOLLOWING:
A) SIMULATION STARTING & ENDING YEARS AND MONTHS
B) MODEL DOMAIN SIZE (NUMBER OF ROWS & TOTAL NUMBER OF CELLS FOR SFWMM & NSM)
C) GRID SPACING (MILES IN NORTH-SOUTH AND EAST-WEST ORIENTATION)
D) TIME STEP INTERVALS (MODEL TIME STEP AND OVERLAND FLOW TIME STEPS)
E) MODE OF OPERATION (CALIBRATION OR SIMULATION)
F) TYPE OF SIMULATION (CURRENT OPERATIONS OR FUTURE OPERATIONS)
G) LP FLAGS FOR VARIOUS PRINTING & OUTPUT OPTIONS

THIS FILE IS ASSIGNED TO UNIT NUMBER 112 IN THE ALTWMM FILE
AND IS READ UNIT 112 IN SUBROUTINE GEN_MODEL_RUN_DEF_PARAM.F

5 10 5 20 5 30 5 40 5 50 5 60 5 70 5 80 5 90 5 100 5 110

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. SIMULATION START AND END DATES			
	RECORD 1: FORMAT(4I5)		
1	ifyr	I5	Beginning Year of Simulation
2	ibm	I5	Beginning Month of Simulation
3	iENDyr	I5	Ending Year of Simulation
4	ilastm	I5	Ending Month of Simulation
2. MODEL DOMAIN SIZE			
	RECORD 1: FORMAT(3I5)		
1	maxy	I5	Maximum number of rows in SFWMM model domain

2	maxy_nsm	I5	Maximum number of rows in NSM model domain
3	max_cells	I5	Maximum number of cells in SFWMM domain

---

3. MODEL GRID SPACING

RECORD 1: FORMAT(2F5.0)

1	xspc	F5.0	EAST-WEST GRID SPACING IN MILES
2	yspc	F5.0	NORTH-SOUTH GRID SPACING IN MILES

---

4. MODEL TIME STEP

RECORD 1:FORMAT(F5.1)

1	DT	F5.1	NUMBER OF TIME STEPS IN DAYS

---

5. OVERLAND FLOW TIME STEP

RECORD 1:FORMAT(I4)

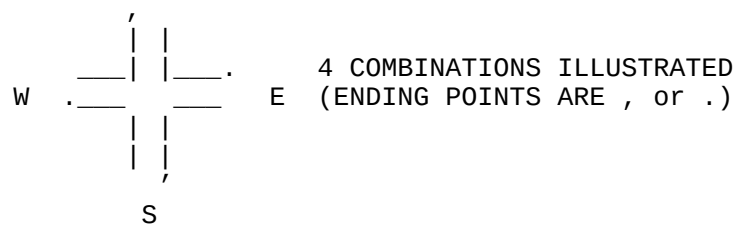
1	ntstep_ov	I4	NUMBER OF DAILY TIME STEPS FOR OVERLAND FLOW

---

6. NUMBER OF COMBINATIONS COMPUTING OVERLAND FLOW

RECORD 1:FORMAT(I4)

1	max_nca_ov	I4	NUMBER OF COMBINATIONS USED TO NUMERICALLY COMPUTE OVERLAND FLOW IN MODEL DOMAIN (1-4; 4 RECOMMENDED) ** N-->S & W-->E || E-->W & N-->S || S-->N & E-->W || W-->E & S-->N



** Indicates the path in which overland is calculated (e.g. N-->S & W-->E is overland flow from N to S & then W to E)

---

7. SIMULATION MODE

RECORD 1:FORMAT(A5)

1	runmode	A5	MODE OF SIMULATION: CALIB;calibration run or SIMUL;simulation run

---

8. SIMULATION TYPE

RECORD 1:FORMAT(A7)

1	typerun	A7	SIMULATION TYPE: PRESENT; current operations or variants thereof FUTURE; future Base case or proposed operations with requiring projected land use, demands, flow targets, and/or boundary flows

COLS.	VAR.NAME	FORMAT	DESCRIPTION

---

9. LP FLAGS; REINITIALIZATION OPTION ; REINITIALIZATION MONTH; REINITIALIZATION FREQUENCY

RECORD 1:FORMAT(9I4)

1	npopts	I4	NUMBER OF LP FLAGS INPUT (primarily for printing)
2	initialize_annually_opt	I4	OPTION TO RE−INITIALIZE LOK STAGES & WATER LEVELS DURING SIMULATION [0 = NO ; 1 = YES]
3	ibm_initc	I4	MONTH OF RE−INITIALIZATION [1 − 12]
4	ifreq_init	I4	FREQUENCY OF RE−INITIALIZATION [1 = every year ; 2 = every 2 years ; ETC.]
5−9	NOT USED	I4	NOT USED CURRENTLY

---

10. STARTING TIME FOR RAINFALL & ET−RECHARGE

RECORD 1:FORMAT(2I5,I3)

1	isyr	I5	STARTING YEAR FOR RAINFALL
2	isyretbin	I5	STARTING YEAR FOR ET−RECHARGE DATA
3	ism	I3	STARTING MONTH FOR ALL TIME DEPENDENT DATA

11. OPTIONS TO ESTIMATE AGRICULTURAL/URBAN DEMANDS & RF DRIVEN OPS

RECORD 1:FORMAT(*)

1	use_lec_et	*	LEC ET MODULE SWITCH
2	use_trigger	*	TRIGGER MODULE SWITCH
3	wca_import_variation	*	IDENTIFICATION OF STAGE TARGET VARIATIONS IN WCAs OR ELSEWHERE (OPTIONS BELOW): CONST [stage targets are fixed (time independent)] DAILY [stage targets are input daily]

12. MODEL GRID DOMAIN BOUNDARIES FOR SFWMM & NSM

RECORDS 1-5:FORMAT(14I3)

1-14	minx (minx(i),i=1,maxy)	14I3	MINIMUM COLUMN NUMBER IN MODEL DOMAIN FOR ROWS 1 TO MAXY

RECORDS 1-5:FORMAT(14I3)

1-14	maxx (maxx(i),i=1,maxy)	14I3	MAXIMUM COLUMN NUMBER IN MODEL DOMAIN FOR ROWS 1 TO MAXY

RECORDS 1-5:FORMAT(14I3)

1-14	minx_nsm (minx_nsm(i),i=1,maxy_nsm)	14I3	MINIMUM COLUMN NUMBER IN NSM MODEL DOMAIN FOR ROWS 1 TO MAXY_NSM

RECORDS 1-5:FORMAT(14I3)

1-14	minx_nsm (maxx_nsm(i),i=1,maxy_nsm)	14I3	MAXIMUM COLUMN NUMBER IN NSM MODEL DOMAIN FOR ROWS 1 TO MAXY_NSM

RECORDS 1-5:FORMAT(14I3)

1-14	MXOV (MXOV(I),I=1,MAXY)	14I3	MAXIMUM COLUMN IN MODEL DOMAIN FOR WHICH OVERLAND FLOW IS COMPUTED FOR ROWS 1 TO MAXY

13. LP FLAGS FOR PRINTING OUTPUT

RECORDS 1-15:FORMAT(I2)

COL	FLAG_NUMBER	FORMAT	DESCRIPTION

```
FOLOWING DATA ARE IP/LP FLAGS (1 = TRUE,0 = FALSE) used to control
model input/output options (single dependency):
-------------------------------------------------------------------------------------------------------------------
1      ip(1)       i2           read a restart file (reads restart_output,unit 55)
1      ip(2)       i2           print stage, ponding and canal stage for the last day of simulation to be
1      ip(3)       i2           print end-of-month stage,ponding,max monthly stages to ascii file
                                (creates mthly_key_output.dat)
1      ip(4)       i2           print inundation frequencies to ascii file (creates mthly_key_output.dat)
1      ip(5)       i2           print static input data (creates echo_grid_statdta.dat)
1      ip(6)       i2           print yearly canal budget summaries (creates ann_canal_bud.dat)
1      ip(7)       i2           print monthly canal budget summaries (creates mthly_canal_bud.dat)
1      ip(8)       i2           print daily canal stages (creates daily_canal_stg.dat)
1      ip(9)       i2           print daily levee seepage values (creates daily_levee_spg.dat)
1      ip(10)      i2           print daily LOK ET (creates daily_lok_et.dat)
1      ip(11)      i2           print mean number of days per year volume limit for overland flow is reached
                                (creates ann_excess_ovlf_vol_lim.dat)
1      ip(12)      i2           print passive weir flow in Everglades (creates daily_weirflow.dat)
1      ip(13)      i2           Not currently used (place holder for future changes)
1      ip(14)      i2           Not currently used (place holder for future changes)
1      ip(15)      i2           Not currently used (place holder for future changes)
-------------------------------------------------------------------------------------------------------------------
FOLOWING DATA ARE IP/LP FLAGS (1 = TRUE,0 = FALSE) used to control
model input/output options (inter dependency):

        RECORDS 16-25:FORMAT(i2)
        ------------------------
1      ip(16)      i2           ip(16): print end-of-month stages
1      ip(17)      i2           ip(17): print end-of-month ponding
1      ip(18)      i2           ip(18): print monthly total evapotranspiration
1      ip(19)      i2           ip(19): print daily information instead of end_of_month (including some binary files).
                                        Information used
1      ip(20)      i2           ip(20): print monthly volumes of surface and groundwater that flows to neighboring nodes
                                        to the east and to the south
1      ip(21)      i2           ip(21): output daily total et (daily_total_et.bin)
1      ip(22)      i2           ip(22): print monthly output to binary files
1      ip(23)      i2           ip(23): print daily summary of water supply deliveries at major structures
                                        (daily_ws_str_capac_flw.dat)
1      ip(24)      i2           ip(24): output overland flow (runoff) to canal on a monthly basis for all grid cells to
                                        binary file ovlflw_to_cnl.bin
1      ip(25)      i2           ip(25): print daily information instead of end_of_month (including some binary files).
                                         Information used

-------------------------------------------------------------------------------------------
END OF DESCRIPTION FOR INPUT FILE "gen_model_def_param.dat" (cwhite, lcadavid 2/5/2003)
-------------------------------------------------------------------------------------------
```

SCCSID = gen_nodal_dep_struc.man v1.1 02/15/03

Prepared by: Jenifer Barnes, Angela Montoya, Danielle Lyons
Date: 12/3/02
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

gen_nodal_dep_struc.dat == This file contains input data for structures simulated in ROUTE subroutine. ROUTE subroutine computes discharges for structures 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.
(unit no. 101; 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*)

Nomenclature:
STA = Stormwater Treatment Area

COLS	VAR NAME	FORMAT	DESCRIPTION
1. NUMBER OF STRUCTURES SIMULATED IN ROUTE SUBROUTINE			
-	ncalcpt	free	total number of structures simulated in ROUTE subroutine
2. NUMBER OF STRUCTURES WITH SPECIAL CODE AND NAMES FORMAT(i3,2x,30(a6,1x))			
1-5	no_struc_spec_code	i3,2x	number of structures with special code or name is referenced in the model (includes ALL appropriate structures that can be simulated by the model, not just the structures included in any one simulation; any NEW structure with special code added to route.F would have to be added to this list at the end)
	struc_name_spec_code(i)	a6,1x	names of structures with special code

(i= 1, no_struc_spec_code)

NOTE: Records 3 through 15 are repeated for each structure simulated in ROUTE subroutine, i.e., index=1, ncalcpt

---

3. INPUT DATA OPTION FOR STRUCTURE
FORMAT(3(a6,1x))

−	struc_name_sim(index)	a6,1x	character id of structure (max 6 characters)
−	add_data_need_opt	a6,1x	option indicating if additional data needs to be input (DATA−need additional data, NODATA−no additional data)
−	cictsta	a6,1x	name of STA flow (NOSTA means that flows are not routed to STA)

NOTE: Records 4 Through 15 are read in only if additional data need to be input for a specific structure, i.e., add_data_need_opt = DATA

---

4. CODE OPTION FOR STRUCTURE, DISCHARGE COEFFICIENT AND EXPONENT USED IN DISCHARGE EQUATION

−	icode(index)	free	option for code used (GEN − general code which applies to all GEN structures, or SPC − special code unique to structure)
−	dischg_c(index)	free	discharge coefficient
−	expon(index)	free	exponent used in discharge coefficient
−	type_flow_s(index)	free	option for discharge equation used

GRAV− discharge = dischg_c(index)*(headwater−tailwater)*expon(index)
PUMP− discharge = dischg_c(index)

---

5. OPTION FOR HEADWATER

−	ihw_opt(index)	free	option for headwater (1− headwater is a grid cell, otherwise is a canal)

NOTE: Record 6 is read in only if the headwater of the structure is a grid cell, i.e., ihw_opt(index) = 1

---

6. LOCATION OF HEADWATER GRID CELL

−	ihw_col(index)	free	column number of grid cell
−	ihw_row(index)	free	row number of grid cell

NOTE: Record 7 is read in only if the headwater of the structure is a canal, i.e., ihw_opt(index) /= 1

---

7. HEADWATER CANAL NAME

FORMAT (a5)

-	iup_canal_name(index)	a5	canal name (5 characters)

8. OPTION FOR TAILWATER

-	itw_opt(index)	free	option for tailwater (1 – tailwater is a grid cell, otherwise, a canal)

NOTE: Record 9 is read in only if the tailwater of the structure is a grid cell, i.e., ihw_opt(index) = 1

9. LOCATION OF TAILWATER GRID CELL

-	itw_col(index)	free	column number of grid cell
-	itw_row(index)	free	row number of grid cell

NOTE: Record 10 is read in only if the tailwater of the structure is a canal, i.e., ihw_opt(index) /= 1

10. TAILWATER CANAL NAME
FORMAT (A5)

-	idn_canal_name(index)	a5	canal name (5 characters)

11. BREAKPOINTS IN NODAL STAGES USED IN CALCULATING DISCHARGE

-	n_bkpts	free	number of breakpoints in nodal stages used in calculating discharge
-	stg_bkpt(index,i)	free	breakpoint #i stage (ft NGVD) (i=1,n_bkpts)

12. BREAKPOINTS IN CANAL STAGES USED IN CALCULATING DISCHARGE

-	n_cbkpts	free	number of breakpoints in canal stages used in calculating discharge
-	cstg_bkpt(index,i)	free	breakpoint #i canal stage (ft. NGVD) (i=1,c_bkpts)

13. ADDITIONAL CANALS USED AS TRIGGERS FOR OUTFLOW

-	n_add_can_dep(index)	free	number of additional canals used as triggers for outflow
-	add_can_dep_id(i)	free	names of the canal #i (i=1, n_add_can_dep(index))

14. ADDITIONAL GRID CELL LOCATIONS USED AS TRIGGERS FOR OUTFLOW

```
-       n_add_grid_loc(index)   free            number of additional grid cell locations
                                                used as triggers for outflow

NOTE:   The following two fields are repeated for each additional grid cell,
        i.e., i=1, n_add_grid_loc(index)

-       icol_add(i)             free            column number of grid cell #i
-       irow_add(i)             free            row number of grid cell #i
-------------------------------------------------------------------------------
15. ADDITIONAL STRUCTURES WHOSE OUTFLOW HELP TO DICTATE THE OUTFLOW OF STRUCTURE
-------------------------------------------------------------------------------
-       n_add_str_dep(index)    free            number of additional structures whose
                                                outflow helps dictate the outflow of
                                                structure
-       add_str_dep_id(i)       free            name of additional structure #i
                                                (i=1, n_add_str_dep(index))
-------------------------------------------------------------------------------
END OF DESCRIPTION FOR INPUT FILE "gen_nodal_dep_struc.dat"
-------------------------------------------------------------------------------
```

SCCSID = import_nsm45.man v1.1 02/15/03

Documentation by: Alaa Ali
Date Created: 29 October, 2002
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

stage_import.nsm45 = Stage Target time series at all locations potentially used for rainfall driven operations (unit no. 84) read in gen_model_def_param.dat

COLUMNS	VARIABLE NAME	FORMAT	DESCRIPTION
1. STARTING YEAR OF STAGE TARGET TIME SERIES			
..-..	ibeg_yr_stg_targ	Free	The starting year of stage target time series
2. STAGE TARGET TIME SERIES FOR 'ngrid_cells_daily_total' LOCATIONS A RECORD FOR EACH DAY FROM THE JANUARY/1/ibeg_yr_stg_targ THROUGH JANUARY/1/2000 'ngrid_cells_daily_total' IS READ FROM stage_import_input file			
2.1 ENTRIES ON JANUARY/1/ibeg_yr_stg_targ			
1-11	non read date	11X	Reserved for date entry (Year, Month, day) that is never read by the code
12-17	daily_stg_import_wca(1)	F6.0	Stage target on JANUARY/1/ibeg_yr_stg_targ for location #1
18-23	daily_stg_import_wca(2)	F6.0	Stage target on JANUARY/1/ibeg_yr_stg_targ for location #2
	*		
	*		
..-..	daily_stg_import_wca(ngrid_cells_daily_total)	F6.0	Stage target on JANUARY/1/ibeg_yr_stg_targ for location #ngrid_cells_daily_total
2.2 ENTRIES ON JANUARY/2/ibeg_yr_stg_targ			
1-11	non read date	11X	Reserved for date entry (Year, Month, day) that is never read by the code
12-17	daily_stg_import_wca(1)	F6.0	Stage target on JANUARY/2/ibeg_yr_stg_targ for location #1
18-23	daily_stg_import_wca(2)	F6.0	Stage target on JANUARY/2/ibeg_yr_stg_targ for location #2
	*		
	*		
..-..	daily_stg_import_wca(ngrid_cells_daily_total)	F6.0	Stage target on JANUARY/2/ibeg_yr_stg_targ for location

```
                                                    #ngrid_cells_daily_total
-------------------------------------------------------------------------------------------------------------------
                                                                  *
                                                                  *
                                                                  *
                                                                  *
-------------------------------------------------------------------------------------------------------------------
2.... ENTRIES ON DECEMBER/30/2000
-------------------------------------------------------------------------------------------------------------------
1-11    non read date                   11X           Reserved for date entry (Year, Month, day) that is never
                                                      read by the code
12-17   daily_stg_import_wca(1)         F6.0          Stage target on DECEMBER/30/2000 for location #1
18-23   daily_stg_import_wca(2)         F6.0          Stage target on DECEMBER/30/2000 for location #2
                *
                *
..-..   daily_stg_import_wca(
        ngrid_cells_daily_total)        F6.0          Stage target on DECEMBER/30/2000 for location
                                                      #ngrid_cells_daily_total
-------------------------------------------------------------------------------------------------------------------
2.... ENTRIES ON DECEMBER/31/2000
-------------------------------------------------------------------------------------------------------------------
1-11    non read date                   11X           Reserved for date entry (Year, Month, day) that is never
                                                      read by the code
12-17   daily_stg_import_wca(1)         F6.0          Stage target on DECEMBER/31/2000 for location #1
18-23   daily_stg_import_wca(2)         F6.0          Stage target on DECEMBER/31/2000 for location #2
                *
                *
..-..   daily_stg_import_wca(
        ngrid_cells_daily_total)        F6.0          Stage target on DECEMBER/31/2000 for location
                                                      #ngrid_cells_daily_total
-------------------------------------------------------------------------------------------------------------------
END OF DESCRIPTION FOR INPUT FILE "import_nsm45.man"
-------------------------------------------------------------------------------------------------------------------
```

SCCSID = known_flow_route_specs.man v1.1 02/15/03

Documentation by: Angela Montoya, Danielle Lyons, Jennifer Barnes
Date Created: 12 December, 2002
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT FILE DOCUMENTATION
"known_flow_route_specs.man"
Previously known as kflpts2

This file contains the known flow specification data. These data are used to route measured (historical) discharges or simulated discharges computed in route, lake_reg_wca, lake_nonreg_wca and wcaout 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 lecdef file. Next the structures input in gen_nodal_dep_struc.dat file (for route, lake_reg_wca and lake_nonreg_wca subroutines) and caoflpts (for wcaout 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 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. (unit no. 22; read in subroutine KNFLOWS of cnldata.F)

Nomenclature:
WCA=Water Conservation Area
LEC=Lower East Coast
SA=Service Area

COLS	VAR NAME	FORMAT	DESCRIPTION
NOTE:	Set of records 1. Through ??. is repeated for each structure, i.e., i=1, nflpts (number of flow points from lecdef)		
1. STRUCTURE IDENTIFICATION AND CHARACTERISTICS−format (A6,2x,6i5)			
1−6	fnm	a6	structure identification (max 6 characters)
7−8	blank	2x	
9−13	iroute_opt(i)	i5	flow option: 0 − special code 1 − to a grid cell, 2 − to a canal

3 – grid cell to grid cell
4 – grid cell to canal
5 – canal to grid cell
6 – canal to canal
7 – basin to canal
8 – basin to grid cell

NOTE: Options 7 and 8 are reserved for structures routing water to/from agricultural basins

14–18	no_of_down_strm_loc(i)	i5	number of destination points of flow

NOTE: The following data (headwater and tailwater location) are used in determining the position along the reach from which water is discharged and the position along the reach to which the discharge is routed. This information is needed in determining head drop (or slope) of water surface along the major canals for every time step.

19–23	colpos_ku(i)	i5	column number of grid cell immediately upstream (headwater location) of structure, use –901 to indicate a null value
24–28	rowpos_ku(i)	i5	row number of grid cell immediately upstream (headwater location) of structure, use –901 to indicate a null value
29–33	colpos_kd(i)	i5	column number of grid cell immediately downstream (tailwater location) of structure, use –901 to indicate a null value
34–38	rowpos_kd(i)	i5	row number of grid cell immediately downstream (tailwater location) of structure, use –901 to indicate a null value

NOTE: Data input for the following records depend on the flow option for the structure. The number of records corresponds to number of destination points.
NOTE: The boundary inflow structures, structures listed in gen_nodal_dep_struc.dat, and structures using special code ,as well as s11 structures,if simulated, in caoflpts file are included in this file. the boundary inflow structures and/or other structures using measured flows are listed first in the order the structure names are input in lecdef file. next the structures input in gen_nodal_dep_struc.dat file are listed in this file in the order in which they are input. lastly,the appropriate structures described earlier from the caoflpts 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 subroutine.

---

2. CHARACTERISTICS OF FLOW DESTINATION FOR STRUCTURES WITH SPECIAL CODE (iroute_opt(i)=0)

–	canl_id	free	canal that water is distributed to if

```
                                        iroute_opt(i) = 0
-       canl_id1                free    canal that water is distributed to if
                                        iroute_opt(i) = 0
-       canl_id2                free    canal that water is distributed to if
                                        iroute_opt(i) = 0
-       canl_id3                free    canal that water is distributed to if
                                        iroute_opt(i) = 0

NOTE:   The following record is read in only if flow routing option (iroute_opt(i)) /= 0
--------------------------------------------------------------------------------
3. CHARACTERISTICS OF FLOW DESTINATION FOR STRUCTURES WITH OPTION 1 THROUGH 8
--------------------------------------------------------------------------------
        kfl(ii,3)               free    column number of destination of flow if
                                        iroute_opt(i) = 1
        kfl(ii,4)               free    row number of destination of flow if
                                        iroute_opt(i) = 1
        canl_id                 free    character identification of canal destination if
                                        iroute_opt(i) = 2
        kfl(ii,3)               free    column number of flow source if iroute_opt(i) = 3
        kfl(ii,4)               free    row number of flow source if iroute_opt(i) = 3
        kfl(ii,5)               free    column number of flow destination if
                                        iroute_opt(i) = 3
        kfl(ii,6)               free    row number of flow destination if
                                        iroute_opt(i) = 3
        kfl(ii,3)               free    column number of flow source if
                                        iroute_opt(i) = 4
        kfl(ii,4)               free    row number of flow source if iroute_opt(i) = 4
        canl_id                 free    name of destination canal if iroute_opt(i) = 4
        canl_id                 free    name of source canal if iroute_opt(i) = 5
        kfl(ii,4)               free    column number of flow destination if
                                        iroute_opt(i) = 5
        kfl(ii,5)               free    row number of flow destination if
                                        iroute_opt(i) = 5
        canl_id                 free    name of source canal if iroute_opt(i) = 6
        canl_id2                free    name of desination canal if iroute_opt(i) = 6
        kfl(ii,3)               free    hydrologic basin number assigned to basin
                                        (e.g. 7 for miami canal basin in eaa) if
                                        iroute_opt(i) = 7
        canl_id                 free    name of destination canal if iroute_opt(i) = 7
        kfl(ii,5)               free    option for direction of flow in destination canal
        kfl(ii,3)               free    hydrologic basin number assigned to basin
                                        (e.g. 7 for miami canal basin in eaa) if
                                        iroute_opt(i) = 8
        kfl(ii,4)               free    column number of flow destination if
                                        iroute_opt(i) = 8
        kfl(ii,5)               free    row number of flow destination if
                                        iroute_opt(i) = 8
--------------------------------------------------------------------------------
```

END OF DESCRIPTION FOR INPUT FILE "known_flow_route_specs.man"

SCCSID = levee_spg_input.man v1.1 02/19/03

Documentation by: Raul Novoa, Ray Santee
Date Created: 3 February, 2003
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT FILE DOCUMENTATION

"levee_spg_input.dat"

SPECIFICATION FILE FOR COMPUTATION OF LOCALIZED SEEPAGE UNDERNEATH LEVEES
AND DEFINITION OF GROUNDWATER CURTAIN WALL COMPONENTS

INPUT FILE UNIT NO. 104 IS READ IN SUBROUTINE CNLDATA.F

COLS.	VARIABLE_NAME	FORMAT	DESCRIPTION

1. NUMBER OF LEVEES AND CORRESPONDING NAMES

RECORD 1: FORMAT(I5,2X,20(A5,1X))

1–5	nlevs	I5	total number of levees simulated in model
6–7	blank	2X	

*** NOTE: THE FOLLOWING TWO FIELDS ARE REPEATED ON THE SAME RECORD FOR EACH LEVEE (i=1,nlevs) ***

8–12	rlist_lvname(i=1)	A5	levee name
13	blank	1X	

2. LEVEE DEFINITIONS

*** NOTE: INPUT IN THIS SECTION IS REPEATED SEQUENTIALLY FOR EACH LEVEE (k=1,nlevs) ***

RECORD 1: FORMAT(5X,A5)

1–5	blank	5X	
6–7	lvname(k)	A5	name of levee

RECORD 2: FORMAT(I5,5F7.2)

*** NOTE: kk IS SET TO INDEX OF lvname(k) IN rlist_lvname 1–D ARRAY ***

1–5	lvnodes(kk)	I5	number of levee segments
6–12	srate(kk,1)	F7.2	B1 coefficient in levee seepage equation
13–19	srate(kk,2)	F7.2	B2 coefficient in levee seepage equation
20–26	srate(kk,3)	F7.2	B0 coefficient in levee seepage equation
27–33	srate_frac(kk)	F7.2	fraction of levee seepage rate applied
34–40	rate_limit(kk)	F7.2	maximum levee seepage rate

NOTE: LEVEE SEEPAGE (CFS/MILE/FT.HEAD DIFF) = B1*H1 + B2*H2 + B0

H1 = HEAD DIFFERENCE BETWEEN BORROW CANAL ON APPROPRIATE SIDE OF LEVEE AND ADJACENT GRID CELL ON THE OTHER SIDE OF LEVEE
H2 = HEAD DIFFERENCE BETWEEN ADJACENT GRID CELL ON ONE SIDE OF LEVEE AND ADJACENT GRID CELL ON THE OTHER SIDE OF LEVEE

IF NO BORROW CANAL EXISTS ON EITHER SIDE OF LEVEE, THEN
H1 = HEAD DIFFERENCE BETWEEN ADJACENT GRID CELL ON ONE SIDE OF LEVEE AND ADJACENT GRID CELL ON THE OTHER SIDE OF LEVEE ; B2=0 ; B0=0

B1, B2, AND B0 ARE COEFFICIENTS OF REGRESSION EQUATION GENERATED BY SEEPN PROGRAM AND THEN ADJUSTED IN CALIBRATION PROCESS

RECORD 3: FORMAT(3I4,2X,A5,2X,A5,1X,3I4)

NOTE: INPUT FOR RECORDS 3–5 IS REPEATED SEQUENTIALLY FOR EACH SEGMENT IN LEVEE (il=1,lvnodes(kk)). l IS SET TO 1 FOR 1ST SEGMENT OF 1ST LEVEE AND INCREMENTED BY 1 FOR EACH ADDITIONAL SEGMENT IN EACH ADDITIONAL LEVEE (I.E l IS NOT RESET TO 1 AFTER EACH LEVEE)

1–4	lvsp(l,1)	I4	location (column) of grid cell on upstream side (storage area side) of levee
5–8	lvsp(l,2)	I4	location (row) of grid cell on upstream side (storage area side) of levee
9–12	lvsp(l,3)	I4	option for path of flow: 1 – grid cell to borrow canal 2 – borrow canal to grid cell 3 – borrow canal to borrow canal 4 – grid cell to grid cell
13–14	blank	2X	
15–19	borrow_cnl_name_upstrm	A5	name of borrow canal on storage side of levee

*** NOTE: lvsp(l,4) IS SUBSEQUENTLY SET TO INDEX OF borrow_cnl_name_upstrm IN cnm 1-D ARRAY ***

20-21	blank	2X	
22-26	borrow_cnl_name_dnstrm	A5	name of borrow canal on east (LEC) side of levee

*** NOTE: lvsp(l,5) IS SUBSEQUENTLY SET TO INDEX OF borrow_cnl_name_dnstrm IN cnm 1-D ARRAY ***

27	blank	1X	
28-31	lvsp(l,6)	I4	location (column) of grid cell on downstream side of levee (side receiving levee seepage)
32-35	lvsp(l,7)	I4	location (row) of grid cell on downstream side of levee (side receiving levee seepage)
36-39	lvsp(l,7)	I4	index describing orientation of levee 1 - levee oriented north-south 2 - levee oriented east-west 3 - levee oriented diagonally

RECORD 4: FREE FORMAT
---

lvseep_divers_str_name(l)	name of diversion structure
lvseep_pump_cap(l)	capacity of diversion structure
opt_dest_lvseep(l)	option for destination of flow 1 - grid cell otherwise - canal
frac_seep_divers(l,1)	dry season fraction to divert
frac_seep_divers(l,1)	wet season fraction to divert

RECORD 5A: FREE FORMAT - INPUT IF OPT_DEST_LVSEEP(L) .EQ. 1
---

no_dest_lvseep(l)	number of grid cell destinations for diversion structure

*** NOTE: THE FOLLOWING TWO FIELDS ARE REPEATED ON THE SAME RECORD FOR I=1,NO_DEST_LVSEEP(L) ***

icol_dest_lvseep(i)	location (column) of destination grid cell
irow_dest_lvseep(i)	location (row) of destination grid cell

RECORD 5B: FREE FORMAT - INPUT IF OPT_DEST_LVSEEP(L) .NE. 1
---

no_dest_lvseep(l)	number of canal destinations for diversion structure

*** NOTE: THE FOLLOWING FIELD IS REPEATED ON THE SAME RECORD FOR I=1,NO_DEST_LVSEEP(L) ***

dest_canal_name_lvseep(i)	name of destination canal

IMPORTANT: IN UNIQUE CASES, SPECIAL CODE EXISTS IN THE SUBROUTINE LVSEEP.F WHICH MODIFIES THE INTERPRETATION OF THE ABOVE INPUT (SEE LVSEEP.F FOR COMPLETE DETAILS)
(1) THE TOTAL CALCULATED LEVEE SEEPAGE IN THE SEGMENT OF THE L31N LEVEE WHICH FLOWS FROM GRID CELL R22C26 TO THE L31NC CANAL IS SPLIT BETWEEN TWO DESTINATIONS: (L31NC CANAL) AND (C4 CANAL OR C4W CANAL). IF THE C4W CANAL DOES NOT EXIST (AS IN THE 1995 BASE), THEN 75% OF THE LEVEE SEEPAGE IS SENT TO THE L31NC CANAL AND 25% OF THE LEVEE SEEPAGE IS SENT TO THE C4 CANAL. IF THE C4W CANAL DOES EXIST (AS IN THE RESTUDY D13R), THEN THE FRACTION OF LEVEE SEEPAGE SENT TO THE L31NC CANAL RANGES BETWEEN 75% AND 90% (DEPENDENT ON THE C4W CANAL STAGE) WITH THE REMAINING SEEPAGE SENT TO THE C4W CANAL.
(2) THE TOTAL CALCULATED LEVEE SEEPAGE IN THE SEGMENT OF THE L30 LEVEE WHICH FLOWS FROM GRID CELL R27C27 TO THE L30 CANAL IS SPLIT BETWEEN TWO DESTINATIONS: L30 CANAL AND SNCRE CANAL. IF THE LAND SURFACE ELEVATION AT GRID CELL R26C28 IS GREATHER THAN 0.0 (I.E. NO DEEP RESERVOIR PRESENT), THEN 40% OF THE LEVEE SEEPAGE IS SENT TO THE L30 CANAL AND 60% OF THE LEVEE SEEPAGE IS SENT TO THE SNCRE CANAL. IF THE LAND SURFACE ELEVATION AT GRID CELL R26C28 IS NOT GREATHER THAN 0.0 (I.E. DEEP RESERVOIR IS PRESENT), THEN ALL OF THE LEVEE SEEPAGE IS SENT TO THE L30 CANAL.

3. GROUNDWATER CURTAIN WALL DEFINITIONS

*** NOTE: THE FOLLOWING THREE RECORDS ARE REPEATED UNTIL THE END OF THE FILE IS REACHED ***

RECORD 6: FORMAT(2I5)

1–5	icol_cw	I5	location (column) of grid cell with curtain wall
6–10	irow_cw	I5	location (row) of grid cell with curtain wall

RECORD 7: FORMAT(3X,5(A1,1X))

*** NOTE: NODE_CW = ICOL_CW − MINX(IROW_CW) + 1 + ISUM(IROW_CW) ***

1–3	blank	3X	
4	borient(node_cw,i=1)	A1	application of groundwater curtain wall to eastern face of grid cell (E => yes ; O => no)
5	blank	1X	
6	borient(node_cw,i=2)	A1	application of groundwater curtain wall to western face of grid cell (W => yes ; O => no)
7	blank	1X	
8	borient(node_cw,i=3)	A1	application of groundwater curtain wall to northern face of grid cell (N => yes ; O => no)
9	blank	1X	
10	borient(node_cw,i=4)	A1	application of groundwater curtain wall to southern face of grid cell (S => yes ; O => no)

RECORD 8: FORMAT(2X,4(2I1,1X))

```
   ------------------------------

   1-2       blank                          2X
   3         icurtw_opt(node_cw,i=1,j=1)  I1     dry season operation for eastern face of grid cell
                                                    ( 1 => yes ; 0 => no )
   4         icurtw_opt(node_cw,i=2,j=1)  I1     wet season operation for eastern face of grid cell
                                                    ( 1 => yes ; 0 => no )
   5         blank                          1X
   6         icurtw_opt(node_cw,i=1,j=2)  I1     dry season operation for western face of grid cell
                                                    ( 1 => yes ; 0 => no )
   7         icurtw_opt(node_cw,i=2,j=2)  I1     wet season operation for western face of grid cell
                                                    ( 1 => yes ; 0 => no )
   8         blank                          1X
   9         icurtw_opt(node_cw,i=1,j=3)  I1     dry season operation for northern face of grid cell
                                                    ( 1 => yes ; 0 => no )
   10        icurtw_opt(node_cw,i=2,j=3)  I1     wet season operation for northern face of grid cell
                                                    ( 1 => yes ; 0 => no )
   11        blank                          1X
   12        icurtw_opt(node_cw,i=1,j=4)  I1     dry season operation for southern face of grid cell
                                                    ( 1 => yes ; 0 => no )
   13        icurtw_opt(node_cw,i=2,j=4)  I1     wet season operation for southern face of grid cell
                                                    ( 1 => yes ; 0 => no )

-------------------------------------------------------------------------------------------------------------------
END OF DESCRIPTION FOR INPUT FILE "levee_spg_input.dat"
-------------------------------------------------------------------------------------------------------------------
```

SCCSID = lok_wca_oper_sched.man v1.1 02/15/03

Documentation by: Walter Wilcox, Raul Novoa, Luis Cadavid
Date Created: 3 February, 2003
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT FILE DOCUMENTATION

"lok_wca_oper_sched.dat"

INPUT DATA FOR OPERATIONAL SCHEDULE FOR LAKE OKEECHOBEE, APPROPRIATE WCAS, HOLEYLAND, AND ROTENBERGER TRACT.
ANY PROPOSED CALENDAR BASED OPERATIONAL SCHEDULE FOR ADDITIONAL RESERVOIR(S) MAY BE INPUT.

INPUT FILE UNIT NO. 102 IS READ IN SUBROUTINE OPER_SCHED_DATA.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
	1. BASIC NUMBER OF AREAS WITH OPERATIONAL SCHEDULES: (1 record total)		
	n_stor_areas	free	number of storage areas (LOK plus WCAs with operational schedules)
	no_add_areas_to_wcas	free	no of areas in addition to LOK and WCAs (e.g. Holeyland, Rotenberger, etc.)
	BEGIN n_stor_areas loop for each i, 1 to n_stor_areas; see NOTE_n_stor_areas		
	2. AREA NAME AND ZONE DEFINITIONS FOR LOK OR WCAS (1 record total)		
1−6	stor_area_name(i)	A6	name of area
7−8	blank	2X	
9−13	nzone(i)	I5	total number of operational lines for area
14−18	itop_zone_indx(i)	I5	index for line of highest zone of schedule
19−23	ibot_zone_indx(i)	I5	index for line of bottom zone of schedule
24−28	ialt_bot_zone_indx(i)	I5	index for line of alternative bottom zone of schedule (deviation from normal ops)
29−33	ibot_zone_indx_s333reg(i)	I5	index for bottom of schedule for S333 reg releases thru S−334 − index is the number corresponding to the position the line is input for storage area (−901 means index does not apply)

34–38	ifloor_line_indx(i)	I5	index for floor elevation line

3. LAKE OKEECHOBEE OPERATIONAL OPTIONS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–	iclimate_opt	free	option for using global climate indicators in operation of LOK (1–yes, 0–no)
	itrib_hydro_cond_opt	free	option for using local hydrologic conditions in LOK operations (1–yes, 0–no)
	multi_seas_pred_opt	free	option for using multi–seasonal forecast of ENSO in LOK operations (1–yes, 0–no)
	izone_flex_eaares_opt	free	option to use flexibility in using LOK tributary conditions to divert excess LOK water to EAA Reservoir and/or North Storage Reservoir
	iflex_clim_lokreg_to_calstlres	free	option to use flexibility in using climate predictors in routing excess water to proposed Caloos and ST lucue reservoirs (1–yes, 0–no)

4. LAKE OKEECHOBEE FLOOD CONTROL AND PULSE ZONE DEFINITIONS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1	blank	1X	
2–4	n_fc_zones	I3	no of flood control zones
5–7	no_puls_zones	I3	no_of_pulse_zones
8–10	mzone_puls_top	I3	zone number of top pulse zone
11–13	mzone_puls_bot	I3	zone number of bottom pulse zone
14–16	izone_bot_flood_flows_south	I3	bottom zone number for unconditional flood flows south to WCAs
17–19	iflex_pulse_opt	I3	flexibility option in operation of pulse releases (1–yes, 0–no)
20–22	iplsday	I3	number of days before today by which today’s stage will be compared against (min=0, max=10) to determine if pulse releases are going to be made
23–24	blank	2X	
25–30	opt_sim_lok_eaares	A6	option in releasing LOK water to EAA or other resevoir(s) where water cannot be retrieved (EXCESS or SURGET)

5. MEAN PULSE RELEASES FOR LAKE OKEECHOBEE PULSE ZONE OPERATIONS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–3	no_puls_levels	I3	no of levels of pulse releases

*** note: the following two fields are repeated on the same record for pulse level 1 to no_puls_levels ***

4–9	avg_pulse_release(k,1)	F6.0	mean pulse releases thru S–77 for pulse level k
10–15	avg_pulse_release(k,2)	F6.0	mean pulse releases thru S–80 for pulse level k

6. ADDITIONAL LAKE OKEECHOBEE OPERATIONAL THRESHOLDS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–7	s65e_inflw_thres_high(1)	F7.0	high threshold of s–65e avg daily inflows (cfs–day) for operations of LOK for wet conditions in the dry season
8–14	s65e_inflw_thres_high(2)	F7.0	high threshold of s–65e avg daily inflows (cfs–day) for operations of LOK for wet conditions in the wet season
15–21	s65e_inflw_thres_low(1)	F7.0	low threshold of s–65e avg daily inflows (cfs–day) for operations of LOK for wet conditions in the dry season
22–28	s65e_inflw_thres_low(2)	F7.0	low threshold of s–65e avg daily inflows (cfs–day) for operations of LOK for wet conditions in the wet season
29–35	trib_rfet_thres	F7.0	net tributary rainfall threshold above which to allow LOK to divert water to EAA Storage (used in conjunction with s65e_runff_wkly_thres)
36–42	s65e_runff_wkly_thres	F7.0	s65e inflow threshold above which to allow LOK to divert water to EAA Storage (used in conjunction with trib_rfet_thres)
43–49	clim_threshold_est(1)	F7.0	minimum multi–seasonal forecast of LOK inflow (million acre–ft) for LOK to be used to meet Estuarine demands when stage in LOK is above schedule
50–56	clim_threshold_est(2)	F7.0	minimum multi–seasonal forecast of LOK inflow (million acre–ft) for LOK to be used to meet Estuarine demands when stage in LOK is below schedule

7. RETURN FLOW FROM CALOOS AND ST. LUCIE RESERVIORS TO LAKE OKEECHOBEE (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–7	cresbp_max_rate	F7.1	maximum rate (cfs) of backpumping to LOK from Caloos reservoir
8–14	cal_res_dpth_thres_bp	F7.1	depth threshold (ft) above which backpumping may occur
15–21	rmax_stl_res_bflw_cap	F7.1	maximum rate of backflow from C44 Reservoir to LOK

8. SSM CREDIT OPTIONS FOR LAKE OKEECHOBEE (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–	ssm_vol_cutback_thres	free	threshold of credit (acre–ft) for SSM in LOSA
	month_END_credit	free	last month credit is issued (1–Jan, 2–Feb, etc.)

9. LAKE OKEECHOBEE DEVIATION FROM NORMAL OPERATIONS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–	ibeg_mth_lokdev	free	beginning month (1–jan...) for LOK deviation from NORMAL ops
	ibeg_day_lokdev	free	beginning day for LOK deviation from NORMAL ops
	iend_mth_lokdev	free	beginning month for LOK NORMAL ops
	iend_day_lokdev	free	beginning day for LOK NORMAL ops
	iopt_drawdown	free	option for spring dwawdown of LOK (1–yes, 0–no)

10. OFFSET TO WCA REG SCHEDULES FOR REG RELEASES FROM LAKE OKEECHOBEE (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–	offset_reg_to_wcas(1)	free	offset (in feet) to the downstream WCA schedule for determining regulatory releases from LOK to WCAs via Miami canal.
	offset_reg_to_wcas(2)	free	offset (in feet) to the downstream WCA schedule for determining regulatory releases from LOK to WCAs via NNRC canal.
	offset_reg_to_wcas(3)	free	offset (in feet) to the downstream WCA schedule for determining regulatory releases from LOK to WCAs via WPB canal.
	offset_reg_to_wcas(4)	free	offset (in feet) to the downstream WCA schedule for determining regulatory releases from LOK to WCAs via HILL canal.

BEGIN nzone(i) loop for LOK for each j, 1 to nzone(i); see NOTE_nzone(i)_LOK

11. FLOOD CONTROL ZONE or PULSE ZONE NAME FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and current zone is a flood control zone or pulse zone. ***

1–7	zoneid(j)	A7	Name for zone j

12. MAX CAPACITIES FOR S–77 AND S–80 FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and current zone is a flood control zone or pulse zone. ***

1–	rmax_out_capac_wet(j,1)	free	Maximum allowable discharge thru S–77(Caloos) for flood control during wet conditions.

```
        rmax_out_capac_norm(j,1)      free    Maximum allowable discharge thru S-77(Caloos) for flood control during
                                                normal to dry conditions.
        rmax_out_capac_wet(j,2)       free    Maximum allowable discharge thru S-80(St. Lucie) for flood control
                                                during wet conditions.
        rmax_out_capac_norm(j,2)      free    Maximum allowable discharge thru S-80(St. Lucie) for flood
```

---

13. PULSE LEVEL SUBZONES FOR CURRENT ZONE FOR S-80 FOR LOK (1 record total)

```
   ***  note: this record is read in only if stor_area_name(i) = LOK and current zone is a pulse zone  ***

1-      no_of_pulse_rel(iplslevel)    free    Duration in number of days of pulse release

   ***  note: the following field is repeated on the same record for k=1 to no_of_pulse_rel(iplslevel)  ***

        qplsl(iplslevel,k)            free    Pulse releases (cfs-day) to be made thru S-80 into St. Lucie Estuary
                                                for day k
```

---

14. PULSE LEVEL SUBZONES FOR CURRENT ZONE FOR S-77 FOR LOK (1 record total)

```
   ***  note: this record is read in only if stor_area_name(i) = LOK and current zone is a pulse zone  ***

   ***  note: the following field is repeated on the same record for k=1 to no_of_pulse_rel(iplslevel)  ***

1-      qplsl(iplslevel,k)            free    Pulse releases (cfs -day) to be made thru S-77 into Caloosahatchee River
                                                for day k

   ***  note: for each level pulse subzone in current zone, records 13 and 14 are repeated. (total number   ***
   ***        of pulse subzones for all pulse zones input (combined) must equal no_puls_levels)             ***
```

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15. BREAKPOINT DAYS FOR PULSE AND/OR FLOOD CONTROL ZONES FOR LOK (1 record total)

```
   ***  note: this record is read in only if stor_area_name(i) = LOK and  ***
             current zone is a flood control zone or a pulse zone.       ***

1-      nbrkpt(i,j)                   free    number of breakpoints in schedule for bottom of zone
        mthreg(k)                     free    month of breakpoint day
        idayreg(k)                    free    day of breakpoint day

   ***  note: mthreg(k) and idayreg(k) are repeatedly read in alternating succession for   ***
   ***        the current record up to nbrkpt(i,j) number of pairs. These months and days  ***
   ***        are then used to populate the iregjul(i,j,k) array in julian format.         ***
```

16. BREAKPOINT STAGES FOR PULSE AND/OR FLOOD CONTROL ZONES FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–	regstg(i,j,k)	free	stage value of breakpoint day read from 1 to nbrkpt(i,j) corresponding to dates above

17. REGULATORY RELEASES CONVEYANCE OPTIONS FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–4	eaa_conv_opt_reg(1,j,1)	A4	Option in conveyance of regulatory discharges from LOK to WCA via Miami Canal and S–8. (PUMP – pump regulatory discharges thru S8 into WCA at all times, GRAV – route discharges by gravity thru S8 spillway. The use of the pumps may be conditional.) Maximum 4 characters.
5–6	blank	2X	
7–10	eaa_conv_opt_reg(2,j,1)	A4	Option in conveyance of regulatory discharges from LOK to WCA via NNR Canal and S–7. (PUMP – pump regulatory discharges thru S7 into WCA all times, GRAV – route discharges by gravity thru S7 spillway. The use of the pumps may be conditional.) Maximum 4 characters.
11–12	blank	2X	
13–16	eaa_conv_opt_reg(1,j,2)	A4	Option in conveyance of regulatory discharges from LOK to WCA via Miami Canal and S–8 for DEVIATION from normal ops.
17–18	blank	2X	
19–22	eaa_conv_opt_reg(2,j,2)	A4	Option in conveyance of regulatory discharges from LOK to WCA via NNR Canal and S–7 for DEVIATION from normal ops
23–24	blank	2X	
25–30	rmin_clim_indx_thres(j,1,1)	F6.2	The minimum threshold of PREDICTED total inflow into LOK for the NEXT SIX months (in millions of acre–ft) for lesser discharges thru S–77 and S–308, whether steady flow or pulse releases. Values of PREDICTED 6–month total inflow into LOK less than this threshold results in no outflow thru S–77 or S–308 for flood control purposes. –901. means threshold not used.
31–36	rmin_clim_indx_thres(j,2,1)	F6.2	The minimum threshold of PREDICTED total inflow into LOK for the NEXT SIX months (in millions of acre–ft) for operation of S–77 and S–308 for MAXIMUM FLOOD PROTECTION for LOK. PREDICTED values vary monthly. –901. means threshold not used.
37–42	frac_depth_zone(j,1)	F6.2	Fraction of the total depth of zone during dry season the maximum allowable discharge thru S–77 and S–80 for that zone begins to occur. This is used only if user wants gradually increasing discharges thru S–77 and S–80 as a function of LOK stage within a particular zone(s). Model assumes a linear function.

43−48	frac_depth_zone(j,2)	F6.2	Fraction of the total depth of zone during wet season the maximum allowable discharge thru S−77 and S−80 for that zone begins to occur. This is used only if user wants gradually increasing discharges thru S−77 and S−80 as a function of LOK stage within a particular zone(s). Model assumes a linear function.
49−53	ipulse_level_in_zone(j)	I5	Level of Pulse releases when pulse releases are called for in zone (0 − default,PULSE releases never occur in zone; 1 − level 1 Pulse releases when appropraite, 2 − Level 2 Pulse release when appropriate, 3 − Level 3 Pulse release when appropriate). If input is −901, then level of pulse releases can vary with multi−seasonal forecast and/or tributary hydrology in zone and is input later.
54−58	iopt_for_interp(j)	I5	Option to simulate gradually increasing discharges thru S−77 and S−80 for flood control purposes. Linear function used. (1 − sumulate gradually increasing discharges, 0 − do NOT simulate gradually increasing discharges)
59−60	blank	2X	
61−67	opt_for_pulsing(j)	A7	Option for lesser discharges thru S−77 and S−80 for flood control when appropriate (PULSE − want PULSE releases when conditions call for them, NOPULSE − want steady flow thru S−77 and S−308 which are input in first record). PULSE is input as default. This option is implemented only if operational schedule includes the use of forecasting of LOK inflow based primarily on global scale climate indicators and lake stage is above pulse zone(s).
68−72	igrav_sim_opt(1,j)	I5	Option for gravity as UNCONDITIONAL means of conveyance of regulatory releases from LOK to WCA via Miami Canal and S−8. (1 − Unconditional, 0 − Conditional, dependent on Everglades needs) Option applies only if GRAV is input for means of conveyance.
73−78	igrav_sim_opt(2,j)	I5	Option for gravity as UNCONDITIONAL means of conveyance of regulatory releases from LOK to WCA via NNR Canal and S−7. (1 − Unconditional, 0 − Conditional, dependent on Everglades needs) Option applies only if GRAV is input for means of conveyance.

*** note: The options for gravity and pumped flood flows from LOK to WCA(s) are only implemented if the *** *** STAs are not simulated. If STAs are simulated flood flows from LOK to WCAs are automatically *** *** pumped into STAs and treated before entering WCAs. NO FLOOD FLOWS FROM LOK BYPASS STAs. ***

*** note: For LOK schedules(e.g. RUN25) in simulation that do not use forecasting, additional constraints *** *** (which are currently implemented) are imposed due to high water levels in WCAs. Regulatory *** *** (flood control) releases from LOK to WCA−2A occur if stages in WCA2A and WCA3A do not violate *** *** high water criteria. Similarly,releases from LOK to WCA−1 occur if stages in WCA−1,WCA−2A,and *** *** WCA−3A do not violate high water criteria. ***

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18. NET RAINFALL BREAKPOINTS FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** *** current zone is a flood control zone or a pulse zone. ***

1–7	trib_rf_et_thres(1,j)	F7.2	Breakpoint 1 for Classification of Net Rainfall (past 4 weeks, in inches) in tributary region
8–14	trib_rf_et_thres(2,j)	F7.2	Breakpoint 2 for Classification of Net Rainfall (past 4 weeks, in inches) in tributary region
15–21	trib_rf_et_thres(3,j)	F7.2	Breakpoint 3 for Classification of Net Rainfall (past 4 weeks, in inches) in tributary region

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19. S65E INFLOW BREAKPOINTS FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–7	s65e_runff_thres(1,j)	F7.0	Breakpoint 1 for Classification of S65E inflows (cfs – 2 week avg)
8–14	s65e_runff_thres(2,j)	F7.0	Breakpoint 2 for Classification of S65E inflows (cfs – 2 week avg)
15–21	s65e_runff_thres(3,j)	F7.0	Breakpoint 3 for Classification of S65E inflows (cfs – 2 week avg)

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20. CLASSIFICATION OF TRIBUTARY CONDITIONS FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–5	no_of_categ	I5	Number of Classifications
6–7	blank	2X	

*** note: the following two fields are repeated on the same record for classification(k) 1 to no_of_categ ***

8–14	cgen_trib_hydro_categ(k,j)	A7	Classifications of Tributary conditions defined by above breakpoints
15–16	blank	2X	

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21. PULSE RELEASES ASSOC. WITH TRIB COND FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

*** note: the following field is repeated on the same record for classification(k) 1 to no_of_categ ***

1–	ipulse_level_trib_hyd(k,j)	free	Level of Pulse release (1 – lowest, greater the number, greater the pulse release) for each classification of Tributary conditions (–99 means data not used in model)

*** note: if all values are –99 ,then level of pulse release is input earlier ***

22. SEASONAL INFLOW BREAKPOINTS FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK DEVIATION OPS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–7	rmin_clim_indx_thres(j,1,2)	F7.0	Breakpoint 1 for Classification of Seasonal forecast of LOK inflow (million acre–ft) for deviation from normal operations
8–14	rmin_clim_indx_thres(j,2,2)	F7.0	Breakpoint 2 for Classification of Seasonal forecast of LOK inflow (million acre–ft) for deviation from normal operations

23. MULTI SEASONAL INFLOW BREAKPOINTS FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–7	rmulti_seas_thres(1,j,1)	F7.0	Breakpoints 1 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft) for NORMAL operations
8–14	rmulti_seas_thres(2,j,1)	F7.0	Breakpoints 2 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft) for NORMAL operations
15–21	rmulti_seas_thres(3,j,1)	F7.0	Breakpoints 3 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft) for NORMAL operations
22–28	rmulti_seas_thres(4,j,1)	F7.0	Breakpoints 4 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft) for NORMAL operations

24. MULTI SEASONAL INFLOW BREAKPOINTS FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK DEVIATION OPS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–7	rmulti_seas_thres(1,j,2)	F7.0	Breakpoints 1 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft) for deviation from normal operations
8–14	rmulti_seas_thres(2,j,2)	F7.0	Breakpoints 2 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft) for deviation from normal operations
15–21	rmulti_seas_thres(3,j,2)	F7.0	Breakpoints 3 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft) for deviation from normal operations
22–28	rmulti_seas_thres(4,j,2)	F7.0	Breakpoints 4 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft) for deviation from normal operations

25. PULSE RELEASES ASSOC. WITH MULTI SEASONAL INFLOW FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–	ipulse_level_multi_seas(1,j,1)	free	Levels of Pulse Releases for Classification 1 defined by Multi–seasonal forecast for NORMAL operations (–901 means model does not use data)
	ipulse_level_multi_seas(2,j,1)	free	Levels of Pulse Releases for Classification 2 defined by Multi–seasonal forecast for NORMAL operations (–901 means model does not use data)
	ipulse_level_multi_seas(3,j,1)	free	Levels of Pulse Releases for Classification 3 defined by Multi–seasonal forecast for NORMAL operations (–901 means model does not use data)
	ipulse_level_multi_seas(4,j,1)	free	Levels of Pulse Releases for Classification 4 defined by Multi–seasonal forecast for NORMAL operations (–901 means model does not use data)

*** note: if all values are –901 then level of pulse releases is input earlier ***

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26. PULSE RELEASES ASSOC. WITH MULTI SEASONAL INFLOW FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK DEVIATION OPS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–	ipulse_level_multi_seas(1,j,2)	free	Levels of Pulse Releases for Classification 1 defined by Multi–seasonal forecast for deviation from normal operations (–901 means model does not use data)
	ipulse_level_multi_seas(2,j,2)	free	Levels of Pulse Releases for Classification 2 defined by Multi–seasonal forecast for deviation from normal operations (–901 means model does not use data)
	ipulse_level_multi_seas(3,j,2)	free	Levels of Pulse Releases for Classification 3 defined by Multi–seasonal forecast for deviation from normal operations (–901 means model does not use data)
	ipulse_level_multi_seas(4,j,2)	free	Levels of Pulse Releases for Classification 4 defined by Multi–seasonal forecast for deviation from normal operations (–901 means model does not use data)

*** note: if all values are –901 then level of pulse releases is input earlier ***

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27. CLASSIFICATION OF SEASONAL INFLOW FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–5	no_of_categ	I5	Number of Classifications
6–7	blank	2X	

*** note: the following two fields are repeated on the same record for classification(k) 1 to no_of_categ ***

8-14	cgen_seas_categ(k,j,1)	A7	Classifications of 6-month(seasonal) forecast of LOK inflow by above breakpoints for NORMAL operations
15-16	blank	2X	

---

28. CLASSIFICATION OF SEASONAL INFLOW FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK DEVIATION OPS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and current zone is a flood control zone or a pulse zone. ***

1-5	no_of_categ	I5	Number of Classifications
6-7	blank	2X	

*** note: the following two fields are repeated on the same record for classification(k) 1 to no_of_categ ***

8-14	cgen_seas_categ(k,j,2)	A7	Classifications of 6-month(seasonal) forecast of LOK inflow by above breakpoints for deviations from normal operations
15-16	blank	2X	

---

29. CLASSIFICATION OF MULTI SEASONAL INFLOW FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and current zone is a flood control zone or a pulse zone. ***

1-5	no_of_categ	I5	Number of Classifications
6-7	blank	2X	

*** note: the following two fields are repeated on the same record for classification(k) 1 to no_of_categ ***

8-14	cgen_multi_seas_categ(k,j,1)	A7	Classifications of multi-seasonal forecast of LOK inflow by above breakpoints for NORMAL operations
15-16	blank	2X	

---

30. CLASSIFICATION OF MULTI SEASONAL INFLOW FOR OUTFLOW TO TIDE FOR CURRENT ZONE FOR LOK DEVIATION OPS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and current zone is a flood control zone or a pulse zone. ***

1-5	no_of_categ	I5	Number of Classifications

6–7	blank	2X	

*** note: the following two fields are repeated on the same record for classification(k) 1 to no_of_categ ***

8–14	cgen_multi_seas_categ(k,j,2)	A7	Classifications of multi–seasonal forecast of LOK inflow by above breakpoints for deviations from normal operations
15–16	blank	2X	

31. NET RAINFALL BREAKPOINTS FOR OUTFLOW TO WCAS FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–7	trib_rf_et_thres_wca(1,j)	F7.1	Breakpoint 1 for Classification of Net Rainfall (past 4 weeks, in inches) in tributary region
8–14	trib_rf_et_thres_wca(2,j)	F7.1	Breakpoint 2 for Classification of Net Rainfall (past 4 weeks, in inches) in tributary region
15–21	trib_rf_et_thres_wca(3,j)	F7.1	Breakpoint 3 for Classification of Net Rainfall (past 4 weeks, in inches) in tributary region

32. S65E INFLOW BREAKPOINTS FOR OUTFLOW TO WCAS FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–7	s65e_runff_thres_wca(1,j)	F7.0	Breakpoint 1 for Classification of S65E inflows (cfs – 2 week avg)
8–14	s65e_runff_thres_wca(2,j)	F7.0	Breakpoint 2 for Classification of S65E inflows (cfs – 2 week avg)
15–21	s65e_runff_thres_wca(3,j)	F7.0	Breakpoint 3 for Classification of S65E inflows (cfs – 2 week avg)

33. CLASSIFICATION OF TRIBUTARY CONDITIONS FOR OUTFLOW TO WCAS FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–5	no_of_categ	I5	Number of Classifications
6–7	blank	2X	

*** note: the following two fields are repeated on the same record for classification(k) 1 to no_of_categ ***

8–14	cgen_trib_hydro_categ_wca(k,j)	A7	Classifications of Tributary conditions defined by above breakpoints
15–16	blank	2X	

34. SEASONAL INFLOW BREAKPOINTS FOR OUTFLOW TO WCAS FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and current zone is a flood control zone or a pulse zone. ***

1–7	rmin_clim_indx_thres_wca(1,j)	F7.0	Breakpoint 1 for Classification of Seasonal forecast of LOK inflow (million acre–ft)
8–14	rmin_clim_indx_thres_wca(2,j)	F7.0	Breakpoint 2 for Classification of Seasonal forecast of LOK inflow (million acre–ft)

35. CLASSIFICATION OF SEASONAL INFLOW FOR OUTFLOW TO WCAS FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and current zone is a flood control zone or a pulse zone. ***

1–5	no_of_categ	I5	Number of Classifications
6–7	blank	2X	

*** note: the following two fields are repeated on the same record for classification(k) 1 to no_of_categ ***

8–14	cgen_seas_categ_wca(k,j)	A7	Classifications of 6–month (seasonal) forecast of LOK inflow by above breakpoints
15–16	blank	2X	

36. MULTI SEASONAL INFLOW BREAKPOINTS FOR OUTFLOW TO WCAS FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and current zone is a flood control zone or a pulse zone. ***

1–7	rmulti_seas_thres_wca(1,j)	F7.0	Breakpoints 1 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft)
8–14	rmulti_seas_thres_wca(2,j)	F7.0	Breakpoints 2 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft)
15–21	rmulti_seas_thres_wca(3,j)	F7.0	Breakpoints 3 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft)
22–28	rmulti_seas_thres_wca(4,j)	F7.0	Breakpoints 4 for Classification of multi–seasonal forecast of LOK inflow (million acre–ft)

37. CLASSIFICATION OF MULTI SEASONAL INFLOW FOR OUTFLOW TO WCAS FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

1–5	no_of_categ	I5	Number of Classifications
6–7	blank	2X	

*** note: the following two fields are repeated on the same record for classification(k) 1 to no_of_categ ***

8–14	cgen_multi_seas_categ_wca(k,j)	A7	Classifications of multi–seasonal forecast of LOK inflow by above breakpoints for NORMAL operations
15–16	blank	2X	

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38. ADDITIONAL OPTIONS FOR OUTFLOW TO WCAS FOR CURRENT ZONE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

*** note: the following fields are repeated on the same record for *** *** each conveyance canal (MIAMI, NNR, WBP, HILL) k = 1 to 4 ***

1–6	limit_reg_rel_glades(k,j,1)	A6	Options for determining conditions for regulatory releases from LOK to appropriate WCA for NORMAL Operations. SCHED – use appropriate (highest) calendar based flood control schedule for downstream WCA plus an offset input earlier as the maximum stage allowed for flood control discharges from LOK via EAA conveyance canal; ALTSCH – use an alternate calendar based schedule (last schedule input for each WCA) as maximum stage in downstream WCA allowed for regulatory releases from LOK. Typically the MAX of flood control schedule is used; STGTRG – appropriate stage targets in downstream WCA are used as condition for PUMPING flood control releases from LOK into WCA. If stage in downstream WCA is below the target then flood control releases are PUMPED, otherwise use gravity if GRAV option is used. The ALTERNATE calendar based schedule plus offset is used as limit for flood control releases from LOK if LOK stage is above pulse zone. for non rain–driven ops; NSM targets + 0.5 ft as limit for rain–driven operations.
7–8	blank	2X	

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39. ADDITIONAL OPTIONS FOR OUTFLOW TO WCAS FOR CURRENT ZONE FOR LOK DEVIATION OPS (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and *** current zone is a flood control zone or a pulse zone. ***

*** note: the following fields are repeated on the same record for ***
*** each conveyance canal (MIAMI, NNR, WBP, HILL) k = 1 to 4 ***

1–6	limit_reg_rel_glades(k,j,2)	A6	Options for determining conditions for regulatory releases from LOK to appropriate WCA for DEVIATION Operations. SCHED – use appropriate (highest) calendar based flood control schedule for downstream WCA plus an offset input earlier as the maximum stage allowed for flood control discharges from LOK via EAA conveyance canal; ALTSCH – use an alternate calendar based schedule (last schedule input for each WCA) as maximum stage in downstream WCA allowed for regulatory releases from LOK. Typically the MAX of flood control schedule is used; STGTRG – appropriate stage targets in downstream WCA are used as condition for PUMPING flood control releases from LOK into WCA. If stage in downstream WCA is below the target then flood control releases are PUMPED, otherwise use gravity if GRAV option is used. The ALTERNATE calendar based schedule plus offset is used as limit for flood control releases from LOK if LOK stage is above pulse zone. for non rain–driven ops; NSM targets + 0.5 ft as limit for rain–driven operations.
7–8	blank	2X	

*** NOTE_LOK_other: The following records are used for non pulse and non flood control zones for Lake Okeechobee. The order of input for non pulse and non flood control zones for Lake Okeechobee are hard coded in the SFWMM as follows: ***

n_fc_zones+1	ASR Injection Line
n_fc_zones+2	North Storage Injection Line
n_fc_zones+3	EAA Storage Injection Line
n_fc_zones+4	ASR Retrieval Line
n_fc_zones+5	North Storage Retrieval Line
n_fc_zones+6	LOK Min Estuary Demand Line using Dry or Normal Forecast
n_fc_zones+7	LOK Min Estuary Demand Line
n_fc_zones+8	LOK Stage for Backflow from St Lucie Basin
n_fc_zones+9	LOK Stage for Backflow from Caloosahatchee Basin
n_fc_zones+10	Upper Line for Water Supply Backpumping to LOK
n_fc_zones+11	Lower Line for Water Supply Backpumping to LOK
n_fc_zones+12	Baseline ZONE C line–used in LOK drawdown scenarios

40. BREAKPOINT DAYS FOR NON PULSE AND NON FLOOD CONTROL ZONES FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK and current zone is a flood control zone or a pulse zone. ***

1–	nbrkpt(i,j)	free	number of breakpoints in schedule for bottom of zone
	mthreg(k)	free	month of breakpoint day

```
        idayreg(k)                    free    day of breakpoint day

   ***  note: mthreg(k) and idayreg(k) are repeatedly read in alternating succession for   ***
   ***        the current record up to nbrkpt(i,j) number of pairs. These months and days  ***
   ***        are then used to populate the iregjul(i,j,k) array in julian format.        ***

-------------------------------------------------------------------------------------------------------------
41. BREAKPOINT STAGES FOR NON PULSE AND NON FLOOD CONTROL ZONES FOR LOK (1 record total)
-------------------------------------------------------------------------------------------------------------

   ***  note: this record is read in only if stor_area_name(i) = LOK and  ***
         current zone is a flood control zone or a pulse zone.       ***

1-      regstg(i,j,k)                 free    stage value of breakpoint day read from 1 to nbrkpt(i,j) corresponding
                                                to dates above

-------------------------------------------------------------------------------------------------------------
   ***  NOTE_nzone(i)_LOK: Set of records 11 through 39 is repeated for each pulse or flood control ***
   ***                     zone making up nzone(i) for stor_area_name(i) = LOK. Set of records 40   ***
   ***                     to 41 is repeated for each non pulse and non flood control zone making   ***
   ***                     up nzone(i) as listed above (NOTE_LOK_other)                             ***
-------------------------------------------------------------------------------------------------------------
42. BREAKPOINT DAYS FOR DROUGHT WATCH LINE FOR LOK (1 record total)
-------------------------------------------------------------------------------------------------------------

   ***  note: this record is read in only if stor_area_name(i) = LOK  ***

1-      nbrkpt_ssmwt                  free    number of breakpoints in schedule
        mthreg(k)                     free    month of breakpoint day
        idayreg(k)                    free    day of breakpoint day

   ***  note: mthreg(k) and idayreg(k) are repeatedly read in alternating succession for    ***
   ***        the current record up to nbrkpt_ssmwt number of pairs. These months and days  ***
   ***        are then used to populate the iregjulwt(k) array in julian format.           ***

-------------------------------------------------------------------------------------------------------------
43. BREAKPOINT STAGES FOR DROUGHT WATCH LINE FOR LOK (1 record total)
-------------------------------------------------------------------------------------------------------------

   ***  note: this record is read in only if stor_area_name(i) = LOK  ***

1-      regstgwt(k)                   free    stage value of breakpoint day read from 1 to nbrkpt_ssmwt corresponding
                                                to dates above

-------------------------------------------------------------------------------------------------------------
44. BREAKPOINT DAYS FOR DROUGHT WARNING LINE FOR LOK (1 record total)
-------------------------------------------------------------------------------------------------------------
```

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–	nbrkpt_ssmwn	free	number of breakpoints in schedule
	mthreg(k)	free	month of breakpoint day
	idayreg(k)	free	day of breakpoint day

*** note: mthreg(k) and idayreg(k) are repeatedly read in alternating succession for the current record up to nbrkpt_ssmwn number of pairs. These months and days are then used to populate the iregjulwn(k) array in julian format. ***

---

45. BREAKPOINT STAGES FOR DROUGHT WARNING LINE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–	regstgwn(k)	free	stage value of breakpoint day read from 1 to nbrkpt_ssmwn corresponding to dates above

---

46. BREAKPOINT DAYS FOR SSM LINE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–	nbrkpt_ssm	free	number of breakpoints in schedule
	mthreg(k)	free	month of breakpoint day
	idayreg(k)	free	day of breakpoint day

*** note: mthreg(k) and idayreg(k) are repeatedly read in alternating succession for the current record up to nbrkpt_ssm number of pairs. These months and days are then used to populate the iregjul1(k) array in julian format. ***

---

47. BREAKPOINT STAGES FOR SSM LINE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

1–	regstg1(k)	free	stage value of breakpoint day read from 1 to nbrkpt_ssm corresponding to dates above

---

48. BREAKPOINT DAYS FOR MIN SSM CREDIT LINE FOR LOK (1 record total)

*** note: this record is read in only if stor_area_name(i) = LOK ***

```
1-      nbrkpt_ssm1                 free    number of breakpoints in schedule
        mthreg(k)                   free    month of breakpoint day
        idayreg(k)                  free    day of breakpoint day

   ***  note: mthreg(k) and idayreg(k) are repeatedly read in alternating succession for   ***
   ***        the current record up to nbrkpt_ssm1 number of pairs. These months and days  ***
   ***        are then used to populate the iregjul2(k) array in julian format.           ***

-------------------------------------------------------------------------------------------------------------
49. BREAKPOINT STAGES FOR MIN SSM CREDIT LINE FOR LOK (1 record total)
-------------------------------------------------------------------------------------------------------------

   ***  note: this record is read in only if stor_area_name(i) = LOK  ***

1-      regstg2(k)                  free    stage value of breakpoint day read from 1 to nbrkpt_ssm1 corresponding
                                              to dates above

-------------------------------------------------------------------------------------------------------------
BEGIN nzone(i) loop for areas other than LOK for each j, 1 to nzone(i); see NOTE_nzone(i)_not_LOK
-------------------------------------------------------------------------------------------------------------
50. BREAKPOINT DAYS FOR SCHEDULE ZONE FOR WCAS (1 record total)
-------------------------------------------------------------------------------------------------------------

   ***  note: this record is read in only if stor_area_name(i) is not equal to LOK  ***

1-      nbrkpt(i,j)                 free    number of breakpoints in schedule for bottom of zone
        mthreg(k)                   free    month of breakpoint day
        idayreg(k)                  free    day of breakpoint day

   ***  note: mthreg(k) and idayreg(k) are repeatedly read in alternating succession for   ***
   ***        the current record up to nbrkpt(i,j) number of pairs. These months and days  ***
   ***        are then used to populate the iregjul(i,j,k) array in julian format.        ***

-------------------------------------------------------------------------------------------------------------
51. BREAKPOINT STAGES FOR SCHEDULE ZONE FOR WCAS (1 record total)
-------------------------------------------------------------------------------------------------------------

   ***  note: this record is read in only if stor_area_name(i) is not equal to LOK  ***

1-      regstg(i,j,k)               free    stage value of breakpoint day read from 1 to nbrkpt(i,j) corresponding
                                              to dates above

-------------------------------------------------------------------------------------------------------------
   ***  NOTE_nzone(i)_not_LOK: Set of records 50 through 51 is repeated for each zone making up nzone(i) for  ***
   ***                         stor_area_name(i) is not equal to LOK.                                         ***
-------------------------------------------------------------------------------------------------------------
-------------------------------------------------------------------------------------------------------------
   ***  NOTE_n_stor_areas: Set of records 2 through 51 is repeated for each area making up n_stor_areas.  ***
```

BEGIN no_add_areas_to_wcas loop for each i, 1 to no_add_areas_to_wcas; see NOTE_no_add_areas_to_wcas

---

52. ADDITIONAL AREA NAME AND ZONE DEFINITIONS (1 record total)

1-6	stor_area_name(istor_index)	A6	name of additional area
7-8	blank	2X	
9-13	nzone(istor_index)	I5	total number of operational lines for area
14-19	offset_to_sched(istor_index)	F6.2	offset to operational schedule (non rain-driven operations)
20-24	iopt_for_semcyp_prior_roten	I5	option to use the conveyance canal to supply Big Cypress Seminole demands regardless of marsh conditions in Rotenberger (1-yes, 0-no)

BEGIN nzone(istor_index) loop for each j, 1 to nzone(istor_index); see NOTE_nzone(istor_index)

---

53. BREAKPOINT DAYS FOR SCHEDULE ZONE FOR ADDITIONAL AREA (1 record total)

1-	nbrkpt(istor_index,j)	free	number of breakpoints in schedule for bottom of zone
	mthreg(k)	free	month of breakpoint day
	idayreg(k)	free	day of breakpoint day

*** note: mthreg(k) and idayreg(k) are repeatedly read in alternating succession for the current record up to nbrkpt(istor_index,j) number of pairs. These months and days are then used to populate the iregjul(istor_index,j,k) array in julian format. ***

---

54. BREAKPOINT STAGES FOR SCHEDULE ZONE FOR ADDITIONAL AREA (1 record total)

1-	regstg(istor_index,j,k)	free	stage value of breakpoint day read from 1 to nbrkpt(istor_index,j) corresponding to dates above

---

*** NOTE_nzone(istor_index): Set of records 53 through 54 is repeated for each zone making up nzone(istor_index) ***

*** NOTE_no_add_areas_to_wcas: Set of records 52 through 54 is repeated for each area making up no_add_areas_to_wcas ***

---

55. ESTIMATED WATER USE AND RAIN AND ET FOR LOKSA FOR SSM (12 records total, one for each month of the year)

1-	wup0(im)	free	monthly LOKSA demand for use in SSM calculations

```
        wup(im)                         free    monthly LOKSA demand for use in SSM calculations with adjustment for
                                                  demand met by other storage areas (e.g. asr, res, etc.)
        rfp(im)                         free    monthly rainfall on LOK for use in SSM calculations
        etp(im)                         free    monthly et on LOK for use in SSM calculations

-------------------------------------------------------------------------------------------------------------------
56. LOK ET DATA - FOR FORECASTING  (12 records total, one for each month of the year)
-------------------------------------------------------------------------------------------------------------------

   ***  note: this record is read in only if iclimate_opt = 1  ***

1-      totloketvol1(im)                free    Predicted 1 month accumulation of total et volume on LOK (ac-ft)
        totloketvol3(im)                free    Predicted 3 month accumulation of total et volume on LOK (ac-ft)
        totloketvol6(im)                free    Predicted 6 month accumulation of total et volume on LOK (ac-ft)
        avg_demand_lok3(im)             free    Predicted 3 month accumulated demand on LOK (ac-ft)

-------------------------------------------------------------------------------------------------------------------
END OF DESCRIPTION FOR INPUT FILE "lok_wca_oper_sched"
-------------------------------------------------------------------------------------------------------------------
```

SCCSID = max_go_tbl.man v1.1 02/15/03

Prepared by: Lehar Brion, Cary White
Date: 02/03/03
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

max_go_tbl == 2-way look-up table relating downstream stage, upstream stage and maximum gate opening for the major EAA gravity structures; (unit no. 15) read in subroutine gen_model_def_param_data from source file gen_model_def_param.F

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.

COLUMNS	VARIABLE NAME	FORMAT	DESCRIPTION
1. NUMBER OF EAA STRUCTURES WITH MAXIMUM GATE OPENINGS: (1 record total)			
1-5	nstr_go	I5	number of EAA gravity structures whose maximum gate openings are to be defined; equal to three (for now)
	note: Set of records 2 through 4 is read in nstr_go times.		
2. STRUCTURE GATE OPENING DEFINITION: (1 record total)			
1-5	istr_go	I5	structure number
6-10	ntails(istr_go)	I5	number of downstream stages or tailwaters to read in
11-15	n_strgos(istr_go)	I5	number of maximum gate openings to read in
	note: Set of records 3 and 4 is read in for j = 1,ntails(istr_go) times.		
3. DOWNSTREAM STAGE DATA: (1 record total)			
1-10	dsstg(j,istr_go)	F10.0	downstream stage or tailwater (ft NGVD) for gate opening "istr_go"
	note: Record 4 is read in for i = 1,n_strgos(istr_go) times.		
4. GATE OPENING AND UPSTREAM STAGE DATA: (n_strgos(istr_go) records total)			
1-10	strgo(i,j,istr_go)	F10.0	maximum gate opening (ft)

11-20 usstg(i,j,istr_go) F10.0 upstream stage or headwater (ft NGVD) corresponding to maximum gate opening strgo(i,j,istr_go) and downstream stage or tailwater dsstg(j,istr_go)

note: Since the look-up table is monotonic, the 2-way interpolation routine associated with it expects dsstg() and usstg() to change (increase decrease) in the same direction as they are defined in this file.

Additional notes:

The current EAA gravity structures defined in this input file are:

istr_go	outlet structure	description
5	S354	spillway whose headwater is Lake Okeechobee and tailwater is the northernmost portion of Miami canal
6	S351	spillway whose headwater is Lake Okeechobee and tailwater is the northernmost portion of North New River/Hillsboro canal
7	S352	spillway whose headwater is Lake Okeechobee and tailwater is the northernmost portion of West Palm Beach canal

The first four EAA gravity structures, i.e., istr_go = 1, 2, 3 and 4, corresponding to S8, S7, S8NEW and S7NEW, respectively, do not have maximum gate opening restrictions and, therefore, are not valid entries to this file. For definition of S8NEW and S7NEW, refer to documentation for input file "eaa_canal_profiles".

SCCSID = model_definition_info.man v1.2 08/18/03

Prepared by: Alaa Ali, Raul Novoa, Ray Santee
Date Created: 3 December, 2002
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

model_definition_info.man == a model definition data file (previously known as lecdef*)
(unit no. 2) read in gen_model_def_param.F

This file provides general definition for model input, system parameters, and output. Specific definitions are found in other input files peratining to specific features. In general, data found in this file are:

Multipliers for:
model input such as runoff, rainfall, inflows, backpumping to LOK, structure and canal design convenyance, and diversion of excess LOK water to proposed reservoirs.

OPTIONS for:
Municipal wellfield input, Demands and Flow, Maximum numbr of days for WS backpumping into LOK, Makeup water, SSM for LOK ENV. WS, Mode of operation of Reg. Release to WCAs, Estuaries' proposed reservoirs, Estuaries' Demands, and Estuaries' Reg releasese, Prioritize proposed reservoirs in LOSA, Splitting LOK into 2 sections, Prioritize LOK WS, BMPs in EAA, Meeting Env. targets and or demands in Holeyland, Rotenberger Tract, and WCA−3A , Conveyance, Flood Control Operations, Divert Excess water into EAA reservoirs, Bypass STA−2 for WS from LOK, Bypass runoff from Hill. Canal basin, Holeyland, Routing runoff to proposed reservoirs, Injecting runoff to ASR, Env. WS. for Loxahatchee Slough Reuse

Parameters for:
Structure information, Overland Flow, LOK initial stage, forepumping, backpumping, minimum level for EAA canals, Minimum LOK stage for WS, Demands, Reg releases, Reservoirs, EAA Basins, Conveyance Canals, Estuaries, SSM, Env. WS, Env. targets areas, Reuse Plants, Demands in Lake Worth Drainage District, Flow routing to STAs, Monitoring points output to DAILY STAGE MONITORING POINT OUTPUT FILE

COLUMNS	VARIABLE NAME	FORMAT	DESCRIPTION
1. OPTION FOR MUNICIPAL WELLFIELD INPUT			
1−5	welldat_opt	A5	option for municipal wellfield input FIXED − demand level is fixed throughout simulation period,or TIMEV − demand level(well pumpages) varies from year to year throughout simulation,as in a Calibration run)
2. MULTIPLIER FOR RAINFALL INPUT FOR MODEL DOMAIN FOR MONTHS JAN − DEC			
..−..	rf_factor(1)	Free	Multiplier for rainfall input for model domain for Jan.

..-..	rf_factor(2)	Free	Multiplier for rainfall input for model domain for Feb.
	*		
	*		
..-..	rf_factor(12)	Free	Multiplier for rainfall input for model domain for Dec.
3. MULTIPLIER FOR RUNOFF FROM BASINS NOT IN MODEL DOMAIN (BOUNDARY FLOWS) FOR MONTHS JAN – DEC			
..-..	ro_factor(1)	Free	Multiplier for runoff from Basins NOT in model domain for Jan.
..-..	ro_factor(2)	Free	Multiplier for runoff from Basins NOT in model domain for Feb.
	*		
	*		
..-..	ro_factor(12)	Free	Multiplier for runoff from Basins NOT in model domain for Dec.
4. MULTIPLIER FOR RAINFALL INPUT FOR LOK FOR MONTHS JAN – DEC			
..-..	rf_factor_lok(1)	Free	Multiplier for rainfall input for LOK for Jan.
..-..	rf_factor_lok(2)	Free	Multiplier for rainfall input for LOK for Feb.
	*		
	*		
..-..	rf_factor_lok(12)	Free	Multiplier for rainfall input for LOK for Dec.
5. MULTIPLIER FOR OTHER INFLOWS IN MDS FOR LOK FOR MONTHS JAN – DEC			
..-..	ro_factor_lok(1)	Free	Multiplier for other inflows in MDS for LOK for months Jan.
..-..	ro_factor_lok(2)	Free	Multiplier for other inflows in MDS for LOK for months Feb.
	*		
	*		
..-..	ro_factor_lok(12)	Free	Multiplier for other inflows in MDS for LOK for months Dec.
6. PROJECTED SEA LEVEL RISE (FT.)			
1-..	proj_sea_level_rise	Free	projected sea level rise (ft)
7. NUMBER OF PET ZONES IN MODEL DOMAIN, INCLUDING LOK			
1-4	netzon	I4	Number of PET zones in model domain,including LOK
8. NUMBER OF LAND USE TYPES IN MODEL DOMAIN (ONE LAND USE TYPE ASSIGNED TO EACH GRID CELL)			
1-4	nlu	I4	Number of land use types in model domain
9. STRUCTURES WHOSE MEASURED DATA ARE USED IN SIMULATION			
1-5	nflpts	I3,2X	Total number of structures

6–11	struc_name_meas(1)	A6	Name of Structure # 1
12–17	struc_name_meas(2)	A6	Name of Structure # 2
	*		
	*		
	struc_name_meas(nflpts)	A6	Name of Structure # nflpts
10.	RESDING MASTER LIST STRUCTURE NAMES (up to 15 records, 20 structures each).		
10.1	First Record		
1–5	NTSTRCTR	I3,2X	Total number of structure names in master list that are used as basis for structure indexing for kflo (structure flow) array.
6–12	FLNM(1)	A6,1X	name of First structure
13–18	FLNM(2)	A6,1X	name of Second structure
	*		
	*		
	FLNM(20)	A6,1x	name of 20_th structure (last name in the record)
10.2	Second Record		
1–5		5X	Blank Space
6–12	FLNM(21)	A6,1X	name of 20 First structure
13–18	FLNM(22)	A6,1X	name of 20 Second structure
	*		
	*		
	FLNM(40)	A6,1x	name of 40_th structure (last name in the record)
	*		
	*		
	*		
	*		
10.15	15_th Record		
1–5		5X	Blank Space
6–12	FLNM(281)	A6,1X	name of 20 First structure
13–18	FLNM(282)	A6,1X	name of 20 Second structure
	*		
	*		
	FLNM(300)	A6,1x	name of 40_th structure (last name in the record)
11.	RECORD EXISTS ONLY IF IP(11) OR IP(29) IS SET TO 1 OPTION TO READ RANGE OF DATES TO OUTPUT SOME DAILY BINARY INFORMATION		
1–..	iyout1	Free	Starting Year
..	imout1	Free	Starting month
..	idout1	Free	Starting day
..	iyout2	Free	Ending Year

..	imout2	Free	Ending month
..	idout2	Free	Ending day

The following info pertains to land use type for Category of land use, ET and other paramters.
each of the following land use corresponds to one of main categories recognized by the code
Note:

1	LDU	Low Density Urban
2	CIT	Citrus
3	MDU	Medium Density Urban
4	SAW	Sawgrass Plains
5	WET	Wet Prairie
6	SHR	Shrubland (includes Rangeland)
7	ROW	Row Crops
8	SUG	Sugar Cane
9	IRR	Irrigated Pasture
10	STA	Stormwater treatment area (with dense vegetation)
11	HDU	High Density Urban
12	FWT	Forested Wetland
13	MAN	Mangroves
14	MEL	Melaleuca
15	CAT	Cattail
16	FUP	Forested Uplands
17	RS1	Ridge & Slough 1
18	MLP	Marl Prairie
19	MIX	Mixed Cattail−Sawgrass
20	WAT	Open Water
21	RS2	Ridge & Slough 2
22	RS3	Ridge & Slough 3
23	RS4	Ridge & Slough 4
24	RS5	Ridge & Slough 5

---

12. ET COEFFICIENTS FOR LU TYPES 1 − 24 INPUT IN EACH ROW. TOTAL OF 12 ROWS REPRESENTING THE 12 MONTHS OF YEAR.
READ in subroutine READTK.F

12.1

1−7	K(1,1)	F7.2	ET calibration coefficient for land use 1 month 1
8−14	K(2,1)	F7.2	ET calibration coefficient for land use 2 month 1
	*		
	*		
	K(NLU,1)	F7.2	ET calibration coefficient for land use NLU month 1
1−7	K(1,2)	F7.2	ET calibration coefficient for land use 1 month 2
8−14	K(2,2)	F7.2	ET calibration coefficient for land use 2 month 2
	*		
	*		

	K(NLU,2)	F7.2	ET calibration coefficient for land use NLU month 2
1-7	K(1,12)	F7.2	ET calibration coefficient for land use 1 month 12
8-14	K(2,12)	F7.2	ET calibration coefficient for land use 2 month 12
	*		
	*		
	K(NLU,12)	F7.2	ET calibration coefficient for land use NLU month 12

note: The K value is multiplied by PET (Penman-Monteith method) to produce maximum ET loss.

13. NAMES OF LAND USE TYPES:

1-7	land_use_type(1)	A7,1X	character identification for land use type 1 (SUBURB)
9-15	land_use_type(2)	A7,1X	character identification for land use type 2 (AGRICUL)
	*		
	*		
	*		
	land_use_type(NLU)	A7	character identification for land use type NLU (WETLAND)

14. OPEN WATER ET COEFFICIENT

1-..	KMAX(1)	Free	ET coefficient for open water for land use 1
..	KMAX(2)	Free	ET coefficient for open water for land use 2
	*		
	*		
	KMAX(NLU)	Free	ET coefficient for open water for land use NLU

15. MINIMUM PONDING DEPTH IN FEET

1-..	OWPOND(1)	Free	Minimum ponding depth to be considered open water for land use 1
..	OWPOND(2)	Free	Minimum ponding depth to be considered open water for land use 2
	*		
	*		
	*		
..	OWPOND(NLU)	Free	Minimum ponding depth to be considered open water for land use NLU

16. SHALLOW ROOT ZONE PARAMETERS IN FEET: convention : below ground is positve direction
(max. 30 values per line; NLU\30+1 cards total)

1-..	SRZ(1)	Free	Depth below land surface of shallow root zone for land use 1
..	SRZ(2)	Free	Depth below land surface of shallow root zone for land use 2
	*		
	*		
	SRZ(NLU)	Free	Depth below land surface of shallow root zone for land use NLU

17. DEEP ROOT ZONE PARAMETERS: convention : below ground is positve direction

(max. 30 values per line; NLU\30+1 cards total)

1-..	DRZ(1)	Free	Depth below land surface (ft) of deep root zone for land use 1
..	DRZ(2)	Free	Depth below land surface (ft) of deep root zone for land use 2
	*		
	*		
	DRZ(NLU)	Free	Depth below land surface (ft) of deep root zone for land use NLU
18.	OVERLAND FLOW PARAMETERS: MANNING'S 'n': n = A*H^b, where H = ponded depth, A,b = coefficients		
18.1	A coefficients (max. 30 values per line)		
1-..	OFML(1,1)	Free	A coefficient for overland flow (node-to-node) for land use 1
..	OFML(2,1)	Free	A coefficient for overland flow (node-to-node) for land use 2
	*		
	*		
	*		
	OFML(NLU,1)	Free	A Coeficient for overland flow (node-to-node) for land use NLU
18.2	B coefficients (max. 30 values per line)		
1-..	OFML(1,2)	Free	b coefficient for overland flow (node-to-node) for land use 1
..	OFML(2,2)	Free	b coefficient for overland flow (node-to-node) for land use 2
	*		
	*		
	OFML(NLU,2)	Free	b coefficient for overland flow (node-to-node) for land use NLU
19.	Minimum Resistivity (max. 30 values per line; [NLU\30+1]x2 lines total)		
1-..	rmin_ofml(1)	Free	Min resistivity for land use 1
..	rmin_ofml(2)	Free	Min resistivity for land use 2
	*		
	*		
..	rmin_ofml(NLU)	Free	Min resistivity for land use NLU
20.	PONDING DEPTH IN FEET BELOW WHICH NO OVERLAND FLOW IS ALLOWED TO OCCUR		
1-..	DETEN_DEF(1)	Free	Ponding depth below which no overland flow is allowed to occur for land use 1.
..	DETEN_DEF(2)	Free	Ponding depth below which no overland flow is allowed to occur for land use 2.
	*		
	*		
..	DETEN_DEF(NLU)	Free	Ponding depth below which no overland flow is allowed to occur for land use 1.
21.	GRID CELL-TO-CANAL MANNING'S 'n': n = A*H^b,		

where H = ponded depth, A,b = coefficients; applied to all grid cells;

21.1	A COEFFICIENT		(max. 30 values per line; [NLU\30+1]x2 lines total)
1-..	OFMC(1,1)	Free	A coefficient for overland flow into canal within a grid cell for land use 1
..	OFMC(2,1)	Free	A coefficient for overland flow into canal within a grid cell for land use 2
	*		
	*		
..	OFMC(NLU,1)	Free	A coefficient for overland flow into canal within a grid cell for land use NLU
21.2	B COEFFICIENT		(max. 30 values per line; [NLU\30+1]x2 lines total)
1-..	OFMC(1,2)	Free	B coefficient for overland flow into canal within a grid cell for land use 1
..	OFMC(2,2)	Free	B coefficient for overland flow into canal within a grid cell for land use 2
	*		
	*		
..	OFMC(NLU,2)	Free	B coefficient for overland flow into canal within a grid cell for land use NLU

22. CANAL-TO-GRID CELL MANNING'S 'n': n = A*H^b, where H = ponded depth, A,b = coefficients; applied to all

22.1	A COEFFICIENT		(max. 30 values per line; [NLU\30+1]x2 lines total)
1-..	OFMC(1,3)	Free	A coefficient for overland flow out of canal within a node for land use 1
..	OFMC(2,3)	Free	A coefficient for overland flow out of canal within a node for land use 2
	*		
	*		
	OFMC(NLU,3)	Free	A coefficient for overland flow out of canal within a node for land use NLU
22.2	B COEFFICIENT		(max. 30 values per line; [NLU\30+1]x2 lines total)
1-..	OFMC(1,4)	Free	B coefficient for overland flow out of canal within a node for land use 1
..	OFMC(2,4)	Free	B coefficient for overland flow out of canal within a node for land use 2
	*		
	*		
	OFMC(NLU,4)	Free	B coefficient for overland flow out of canal within a node for land use NLU

23.	PONDING DEPTH BELOW WHICH NO SURFACE WATER−CANAL INTERACTION IS ALLOWED TO OCCUR		
1−..	DETEN_DEFC(1)	Free	Ponding depth below which no overland flow is allowed to occur for land use 1.
..	DETEN_DEFC(2)	Free	Ponding depth below which no overland flow is allowed to occur for land use 2.
	*		
	*		
..	DETEN_DEFC(NLU)	Free	Ponding depth below which no overland flow is allowed to occur for land use NLU
24.	LAKE OKEECHOOBEE INITIAL STAGES: (ft NGVD);		
1−6	stagelo F6.2		Initial stage value for Lake Okeechoobee (ft NGVD)
25.	DEMAND AND FLOW OPTIONS FOR CALOOSAHATCHEE AND ST. LUCIE ESTUARIES		
1−5	simcaes	2X,A3	options to have Caloosahatchee Estuary demands(YES or NO)
6−10	simsles	2X,A3	option to have ST. Lucie Estuary Demands(YES or NO)
11−15	es_dmnd_acc_freq	2X,A3	frequency of estuarine accounting(MTH:monthly or DLY:daily)
16−20	opt_bsn_prio_uncond	2X,A3	option to have flows from proposed Caloos/St Lucie reservoir to basin a priority unconditionally over meeting estuarine demands (YES or NO)
21−25	opt_reg_lok_to_cal_res	2X,A3	option to route excess LOK water to Caloos reservoir(YES or NO)
26−30	opt_reg_lok_to_stl_res	2X,A3	option to route excess LOK water to St. Lucie reservoir(YES or NO)
31−35	opt_prior_use_asr_flex_cal	2X,A3	option to implement flexibility in prioritizing (based on LOK Stage) RES/ASR and LOK in meeting demands in Caloos/StLucie basins (YES or NO)
36−40	bflo_frac_c43est	F6.1	fraction of Caloos basin runoff going to LOK
26.	SUPPLY SIDE MANAGEMENT PARAMTERES		
1−5	use_ssm	2X,A3	Use supply side management scheme(YES or NO)
6−13	lok_targ_level	2X,F6.1	LOK target level for May 31 (end of dry season) for ssm
14−19	ssmminfrac	F6.1	Minimum fraction of LOSA demands met during SSM
20−22	issm_cutb_opt_bcyp	i3	Option to cutback Big Cypress seminole demands due to SSM (1−yes,0−no)
23−25	issm_cutb_opt_istap	i3	Option to cutback Istapoga basin demands due to SSM(1−yes,0−no)
26−28	issm_cutb_opt_brghton	i3	Option to cutback Breighton seminole demands due to SSM (1−yes,0−no)
27.	FRACTION OF LOSA demands		
1−..	frac_dmnd_met_wt	Free	Fraction of LOSA demands met in drought watch zone
..	frac_dmnd_met_wn	Free	Fraction of LOSA demands met in drought warning zone
28.	REFERENCE STAGE SETS DURING WET SEASONS WHEN CUTBACK > 67% (1 card)		
1−..	nwgoalsto	Free	Number of reference stage sets for wet season

```
                                                (a set = 2 stage values)
..      mon_targ_wet(1)                 Free    Month when the first set of reference stages is considered
..      iday_targ_wet(1)                Free    Day when the first set of reference stages is considered
..      lok_targ_level_wet1(1)          Free    First set reference stage 1
..      lok_targ_level_wet2(1)          Free    Second set reference stage 2

..      mon_targ_wet(2)                 Free    Month when the first set of reference stages is considered
..      iday_targ_wet(2)                Free    Day when the first set of reference stages is considered
..      lok_targ_level_wet1(2)          Free    First set reference stage 1
..      lok_targ_level_wet2(2)          Free    Second set reference stage 2
                *
                *
..      mon_targ_wet(nwgoalsto)         Free    Month when the first set of reference stages is considered
..      iday_targ_wet(nwgoalsto)        Free    Day when the first set of reference stages is considered
..      lok_targ_level_wet1(nwgoalsto)  Free    First set reference stage 1
..      lok_targ_level_wet2(nwgoalsto)  Free    Second set reference stage 2
-------------------------------------------------------------------------------------------------------------------
29.     LAKE OKEECHOOBEE FOREPUMPING TRIGGERS
-------------------------------------------------------------------------------------------------------------------
1-..    rlok_stg_beg_forpmp(1)          Free    LOK stage to begin forepumping at S354
..      rlok_stg_end_forpmp(1)          Free    LOK stage to end forepumping at S354
..      rlok_stg_beg_forpmp(2)          Free    LOK stage to begin forepumping at S351
..      rlok_stg_end_forpmp(2)          Free    LOK stage to end forepumping at S351
..      rlok_stg_beg_forpmp(3)          Free    LOK stage to begin forepumping at S352
..      rlok_stg_end_forpmp(3)          Free    LOK stage to end forepumping at S352
-------------------------------------------------------------------------------------------------------------------
30.     CAPACITIES (cfs) OF PUMPS S354,S351,and S352
-------------------------------------------------------------------------------------------------------------------
1-..    forw_pump_cap(1)                Free    Capacity (cfs) of pump at S354
..      forw_pump_cap(2)                Free    Capacity (cfs) of pump at S351
..      forw_pump_cap(3)                Free    Capacity (cfs) of pump at S352
-------------------------------------------------------------------------------------------------------------------
31.     MINIMUM EAA CANAL STAGES DOWNSTREAM OF S354, S351, AND S352 AT WHICH MAJORITY OF EAA
        FARMERS COULD PUMP WATER FROM MAJOR CANAL SYSTEM INTO THEIR FIELDS FOR WATER SUPPLY PURPOSES.
-------------------------------------------------------------------------------------------------------------------
1-..    rmax_tw_eaad(1)                 Free    Minimum EAA canal stages downstream of S-354
..      rmax_tw_eaad(2)                 Free    Minimum EAA canal stages downstream of S-351
..      rmax_tw_eaad(3)                 Free    Minimum EAA canal stages downstream of S-352
-------------------------------------------------------------------------------------------------------------------
32.     MAXIMUM DEPTH, ft., ABOVE LOK STAGE PUMPS AT S354, S351, AND S352 CAN LIFT WATER FOR WATER SUPPLY PURPOSES.
-------------------------------------------------------------------------------------------------------------------
1-..    rmax_lift(1)                    Free    Maximum depth(ft) above LOK stage pumps at S354
..      rmax_lift(2)                    Free    Maximum depth(ft) above LOK stage pumps at S351
..      rmax_lift(3)                    Free    Maximum depth(ft) above LOK stage pumps at S352
-------------------------------------------------------------------------------------------------------------------
33.     MINIMUM LOK STAGE, ft., WATER CAN BE TAKEN AT S354, S351, AND S352 FOR WATER SUPPLY PURPOSES TO EAA AND LEC
-------------------------------------------------------------------------------------------------------------------
1-..    rmin_lok_stg_forw_pump(1)       Free    Minimum LOK stage water can be taken from LOK at S354
```

..	rmin_lok_stg_forw_pump(2)	Free	Minimum LOK stage water can be taken from LOK at S351
..	rmin_lok_stg_forw_pump(3)	Free	Minimum LOK stage water can be taken from LOK at S352

34. NUMBER OF DAYS OF WEEK, AND DAY NAMES, WATER WILL BE DELIVERED FROM LOK TO EAA DURING TIMES OF LEC DEMANDS. FOR THE REMAINDER OF THE WEEK (IF ANY) WATER WILL BE DELIVERED TO LEC/ENP ONLY VIA S354, S351, AND S352

1-..	n_days_week_del_eaa(1)	Free	Number of days
..	days_week_del_eaa_ssm(1,1)	Free	First day of the week
..	days_week_del_eaa_ssm(2,1)	Free	Second day of the week
	*		
	*		
..	days_week_del_eaa_ssm(n_days_week_del_eaa(1),1)	Free	n_days_week_del_eaa(1)_th day of the week

35. NUMBER OF DAYS OF WEEK, AND DAY NAMES, WATER WILL BE DELIVERED FROM LOK TO EAA WHEN LEC DEMANDS BELOW A GIVEN THRESHOLD. FOR THE REMAINDER OF THE WEEK (IF ANY) WATER WILL BE DELIVERED TO LEC/ENP ONLY VIA S354, S351, AND S352

1-..	n_days_week_del_eaa(2)	Free	Number of days of week with LOK delivery to EAA when LEC demands are below a given threshold.
..	days_week_del_eaa_ssm(1,2)	A3,1X	First day of the week of LOK delivery to EAA when LEC demands are below a given threshold.
..	days_week_del_eaa_ssm(2,2)	A3,1X	Second day of the week of LOK delivery to EAA when LEC demands are below a given threshold.
	*		
	*		
..	days_week_del_eaa_ssm(n_days_week_del_eaa(2),2)	A3,1X	n_days_week_del_eaa(1)_th day of the week of LOK delivery to EAA when LEC demand below a threshold.

36. MULTIPLIERS FOR AMOUNT OF EAA RUNOFF BACKPUMPED TO LOK WHEN WCA-3A/WCA-2A/WCA-1 ARE ABOVE FLOOR ELEVATION.

1-..	frac_ws_bkp_abv_wcaflr(1)	Free	Multiplier for runoff amount backpumped to LOK from MIAMI canal basin via S3/S354
..	frac_ws_bkp_abv_wcaflr(2)	Free	Multiplier for runoff amount backpumped to LOK from NNRHIL canal basin via S2/S351
..	frac_ws_bkp_abv_wcaflr(3)	Free	Multiplier for runoff amount backpumped to LOK from WPB canal basin via S352
..	frac_bkflw_wpb_via_l8_abv_flr	Free	Multiplier for runoff amount backpumped to LOK from WPB canal basin thru L8 and C-10A

37. MULTIPLIERS FOR AMOUNT OF EAA RUNOFF BACKPUMPED TO LOK WHEN WCA-3A/WCA-2A/WCA-1 ARE AT OR BELOW FLOOR ELEVATION.

1-..	frac_ws_bkp_bel_wcaflr(1)	Free	Multiplier for runoff backpumped from MIAMI canal basin
..	frac_ws_bkp_bel_wcaflr(2)	Free	Multiplier for runoff backpumped from NNRHIL canal basin
..	frac_ws_bkp_bel_wcaflr(3)	Free	Multiplier for runoff backpumped from WPB canal basin via S352
..	frac_bkflw_wpb_via_l8_bel_flr	Free	Multiplier for runoff backpumped from WPB canal basin via L8

38.	MAXIMUM CAPACITY FOR WATER SUPPLY BACKPUMPING / BACKFLOW INTO LOK IN UPPER ZONE		
1-..	ws_bkp_cap(1,1)	Free	Maximum capacity for backpumping thru S354
..	ws_bkp_cap(2,1)	Free	Maximum capacity for backpumping thru S351
..	ws_bkp_cap(3,1)	Free	Maximum capacity for backpumping thru S352
..	bflo_cap_l8	Free	Maximum capacity for backflow of WPB canal basin runoff bia L8
39.	MAXIMUM CAPACITY FOR WATER SUPPLY BACKPUMPING INTO LOK IN LOWER ZONE		
1-..	ws_bkp_cap(1,2)	Free	Maximum capacity for backpumping thru S354
..	ws_bkp_cap(2,2)	Free	Maximum capacity for backpumping thru S351
..	ws_bkp_cap(3,2)	Free	Maximum capacity for backpumping thru S352
40.	MAXIMUM NUMBER OF DAYS OF WS BACKPUMPING INTO LOK ONCE LOK STAGE RECOVERS ABOVE THRESHOLD AND OPTION TO HAVE WATER SUPPLY BACKFLOW TO LOK FROM EAA PRIOR TO OR AFTER ROUTING OF RUNOFF TO APPROPRIATE STA		
1-..	MAXBPCNTR	Free	Maximum number of days
..	iwsbkpwsta	Free	Backflow occurs prior to (=1), after (=0), runoff routing
41.	DEMAND LEVEL FOR LOK		
1-6	demand_level_opt	2x,A4	Demand level for LOK
42.	RUNOFF AND DEMAND MULTIPLIERS FOR BASINS AND ESTUARIES		
1-..	rlosa_factor(1,1)	Free	St.Lucie basin runoff multiplier
..	rlosa_factor(1,2)	Free	St.Lucie basin demand multiplier
..	rlosa_factor(2,1)	Free	Caloos. basin runoff multiplier
..	rlosa_factor(2,2)	Free	Caloos. basin demand multiplier
..	rlosa_factor(3,1)	Free	ISTOPOGA basin runoff multiplier
..	rlosa_factor(3,2)	Free	ISTOPOGA basin demand multiplier
..	rlosa_factor(4,2)	Free	FPL Reservoir allocation multiplier
..	rlosa_factor(5,2)	Free	Breighton Semimole demand multiplier
..	cale_dmnd_factor	Free	Caloosahatchee Estuariy demand multiplier
..	sle_dmnd_factor	Free	St Lucie Estuary demand mulyiplier
43.	OPTIONS FOR MAKEUP WATER, SSM FOR LOK ENV. WATER SUPPLY, LOK DELIVERY TO MEET ROTENBERGER TRACT ENV. DEMANDS		
1-9	make_up_water_opt	2X,A7	Option for use of Makeup Water to WCAs(MAKEUP or NOMAKUP)
10-16	makeup_water_restr	2X,A5	option for restricting Makeup water deliveries during dry season
17-21	env_ws_cutb_ssm_opt	2X,A3	option for cutting back ENV. water supply deliveries from LOK (according to SSM) (YES or NO)
22-26	opt_ws_to_roten_frm_lok	2X,A3	option for using LOK to meet Rotenberger Tract environmental demands(YES or NO)
44.	OPTIONS FOR: MODE OF OPERATION OF REGULATORY RELEASES TO WCAs, DELIVERY TO WCA-1 and WCA2A WHEN		

MULTI-SEASONAL FORECAST IS GREATER THAN THRESHOLD FOR DISCHARGES TO ESTUARIES OR WCAs, CONSIDERING STAGES IN ALL DOWNSTREAM WCAs IN LIMITING REG> RELEASES FROM LOK TO WCA-1 AND WCA-2.

1-6	lok_reg_to_wca_mode	2X,A4	Mode of operation of regulatory releases to WCAs: FLDC:flood control,release water as conveyance allows NEED: release water only if WCAs need water
7-11	opt_multi_seas_for_reg_wca	2X,A3	Option to deliver water to WCA1 and WCA2A when multi-seasonal forecast is greater than threshold for discharges to estuaries(EST) or WCAs (1-yes,0-no)
12-14	iopt_coth_wcas(1)	I3	option to consider stages in all downstream WCAs in limiting regulatory releases from LOK to WCA-1(1-yes,0-no)
15-17	iopt_coth_wcas(2)	I3	option to consider stages in all downstream WCAs in limiting regulatory releases from LOK to WCA2A(1-yes,0-no)

45. OPTIONS IN CALOOSAHATCHEE BASIN TO: INCLUDE A PROPOSED RESERVOIR, MEET ESTUARY DEMANDS, AND S79 REG. RELEASES. (1 = YES ,0 = NO)

1-..	idbsnopt1	Free	Option to include proposed reservoir in Caloosahatchee Basin
..	iuse_lok1	Free	Option to use LOK to help meet estuarine demands in Caloos basin
..	iregcals79opt	Free	Option for LOK regulatory releases to Caloos estuary at S79

46. OPTIONS FOR ST. LUCIE BASIN TO: INCLUDE A PROPOSED RESERVOIR, MEET ESTUARINE DEMANDS, INCLUDE RESERVOIR FOR TRIBUTARY (1 = YES ,0 = NO)

1-..	idbsnopt2	Free	option to include proposed reservoir in St Lucie Basin
..	iuse_lok2	Free	option to use LOK to help meet estuarine demands in St Lucie Basin
..	itribres2	Free	option to include reservoir for tributary

47. OPTIONS TO USE OR PRIORITIZE PROPOSED RESERVOIRS IN LOSA (1 = YES ,0 = NO)

1-..	inorth_stor_opt	Free	Option to use proposed North storage reservoir for LOK
..	iprop_res_prior_opt_lokreg	Free	Option to priortize prop reservoir(s) as recipient(s) of LOK excess water (use neutral capac for pumped flow instead of grav flow)
..	itcns_res_opt	Free	Option to use proposed Taylor Creek Reservoir in routing S191 and S133 flows to LOK

48. OPTIONS FOR SPLITTING LOK INTO TWO SECTIONS, THE MDS AND RAINFALL ALLOCATIONS FOR EACH SECTION, AND CAPACITY OF STRUCTURE CONNECTING THE TWO SECTIONS.

1-..	lok_split_option	Free	option to split LOK into two sections: LOK section with Littoral zone, and LOK section (Lake Section) treated as reservoir.
..	fract_mds_res	Free	Fraction of MDS used for LOK Reservoir section
..	fract_mds_litzone	Free	Fraction of MDS used for LOK Littoral zone section
..	fract_rain_litzone	Free	fraction of rainfall volume used for LOK Littoral zone section
..	capac_struc_to_lokres	Free	capacity(cfs) of structure that connects the two LOK sections

49. TOTAL ACREAGE OF PROPOSED RESERVOIRS IN CALOOSAHATCHEE, ST. LUCIE, NORTH STORAGE, AND TAYLOR CREEK.

	AND FRACTION OF TOTAL SEEPAGE FROM NORTH STORAGE RESERVOIR THAT IS LOST		
1-..	caloos_res_area	Free	Total area of Caloos reservoir (acres)
..	caloos_res_area_w_asr	Free	Total area of Caloos reservoir with ASR wells (acres)
..	stlucie_res_area	Free	Total area of proposed St Lucie reservoir (acres)
..	rnorth_stor_res_area	Free	Total area of proposed North Storage (acres)
..	tayck_nubsl_res_area	Free	Total area of proposed Taylor Creek reservoir (acres)
..	res_seep_factor	Free	Fraction of total seepage from North Sorage reservoir that is lost
50.	MAXIMUM DEPTH OF WATER ALLOWED FOR ST. LUCIE AND CALOOSAHATCHEE RESERVOIRS		
1-..	stlucie_res_max_dpth	Free	Maximum depth of water allowed for St Lucie Reservoir (ft.)
..	caloos_res_max_dpth	Free	Maximum depth of water allowed for Caloos Reservoir (ft.)
51.			
1-..	isem_flg	Free	Option to simulate operations to meet Seminole Indians' agricultural demands in Western Basin (1 = YES ,0 = NO)
52.	OPTIONS TO INCLUDE ENV. RELEASES IN SSM AND TO PRIORITIZE LOK WATER SUPPLY RELEASES.		
1-5	ssm_env	A5	Option to include Env. releases from LOK, in addition to meeting LEC urban demands, as part of SSM (TRUE or FALSE)
6-10	flow_to_wca_prior	2X,3A	Option used in prioritizing water supply releases from LOK: LEC:Lower East Coast priority with extent controlled by user NPR:"no priority" or compromise option
53.	STAGE BREAKPOINT FOR MONTHS JAN - DEC FOR BOTTOM OF ZONE B OF WATER SUPPLY ZONES OF LOK OPERATIONAL SCHEDULE IT IS LOK STAGE BELOW WHICH NO WATER SUPPLY DELIVERIES ARE MADE TO STAs OR OTHER RESERVOIRS, IF DESIRED.		
1-6	RSIAPM(1)	F6.2	Stage Breakpoint for January.
7-12	RSIAPM(2)	F6.2	Stage Breakpoint for February.
	*		
	*		
67-72	RSIAPM(12)	F6.2	Stage Breakpoint for December.
54.	ORDER OF RELEASING FLOOD FLOWS FROM LOK THRU EAA CANALS TO PROPOSED RESERVOIRS (if any) THE INDICES CORRESPONDING TO LOK OUTLETS SOUTH ARE: 1 - FLOWS THRU S352 AND WPB CANAL 2 - FLOWS THRU S351 AND HILL CANAL 3 - FLOWS THRU S351 AND NNR CANAL 4 - FLOWS THRU S354 AND MIAMI CANAL		
1-5	NSTRCA	I5	Number of potential LOK flood outlets to Proposed Resorvoir(s)
6-10	irg_to_res_prty(1)	I5	First outlet index
11-15	irg_to_res_prty(2)	I5	Second outlet index
	*		
	*		
..-..	irg_to_res_prty(NSTRCA)	I5	NSTRCA_th outlet index

55.	ORDER OF RELEASING FLOOD FLOWS FROM LOK THRU EAA CANALS TO WATER CONSERVATION AREAS THE INDICES CORRESPONDING TO LOK OUTLETS SOUTH ARE: 1 − FLOWS THRU S352 AND WPB CANAL 2 − FLOWS THRU S351 AND HILL CANAL 3 − FLOWS THRU S351 AND NNR CANAL 4 − FLOWS THRU S354 AND MIAMI CANAL		
1−5	NSTRCA_REG	I5	Number of LOK flood flow outlets to WCAs
6−10	IRGPRTY(1)	I5	First outlet index
11−15	IRGPRTY(2)	I5	Second outlet index
	*		
	*		
..−..	IRGPRTY(NSTRCA_REG)	I5	NSTRCA_REG_th outlet index
56.	NUMBER OF EAA BASINS, EAA CONVEYANCE CANALS, STRUCTURES BACKPUMPING WATER FOR FLOOD CONTROL INTO LOK		
1−4	NEAABSN	I4	number of EAA basins simulated
5−8	neaacnl	I4	number of EAA conveyance canals
9−12	NBPSTR	I4	number of structures backpumping water for flood control into LOK
57.	INITIAL AVERAGE WATER DEPTH IN THE EAA AND THE AVERAGE DEPTH OF SOIL COLUMN		
1−5	solinit	F5.2	Initial depth of water (ft.) in soil column in EAA,assumed uniform
6−10	depth_soil_eaa	F5.2	avrage depth of soil column (ft.)
58.	BASIN NUMBER FOR SUGAR RANCH PLANTATION, MINIMUM AND MAXIMUM ROW NUMBERS FOR NNRC BASIN IN EAA		
1−4	ISUGBSN	I4	Basin number for SUGAR RANCH Plantation
5−8	MINYNNR	I4	Minimum row number for NNRC basin in EAA
9−12	MAXYNNR	I4	Maximum row number for NNRC basin in EAA
59.	MINIMUM AND MAXIMUM X−COORDINATES (COLUMN NUMBERS) FOR ALL ROWS IN NNRC BASIN (ROW 42 THRU ROW 54)		
59.1	MINIMUM COLUMN NUMBERS		
1−4	IXMNNNR(MINYNNR)	I3	Minimum column number for row MINYNNR
5−8	IXMNNNR(MINYNNR+1)	I3	Minimum column number for row MINYNNR+1
	*		
	*		
..−..	IXMNNNR(MAXYNNR)	I3	Minimum column number for row MAXYNNR
59.2	MAXIMUM COLUMN NUMBERS		
1−4	IXMXNNR(MINYNNR)	I3	Maximum column number for row MINYNNR
5−8	IXMXNNR(MINYNNR+1)	I3	Maximum column number for row MINYNNR+1
	*		
	*		
..−..	IXMXNNR(MAXYNNR)	I3	Maximum column number for row MAXYNNR

60. MULTIPLIER FOR FLOOD CONTROL BACKPUMPING INTO LOK AND OPTION TO SIMULATE BMPs IN EAA

1-5	BMPRED	F5.0	Multiplier for Flood Control Backpumping into LOK
6-12	bmp_opt	2x,A5	Option to simulate BMPs in EAA (TRUE or FALSE)

61. OPTIONS FOR MEETING ENV. TARGETS AND/OR DEMANDS IN HOLEYLAND, ROTENBERGER TRACT, AND WCA-3A OPTION TO RE-PROPORTION SIMULATED EAA AGRIC. RUNOFF IN DTEREMINING DISCHARGE THRU OUTLET STRUCTURES ALL OPTIONS TAKE (TRUE or FALSE)

1-7	hlyenv	A5,2X	Option for meeting environmental targets in Holeyland
8-14	rotenenv	A5,2X	Option for meeting environmental targets in Rotenberger Tract
15-21	nnrctwca3a	A5,2X	Option to use NNRC in EAA as conduit to help meet environmental demands in WCA-3A
22-28	re_proport_eaa_rnff	A5,2X	Option to re-proportion simulated total agric runoff in EAA (based on recent history(1983-1990)) in determining discharge thru outlet structures

62. CONVEYANCE OPTIONS FOR TRANSPORTING WATER TO LEC THRU S-7 AND S-8 ALL OPTIONS TAKE (GRAV or PUMP)

1-6	eaa_conv_opt_s7	A4,2X	Conveyance option for transporting water to LEC thru S-7
7-12	eaa_conv_opt_s8	A4,2X	Conveyance option for transporting water to LEC thru S-8

63. MODE OF OPERATION OF FLOOD CONTROL RELEASE TO WCAs FROM PROPOSED RESERVOIRS, OPTION TO USE DIFFERENT STAGE TARGETS FOR EAA RESERVOIR THAN FOR LOK AND OPERATE OUTLETS FOR STA34 ACCORDIGNLY ALL OPTIONS TAKE (GRAV or PUMP)

1-6	opt_outflow_from_res_to_wca	A4,2x	Mode of flood control releases to WCAs from proposed reservoirs FLDC:flood control,release water as capacity allows NEED: release water only if WCAs need water
7-9	sta34_outf_flex_eaar_opt	A3	Option to use different stage targets for EAA reservoir than for LOK and operate outlets for STA34 accordingly (Yes or NO)

64. OPTIONS TO DIVERT EXCESS WATER INTO EAA RESERVOIR WHEN ENV. WATER SUPPLY DEMNDS EXIST IN WCA, AND TO DIVERT RUNOFF FROM EAA TO PROPOSED RESERVOIR WHEN STAGE AT TARGET LOCATIONS IN WCA ARE ABOVE TARGET STAGES PLUS OFFSET (TRUE or FALSE)

1-7	divers_excess_to_res	A5,2X	Option to divert excess water into EAA reservoir when environmental water supply demands exist in WCA
8-12	lrunoff_to_res_when_above_targ	A5	Option to divert runoff from eaa to prop reservoir when stage at target locations in WCA are ABOVE target stages plus offset

65. OPTIONS TO BYPASS STA-2 FOR WATER SUPPLY FROM LOK VIA HILLSBORO CANAL TO LECSA1 AND BYPASS RUNOFF FROM HILLSBORO CANAL BASIN. (TRUE or FALSE)

1-7	opt_for_hill_bypass	A5,2X	Option to bypass STA-2 for water supply from LOK via Hillsboro Canal to LECSA1
8-14	opt_for_hill_bypass_runoff	A5,2X	Option to bypass excess runoff from HILL Canal Basin:

			TRUE: bypass thru S6 into WCA-1 FALSE:bypass thru S7 into WCA-2A
66.	ET CALIBRATION COEFFICIENTS FOR MONTHS JAN-DEC FOR UNRESTIRCTED ET COMPUTATION IN EAA.		
1-6	ADJCFF(1)	F6.0	ET Calibration Coefficient for January
7-12	ADJCFF(2)	F6.0	ET Calibration Coefficient for February
	*		
	*		
67-72	ADJCFF(12)	F6.0	ET Calibration Coefficient for December
67.	Maximum fraction of full saturation for soil column for months Jan Dec to be maintained. Any greater fraction results in runoff		
1-6	fracdph_max(1)	F6.0	Maximum fraction of full saturation for soil column for January
7-12	fracdph_max(2)	F6.0	Maximum fraction of full saturation for soil column for February
	*		
	*		
67-72	fracdph_max(12)	F6.0	Maximum fraction of full saturation for soil column for December
68.	Fraction of full saturation which triggers water supply releases from outside sources		
1-6	fracdph_min(1)	F6.0	Fraction for January
7-12	fracdph_min(2)	F6.0	Fraction for February
	*		
	*		
67-72	fracdph_min(12)	F6.0	Fraction for December
69.	MOVING AVERAGE (RUNNING MEAN) WINDOW OF LOK STAGE TO DETERMINE ITS FALL OR RISE AS A CONDITION FOR ASR INJECTION REGARDLESS OF DEMAND, AND MOVING AVERAGE WINDOW OF EAA RUNOFF TO DETERMINE VOLUME OF FLOOD CONTROL BACKPUMPING FROM EAA TO LOK.		
1-4	max_days_mean_loktasr	I4	Running mean window, in days, for LOK stages to determine whether LOK is rising or falling as a condition for ASR injection regardless of demand
5-8	max_days_mean_bkpump	I4	Number of days used in calculation of running mean of EAA runoff in determining volume of flood control backpumping from EAA to LOK
70-76	HOLEYLAND OPTIONS		
70.	OPTIONS TO ROUTE RUNOFF FROM EAA BASINS TO HOLEYLAND (1=YES or 0=NO)		
1-6	NEAABSN	I6	Number of EAA basins
7-12	NSINDX(1)	I6	Option to route runoff from EAA basin #1
..-..	NSINDX(2)	I6	Option to route runoff from EAA basin #2

	*		
	*		
..-..	NSINDX(NEAABSN)	I6	Option to route runoff from EAA basin # NEAABSN
71.	MAXIMUM CAPACITY OF INFLOW PUMP INTO HOLEYLAND FROM EAA BASINS		
1-6	PCFS(1)	F6.0	Maximum capacity of inflow pump from EAA basins #1
..-..	PCFS(2)	F6.0	Maximum capacity of inflow pump from EAA basins #2
	*		
	*		
..-..	PCFS(NEAABSN)	F6.0	Maximum capacity of inflow pump into Holeyland from EAA basins # NEAABSN
72.	MAXIMUM CAPACITY OF OUTLET STRUCTURE(S)FROM HOLEYLAND FOR WATER SUPPLY ALL VALUES ARE SEROES BECAUSE HOLEYLAND NOT USED FOR WATER SUPPLY		
1-6	PCFWS(1)	F6.0	Maximum capacity of inflow pump from EAA basins #1
..-..	PCFWS(2)	F6.0	Maximum capacity of inflow pump from EAA basins #2
	*		
	*		
..-..	PCFWS(NEAABSN)	F6.0	Maximum capacity of inflow pump into Holeyland from EAA basins # NEAABSN
73.	CANALS RECEIVING INFLOW FROM EAA BASINS INTO HOLEYLAND		
1-6	int_cnl_holey_name(1)	A5,1x	Name of canal receiving inflow from basin #1
..-..	int_cnl_holey_name(2)	A5,1x	Name of canal receiving inflow from basin #2
	*		
	*		
..-..	int_cnl_holey_name(NEAABSN)	A5,1x	Name of canal receiving inflow from basin # NEAABSN
74.	OPTIONS IN HOLEYLAND FOR MINIMUM LEVELS MAINTAINANCE, WATER ROUTING, AND WATER SUPPLY FROM LOK		
1-5	holey_min_level_opt	A3,2X	Option to maintain minimum levels in Holeyland during dry periods YES or NO
6-14	runoff_to_holeyland	A7,2X	Option in routing water into Holeyland DIRECT = Inflow into Holeyland is from a direct EAA runoff INDIRCT = Inflow into Holeyland is from other sources than direct EAA runoff
15-20	ws_to_holy_opt	A6	Option for water supply from LOK to Holeyland. BRUSHF = Maintain water level in Holeyland a foot below land surface primarily to prevent brushfires and minimize oxidation. SCHED = Main water levels in Holeyland at the inflow schedule for restoration
75.	OPTIONS TO HAVE OUTFLOW FROM HOLEYLAND PUMPED INTO WCA-3A and ASSUMED TAILWATER FOR OUTLET STRUCTURES		
1-7	holey_out_flow_pum	A5,2x	Option to have outflow from Holeyland pumped into WCA-3A

			(TRUE or FALSE)
8–13	hlcnlds	F6.0	Assumed tailwater for outlet structures from Holeyland if the outflow is pumped
76.	OPTIONS FOR OPERATION OF OUTFLOW FROM HOLEYLAND		
1–7	holy_oper	A5,2X	Option for operation of outflow from Holeyland FLWTH – outflow structures open full during wet season (1990 operation) FLHSB – flashboards are in place so that outflow does not occur below certain stage
8–11	holy_outflow_opt	A4	Option to increase the capacity of the outflow structures from Holeyland PUMP = pumping –> outflow structures cpaciaty increases by lowering the tail water GRAV = gravity –> tail water is assumed to be the WCA stage
77.	THE FOLLOWING THREE RECORDS ARE USED TO CALCULATE THE VOLUME OF EAA RUNOFF THAT CAN POTENTIALLY LEAVE THE BASIN DURING A TIME STEP. THE BASINS CONSIDERED ARE MIAMI, NNR–HIL, AND WPB CANAL BASINS. THE RESULTING RUNOFF IS THE BASIS OF DETERMINING FLOOD CONTROL BACKPUMPING AND DISTRIBUTION OF FLOW THRU APPROPRIATE STRUCTURES. EACH RECORD (BASIN) CONTAINS NUMBER OF THERSHOLDS, VALUE, AND FRACTION OF SIMULATED RUNOFF FOR EACH THRESHOLD THIS RECORD IS READ ONLY IF THE MODEL IS NOT USED IN A CALIBRATION MODE.		
77.1	Enteries for Miami Canal Basin		
1–5	nthresholds(1)	I5	Number of thresholds
6–12	runoff_thres(1,1)	F7.0	Daily runoff (cfs–day) for threshold # 1
13–17	pct_daily_runoff(1,1)	F5.2	Fraction of simulated daily runoff for threshold # 1
18–24	runoff_thres(1,2)	F7.0	Daily runoff (cfs–day) for threshold # 2
25–29	pct_daily_runoff(1,2)	F5.2	Fraction of simulated daily runoff for threshold # 2
	*		
	*		
	*		
54–60	runoff_thres(1,nthresholds(1))	F7.0	Daily runoff (cfs–day) for threshold # nthresholds(1)
61–65	pct_daily_runoff(1, nthresholds(1))	F5.2	Fraction of simulated daily runoff for threshold # nthresholds(1)
77.2	Enteries for NNR–HIL Canal Basin		
1–5	nthresholds(2)	I5	Number of thresholds
6–12	runoff_thres(2,1)	F7.0	Daily runoff (cfs–day) for threshold # 1
13–17	pct_daily_runoff(2,1)	F5.2	Fraction of simulated daily runoff for threshold # 1
18–24	runoff_thres(2,2)	F7.0	Daily runoff (cfs–day) for threshold # 2
25–29	pct_daily_runoff(2,2)	F5.2	Fraction of simulated daily runoff for threshold # 2
	*		
	*		
	*		
54–60	runoff_thres(2,nthresholds(2))	F7.0	Daily runoff (cfs–day) for threshold # nthresholds(2)

61-65	pct_daily_runoff(2, nthresholds(2))	F5.2	Fraction of simulated daily runoff for threshold # nthresholds(2)
77.3	Enteries for WPB Canal Basin		
1-5	nthresholds(3)	I5	Number of thresholds
6-12	runoff_thres(3,1)	F7.0	Daily runoff (cfs-day) for threshold # 1
13-17	pct_daily_runoff(3,1)	F5.2	Fraction of simulated daily runoff for threshold # 1
18-24	runoff_thres(3,2)	F7.0	Daily runoff (cfs-day) for threshold # 2
25-29	pct_daily_runoff(3,2)	F5.2	Fraction of simulated daily runoff for threshold # 2
	*		
	*		
	*		
54-60	runoff_thres(3,nthresholds(3))	F7.0	Daily runoff (cfs-day) for threshold # nthresholds(3)
61-65	pct_daily_runoff(3, nthresholds(3))	F5.2	Fraction of simulated daily runoff for threshold # nthresholds(3)
78.	FRACTION OF TOTAL RUNOFF LEAVING MAJOR EAA BASINS THRU S3-S8, THRU S2-S7-S6, THRU S5A, THRU 298 DISTRICT PUMP 901 MEANS REPROPORTIONING DOES NOT APPLY TO 298 DISTRICTS.		
1-6	PCTRUNF(1)	F6.0	Fraction of total runoff leaving EAA BASIN #1
7-12	PCTRUNF(2)	F6.0	Fraction of total runoff leaving EAA BASIN #2
	*		
	*		
13-18	PCTRUNF(NEAABSN)	F6.0	Fraction of total runoff leaving EAA BASIN #NEAABSN
79.	FRACTION OF TOTAL NNRC-HILL BASIN RUNOFF TO BE ROUTED THRU S7,S6,and S150.		
1-6	QS7FACT	F6.0	Fraction of total NNRC-HILL basin runoff to be routed thru S7
7-12	QS6FACT	F6.0	Fraction of total NNRC-HILL basin runoff to be routed thru S6
13-18	QS150FT	F6.0	Fraction of total NNRC-HILL basin runoff to be routed thru S150
80.	MULTIPLIER FOR FLOOD CONTROL BACKPUMPING THRU S3 AND THRU S2		
1-6	REDBP(1)	F6.0	Multiplier for flood control backpumping thru S3
7-12	REDBP(2)	F6.0	Multiplier for flood control backpumping thru S2
81.	7-DAY RUNNING MEAN DAILY RUNOFF (CFS-DAY) THRESHOLD TRIGGERING FLOOD CONTROL BACKPUMPING FROM EAA INTO LOK, C1, AND C2. BACKPUMPING FROM EAA TO LOK = C1 * (mean daily runoff - threshold runoff) + C2, mean daily runoff > threshold runoff)		
81.1	PARAMETERS FOR BACKPUMPING CALCULATIONS AT S-3 FROM MIAMI CANAL BASIN TO LOK.		
1-6	CRRNFF(1)	F6.0	7-day mean runoff threshold for backpumping at S-3 from Miami Canal Basin
7-12	COEFR(1,1)	F6.0	C1 for calculation of backpumping at S-3 from Miami Canal Basin
13-18	COEFR(1,2)	F6.0	C2 for calculation of backpumping at S-3 from Miami Canal Basin

81.2 PARAMETERS FOR BACKPUMPING CALCULATIONS AT S-2 FROM NNR-HIL CANAL BASIN TO LOK.

1-6	CRRNFF(NBPSTR)	F6.0	7-day mean runoff threshold for backpumping at S-2 from NNR-HIL Canal Basin
7-12	COEFR(NBPSTR,1)	F6.0	C1 for calculation of backpumping at S-2 from NNR-HIL Canal Basin
13-18	COEFR(NBPSTR,2)	F6.0	C2 for calculation of backpumping at S-2 from NNR-HIL Canal Basin

81.3 PARAMETERS FOR BACKPUMPING CALCULATIONS AT S-2 FROM WPB CANAL BASIN TO LOK.

UNLESS OTHERWISE STATED, EAA BASINS ARE NAMED AS FOLLOWS:
BASIN #1: MIAMI CANAL BASIN
BASIN #2: NNR-HILL CANAL BASIN
BASIN #3: WEST PALM BEACH CANAL BASIN
BASIN #4: 298 DISTRICTS

NOTE : OPTIONS FOR PROPOSED RESERVOIRS HERE INVOLVES
RESERVOIRS OTHER THAN STAs. ROUTING OF INFLOWS
INTO STAs ARE HANDLED SEPARATELY.

82. RECORD READ ONLY IF HOLEYLAND RECEIVES DIRECT RUNOFF FROM EAA BASINS (i.e., record 74, second entry = 'DIRECT') 298-District is not a contributer hence ires_pump(neaabsn) is not read.

1-5	ires_pump(1)	i5	Option to route runoff to proposed reservoir for Basin #1
6-10	ires_pump(2)	i5	Option to route runoff to proposed reservoir for Basin #2
	*		
	*		
11-15	ires_pump(neaabsn-1)	i5	Option to route runoff to proposed reservoir for Basin #neaabsn-1

83. OPTION TO ROUTE RUNOFF TO PROPOSED RESERVOIR (OTHER THAN STAs) FOR EAA BASINS AND L-8 BASIN
NNR CANAL BASIN (second Entry) and HILLSBORO CANAL BASIN (last entry) are treated separately.
0 = NO RESERVOIR OTHER THAN STAs 1= ROUTE RUNOFF TO RESERVOIR OTHER THAN STAs

1-3	ires_opt_eaa(1)	i3	Option to route runoff for MIAMI CANAL BASIN
4-6	ires_opt_eaa(2)	i3	Option to route runoff for NNR (only) CANAL BASIN
7-9	ires_opt_eaa(3)	i3	Option to route runoff for WEST PALM BEACH CANAL BASIN
10-12	ires_opt_eaa(4)	i3	Option to route runoff for 298 DISTRICTS
13-15	ires_opt_eaa(5)	i3	Option to route runoff for L-8 BASIN
16-18	ires_opt_hill	i3	Option to route runoff for HILLSBORO BSAIN

84. OPTION TO HAVE RUNOFF INJECTED INTO ASR WELLS: 0 = NO ASR WELLS 1 = HAVE ASR WELLS

1-3	iasr_opt_eaa(1)	i3	Option to have runoff injected for BASIN #1
4-6	iasr_opt_eaa(2)	i3	Option to have runoff injected for BASIN #2 NNR-HIL, if this option is1, entry #2 and/or entry ires_opt_hill of the previous record must be 1.
	*		
	*		
..-..	iasr_opt_eaa(neaabsn)	i3	Option to have runoff injected for BASIN #neaabsn

85.	FRACTION OF RUNOFF AVAILABLE FOR INJECTION TO RES/ASR SYSTEM. ONLY APPLIES IF ASR OPTION ABOVE IS 1 (HAVE ASR WELLS), OTHERWISE ALL FRACTIONS ARE 1.0		
1–5	frac_runoff_asr(1)	F5.2	Fraction for runoff for Basin #1
6–10	frac_runoff_asr(2)	F5.2	Fraction for runoff for Basin #2
	*		
	*		
..–..	frac_runoff_asr(neaabsn)	F5.2	Fraction for runoff for Basin #neaabsn
86.	FRACTION OF WATER IN ASR WELLS (BUBBLE) AVAILABLE TO MEET DEMANDS IN EAA BASINS 1–4. THIS GIVES THE USER THE OPTION TO PRPOPORTION THE AVAILABLE WATER IN ASR WELLS IF WELLS ARE USED TO MEED MORE THAN ONE BASIN'S DEMAND.		
1–5	frac_avail_asr_to_meet_dmnd(1)	F5.2	Fraction for ASR wells available water to meet demand in Basin #1
6–10	frac_avail_asr_to_meet_dmnd(2)	F5.2	Fraction for ASR wells available water to meet demand in Basin #2
	*		
	*		
11–15	frac_avail_asr_to_ meet_dmnd(neaabsn)	F5.2	Fraction for ASR wells available water to meet demand in Basin #neaabsn
87.	NAME OF RESERVOIR TO WHICH RUNOFF IS DIVERTED FOR EAA BASINS 1–4. IF NO RESERVOIR, INPUT NORES.		
1–7	ieaa_res_asr_name(1)	A6,1X	Reservoir receiving runoff from EAA basin # 1
7–16	ieaa_res_asr_name(2)	A6,1X	Reservoir receiving runoff from EAA basin # 2
	*		
	*		
..–..	ieaa_res_asr_name(neaabsn+1)	A6,1X	Reservoir receiving runoff from EAA basin # neaabsn+1
88.	INFORMATION ABOUT RESERVOIRS RECEIVING EXCESS WATER FROM LOK NUMBER, NAMES, AND WHETHER OR NOT FORECASTING IS USED TO ROUTE THE EXCESS WATER TO RESERVOIR.		
88.1	MIAMI CANAL BASIN		
1–5	no_of_res_reg_frm_lok(1)	I3,2x	Number of reservoirs receiving excess water from LOK
6–13	ieaa_res_asr_reg_name(1,1)	A6,2x	Name of reservoir # 1
14–20	opt_for_reg_rel_to_res(1,1)	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO
21–28	ieaa_res_asr_reg_name(1,2)	A6,2x	Name of reservoir #2
29–35	opt_for_reg_rel_to_res(1,2)	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO
36–43	ieaa_res_asr_reg_name(1, no_of_res_reg_frm_lok(1))	A6,2x	Name of reservoir #no_of_res_reg_frm_lok(1)
44–50	opt_for_reg_rel_to_res(1, no_of_res_reg_frm_lok(1))	A5,2x	Option to include forecasting in decision to route excess water to reservoir

88.2 NNR CANAL BASIN

1-5	no_of_res_reg_frm_lok(2)	I3,2x	Number of reservoirs receiving excess water from LOK
6-13	ieaa_res_asr_reg_name(2,1)	A6,2x	Name of reservoir # 1
14-20	opt_for_reg_rel_to_res(2,1)	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO
21-28	ieaa_res_asr_reg_name(2,2)	A6,2x	Name of reservoir #2
29-35	opt_for_reg_rel_to_res(2,2)	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO
36-43	ieaa_res_asr_reg_name(2, no_of_res_reg_frm_lok(2))	A6,2x	Name of reservoir #no_of_res_reg_frm_lok(2)
44-50	opt_for_reg_rel_to_res(2, no_of_res_reg_frm_lok(2))	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO

88.3 WPB CANAL BASIN

1-5	no_of_res_reg_frm_lok(3)	I3,2x	Number of reservoirs receiving excess water from LOK
6-13	ieaa_res_asr_reg_name(3,1)	A6,2x	Name of reservoir # 1
14-20	opt_for_reg_rel_to_res(3,1)	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO
21-28	ieaa_res_asr_reg_name(3,2)	A6,2x	Name of reservoir #2
29-35	opt_for_reg_rel_to_res(3,2)	A5,2x	Option to include forecasting in decision to route excess FOREC = YES STATE = NO
36-43	ieaa_res_asr_reg_name(3, no_of_res_reg_frm_lok(3))	A6,2x	Name of reservoir #no_of_res_reg_frm_lok(3)
44-50	opt_for_reg_rel_to_res(3, no_of_res_reg_frm_lok(3))	A5,2x	Option to include forecasting in decision to route excess FOREC = YES STATE = NO

88.4 HILLSBORO CANAL BASIN

1-5	no_of_res_reg_frm_lok(4)	I3,2x	Number of reservoirs receiving excess water from LOK
6-13	ieaa_res_asr_reg_name(4,1)	A6,2x	Name of reservoir # 1
14-20	opt_for_reg_rel_to_res(4,1)	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO
21-28	ieaa_res_asr_reg_name(4,2)	A6,2x	Name of reservoir #2
29-35	opt_for_reg_rel_to_res(4,2)	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO
36-43	ieaa_res_asr_reg_name(4, no_of_res_reg_frm_lok(4))	A6,2x	Name of reservoir #no_of_res_reg_frm_lok(4)
44-50	opt_for_reg_rel_to_res(4, no_of_res_reg_frm_lok(4))	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO

88.5 L-8 CANAL BASIN (neaabsn+1)

1-5	no_of_res_reg_frm_lok(4)	I3,2x	Number of reservoirs receiving excess water from LOK

6-13	ieaa_res_asr_reg_name(4,1)	A6,2x	Name of reservoir # 1
14-20	opt_for_reg_rel_to_res(4,1)	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO
21-28	ieaa_res_asr_reg_name(4,2)	A6,2x	Name of reservoir #2
29-35	opt_for_reg_rel_to_res(4,2)	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO
36-43	ieaa_res_asr_reg_name(4, no_of_res_reg_frm_lok(4))	A6,2x	Name of reservoir #no_of_res_reg_frm_lok(4)
44-50	opt_for_reg_rel_to_res(4, no_of_res_reg_frm_lok(4))	A5,2x	Option to include forecasting in decision to route excess water to reservoir FOREC = YES STATE = NO
89.	MAXIMUM TAILWATER STAGE FOR S-354,S351,S-352, AND 298 DISTRICTS (if not used enter -901)		
1-6	RMAXSTG(1)	F6.2	Maximum tailwater for S-354 (Basin #1)
7-12	RMAXSTG(2)	F6.2	Maximum tailwater for S-351 (Basin #2)
13-18	RMAXSTG(3)	F6.2	Maximum tailwater for S-352 (Basin #3)
	* *		
..-..	MAXSTG(NEAABSN)	F6.2	Maximum tailwater for 298 districts pump(not used)
90.	ACREAGE OF CURRENT IRRIGATION 298 Districts is not of interest HERE.		
1-10	base_area_eaa_basin(1)	F10.0	Acreage of irrigation for Basin #1
10-20	base_area_eaa_basin(2)	F10.0	Acreage of irrigation for Basin #1
	* *		
..-..	base_area_eaa_basin(neaabsn-1)	F10.0	Acreage of irrigation for Basin #neaabsn-1
91.	EAA STRUCTURE NAMES NEEDED TO GENERATE STRUCTURE INDICES NEEDED FOR 'LAKEWCA' SUBROUTINE STRUCTURE INDICES ARE GENERATED FOR EACH BASIN IN A LOOP OF 'neaabsn" BASINS		
91.1	BASIN #1 (MIAMI CANAL BASIN)		
1-7	n_eaa_str(1)	i5,2X	Number of structures for Basin #1
8-14	eaa_str_name(1)	A6,1X	Structure Name # 1 for Basin #1
15-21	eaa_str_name(2)	A6,1X	Structure Name # 2 for Basin #1
	* *		
..-..	eaa_str_name(n_eaa_str(1))	A6,1X	Structure Name # n_eaa_str(1) for Basin #1
91.2	BASIN #2 (NNR-HIL Canal Basin)		
1-7	n_eaa_str(2)	i5,2X	Number of structures for Basin #2
8-14	eaa_str_name(1)	A6,1X	Structure Name # 1 for Basin #2

15-21	eaa_str_name(2)	A6,1X	Structure Name # 2 for Basin #2
	*		
	*		
..-..	eaa_str_name(n_eaa_str(2))	A6,1X	Structure Name # n_eaa_str(2) for Basin #2
91.3	BASIN #3 (WPB Canal Basin)		
1-7	n_eaa_str(3)	i5,2X	Number of structures for Basin #3
8-14	eaa_str_name(1)	A6,1X	Structure Name # 1 for Basin #3
15-21	eaa_str_name(2)	A6,1X	Structure Name # 2 for Basin #3
	*		
	*		
..-..	eaa_str_name(n_eaa_str(3))	A6,1X	Structure Name # n_eaa_str(3) for Basin #3
91.4	BASIN #neaabsn ("298" DISTRICTS)		
1-7	n_eaa_str(neaabsn)	i5,2X	Number of structures for Basin #neaabsn
8-14	eaa_str_name(1)	A6,1X	Structure Name # 1 for Basin #neaabsn
15-21	eaa_str_name(2)	A6,1X	Structure Name # 2 for Basin #neaabsn
	*		
	*		
..-..	eaa_str_name(n_eaa_str (neaabsn))	A6,1X	Structure Name # n_eaa_str(neaabsn) for Basin #neaabsn
92.	NUMBER AND NAMES OF CANAL REACHES IN L8 BASINS		
1-7	no_canal_in_l8_basin	I5,2X	Number of canal reaches
8-13	l8basin_canal_name(1)	I5,1X	Name of reach # 1
14-19	l8basin_canal_name(2)	I5,1X	Name of reach # 2
	*		
	*		
..-..	l8basin_canal_name(no_canal_in_l8_basin)	I5,1X	Name of reach # no_canal_in_l8_basin
93.	NAME OF WATER CONSERVATION AREA AND INTERIOR CONVEYANCE CANAL DOWNSTREAM OF L8 BASIN		
1-7	idn_wca_name_l	A5,2X	Downstream WCA name
8-14	ds_int_canal_name_l8	A5,2X	Downstream interior conveyance canal name in WCA
94.	MINIMUM STAGE IN L8 FOR DRY, WET SEASONS AND MAXIMUM STAGE IN WPBCAT ALLOWED FOR INFLOW FROM M-CNL i		
1-6	rmin_l8stg_flow_to_mcnl(1)	F6.1	Minimum stage in L8 for pumping into M-CNL during dry season
7-12	rmin_l8stg_flow_to_mcnl(2)	F6.1	Minimum stage in L8 for pumping into M-CNL during wet season
13-18	rmax_wpbcat_for_inflw	F6.1	Maximum stage in WPBCAT allowed for inflow from M-CNL

THE FOLLOWING INFORMATION PERTAINS TO EAA CONVEYANCE CANALS. INDICES AND CANAL NAMES AS FOLLOWS:
Canal #1 - Miami Canal

Canal #2 − North New River Canal
Canal #3 − WPB Canal
Canal #4 − Hillsboro Canal

---

95. MULTIPLIER FOR EAA CANAL HYDRAULIC CONVEYANCE FOR CANALS #1−4

..−.. RCPFACTEAA_canal(1) Free EAA canal hydraulic conveyance Multiplier for canal #1
..−.. RCPFACTEAA_canal(2) Free EAA canal hydraulic conveyance Multiplier for canal #2
* *
..−.. RCPFACTEAA_canal(NEAACNL) Free EAA canal hydraulic conveyance Multiplier for canal #NEAACNL

---

96. MULTIPLIER FOR EAA STRUCTURE/CANAL DESIGN CONVEYANCE FOR CANALS #1−4

..−.. RCPFACTEAA(1) Free EAA structure/canal design conveyance Multiplier for canal #1
..−.. RCPFACTEAA(2) Free EAA structure/canal design conveyance Multiplier for canal #2
* *
..−.. RCPFACTEAA(NEAACNL) Free EAA structure/canal design conveyance Multiplier for canal #NEAACNL

---

97. MULTIPLIER FOR DIVERSION OF EXCESS LOK WATER TO PROPOSED RESERVOIRS IN EAA VIA CANALS #1−4

..−.. rcpfacteaa_res(1) Free Multiplier for canal #1
..−.. rcpfacteaa_res(2) Free Multiplier for canal #2
* *
..−.. rcpfacteaa_res(NEAACNL) Free Multiplier for canal #NEAACNL

---

98. FRACTION OF TOTAL VOLUME OF WATER AVAILABLE "OF THE TOP" TO MEET LEC DEMANDS
TO BE MET VIA CONVEYANCE CANALS #1−4

..−.. frac_lec(1) Free Fraction for canal #1
..−.. frac_lec(2) Free Fraction for canal #2
* *
..−.. frac_lec(NEAACNL) Free Fraction for canal #NEAACNL

---

99. FRACTION OF REMAINING CONVEYANCE CAPACITY USED TO MEET EVERGLADES’ NEEDS

..−.. frac_rem_capac(1) Free Fraction for canal #1
..−.. frac_rem_capac(2) Free Fraction for canal #2
* *
..−.. frac_rem_capac(NEAACNL) Free Fraction for canal #NEAACNL

---

100. NAMES OF EAA CONVEYANCE CANALS

```
1-7     eaa_conv_canal_names(1)         A5-2X   EAA Conveyance Canal name #1
8-14    eaa_conv_canal_names(2)         A5-2X   EAA Conveyance Canal name #2
              *
              *
..-..   eaa_conv_canal_names(NEAACNL)   A5-2X   EAA Conveyance Canal name #NEAACNL
-------------------------------------------------------------------------------------------------------------------
101.    NAME OF DOWNSTREAM WATER CONSERVATION AREA FOR EAA CONVEYANCE CANALS #1-4 AND S150 FOR LEC WATER SUPPLY
-------------------------------------------------------------------------------------------------------------------
1-7     idn_wca_name(1)                 A5-2X   DOWNSTREAM WCA for EAA Conevyance Canal #1
8-14    idn_wca_name(2)                 A5-2X   DOWNSTREAM WCA for EAA Conveyance Canal #2
                *
                *
..-..   idn_wca_name(NEAACNL)           A5-2X   DOWNSTREAM WCA for EAA Conveyance Canal #NEAACNL
..-..   idn_wca_name(NEAACNL+1)         A5-2X   DOWNSTREAM WCA for S150
-------------------------------------------------------------------------------------------------------------------
102.    NAME OF DOWNSTREAM WATER CONSERVATION AREA FOR EAA CONVEYANCE CANALS #1-4 FOR ENVIRONMENTAL WATER SUPPLY
-------------------------------------------------------------------------------------------------------------------
1-7     idn_wca_name_env(1)             A5-2X   DOWNSTREAM WCA for EAA Conveyance Canal #1
8-14    idn_wca_name_env(2)             A5-2X   DOWNSTREAM WCA for EAA Conveyance Canal #2
                *
                *
..-..   idn_wca_name_env(NEAACNL)       A5-2X   DOWNSTREAM WCA for EAA Conveyance Canal #NEAACNL
-------------------------------------------------------------------------------------------------------------------
103.    NAMES OF DOWNSTREAM WCA's CONVEYANCE CANALS FOR EAA CANALS #1-4 AND S150
-------------------------------------------------------------------------------------------------------------------
1-7     ds_convey_c_name(1)             A5-2X   DOWNSTREAM WCA Conveyance Canal for EAA Conveyance Canal #1
8-14    ds_convey_c_name(2)             A5-2X   DOWNSTREAM WCA Conveyance Canal for EAA Conveyance Canal #2
                *
                *
..-..   ds_convey_c_name(NEAACNL)       A5-2X   DOWNSTREAM WCA Conveyance Canal for EAA Conveyance Canal #NEAACNL
..-..   ds_convey_c_name(NEAACNL+1)     A5-2X   DOWNSTREAM WCA Conveyance Canal for S150
-------------------------------------------------------------------------------------------------------------------
104.    OPTION TO ROUTE LOK WATER SUPPLY RELEASES VIA CONCEPTUAL PIPELINE FOR EAA CANALS #1-4 AND S150
-------------------------------------------------------------------------------------------------------------------
1-8     opt_pipeline_ws(1)              A7-1X   Option to route LOK W.S. via conceptual pipeline for EAA canal #1.
9-18    opt_pipeline_ws(2)              A7-1X   Option to route LOK W.S. via conceptual pipeline for EAA canal #2
                *
                *
..-..   opt_pipeline_ws(NEAACNL)        A7-1X   Option to route LOK W.S. via conceptual pipeline for EAA Canal
                                                #NEAACNL
..-..   opt_pipeline_ws(NEAACNL+1)      A7-1X   Option to route LOK W.S. via conceptual pipeline for S150
-------------------------------------------------------------------------------------------------------------------
105.    CANAL "MAXIMUM" DESIGN CAPACITIES (CFS)
-------------------------------------------------------------------------------------------------------------------
..-..   CNLCAP(1)                       Free    Design Capacities for EAA Canal # 1
..-..   CNLCAP(2)                       Free    Design Capacities for EAA Canal # 2
                *
                *
```

```
..-..   CNLCAP(NEAACNL)                Free    Design Capacities for EAA Canal # NEAACNL
-------------------------------------------------------------------------------------------------------------------
106.    CANAL DESIGN CAPACITIES (CFS) FOR W.S. PURPOSES
-------------------------------------------------------------------------------------------------------------------
..-..   desgn_cap_canl_ws(1)           Free    Design Capacities for EAA Canal # 1
..-..   desgn_cap_canl_ws(2)           Free    Design Capacities for EAA Canal # 2
                *
                *
..-..   desgn_cap_canl_ws(NEAACNL)     Free    Design Capacities for EAA Canal # NEAACNL
-------------------------------------------------------------------------------------------------------------------
107.    OPTION TO USE CANAL CONVEYANCE CAPACITY #1-4 FOR INJECTION OF LOK WATER INTO PROPOSED
        RESERVOIR (OTHER THAN STAs) in EAA
        1 - Yes (CANAL CONVEYANCE WILL BE ONE OF CONSTRAINTS)          0 - NO
-------------------------------------------------------------------------------------------------------------------
..-..   iconv_use_inj(1)               Free    Option for Canal #1
..-..   iconv_use_inj(2)               Free    Option for Canal #2
                *
                *
..-..   iconv_use_inj(NEAACNL)         Free    Option for Canal # NEAACNL
-------------------------------------------------------------------------------------------------------------------
108.1   FRACTION OF DESIGN CAPACITIES OF CONVEYANCE CANALS #1-4 AVAILABLE FOR FLOOD CONTROL
        RELEASES FROM LOK DURING DRY SEASON (NOV.-MAY)
-------------------------------------------------------------------------------------------------------------------
..-..   pct_des(1,1)                   Free    Fraction of design capacity for Canal #1
..-..   pct_des(2,1)                   Free    Fraction of design capacity for Canal #2
            *
            *
..-..   pct_des(NEAACNL,1)             Free    Fraction of design capacity for Canal #NEAACNL
-------------------------------------------------------------------------------------------------------------------
108.2   FRACTION OF DESIGN CAPACITIES OF CONVEYANCE CANALS #1-4 AVAILABLE FOR FLOOD CONTROL
        RELEASES FROM LOK DURING WET SEASON (JUN.-OCT.)
-------------------------------------------------------------------------------------------------------------------
..-..   pct_des(1,2)                   Free    Fraction of design capacity for Canal #1
..-..   pct_des(2,2)                   Free    Fraction of design capacity for Canal #2
            *
            *
..-..   pct_des(NEAACNL,2)             Free    Fraction of design capacity for Canal #NEAACNL
-------------------------------------------------------------------------------------------------------------------
109.    PUMP INTAKE LEVELS (FT. NGVD) FOR S8, S7, S5A, AND S6
-------------------------------------------------------------------------------------------------------------------
1-6     pmp_int(1)                     Free    Pump intake levels(ft. NGVD) for S8
7-12    pmp_int(2)                     Free    Pump intake levels(ft. NGVD) for S7
13-18   pmp_int(3)                     Free    Pump intake levels(ft. NGVD) for S5A
19-24   pmp_int(4)                     Free    Pump intake levels(ft. NGVD) for S6
-------------------------------------------------------------------------------------------------------------------
 110.   PUMP INTAKE LEVELS (FT. NGVD) FOR NEW S8, S7, S5A, AND S6, IF NO NEW PUMP IS PROPOSED, ENTER -901
-------------------------------------------------------------------------------------------------------------------
1-6     pmp_int_new(1)                 Free    New Pump intake levels(ft. NGVD) for S8
```

```
7-12    pmp_int_new(2)                  Free    New Pump intake levels(ft. NGVD) for S7
13-18   pmp_int_new(3)                  Free    New Pump intake levels(ft. NGVD) for S5A
19-24   pmp_int_new(4)                  Free    New Pump intake levels(ft. NGVD) for S6
-------------------------------------------------------------------------------------------------------------------
111. NAME OF SERVICE AREAS RECEIVING WATER SUPPLY FROM LOK VIA EAA CANALS 1 THROUGH 4
-------------------------------------------------------------------------------------------------------------------
1-..    iserv_area(1)                   Free    LEC Service Area receiving Water Supply from LOK via EAA canal #1
..-..   iserv_area(2)                   Free    LEC Service Area receiving Water Supply from LOK via EAA canal #2
..-..   iserv_area(3)                   Free    LEC Service Area receiving Water Supply from LOK via EAA canal #3
..-..   iserv_area(4)                   Free    LEC Service Area receiving Water Supply from LOK via EAA canal #4
-------------------------------------------------------------------------------------------------------------------
112. NUMBER AND NAMES OF TARGET AREAS FOR ENVIORNMNETAL WATER SUPPLY DELIVERIES FROM LOK TO
     WATER CONSERVATION AREAS VIA EAA CANALS (A record for each canal)
-------------------------------------------------------------------------------------------------------------------
112.1   NUMBER AND NAME OF TARGET AREAS FOR ENVIRONMENTAL WS FROM LOK TO WCA-3A VIA MIAMI CANAL.
-------------------------------------------------------------------------------------------------------------------
1-8     no_targ_loc(1)                  I6, 2X  Number of target areas receiving Env. WS via Canal #1 (Miami Canal)
7-15    targ_area_name(1)               A5, 2X  Name of first target in WCA-3A
16-22   targ_area_name(2)               A5, 2X  Name of second target in WCA-3A
                *
                *
..-..   targ_area_name(no_targ_loc(1))  A5, 2X  Name of last target in WCA-3A
-------------------------------------------------------------------------------------------------------------------
112.2   NUMBER AND NAME OF TARGET AREAS FOR ENV. WS FROM LOK TO WCA-2A VIA NNR CANAL (IF STA3/4 IS NOT OPERATIONAL).
        NUMBER AND NAME OF TARGET AREAS FOR ENV. WS FROM LOK TO WCA-3A VIA NNR CANAL (IF STA3/4 IS OPERATIONAL).
-------------------------------------------------------------------------------------------------------------------
1-8     no_targ_loc(2)                  I6, 2X  Number of target areas receiving Env. WS via Canal #2 (NNR Canal)
7-15    targ_area_name(1)               A5, 2X  Name of first target in WCA-3A
16-22   targ_area_name(2)               A5, 2X  Name of second target in WCA-3A
                *
                *
..-..   targ_area_name(no_targ_loc(2))  A5, 2X  Name of last target in WCA-3A
-------------------------------------------------------------------------------------------------------------------
112.3   NUMBER AND NAME OF TARGET AREAS FOR ENVIRONMENTAL WS FROM LOK TO WCA-1 VIA WPB CANAL.
-------------------------------------------------------------------------------------------------------------------
1-8     no_targ_loc(3)                  I6, 2X  Number of target areas receiving Env. WS via Canal #3 (WPB Canal)
7-15    targ_area_name(1)               A5, 2X  Name of first target in WCA-1
16-22   targ_area_name(2)               A5, 2X  Name of second target in WCA-1
                *
                *
..-..    targ_area_name(no_targ_loc(3)) A5, 2X  Name of last target in WCA-1
-------------------------------------------------------------------------------------------------------------------
112.4   NUMBER AND NAME OF TARGET AREAS FOR ENV. WS FROM LOK TO WCA-1 VIA HILL CANAL (IF STA-2 IS NOT OPERATIONAL).
        NUMBER AND NAME OF TARGET AREAS FOR ENV. WS FROM LOK TO WCA-2A VIA HILL CANAL (IF STA-2 IS OPERATIONAL).
-------------------------------------------------------------------------------------------------------------------
1-8     no_targ_loc(4)                  I6, 2X  Number of target areas receiving Env. WS via Canal #4 (HILL Canal)
7-15    targ_area_name(1)               A5, 2X  Name of first target in WCA-2A
16-22   targ_area_name(2)               A5, 2X  Name of second target in WCA-2A
```

```
                *
                *
..-..   targ_area_name(no_targ_loc(4))  A5, 2X  Name of last target in WCA-2A
-------------------------------------------------------------------------------------------------------------------
113.    STRUCTURE CAPACITIES NEEDED FOR CONVEYANCE CALCULATIONS AND STRUCTURE FLOW COMPUTED IN LAKEWCA SUBROUTINE
-------------------------------------------------------------------------------------------------------------------
..-..   S3MAX                           Free    Design Capacity for S3
..-..   S2MAX                           Free    Design Capacity for S2
..-..   S5A4MAX                         Free    Design Capacity for S5AE
..-..   RL8AGRFCAP                      Free    Design Capacity for L8 Agric. runoff into L-8
..-..   RMCAGRFCAP                      Free    Agric runoff from M-CNL basin into M-Canal
..-..   capac_sugh                      Free    Runoff from US Sugar Ranch into STA-6
..-..   capc_new_pump_to_west_frm_roten Free    Design Capacity for G-404
..-..   capacs5as                       Free    Design Capacity for S-5AS
..-..   facts2mc                        Free    Multiplier for Struct. Capacity of pump from L-8 Canal to M-Canal
                                                serving the needs along along M-Canal,Lake Mangonia, and WPB
                                                Catchment area.
..-..   frac_sem_cyp                    Free    Mutiplier for Seminole Indians' demands in Big Cypress area
..-..   capac_mcnl                      Free    Design capacity of M-Canal
..-..   frac_thru_s8_sta34              Free    Fraction of outflow from STA34 to S8 is to be diverted thru G404
..-..   frac_c139basin_sta5             Free    Fraction of C139 basin runoff going to STA5
..-..   frac_c139basin_sta6             Free    Fraction of C139 basin runoff going to STA6
..-..   ic139_rnff_fix_split_opt        Free    Option to use fixed fractions of C139 runoff to STA5 and STA6
                                                (1- yes,0 - no)
-------------------------------------------------------------------------------------------------------------------
114.    CAPACITY FOR WATER SUPPLY TO ACME TO WCA1 AND OF C10A FOR BACKFLOW
-------------------------------------------------------------------------------------------------------------------
..-..   capacpsac_ws                    Free    Capacity(cfs) for water supply to ACME basin from WCA1
..-..   capacc10a_bak                   Free    Capacity(cfs) of C10A for backflow
-------------------------------------------------------------------------------------------------------------------
115-119 GENERAL PARAMETERS FOR WATER CONSERVATION AREAS.
        (More Specific Parameters that vary with WCA are input in caoflpts)
-------------------------------------------------------------------------------------------------------------------
115.    IDENTIFICATION OF FLOW TYPE to ENP
-------------------------------------------------------------------------------------------------------------------
1-7     type_flow_across_ttrail         A7      Identification of type of flow thru S-12, S-333, and the proposed
                                                S-355,if applicable, to ENP
                                                RFPLAN - current experimental rainfall formula,
                                                NSMFLOW - flow to meet NSM flow targets,
                                                STAGETG - flow to meet stage targets, or
                                                MINDEL - flow to meet minimum delivery schedule).
-------------------------------------------------------------------------------------------------------------------
116.    IDENTIFICATION OF ENP FLOW TARGET
-------------------------------------------------------------------------------------------------------------------
1-5     type_target                     A5      Identification of ENP flow target (TOTAL:total flow target is input;
                                                fraction to be met by each structure is input,or SPLIT: the flow
                                                targets for western ENP (met by S-12s) and eastern ENP(met by S-355
                                                and S-333) are input separately.
```

117.	OPTION FOR ENVIRONMENTAL TARGETS AND OUTFLOWS		
1–7	bcnpenv	A5, 2X	Option for meeting environmental targets in Big Cypress Basin (TRUE or FALSE)
8–14	s343sparrow_opt	A5, 2X	Option for S343 outflow to be zero Jan–June as means of helping Sparrow (TRUE or FALSE)
15–21	s344sparrow_opt	A5, 2X	Option for S344 outflow to be zero Jan–June as means of helping Sparrow (TRUE or FALSE)
22–28	s332sparrow_opt	A5, 2X	Option for S332 to reduce capacity during sparrow nesting season
29–32	type_s355	A4	Type of flow desired for S–355(PUMP or GRAV)
118.	OPTION FOR THE USE OF MINIMUM FLOWS AND LEVELS CRITERIOA		
1–5	floor_grid_cell_opt	A5	Option for use of criteria for mininmum flows and levels for Water Conservation Areas CANAL – conveyance canal stages only used as criteria MARSH – selected Marsh stage locations and Canal stages are used as criteria
119.			
1–5	icnl_dn_s31_name	A5	Name of canal receiving outflow thru S–31 from WCA–3B
120–122	DATA PERTAINING TO EVERGLADES NATIONAL PARK (ENP)		
120.	main_pres_level_fl_prot_ts	Free	Option to maintain present level of flood protection when rainfall plan is implemented (TRUE or FALSE)
121.	use_enp_ws_to_lec	Free	Option to use S–333 and S–334 to supply water to coastal Dade County (TRUE or FALSE)
122.	opt_flow_to_ts	Free	Identification of type of flow to Taylor Slough TSMINDL – flow to meet minimum delivery schedule TSRFPLN – flow to meet targets according to rainfall plan
123.	CANALS ALLOWED, FOR WATER SUPPLY PURPOSES, TO DELIVER AT STAGE BELOW DESIRED MINIMUM		
..–..	NCNL_WS_MIN	Free	Number of canals allowed
	NCL_WS_NAME(1)	Free	Name of canal # 1 allowed
	NDS_CNL_WS_NAME(1)	Free	Name of canal immediately downstream to canal # 1 allowed
	NCL_WS_NAME(2)	Free	Name of canal # 2 allowed
	NDS_CNL_WS_NAME(2)	Free	Name of canal immediately downstream to canal # 2 allowed
	*		
	*		
	NCL_WS_NAME(NCNL_WS_MIN)	Free	Name of canal # NCNL_WS_MIN allowed
	NDS_CNL_WS_NAME(NCNL_WS_MIN)	Free	Name of canal immediately downstream to canal # NCNL_WS_MIN allowed

124. CANALS USED AS FLOW THROUGH FOR WATER SUPPLY RELEASES TO CANALS DOWNSTREAM

..-..	no_flwth_cnls	Free	Number of Flow through Canals
	cnl_flwth_name(1)	Free	Name of Canal #1 as seen by the model
	cnl_flwth_name(2)	Free	Name of Canal #2 as seen by the model
	*		
	*		
	cnl_flwth_name(no_flwth_cnls)	Free	Name of Canal #no_flwth_cnls as seen by the model

125. CANALS USED STRICTLY AS FLOW THROUGH FOR FLOOD CONTROL DISCHARGES

..-..	no_fc_flwth_cnls	FREE	Number of canals used strictly as flow through for flood control discharges
..-..	cnl_fc_flwth_name(1)	FREE	Name of canal # 1
..-..	cnl_fc_flwth_name(2)	FREE	Name of canal # 2
	*		
	*		
..-..	cnl_fc_flwth_name(no_fc_flwth_cnls)	FREE	Name of canal # no_fc_flwth_cnls

DATA PERTAINING TO SERVICE AREAS (WATER SUPPLY)

126. NUMBER OF LEC SERVICE AREAS

..-..	NSVAREA	Free	Number of Service Areas

127. CANALS RECEIVING FLOW DIRECTLY FROM WATER CONSERVATION AREA IN SERVICE AREAs
(Needed for computation of total water supply needs in Service Areas)

127.1 CANALS RECEIVING FLOW DIRECTLY FROM WATER CONSERVATION AREA IN SERVICE AREA 1

1-7	nsacnl(1)	I5, 2X	Number of canals receiving flow from WCAs in SA-1
8-13	sa_canal_name(1)	A5, 1X	Name of Canal #1
14-19	sa_canal_name(2)	A5, 1X	Name of Canal #2
	*		
	*		
..-..	sa_canal_name(nsacnl(1))	A5, 1X	Name of Canal #nsacnl(1)

127.2 CANALS RECEIVING FLOW DIRECTLY FROM WATER CONSERVATION AREA IN SERVICE AREA 2

1-7	nsacnl(2)	I5, 2X	Number of canals receiving flow from WCAs in SA-2
8-13	sa_canal_name(1)	A5, 1X	Name of Canal # 1
14-19	sa_canal_name(2)	A5, 1X	Name of Canal # 2
	*		
	*		
..-..	sa_canal_name(nsacnl(2))	A5, 1X	Name of Canal # nsacnl(2)

*

```
                                                *
                                                *
-------------------------------------------------------------------------------------------------------------------------
127... CANALS RECEIVING FLOW DIRECTLY FROM WATER CONSERVATION AREA IN SERVICE AREA # NSVAREA
-------------------------------------------------------------------------------------------------------------------------
1-7     nsacnl(NSVAREA)                 I5, 2X  Number of canals receiving flow from WCAs in SA-NSVAREA
8-13    sa_canal_name(1)                A5, 1X  Name of Canal # 1
14-19   sa_canal_name(2)                A5, 1X  Name of Canal # 2
              *
              *
..-..   sa_canal_name(nsacnl(NSVAREA))  A5, 1X  Name of Canal # nsacnl(NSVAREA)
-------------------------------------------------------------------------------------------------------------------------
128. STARTING CANALS IN THE CANAL NETWORK IN SERVICE AREAS
     (FOR DETERMINING THE DOWNSTREAM NEEDS AT ANY STRUCTURE IN THE NETWORK)
-------------------------------------------------------------------------------------------------------------------------
128.1 STARTING CANALS IN THE CANAL NETWORK IN SERVICE AREA 1
-------------------------------------------------------------------------------------------------------------------------
1-7     NSTART(1)                       I5, 2X  Number of starting canals in the canal network in SA-1
8-13    CISTC(1)                        A5, 1X  Name of Canal # 1
14-19   CISTC(2)                        A5, 1X  Name of Canal # 2
              *
              *
..-..   CISTC(NSTART(1))                A5, 1X  Name of Canal # NSTART(2)
-------------------------------------------------------------------------------------------------------------------------
128.2 STARTING CANALS IN THE CANAL NETWORK IN SERVICE AREA 2
-------------------------------------------------------------------------------------------------------------------------
1-7     NSTART(2)                       I5, 2X  Number of starting canals in the canal network in SA-2
8-13    CISTC(1)                        A5, 1X  Name of Canal # 1
14-19   CISTC(2)                        A5, 1X  Name of Canal # 2
              *
              *
..-..   CISTC(NSTART(2))                A5, 1X  Name of Canal # NSTART(2)
-------------------------------------------------------------------------------------------------------------------------
                                                *
                                                *
                                                *
-------------------------------------------------------------------------------------------------------------------------
128.... STARTING CANALS IN THE CANAL NETWORK IN SERVICE AREA # NSVAREA
-------------------------------------------------------------------------------------------------------------------------
1-7     NSTART(NSVAREA)                 I5, 2X  Number of starting canals in the canal network in SA-NSVAREA
8-13    CISTC(1)                        A5, 1X  Name of Canal # 1
14-19   CISTC(2)                        A5, 1X  Name of Canal # 2
              *
              *
..-..   CISTC(NSTART( NSVAREA))         A5, 1X  Name of Canal # NSTART(NSVAREA)
-------------------------------------------------------------------------------------------------------------------------
129. read (2,'(F6.1,2x,A5)') rmin_stg_l30_ws,loxenv
   236  130. read (2,*) no_of_reuse_plnts
```

129. MININUM DOWNSTREAM STAGE IN L-30 ALLOWED FOR LOCAL CONTRIBUTION IN MEETING DOWNSTREAM DEMANDS AND & OPTION FOR ENVIRONMENTAL WATER SUPPLY FOR LOXAHATCHEE SLOUGH (TRUE / FALSE)

1-8	rmin_stg_l30_ws	F6.1,2X	Minimum downstream stage in L-30 allowed for LOCAL contribution
9-13	loxenv	A5	Option for environmental water supply for Loxahatchee Slough (TRUE or FALSE)

130. NUMBER OF REUSE PLANTS SIMULATED

..-..	no_of_reuse_plnts	FREE	Number of reuse plants simulated

131.1 FOR PLANT # 1: AVERAGE DAILY REUSE VOLUME (AC-FT/DAY) FOR JAN-DEC; OPTION FOR REUSE RECEPIENT (0 CANAL, 1 GRID CELL)

..-..	avg_daily_reuse_vol(1,1)	Free	Avg daily reuse volume(ac-ft/day)for Jan. for plant # 1
..-..	avg_daily_reuse_vol(1,2)	Free	Avg daily reuse volume(ac-ft/day)for Feb. for plant # 1
	*		
	*		
..-..	avg_daily_reuse_vol(1,12)	Free	Avg daily reuse volume(ac-ft/day)for Dec. for plant # 1
..-..	iopt_rec_reuse(1)	Free	Option for recipient of reuse (0-canal, 1-grid cell) for plant # 1

132a.1 READ THIS RECORD IF OPTION OF REUSE RECEPIENT FOR PLANT # 1 IS A CANAL (i.e., iopt_rec_reuse(1) = 0)

1-5	no_canals_reuse(1)	I5	Number of reuse recipient Canals for plant # 1
6-12	canal_reuse_names(1)	2X, A5	Name of Canal #1
13-19	canal_reuse_names(2)	2X, A5	Name of Canal #2
	*		
	*		
..-..	canal_reuse_names(no_canals_reuse(1))	2X, A5	Name of Canal # no_canals_reuse(no_canals_reuse(2))

132b.1 READ THIS RECORD IF OPTION OF REUSE RECEPIENT FOR PLANT # 1 IS A GRID CELL (i.e., iopt_rec_reuse(1) = 1)

1-3	no_grid_cells_reuse(1)	I3	Number of reuse recipient grid cells for plant # 1
4-6	icol_reuse(1)	I3	Column # for grid cell # 1
7-9	irow_reuse(1)	I3	Row # for grid cell # 1
10-17	resname_reuse(1,1)	A6, 2X	Reservoir name for grid cell 1 for plant # 1
18-21	rmax_stage_reuse(1,1)	F4.1	Max stage (ft.) in cell 1 reservoir allowed for routing of reuse water for plant # 1
22-24	icol_reuse(2)	I3	Column # for grid cell # 2
25-27	irow_reuse(2)	I3	Row # for grid cell # 2
28-35	resname_reuse(1,2)	A6, 2X	Reservoir name for grid cell 2 for plant # 1
36-39	rmax_stage_reuse(1,2)	F4.1	Max stage (ft.) in cell 2 reservoir allowed for routing of reuse water for plant # 1
	*		
	*		

..-..	icol_reuse(no_grid_ cells_reuse(1))	I3	Column # for grid cell # no_grid_cells_reuse(1)
..-..	irow_reuse(no_grid_ cells_reuse(1))	I3	Row # for grid cell # no_grid_cells_reuse(1)
..-..	resname_reuse(1, no_grid_cells_reuse(1))	A6, 2X	Reservoir name for grid cell # no_grid_cells_reuse(1) for plant # 1
..-..	rmax_stage_reuse(1, no_grid_ cells_reuse(1))	F4.1	Max stage(ft. NGVD) in cell # no_grid_cells_reuse(1) reservoir allowed for routing of reuse water for plant # 1

131.2 FOR PLANT # 2 : AVERAGE DAILY REUSE VOLUME (AC-FT/DAY) FOR JAN-DEC; OPTION FOR REUSE RECEPIENT (0 CANAL, 1 GRID CELL)

..-..	avg_daily_reuse_vol(2,1)	Free	Avg daily reuse volume(ac-ft/day)for Jan. for plant # 2
..-..	avg_daily_reuse_vol(2,2)	Free	Avg daily reuse volume(ac-ft/day)for Feb. for plant # 2
	*		
	*		
..-..	avg_daily_reuse_vol(2,12)	Free	Avg daily reuse volume(ac-ft/day)for Dec. for plant # 2
..-..	iopt_rec_reuse(2)	Free	Option for recipient of reuse (0-canal, 1-grid cell) for plant # 2

132a.2 READ THIS RECORD IF OPTION OF REUSE RECEPIENT PLANT # 2 IS CANAL (i.e., iopt_rec_reuse(1) = 0)

1-5	no_canals_reuse(2)	I5	Number of reuse recipient Canals for plant # 2
6-12	canal_reuse_names(1)	2X, A5	Name of Canal #1
13-19	canal_reuse_names(2)	2X, A5	Name of Canal #2
	*		
	*		
..-..	canal_reuse_names(no_canals_reuse(2))	2X, A5	Name of Canal # no_canals_reuse(no_canals_reuse(2))

132b.2 READ THIS RECORD IF OPTION OF REUSE RECEPIENT PLANT # 2 IS GRID CELL (i.e., iopt_rec_reuse(1) = 1)

1-3	no_grid_cells_reuse(2)	I3	Number of reuse recipient grid cells for plant # 2
4-6	icol_reuse(1)	I3	Column # for grid cell # 1
7-9	irow_reuse(1)	I3	Row # for grid cell # 1
10-17	resname_reuse(2,1)	A6, 2X	Reservoir name for grid cell 1 for plant # 2
18-21	rmax_stage_reuse(2,1)	F4.1	Max stage (ft.) in cell 1 reservoir allowed for routing of reuse water for plant # 2
22-24	icol_reuse(2)	I3	Column # for grid cell # 2
25-27	irow_reuse(2)	I3	Row # for grid cell # 2
28-35	resname_reuse(2,2)	A6, 2X	Reservoir name for grid cell 2 for plant # 2
36-39	rmax_stage_reuse(2,2)	F4.1	Max stage (ft.) in cell 2 reservoir allowed for routing of reuse water for plant # 2
	*		
	*		
..-..	icol_reuse(no_grid_ cells_reuse(2))	I3	Column # for grid cell # no_grid_cells_reuse(1)
..-..	irow_reuse(no_grid_ cells_reuse(2))	I3	Row # for grid cell # no_grid_cells_reuse(1)

```
..-..   resname_reuse(2,               A6, 2X  Reservoir name for grid cell # no_grid_cells_reuse(1)
        no_grid_cells_reuse(2))                for plant # 2
..-..   rmax_stage_reuse(2,            F4.1    Max stage(ft. NGVD) in cell # no_grid_cells_reuse(1) reservoir
        no_grid_ cells_reuse(2))               allowed for routing of reuse water  for plant # 2
-------------------------------------------------------------------------------------------------------------------
                                               *
                                               *
                                               *
-------------------------------------------------------------------------------------------------------------------
131.no_of_reuse_plnts FOR PLANT # no_of_reuse_plnts: AVERAGE DAILY REUSE VOLUME (AC-FT/DAY) FOR JAN-DEC
                                                     OPTION FOR REUSE RECEPIENT (0 CANAL, 1 GRID CELL)
-------------------------------------------------------------------------------------------------------------------
..-..   avg_daily_reuse_vol(
        no_of_reuse_plnts,1)           Free    Avg daily reuse volume(ac-ft/day)for Jan.
..-..   avg_daily_reuse_vol(
        no_of_reuse_plnts,2)           Free    Avg daily reuse volume(ac-ft/day)for Feb.
                *
                *
..-..   avg_daily_reuse_vol(
        no_of_reuse_plnts,12)          Free    Avg daily reuse volume(ac-ft/day)for Dec.
..-..   iopt_rec_reuse(
        no_of_reuse_plnts)             Free    Option for recipient of reuse (0 - canal,1 - grid cell)
-------------------------------------------------------------------------------------------------------------------
132a.2 READ THIS RECORD IF OPTION OF REUSE RECEPIENT IS CANAL (i.e., iopt_rec_reuse(1) = 0)
-------------------------------------------------------------------------------------------------------------------
1-5     no_canals_reuse(
        no_of_reuse_plnts)             I5      Number of reuse recipient Canals
6-12    canal_reuse_names(1)           2X, A5  Name of Canal #1
13-19   canal_reuse_names(2)           2X, A5  Name of Canal #2
                *
                *
..-..   canal_reuse_names(no_canals_
        reuse(no_of_reuse_plnts))      2X, A5  Name of Canal # no_canals_reuse(no_of_reuse_plnts)
-------------------------------------------------------------------------------------------------------------------
132b.2 READ THIS RECORD IF OPTION OF REUSE RECEPIENT IS GRID CELL (i.e., iopt_rec_reuse(1) = 1)
-------------------------------------------------------------------------------------------------------------------
1-3     no_grid_cells_reuse(
        no_of_reuse_plnts)             I3              Number of reuse recipient grid cells
4-6     icol_reuse(1)                  I3              Column # for grid cell # 1
7-9     irow_reuse(1)                  I3              Row # for grid cell # 1
10-17   resname_reuse(
        no_of_reuse_plnts,1)           A6, 2X          Reservoir name for grid cell 1
18-21   rmax_stage_reuse(
        no_of_reuse_plnts,1)           F4.1            Max stage(ft.) in cell 1 reservoir allowed for routing
                                                       of reuse water
22-24   icol_reuse(2)                  I3              Column # for grid cell # 2
25-27   irow_reuse(2)                  I3              Row # for grid cell # 2
28-35   resname_reuse(
```

	no_of_reuse_plnts,2)	A6, 2X	Reservoir name for grid cell 2
36-39	rmax_stage_reuse(		
	no_of_reuse_plnts,2)	F4.1	Max stage(ft.) in cell 2 reservoir allowed for routing of reuse water
	*		
	*		
..-..	icol_reuse(no_grid_	I3	Column # for grid cell #
	cells_reuse(no_of_reuse_plnts))		no_grid_cells_reuse(no_of_reuse_plnts)
..-..	irow_reuse(no_grid_	I3	Row # for grid cell #
	cells_reuse(no_of_reuse_plnts))		no_grid_cells_reuse(no_of_reuse_plnts)
..-..	resname_reuse(no_of_reuse_	A6, 2X	Reservoir name for grid cell #
	plnts,no_grid_cells_reuse(no_of_reuse_plnts))		no_grid_cells_reuse(no_of_reuse_plnts)
..-..	rmax_stage_reuse(no_of_reuse_	F4.1	Max stage(ft. NGVD) in cell # no_grid_cells_reuse(no_of_
	plnts,no_grid_ cells_reuse(no_of_reuse_plnts))		reuse_plnts) reservoir allowed for routing of reuse water

133-.. SPECIAL INPUT FOR EXECUTION OF locwslwdd SUBROUTINE DETERMINING DEMANDS WITHIN LAKE WORTH DRAINAGE DISTRICT (LWDD)

133. MAXIMUM CAPACITY (CFS) FOR CS2,CS9,CS12,CS17W,CS17E

1-6	CAPACCS2	F6.0	Maximum capacity for CS2
7-12	CAPACCS9	F6.0	Maximum capacity for CS9
13-18	CAPACCS12	F6.0	Maximum capacity for CS12
19-24	CAPACCS17W	F6.0	Maximum capacity for CS17W
25-30	CAPACCS17E	F6.0	Maximum capacity for CS17E

134. STRUCTURES NEEDED

1-7	nstr_lwdd	I5, 2X	Number of structures needed
8-14	str_lwdd_name(1)	A6, 1X	Name of structure # 1
15-21	str_lwdd_name(2)	A6, 1X	Name of structure # 2
	*		
	*		
..-..	str_lwdd_name(nstr_lwdd)	A6, 1X	Name of structure # nstr_lwdd

135. UPSTREAM CANALS (OUTSIDE WCA) SUPPLYING WATER TO LWDD

1-7	n_up_canals_lwdd	I5, 2X	Number of upstream canals outside WCA supplying water to LWDD
8-14	iup_canals_lwdd_name(1)	A6, 1X	Name of canal # 1
15-21	iup_canals_lwdd_name(2)	A6, 1X	Name of canal # 2
	*		
	*		
..-..	iup_canals_lwdd_name(		
	n_up_canals_lwdd)	A6, 1X	Name of canal # n_up_canals_lwdd

136. INTERIOR CANALS SIMULATED IN LWDD

1-7	n_canals_lwdd	I5, 2X	Number of interior canals
8-14	canal_lwdd_name(1)	A6, 1X	Name of canal # 1
15-21	canal_lwdd_name(2)	A6, 1X	Name of canal # 2
	*		
	*		
..-..	canal_lwdd_name(n_canals_lwdd)	A6, 1X	Name of canal # n_canals_lwdd

137. NAME OF WATER CONSERVATION AREA AND ITS CONVEYANCE CANAL INTERACTING WITH LWDD

1-6	idowns_wca_name_lwdd	A5, 1X	Name of WCA interacting with LWDD
7-12	int_cnl_name_for_lwdd	A5, 1X	Name of WCA conveyance canal

138. INPUT IN THE NEXT THREE RECORDS CONTROL IF AND TO WHICH STA THE EXCESS WATER FROM VARIOUS BASINS WILL BE ROUTED. THIS INPUT INVOLVES ROUTING OF WATER TO STAs AND ROTENBERGER TRACT ONLY! IF OTHER RESERVOIRS ARE PROPOSED, EXCESS RUNOFF FROM APPROPRIATE BASIN IS ROUTED THERE FIRST, WHILE REMAINING IS ROUTED TO STA,IF APPLICABLE. RUNOFF FROM THE FOLLOWING BASINS,IN ORDER THEY ARE INPUT,POTENTIALLY IS ROUTED TO APPROPRIATE STA,DEPENDING ON THE OPTION INPUT:

1. MIAMI CANAL BASIN IN EAA
2. NORTH NEW RIVER BASIN IN EAA
3. WEST PALM BEACH CANAL BASIN IN EAA
4. HILLSBORO CANAL BASIN IN EAA
5. WESTERN C-51 BASIN
6. WESTERN BASINS (G-155,G-89,& G-88)
7. 298 DISTRICTS EXCEPT EAST BEACH CONTROL DISTRICT
8. EAST BEACH CONTROL DISTRICT of 298 DISTRICTS AND S-236 BASIN
9. NO BASIN (NOW NOT USED)
10. US SUGAR RANCH IN EAA
11. MAKEUP WATER DUE TO BMPS

1-5	NBSNTSTA	I5	Number of basins involved in the routing of water to STAs
6-11	PCTWMA(1)	F6.0	Fraction of runoff (or remaining runoff if additional reservoir is proposed) available for routing from basin #1 into appropraite STA
12-17	PCTWMA(2)	F6.0	Fraction of runoff (or remaining runoff if additional reservoir is proposed) available for routing from basin #2 into appropraite STA
	*		
	*		
..-..	PCTWMA(NBSNTSTA)	F6.0	Fraction of runoff (or remaining runoff if additional reservoir is proposed) available for routing from basin #NBSNTSTA into appropraite STA

139. READ THIS RECORD ONLY IF NBSNTSTA > 0

CHARACTER IDENTIFIER OF RECEPIENT STA FOR EACH BASIN

1–7	name_res_for_inflow(1)	A6, 1X	character identifier of recipient STA for Basin # 1
8–14	name_res_for_inflow(2)	A6, 1X	character identifier of recipient STA for Basin # 2
	*		
	*		
..–..	name_res_for_inflow(NBSNTSTA)	A6, 1X	character identifier of recipient STA for Basin # NBSNTSTA

140. READ THIS RECORD ONLY IF NBSNTSTA > 0
OPTION TO ROUTE WATER TO AN STA (0 – NO STA EXISTS, 1 STA EXISTS, ROUTE WATER TO IT)

1–6	ISTAOPT(1)	I6	option to route water to an STA
7–12	ISTAOPT(2)	I6	option to route water to an STA
	*		
	*		
..–..	ISTAOPT(NBSNTSTA)	I6	option to route water to an STA

141. NUMBER OF MONITORING POINTS TO BE OUTPUT TO A DAILY STAGE MONITORING POINT OUTPUT FILE

..–..	nmtr	Free	number of monitoring points output

142.1 DATA FOR MONITORING POINT (STATION) # 1

1–5	PLTNM(1,1)	A5	Name of station #1
6–10	n_cells(1)	I5	Number of cells representing station #1
11–14	IX(1)	1x, I3	Column number of cell # 1 for station #1
15–17	IY(1)	I3	Row number of cell # 1 for station #1
18–21	IX(2)	1x, I3	Column number of cell # 2 for station #1
22–24	IY(2)	I3	Row number of cell # 2 for station #1
	*		
	*		
..–..	IX(n_cells(1))	1x, I3	Column number of cell # n_cells(1) for station #1
..–..	IY(n_cells(1))	I3	Row number of cell # n_cells(1) for station #1

142.2 DATA FOR MONITORING POINT (STATION) # 2

1–5	PLTNM(2,1)	A5	Name of station #2
6–10	n_cells(2)	I5	Number of cells representing station #2
11–14	IX(1)	1x, I3	Column number of cell # 1 for station #2
15–17	IY(1)	I3	Row number of cell # 1 for station #2
18–21	IX(2)	1x, I3	Column number of cell # 2 for station #2
22–24	IY(2)	I3	Row number of cell # 2 for station #2

```
          *
          *


..-..   IX(n_cells(2))                1x, I3  Column number of cell # n_cells(2) for station #2
..-..   IY(n_cells(2))                I3      Row number of cell # n_cells(2) for station #2
-------------------------------------------------------------------------------------------------------


-------------------------------------------------------------------------------------------------------
142.nmtr DATA FOR MONITORING POINT (STATION) # nmtr
-------------------------------------------------------------------------------------------------------
1-5     PLTNM(nmtr,1)                 A5      Name of station #nmtr
6-10    n_cells(nmtr)                 I5      Number of cells representing station #nmtr
11-14   IX(1)                         1x, I3  Column number of cell # 1 for station #nmtr
15-17   IY(1)                         I3      Row number of cell # 1 for station #nmtr
18-21   IX(2)                         1x, I3  Column number of cell # 2 for station #nmtr
22-24   IY(2)                         I3      Row number of cell # 2 for station #nmtr
          *
          *


..-..   IX(n_cells(nmtr))             1x, I3  Column number of cell # n_cells(nmtr) for station #nmtr
..-..   IY(n_cells(nmtr))             I3      Row number of cell # n_cells(nmtr) for station #nmtr
-------------------------------------------------------------------------------------------------------
END OF DESCRIPTION FOR INPUT FILE "model_definition_info.man"
-------------------------------------------------------------------------------------------------------
```

SCCSID = multi_seas_index.man v1.1 01/31/03

Prepared by: Michelle M. Irizarry, Walter Wilcox, Cary White, Paul Trimble
Date: 9/13/02
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

multi_seas_index.dat

multi_seas_index.dat == ASCII 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 (YYYY, 12 consecutive Monthly Inflow values formatted as F6.2 in 10^6 acre-feet, flag indicating strength of the Atlantic Multidecadal Oscillation) wide by 87 rows long (1914-2000). The file has a single YYYY value at the top of file that sets the beginning year of climate data (ibeg_yr_multi).

assigned unit number 135 in ALTWMM
read in subroutines:
open_ascii_output_files.F
lok_bndry_input_data.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. INITIAL YAER OF CLIMATE DATA: (1 record total)			
	ibeg_yr_multi	FREE	Initial year of climate data in YYYY format
2. MULTI-SEASONAL INFLOWS INTO LOK: (87 records total)			
@ NOTE: i is a month counter.			
1-4	NOT READ	4X	Year in YYYY format
5-76	rmulti_seas_pred(i)	12F6.2	Multi-seasonal (7-12 month) forecast of net inflows into LOK for the remainder of the current

			season plus the entire next season (in 10^6 acre-feet).
77-78	BLANK	2X	
79	iatl_convyr_index	I1	Flag indicating strength of the Atlantic Multidecadal Oscillation (AMO). If 0: Represents a cool (weak) AMO, which generally results in a drier wet season. 1: Represents a warm (strong) AMO, which generally results in a wetter wet season.

@ NOTE: Both, the multi-seasonal forecast of net inflows into LOK and the strength of the AMO are used as criteria in the WSE Schedule for regulatory releases to the WCAs and the estuaries.

Dry season: November-April
Wet season: May-October

@ NOTE: open_ascii_output_files.F reads the first record and assigns its value to ibeg_yr_multi (first year of climate data). In addition, a number of records are skipped so that read in lok_bndry_input_data.F starts from the first year of simulation (ifyr).

@ NOTE: lok_bndry_input_data.F subroutine read format is different than data in file (12F6.1).

END OF DESCRIPTION FOR INPUT FILE "multi_seas_index.dat"

SCCSID = num_trop_storm.man v1.1 01/31/03

Prepared by: Michelle M. Irizarry, Walter Wilcox, Cary White
Date: 9/13/02
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

num_trop_storm.dat

num_trop_storm.dat == ASCII 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 (YYYY, number of tropical storms during year YYYY) wide by 87 rows long (1914–2000).

assigned unit number 108 in ALTWMM
read in subroutines:
open_ascii_output_files.F
lok_bndry_input_data.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1.	TROPICAL STORM CRITERIA FOR LOK RELEASES TO THE ESTUARIES AND WCA'S: (1 record)		
	ibeg_yr_hurr_pred	FREE	Initial year of climate data in YYYY format.
	no_pred_storms_thres	FREE	Threshold for number of tropical storms predicted above which LOK regulatory releases to tide would be operated for wet conditions (WSE Schedule).
	no_pred_storms_thres_wca	FREE	Threshold for number of tropical storms above which WCA–3A would operate according to an

alternative schedule.

---

2. NUMBER OF TROPICAL STORMS: (87 records)
FORMAT(4X,I3)

1-4	NOT READ	4X	Year in YYYY format
5-7	no_of_hurr_pred	I3	Number of tropical storms predicted for the hurricane season of year YYYY.

@ NOTE: open_ascii_output_files.F reads the first value of the first record and assigns its value to ibeg_yr_hurr (first year of climate data). In addition, a number of records are skipped so that read in lok_bndry_input_data.F starts from the first year of simulation (ifyr).

@ NOTE: lok_bndry_input_data.F subroutine reads the number of tropical storms predicted during a year (no_of_hurr_pred).

END OF DESCRIPTION FOR INPUT FILE "num_trop_storm.dat"

SCCSID = pdsi_14_00.man v1.1 02/15/03

Prepared by: Walter Wilcox, Cary White, Michelle Irizarry
Date: 10/22/02
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANGEMENT MODEL V5.0
INPUT MAN PAGE FOR

pdsi_14_00.dat ASCII data array of monthly values of the PALMER DROUGHT SEVERITY INDEX (PDSI), an indicator of a seasonal moisture annomaly 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)

assigned unit number 148 in ALTWMM
read in subroutines:
lok_bndry_input_data.F
open_ascii_output_files.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. INITIAL YEAR OF PDSI DATA (1 record total)			
1−4	ibeg_yr_pdsi	free	First year of data in YYYY format in file. The next (ifyr − ibeg_yr_pdsi) records (in which ifyr is the start of the simulation period) will be skipped prior to reading records into the data array.
2. PDSI VALUES (87 records total)			
1−8	blank	8X	Usually contains the year, although not read.
9−104	pdsi(i)	12F8.1	PDSI value read for current year for months i = 1 to i = 12.

END OF DESCRIPTION FOR INPUT FILE "pdsi_14_00.dat"

SCCSID = pet6500_swch.man v1.1 02/15/03

Prepared by: Danielle Lyons, and Jennifer Barnes
Date: 9/13/02
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

pet6500_swch == READ one month of daily penman-monteith potential evapotranspiration(PET) (referenced to grass) for each of the 10 new ET basins into petstn array. Calculate reference ET for each NODE (potet array) based on weights. Potet data summed monthly to be used later for evapotranspiration reductions.
(unit no. 28; rain_pet_setup.F,open_ascii_output_files.F)

COL	VAR NAME	FORMAT	DESCRIPTION
1. STARTING YEAR READ IN OPEN_ASCII_OUTPUT_FILES.F SUBROUTINE			
-	isyr_pet	free	starting year of PET data, line 1 of input file

NOTE: Record 2 is repeated for each day of the simulation period.

2. DAILY PENMAN-MONTEITH PET DATA FOR EACH OF THE ET STATIONS READ IN RAIN_PET_SETUP.F FORMAT (16X,15F6.3)			
NOTE: This record is read from iz=1 through netzon (number of PET zones in model domain including LOK)			
-	petstn(iz)	16x,15f6.3	daily penman-monteith PET data for each of the ET stations

END OF DESCRIPTION FOR INPUT FILE "pet6500_swch.man"

SCCSID = pet_weights_rev.man v1.1 02/15/03

Prepared by: Danielle Lyons, and Jennifer Barnes
Date: 9/13/02
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T
pet_weights_rev == Potential evapotranspiration (ET) weights given to each grid cell using inverse distance squared from the 10 PET stations. Set ietzon for each node = node number itself (temp fix). The potet (reference) is calculated for each node based on weights, exception is LEC (east of levees where old ET basins are still maintained) READ the PET weights assigned to each node based on inverse distance squared from the node to the 10 PET stations. (unit no. 12; grid_cell_based_data.F)

COLS	VAR NAME	FORMAT	DESCRIPTION
NOTE:	Record 1 is repeated for each active grid cell (1 through MAXY). First two fields are row, column and must start with row 1 and increase in row number through model domain.		
1. PET WEIGHTS READ IN GRID_CELL_BASED_DATA.F SUBROUTINE−FORMAT (6x,10(f5.3,1x)			
−	pet_weight	(6x,10(f5.3,1x))	PET weight for each station for each active grid cell

END OF DESCRIPTION FOR INPUT FILE "pet_weights_rev.man"

SCCSID = res_ops_drawdown.man v1.1 01/31/03

Prepared by: Michelle M. Irizarry, Danielle Lyons
Date: 9/19/02
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

res_ops_drawdown.dat

res_ops_drawdown.dat == ASCII file specifying constraints for inflow into reservoirs and operations of reservoir outlet structures during pre-storm drawdown.

assigned unit number 147 in ALTWMM
read in subroutine:
cnldata.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. PRE-STORM DRAWDOWN OPERATIONS: (any number of records) FORMAT(A6,6x,A6,2F10.2)			
@ NOTE: idrwnres is a counter of constraints for inflow into reservoirs and operations of reservoir outlet structures during pre-storm drawdown.			
1-6	res_name_drawdown	A6	Character string identification of reservoir (max of 6 characters).
7-12	BLANK	6X	
13-18	res_struc_name_drwdown(idrwnres)	A6	Character string identification of structure (max of 6 characters).
19-28	CRSTELEV_drwdwn(idrwnres)	F10.2	Open/close criteria during pre-storm drawdown operations (usually crest elevation of structure).
29-38	stgmx_drwdwn(idrwnres)	F10.2	Maximum reservoir stage allowed for inflow during pre-storm

drawdown operations.

END OF DESCRIPTION FOR INPUT FILE "res_ops_drawdown.dat"

SCCSID = reserv_grid_loc.man v1.2 08/11/03

Prepared by: Lehar Brion, Walter Wilcox
Date: 10/15/02
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANGEMENT MODEL V5.0
INPUT MAN PAGE FOR

reserv_grid_loc == defines the grid location of reservoirs/stas and other leveed systems to be simulated (unit no. 145; subroutine reserv_input_data.F)

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. BASIC NUMBER OF RESERVOIRS: (1 record total)			
	NMAREA	free	number of STAs plus Rotenberger Tract if treated as reservoir
	NRESLEC	free	number of other proposed reservoirs
	sfactmin	free	maximum ratio of actual reservoir area to total grid area covered by the reservoir; reservoirs with fractions below sfactmin are treated as totally separate entities in the grid system
2. NUMBER OF OUTPUT FILES TO CONTAIN RESERVOIR BUDGET: (1 record total)			
1-3	no_of_small_res_budg_files	free	number of daily reservoir budget output files
3. DEFINITION OF RESERVOIR BUDGET OUTPUT FILES: (no_of_small_res_budg_files records total) format(I3,2x,A6,2x,A80)			
1-3	iunit_no_res_file(i)	I3	unit number to be assigned for reservoir output budget
4-5	blank	2X	
6-11	res_name_budg(i)	A6	variable name to be used for reservoir name

12−13	blank	2X	
14−93	res_file_name(i)	A80	name of reservoir budget output filename

note: Record 4 to be created for all no_of_small_res_budg_files.

---

4. DEFINITION OF RESERVOIRS: (NMAREA+NRESLEC records total)
format(A6,2x,2i3,2(2x,A3),1x,2F5.1,F6.1,1x,20(1x,4i3,3F5.1))

1−6	resname(i)	A6	variable name to be used for reservoir name
7−8	blank	2X	
9−11	nnodes(i)	I3	number of grid cells reservoir contains
12−14	ibsn_no_res(i)	I3	hydrologic basin number for reservoir (appropriate grid cells will be assigned basin number)
15−16	blank	2X	
17−19	ires_small_sim(i)	A3	option to simulate reservoir as a separate entity in grid system(YES or NO). If YES and reservoir to cell size ratio < sfactmin, reservoir will be treated as a separate entity from gridcell (small reservoir). If NO and reservoir to cell size ratio < sfactmin, reservoir will be modeled as a large reservoir.
20−21	blank	2X	
22−24	ires_lev_seep_dir_cnl_opt(i)	A3	option to have levee seepage from Reservoir directly to borrow canal
25	blank	1X	
26−30	frac_seep_dir_cnl(i)	F5.1	fraction of maximum levee seepage from reservoir directly to canal. Maximum levee seepage would occur when reservoir is built right next to levee. Only used when reservoir is a separate entity from cell.
31−35	width_of_res(i)	F5.1	mean width of reservoir(miles). Only used for long−skinny reservoirs. −99 means data not used.
36−41	rinit_res_stg(i)	F6.1	initial stage in reservoir(ft. NGVD) ; −901 means initial reservoir stage is the same as initial grid cell stage.

```
42      blank               1X

          note: The following set of eight fields is a continuation of the
                same record and are repeated for k = 1,nnodes(i).
43      blank               1X

44-46   icol_res_loc(k)     I3  x location (col number)

47-49   irow_res_loc(k)     I3  y location (row number)

50-52   idirect(i,k)        I3  orientation (1 -east-west,2 - North-south) of flow
                                 within reservoir.  Only relevant for overland and
                                 groundwater flow along long-skinny reservoirs.

53-55   lutyp_res_loc(i,k)  I3  land use type index

56-60   ells_in_res_t(i,k)
                            F5.1 land surface elevation(ft. NGVD) within reservoir
                                 for each grid location reservoir passes

61-65   aqperm_in_res_t(i,k)
                            F5.1 aquifer permeability (10000 ft/day).  Use -99 for same
                                 permeability as cell.

66-70   AQDEP_in_res_t(i,k)
                            F5.1 altitude of base of surficial aquifer relative to
                                 msl for each grid location reservoir passes.  Use -99
                                 if not applicable.

          note: Record 5 is created for the total number of reservoirs,
                i.e., i = 1,NMAREA+NRESLEC.
-------------------------------------------------------------------------------
5. DEFINITION OF ADDITIONAL RESERVOIR: (1 record total) usually "NORES     0"
-------------------------------------------------------------------------------
1-      resname(ntotres+1) free reservoir name after NTOTRES  reservoirs where
                                 NTOTRES = NMAREA+NRESLEC; if equal to 'NORES',
                                 then no additional reservoirs are included

        nnodes(ntotres+1)  free number of grid cells reservoir contains
-------------------------------------------------------------------------------
6.  DEFINITION OF YET ADDITIONAL RESERVOIRS: (up to 30-NTOTRES-1 records total)
    format(A6,2x,2i3,1x,20(1x,3i3)); these reservoirs are not defined in input file
    "reservoir_input.dat"; (e.g. STA-2 in partial implementation simulations)
-------------------------------------------------------------------------------
1-6     resname(j)          A6  reservoir name after NTOTRES+1 reservoirs where
                                 NTOTRES = NMAREA+NRESLEC; if equal to 'NORES',
                                 then no additional reservoirs are included
```

```
7-8     blank               2X

9-11    nnodes(j)           I3  number of grid cells reservoir contains

12-14   ibsn_no_res(j)      I3  hydrologic basin number for reservoir
                                (appropriate grid cells will be assigned basin number)

15      blank               1X

          note: The following set of four fields is a continuation of the same
                record for l = 1,nnodes(j).
16      blank               1X

17-19   icol_res_loc(l)     I3  x location (col number)

20-22   irow_res_loc(l)     I3  y location (row number)

23-25   lutyp_res_loc(j,l)  I3  land use type index

          note: Record 8 is created for j = ntotres+2 to a maximum of
                30-NTOTRES-1 number of times. Please refer to common
                block STAS in file "stas.inc".
             These records are read until EOF is encountered.
-------------------------------------------------------------------------------------
END OF DESCRIPTION FOR INPUT FILE "reserv_grid_loc"
-------------------------------------------------------------------------------------
```

SCCSID = reservoir_input.man v1.2 08/11/03

Prepared by: Lehar Brion, Walter Wilcox
Date: 8/29/02
Hydrologic Systems Modeling Division

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SOUTH FLORIDA WATER MANGEMENT MODEL V5.0
INPUT MAN PAGE FOR

reservoir_input == defines data related to reservoirs/stas to be simulated
(unit no. 103; subroutine reserv_input_data.F)

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. IDENTIFICATION OF RESERVOIRS: (1 record total) format(i5,2x,10(A6,1x))			
1–5	NMAWS	I5	number of reservoirs maintained at desired minimum levels during dry periods
6–7	blank	2X	
	note: The following set of two fields is continuation of the same record and are repeated for I = 1,NMAWS. These fields are not used if NMAWS is equal to zero.		
8–13	CINDXAWS(I)	A6	character string identification of the reservoirs
14	blank	1X	
2. ADDITIONAL INPUT FOR RESERVOIRS: (1 record total) format(50i6)			
	note: The following field is repeated on the same record for J = 1,INDXAWS(I).		
1–6	IDIRFRLO(J)	I6	option to release water from LOK to maintain appropriate reservoir(s) if capacity exists valid entries: 1 = regardless of LOK stage 0 = Bottom of Zone B line of Supply side Management is limit in LOK stage allowed for Water supply from LOK to STAs)
	note: This record is not used if NMAWS is equal to zero.		

3. STORMWATER TREAMENT AREA DEFINITION: (1 record total)
format(i5,2x,10(A6,1x))

1–5	NSTARFF	I5	number of STAs receiving INFLOWs directly from appropriate basins
6–7	blank	2X	
	note: The following set of two fields is a continuation of the same record for I = 1,NSTARFF. These fields are not used if NSTARFF is equal to zero.		
8–13	name_ISTARF(I)	A6	character string identification of the Stormwater Treatment Areas
14	blank	1X	

4. HOLEYLAND DEFINITION AS A RESERVOIR: (1 record total)

1–3	NPUMPTORES	free	number of pumps routing water to HOLEYLAND from another reservoir
	note: The following set of two fields is a continuation of the same record for I = 1,NPUMPTORES. These fields are not used if NPUMPTORES is equal to zero.		
	IBSNRES(I)	free	hydrologic basin number assigned for HOLEYLAND
	PUMPCAP_RES(I)	free	capacity of pump I (cfs)

5. IDENTIFICATION OF RESERVOIRS WITH SPECIAL CODE: (1 record total)
format(i3,2x,25(A6,1X))

1–3	no_of_res_spec_code	I3	number of reservoirs with special code
4–5	blank	2X	
	note: The following set of two fields is a continuation of the same record for I = 1,no_of_res_spec_code. These fields are not used if no_of_res_spec_code is equal to zero.		
6–11	name_res_spec_code(i)	A6	character string identification of reservoirs with special code
12	blank	1X	

6. IDENTIFICATION OF STRUCTURES WITH SPECIAL CODE: (1 record total)
format(i3,2x,50(A6,1X))

1–3	no_of_struc_spec_code	I3	number of reservoirs with special code
4–5	blank	2X	

note: The following set of two fields is a continuation of the same record for I = 1,no_of_struc_spec_code.
These fields are not used if no_of_res_spec_code is equal to zero.

6-11 res_struc_name_spec_code(i) A6 character string identification of reservoirs with special code

12 blank 1X

NOTE: The remaining records are read in only if NTOTRES is greater than zero where: NTOTRES = NMAREA+NRESLEC. Refer to input file 'reserv_grid_loc.dat'. Record set 7 through 40 defines details of each reservoir and is read in for a total of NTOTRES times, i.e. IA = 1,NTOTRES.

---

7. RESERVOIR NAME: (1 record total)
format(A6)

1-	sim_res_name(IA)	free	character string identification of reservoir; should match one of the reservoir names as defined in input file "reserv_grid_loc.dat" model array variable name "resname()"

---

8. RESERVOIR FOOTPRINT: (1 record total)

1-	RES_AREA(IA)	free	actual area of reservoir (acres)

---

9. INFLOW CUTOFF STAGE: (1 record total)

1-	STGMX(IA)	free	maximum stage allowed for structural INFLOW (ft NGVD)

---

10. MINIMUM MAINTENANCE DEPTH: (1 record total)

1-	DPHWS(IA)	free	minimum depth (ft) of water to be maintained during dry periods (source of water is Lake Okeechobee). Input of -901 means reservoir is not maintained.

---

11. GRID LOCATION OF RESERVOIR REFERENCE CELL: (1 record total)

1-	IXCNODE(IA)	free	column location of reference cell for reservoir
	IYCNODE(IA)	free	row location of reference cell for reservoir

---

12. NUMBER OF INFLOW STRUCTURES FOR RESERVOIR IA: (1 record total)

1-	NINSTR(IA)	free	number of INFLOW structures bringing water from sources other than canals

note: Set of records 13 through 19 is read only if NINSTR(IA) is greater than 0.

---

13. INFLOW STRUCTURE NAMES FOR RESERVOIR IA: (1 record total)
format(10(A6,1X))

---

note: The following set of two fields is repeated on the same record for i = 1,NINSTR(IA).

1–6	res_struc_inflow_name(ia,i)	A6	name assigned to INFLOW structure i for reservoir ia
6–7	blank	1X	

---

14. INFLOW STRUCTURE DISCHARGE COEFFICIENTS FOR RESERVOIR IA: (1 record total)
format(30F6.0)

---

note: The following field is repeated on the same record for I = 1,NINSTR(IA).

1–6	WEIRCFF(IA,I,1)	F6.0	discharge coefficient for INFLOW structure I to reservoir IA

---

15. INFLOW STRUCTURE CREST ELEVATION FOR RESERVOIR IA: (1 record total)
format(30F6.0)

---

note: The following field is repeated on the same record for I = 1,NINSTR(IA).

1–6	CRSTELEV(IA,I,1)	F6.0	crest elevation (ft NGVD) of INFLOW structure I to reservoir IA; (–901 means does not apply)

---

16. INFLOW STRUCTURE DISCHARGE EXPONENTS FOR RESERVOIR IA: (1 record total)
format(30F6.0)

---

note: The following field is repeated on the same record for I = 1,NINSTR(IA).

1–6	WREXP(IA,I,1)	F6.0	exponent in equation to determine capacity of INFLOW structure I for reservoir IA

note: Set of records 17 through 19 is repeated for each inflow structure for reservoir IA, i.e., IS = 1,NINSTR(IA).

---

17. NUMBER AND TYPE OF INFLOW RECIPIENT: (1 record total)
format(50I6)

1–3	NINDPTS(IA,IS)	I3	number of recipients of flow from INFLOW structure IS
4–6	INODOPT(IA,IS,1)	I3	option for type of recipient for INFLOW structure IS

valid entries:
1 = grid cell

0 = canal

---

18. LOCATION OF INFLOW RECIPIENT/S: (1 record total)
format(50I6)

---

note: The following set of two fields is repeated on the same record for I = 1,NINDPTS(IA,IS).

1–6	IXLIN(IA,IS,I)	I6	col location of recipient grid cell I for INFLOW structure IS
7–12	IYLIN(IA,IS,I)	I6	row location of recipient grid cell I for INFLOW structure IS

note: This record is read in only if INODOPT(IA,IS,1) = 1.

---

19. NAME OF INFLOW RECIPIENT/S: (1 record total)
format(10(A5,1X))

---

note: The following set of two fields is repeated on the same record for I = 1,NINDPTS(IA,IS).

1–5	CINCNL(I)	A5	name of recipient canal I for INFLOW structure IS; should match one of the canal names as defined in input file "canal_grid_loc.dat" or model array variable name "cnm()".
6	blank	1X	

note: This record is read in only if INODOPT(IA,IS,1) = 0.

---

20. NUMBER OF OUTFLOW STRUCTURES FOR RESERVOIR IA: (1 record total)

1–	noutstr(IA)	free	number of OUTFLOW structures

note: Set of records 20 through 34 is read only if noutstr(IA) is greater than 0.

---

21. OUTFLOW STRUCTURE NAMES FOR RESERVOIR IA: (1 record total)
format(10(A6,1X))

---

note: The following set of two fields is repeated on the same record for i = 1,noutstr(IA).

1–6	res_out_strname(ia,i)	A6	name assigned to each OUTFLOW structure for reservoir ia
6–7	blank	1X	

note: Names of reservoir outlet structures do not need to be added to structure master list in model_definition_info.dat.

---

22. OUTFLOW STRUCTURE TYPES FOR RESERVOIR IA: (1 record total)
format(10(A3,3X))

---

note: The following set of two fields is repeated on the same record for i = 1,noutstr(IA).

1–3 opt_sim_code(ia,i) A3 identification of type of code used in simulating outflow structure flow i for reservoir ia

valid entries:
GEN = use general code
SPC = use special code

4–6 blank 3X

---

23. OUTFLOW STRUCTURE DISCHARGE COEFFICIENTS FOR RESERVOIR IA: (1 record total)
format(30F6.0)

---

note: The following field is repeated on the same record for I = 1,NOUTSTR(IA).

1–6 WEIRCFF(IA,I,2) F6.0 discharge coefficient for OUTFLOW structure I to reservoir IA

---

24. OUTFLOW STRUCTURE CREST ELEVATION FOR RESERVOIR IA: (1 record total)
format(30F6.0)

---

note: The following field is repeated on the same record for I = 1,NOUTSTR(IA).

1–6 CRSTELEV(IA,I,2) F6.0 crest elevation (ft NGVD) of OUTFLOW structure I to to reservoir IA; If structure is simulating seepage from reservoir to SAME cell in which reservoir is located, then using −901 can be input since crest elevation is not used.

---

25. OUTFLOW STRUCTURE DISCHARGE EXPONENTS FOR RESERVOIR IA: (1 record total)
format(30F6.0)

---

note: The following field is repeated on the same record for I = 1,NOUTSTR(IA).

1–6 WREXP(IA,I,2) F6.0 exponent in equation to determine capacity of OUTFLOW structure I for reservoir IA

---

26. OUTFLOW STRUCTURE DISCHARGE CAPACITIES FOR RESERVOIR IA: (1 record total)
format(30F6.0)

---

note: The following field is repeated on the same record for I = 1,NOUTSTR(IA).

1–6 RMXCPO(IA,I) F6.0 maximum capacity (cfs) of outlet structure I for for reservoir IA

---

27. RESERVOIRS DOWNSTREAM OF OUTFLOW STRUCTURES FOR RESERVOIR IA: (1 record total)
format(10(A6,1x))

```
----------------------------------------------------------------------------------------
          note: The following set of two fields is repeated on the same record for
                I = 1,NOUTSTR(IA).
1-6 ds_res_name(I)          A6  name of downstream reservoir of outflow structure I
                                for reservoir IA; "NORES" means no reservoir is
                                recipient of OUTFLOW from structure I; should match
                                one of the reservoir names as defined in input file
                                "reserv_grid_loc.dat" or model array variable name
                                "resname()"; limitation: each structure can only
                                have one receiving downstream reservoir.
7       blank               1X
----------------------------------------------------------------------------------------
28. TYPES OF OUTFLOW STRUCTURES FOR RESERVOIR IA: (1 record total)
    format(10(A7,1X))
----------------------------------------------------------------------------------------
          note: The following set of two fields is repeated on the same record for
                I = 1,NOUTSTR(IA).
1-7 TYPE(IA,I)              A7   type of OUTFLOW through structure I for reservoir IA
          valid entries:
                  GRAVITY = gravity structure
                  PUMPED  = use special code
8       blank               1X
----------------------------------------------------------------------------------------
29. PURPOSE OF OUTFLOW STRUCTURES FOR RESERVOIR IA: (1 record total)
    format(10A6)
----------------------------------------------------------------------------------------
          note: The following field is repeated on the same record for
                I = 1,NOUTSTR(IA).
1-6 res_out_type(ia,i)      A6  purpose of OUTFLOW through structure I for reservoir IA
           valid options:
                    FLDC  = for flood control
                    WSPLY = for water supply to meet urban or agricultural demands
                    ENVIR = for environmental purposes
                    SEEPG = represents seepage out of reservoir; becomes available
                            to meet water supply needs
----------------------------------------------------------------------------------------
30. IDENTIFICATION OF TRIGGERS USED BY OUTFLOW STRUCTURES FOR RESERVOIR IA:
    (1 record total)
----------------------------------------------------------------------------------------
          note: The following field is repeated on the same record for
                I = 1,NOUTSTR(IA).
1-  i_ds_target_name(i)   free  name of stage target trigger used outflow structure i
                                for reservoir IA; "NOTRG" means no stage trigger is
                                used as condition for OUTFLOW; should match
                                one of the target areas as defined in input file
                                "stage_import_specs.dat" or model array
                                variable name "import_area_name()".
```

```
          note: Set of records 31 through 34 is read only if at least one of the
                outflow structures is used for water supply, i.e. res_out_tyep(ia,i) =
                "WSPLY " or res_out_type(ia,i) = "SEEPG " as defined in record 29 above.
-------------------------------------------------------------------------------------------
31. DATA FOR OUTFLOW STRUCTURES USED FOR WATER SUPPLY: (1 record total)
-------------------------------------------------------------------------------------------
1-   iconv_use_opt_ws(nres_ws)
                           free  option whether discharge from each structure affects
                                 conveyance of any major EAA canals
           valid entries:
                         1 = yes
                         0 = no
       note: Index nres_ws is internally calculated in the model.

       note: Set of records 32 through 34 is repeated for each outflow structure used
             for water supply, i.e., IS = 1,noutws; where noutws = number of outflow
             structure used for WSPLY as defined in record 29 and is internally
             calculated in the model.
-------------------------------------------------------------------------------------------
32. DISCHARGE ROUTING OPTION: (1 record total)
-------------------------------------------------------------------------------------------
1-   idshg_opt(ires_no(nres_ws),is)
                           free  discharge routing option
           valid entries:
                         0 = discharge to canal
                         1 = discharge to meet EAA basin demands
                         2 = discharge to meet other water supply needs (pre-processed
                             time series demands (e.g.BIG CYPRESS SEM DEMANDS))
       note: Index ires_no(nres_ws) is internally calculated in the model.
-------------------------------------------------------------------------------------------
33. NAME OF EAA BASIN RECEIVING WATER SUPPLY DISCHARGE: (1 record total)
-------------------------------------------------------------------------------------------
1-   ieaa_bsn(nres_ws,is) free  identifier of EAA basin receiving water supply discharge
                                from each OUTFLOW structure
           valid entries:
                         1 = Miami Canal Basin
                         2 = NNRC-HIL canal basin
                         3 = WPB canal basin
                      -901 = ws discharge not going to EAA basin(s))
       note: Index nres_ws is internally calculated in the model.
-------------------------------------------------------------------------------------------
34. MINIMUM HEADWATER STAGE FOR WATER SUPPLY: (1 record total)
-------------------------------------------------------------------------------------------
1-   stg_min_wsply(ires_no(nres_ws),is)
                           free  minimum headwater stage (ft NGVD) at structure location
                                 allowed for water supply discharges (usually 0.1-0.5 ft
                                 above land surface)
       note: Index ires_no(nres_ws) is internally calculated in the model.
```

---

35. NUMBER OF UPTREAM POINTS ASSOCIATED WITH OUTFLOW STRUCTURES FOR RESERVOIR IA:
(1 record total)
format(50I6)

1–6	NOUTDPTS(IA,IS)	I6	number of upstream points or origins of flow through OUTFLOW structure IS for reservoir IA; limitation: each structure can only have one upstream point
7–12	INODOPT(IA,IS,2)	I6	option for origin of flow through OUTFLOW structure IS for reservoir IA valid entries: 0 = from canal 1 = from grid cell

---

36. GRID LOCATIONS OF UPSTREAM OF FLOW THROUGH OUTFLOW STRUCTURES FOR RESERVOIR IA:
(1 record total)
format(50I6)

1–6	IXLOUT(IA,IS)	I6	grid cell column location for origin of flow through outflow structure IS for reservoir IA
7–12	IYLOUT(IA,IS)	I6	grid cell row location for origin of flow through outflow structure IS for reservoir IA

note: This record is read in only if INODOPT(IA,IS,2) = 1.

---

37. CANAL NAMES OF UPSTREAM OF FLOW THROUGH OUTFLOW STRUCTURES FOR RESERVOIR IA:
(1 record total)
format(a5)

1–5	COUTCNL	A5	canal name for origin of flow through OUTFLOW structure IS for reservoir IA; should match one of the canal names as defined in input file "canal_grid_loc.dat" or model array variable name "cnm()".

note: This record is read in only if INODOPT(IA,IS,2) = 0.

---

38. NUMBER OF DOWNSTREAM POINTS ASSOCIATED WITH OUTFLOW STRUCTURES FOR RESERVOIR IA:
(1 record total)
format(50I6)

1–6	NDSPTS(IA,IS)	I6	number of downstream points or recipients of flow through OUTFLOW structure IS for reservoir IA
7–12	INODOPT(IA,IS,3)	I6	option for recipients of flow through OUTFLOW structure IS for reservoir IA valid entries:

0 = from canal
1 = from grid cell

---

39. GRID LOCATIONS OF DOWNSTREAM OF FLOW THROUGH OUTFLOW STRUCTURES FOR RESERVOIR IA:
(1 record total)

---

note: The following set of two fields is repeated on the same record for I = 1,NDSPTS(IA,IS).

1-	IXRW(IA,IS,I)	free	grid cell column location for recipient of flow through outflow structure IS for reservoir IA
	IYRW(IA,IS,I)	free	grid cell row location for recipient of flow through outflow structure IS for reservoir IA

note: The following field is a continuation of the same record.

	NRGTRG(IA,IS)	free	number of trigger locations limiting outflow

note: The following set of three fields is a continuation of the same record for J = 1,NRGTRG(IA,IS). The following set of three fields is not used if NRGTRG(IA,IS) = 0.

	IXR_RTRG(IA,IS,J)	free	grid cell column location of trigger
	IYR_RTRG(IA,IS,J)	free	grid cell row location of trigger
	STGR_TRG(IA,IS,J)	free	trigger stage above which no outflow would occur for each trigger location

note: This record is read in only if INODOPT(IA,IS,3) = 1.

---

40. CANAL NAMES OF DOWNSTREAM OF FLOW THROUGH OUTFLOW STRUCTURES FOR RESERVOIR IA:
(1 record total)
format(5(a5,2x,2(f6.1,2x)))

---

note: The following set of six fields is repeated on the same record for I = 1,NDSPTS(IA,IS).

1-5	CIRCNL(I)	A5	canal name for recipient of flow through OUTFLOW structure IS for reservoir IA; should match one of the reservoir names as defined in input file "reserv_grid_loc.dat" model array variable name "resname()"
6-7	blank	2X	
8-13	DWNSTGMX(IA,IS,I)	F6.1	maximum stage (ft ngvd) allowable; use 999.0 for no maximum stage) for MAXIMUM OUTFLOW from structure to occur
14-15	blank	2X	
16-21	OFFSET_REG_RES(IA,IS,I)		

		F6.1	increment (ft) in stage above trigger for maximum outflow that NO outflow would occur
22–23	blank	2X	

note: This record is read in only if INODOPT(IA,IS,3) = 0.

END OF DESCRIPTION FOR INPUT FILE "reservoir_input"

SCCSID = srs_rf_plan_rf_et.man v1.1 02/15/03

Prepared by: Alaa Ali
Date Created: 22 January, 2003
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

srs_rf_plan_rf_et == rainfall and ET time series for rainfall driven plan calculation for Taylor Slough (unit no. 59) read in gen_model_def_param.dat

COLUMNS	VARIABLE NAME	FORMAT	DESCRIPTION
1. RAINFALL AND ET TIME SERIES FOR RAINFALL DRIVEN PLAN CALCULATIONS FOR TAYLOR SLOUGH A RECORD FOR EACH DAY FROM OCTOBER/24/1964 (10 WEEKS PRIOR TO JANUARY/1/1965) THROUGH JANUARY/1/2000			
1.1 ENTRIES ON OCTOBER/24/1964			
1–6	RF(1)	F6.0	Rainfall estimate on OCTOBER/24/1964
7–12	ETSM(1)	F6.0	ET estimate on OCTOBER/24/1964
1.2 ENTRIES ON OCTOBER/25/1964			
1–6	RF(2)	F6.0	Rainfall estimate on OCTOBER/25/1964
7–12	ETSM(2)	F6.0	ET estimate on OCTOBER/25/1964
		*	
		*	
1.70 ENTRIES ON DECEMBER/31/1964			
1–6	RF(70)	F6.0	Rainfall estimate on DECEMBER/31/1964
7–12	ETSM(70)	F6.0	ET estimate on DECEMBER/31/1964
1.71 ENTRIES ON DECEMBER/31/1964			
1–6	RF(71)	F6.0	Rainfall estimate on JANUARY/1/1964
7–12	ETSM(71)	F6.0	ET estimate on JANUARY/1/1964
		*	
		*	

1... ENTRIES ON DECEMBER/31/2000

1-6	RF(..)	F6.0	Rainfall estimate on DECEMBER/31/2000
7-12	ETSM(..)	F6.0	ET estimate on DECEMBER/31/2000

END OF DESCRIPTION FOR INPUT FILE "srs_rf_plan_rf_et.dat"

SCCSID = stage_import_input.man v1.1 02/15/03

Prepared by: Alaa Ali
Date Created: 15 November, 2002
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

stage_import_specs.dat == 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 (unit no. 105) read in gen_model_def_param.dat

COLUMNS	VARIABLE NAME	FORMAT	DESCRIPTION
1. READ THIS RECORD ONLY IF (wca_import_variation .ne. 'DAILY') i.e., time series is only one value that is invariant with time (e.g., a threshold value)			
..-..	ntotal_no_import_areas_const	Free	Total number of import areas constant
2	READ THIS RECORD IF RECORD 1 IS TRUE		
2.1	IMPORT THRESHOLD VALUES INFORMATION for IMPORT AREA #1		
..-..	import_area_name(1)	Free	Name of import area #1
..-..	nmpts_wca(1)	Free	# grids within import area #1
..-..	icol_stg(1,1)	Free	Column of grid #1 for import area #1
..-..	irow_stg(1,1	Free	Row of grid #1 for import area #1
..-..	rimport_stage(1,1)	Free	Threshold value for grid cell # 1 for import area #1
..-..	icol_stg(1,2)	Free	Column of grid #2 for import area #1
..-..	irow_stg(1,2)	Free	Row of grid #2 for import area #1
..-..	rimport_stage(1,2)	Free	Threshold value for grid # 2 for import area #1
..-..	icol_stg(1,nmpts_wca(1))	Free	Column of grid # nmpts_wca(1) for import area #1
..-..	irow_stg(1,nmpts_wca(1))	Free	Row of grid # nmpts_wca(1) for import area #1
..-..	rimport_stage(1,nmpts_wca(1))	Free	Threshold value for grid # nmpts_wca(1) for import area #1
2.2	IMPORT THRESHOLD VALUES INFORMATION for IMPORT AREA #2		
..-..	import_area_name(2)	Free	Name of import area #2
..-..	nmpts_wca(2)	Free	# grids within import area #2

```
..-..   icol_stg(1,1)                  Free    Column of grid #1 for import area #2
..-..   irow_stg(1,1)                  Free    Row of grid #1 for import area #2
..-..   rimport_stage(1,1)             Free    Threshold value for grid cell # 1 for import area #2

..-..   icol_stg(1,2)                  Free    Column of grid #2 for import area #2
..-..   irow_stg(1,2)                  Free    Row of grid #2 for import area #2
..-..   rimport_stage(1,2)             Free    Threshold value for grid # 2 for import area #2


..-..   icol_stg(1,nmpts_wca(2))       Free    Column of grid # nmpts_wca(1) for import area #2
..-..   irow_stg(1,nmpts_wca(2))       Free    Row of grid # nmpts_wca(1) for import area #2
..-..   rimport_stage(1,nmpts_wca(2))  Free    Threshold value for grid # nmpts_wca(1) for import area #2
-------------------------------------------------------------------------------------------------------
                *
                *
                *
-------------------------------------------------------------------------------------------------------
2.ntotal_no_import_areas_const          IMPORT THRESHOLD VALUES INFORMATION for IMPORT AREA
                                        #ntotal_no_import_areas_const
-------------------------------------------------------------------------------------------------------
..-..   import_area_name(
        ntotal_no_import_areas_const)   Free    Name of import area #ntotal_no_import_areas_const
..-..   nmpts_wca(
        ntotal_no_import_areas_const)   Free    # grids within import area #ntotal_no_import_areas_const
..-..   icol_stg(1,
        ntotal_no_import_areas_const)   Free    Column of grid #1 for import area #ntotal_no_import_areas_const
..-..   irow_stg(1,
        ntotal_no_import_areas_const)   Free    Row of grid #1 for import area #ntotal_no_import_areas_const
..-..   rimport_stage(1,
        ntotal_no_import_areas_const)   Free    Threshold value for grid cell # 1 for import area
                                                #ntotal_no_import_areas_const

..-..   icol_stg(1,
        ntotal_no_import_areas_const)   Free    Column of grid #2 for import area #ntotal_no_import_areas_const
..-..   irow_stg(1,
        ntotal_no_import_areas_const)   Free    Row of grid #2 for import area #ntotal_no_import_areas_const
..-..   rimport_stage(1,
        ntotal_no_import_areas_const)   Free    Threshold value for grid # 2 for import area
                                                #ntotal_no_import_areas_const


..-..   icol_stg(1,nmpts_wca(
        ntotal_no_import_areas_const))  Free    Column of grid # nmpts_wca(1) for import area
..-..   irow_stg(1,nmpts_wca(                   #ntotal_no_import_areas_const
        ntotal_no_import_areas_const))  Free    Row of grid # nmpts_wca(1) for import area
..-..   rimport_stage(1,nmpts_wca(              #ntotal_no_import_areas_const
        ntotal_no_import_areas_const))  Free    Threshold value for grid # nmpts_wca(1) for import area
                                                #ntotal_no_import_areas_const
```

3.	READ THIS RECORD IF RECORD 1 IS TRUE NAME OF IMPORT AREA CONSTANT #ntotal_no_import_areas_const+1		
..-..	import_area_name(ntotal_no_import_areas_const+1)		Name of import area #ntotal_no_import_areas_const+1
4. TARGET LOCATIONS AND AREAS USED AS ENVIORNMENTAL TRIGGER			
1-5	ngrid_cells_daily_total	I5	Total number of target locations input in import.nsm44
6-10	ntotal_no_import_areas	I5	Number of areas used as environmental triggers
2.1.1 INFORMATION FOR INFLOW TO AREA #1			
1-7	import_area_name(1)	A5, 2X	Name of AREA #1
8-12	n_offset_bkpts(1)	I5	Number of threshold depths relative to NSM target at area #1
13-18	offset(1,1)	F6.2	Threshold depths (ft) # 1
19-24	offset(1,2) * *	F6.2	Threshold depths (ft) # 2
..-..	offset(1,n_offset_bkpts(1))	F6.2	Threshold depths (ft) # n_offset_bkpts(1)
..-..	ngrid_cells_daily(1)	I5	Number of individual target locations used as triggers for inflow. 0 means no ENv. WS deliveries will be made to area
..-..	ngage_index_env(1,1,1)	I5	Column number (after the date column) in "import.nsm44" file for the stage target time series for individual target location #1, Area #1
	icol_cell_wca_daily(1,1)	I5	Grid column location for individual target location #1 and Area #1
	irow_cell_wca_daily(1,1)	I5	Grid row location for individual target location #1 and Area #1
..-..	ngage_index_env(1,2,1)	I5	Column number (after the date column) in "import.nsm44" file for the stage target time series for individual target location #2, Area #1
	icol_cell_wca_daily(1,2)	I5	Grid column location for individual target location #2 and Area #1
	irow_cell_wca_daily(1,2)	I5	Grid row location for individual target location #2, Area #1
..-..	ngage_index_env(1, ngrid_cells_daily(1),1)	I5	Column number (after the date column) in "import.nsm44" file for the stage target time series for individual target location # ngrid_cells_daily(1) and Area #1
	icol_cell_wca_daily(1, ngrid_cells_daily(1))	I5	Grid column location for individual target location # ngrid_cells_daily(1) and Area #1
	irow_cell_wca_daily(1, ngrid_cells_daily(1))	I5	Grid row location for individual target locatio # ngrid_cells_daily(1) and Area #1
2.1.2 INFORMATION FOR OUTFLOW FROM AREA #1(AREA NAME and NUMBER OF THRESHOLD DEPTHS ARE THE SAME AS INFLOW TO AREA)			
13-18	offset_out(1,1)	12X, F6.2	Threshold depths (ft) # 1
19-24	offset_out(1,2) *	F6.2	Threshold depths (ft) # 2

```
          *
..-..   ngrid_cells_daily_out(1)        I5      Number of individual target locations used as triggers for outflow.
                                                 0 targets means no ENv. WS deliveries will be made to area
..-..   ngage_index_env(1,1,2)          I5      Column number (after the date column) in "import.nsm44" file for the
                                                 stage target time series for individual target location #1, AREA #1
        icol_cell_wca_daily_out(1,1)    I5      Grid column location for individual target location #1, AREA #1
        irow_cell_wca_daily_out(1,1)    I5      Grid row location for individual target location #1, AREA #1

..-..   ngage_index_env(1,2,2)          I5      Column number (after the date column) in "import.nsm44" file for the
                                                 stage target time series for individual target location #2, AREA #1
        icol_cell_wca_daily_out(1,2)    I5      Grid column location for individual target location #2, AREA #1
        irow_cell_wca_daily_out(1,2)    I5      Grid row location for individual target location #2, AREA #1



..-..   ngage_index_env(1,              I5      Column number (after the date columns) in "import.nsm44" file for
        ngrid_cells_daily(1),2)                 the stage target time series for individual target location
                                                # ngrid_cells_daily(1), AREA #1
        icol_cell_wca_daily__out(1,     I5      Grid column location for individual target location
        ngrid_cells_daily(1))                   # ngrid_cells_daily(1), AREA #1
        irow_cell_wca_daily__out(1,     I5      Grid row location for individual target locatio
        ngrid_cells_daily(1))                   # ngrid_cells_daily(1), AREA #1
-------------------------------------------------------------------------------------------------------------------------
2.2.1  INFORMATION FOR INFLOW TO AREA #2
-------------------------------------------------------------------------------------------------------------------------
1-7     import_area_name(2)             A5, 2X  Name of AREA #2
8-12    n_offset_bkpts(2)               I5      Number of threshold depths relative to NSM target at area #2
13-18   offset(2,1)                     F6.2    Threshold depths (ft) # 1
19-24   offset(2,2)                     F6.2    Threshold depths (ft) # 2
          *
          *
..-..   offset(2,n_offset_bkpts(2))     F6.2    Threshold depths (ft) # n_offset_bkpts(2)
..-..   ngrid_cells_daily(2)            I5      Number of individual target locations used as triggers for inflow.
                                                 0 targets means no ENv. WS deliveries will be made to area
..-..   ngage_index_env(2,1,1)          I5      Column number (after the date column) in "import.nsm44" file for the
                                                 stage target time series for individual target location #1, Area #2
        icol_cell_wca_daily(2,1)        I5      Grid column location for individual target location #1, Area #2
        irow_cell_wca_daily(2,1)        I5      Grid row location for individual target location #1, Area #2

..-..   ngage_index_env(2,2,1)          I5      Column number (after the date column) in "import.nsm44" file for the
                                                 stage target time series for individual target location #2, Area #2
        icol_cell_wca_daily(2,2)        I5      Grid column location for individual target location #2, Area #2
        irow_cell_wca_daily(2,2)        I5      Grid row location for individual target location #2, Area #2



..-..   ngage_index_env(2,              I5      Column number (after the date columns) in "import.nsm44" file for
        ngrid_cells_daily(2),1)                 the target time series for individual target location
```

```
                                          # ngrid_cells_daily(1),Area #2
       icol_cell_wca_daily(2,          I5      Grid column location for individual target location
       ngrid_cells_daily(2))                   # ngrid_cells_daily(1),Area #2
       irow_cell_wca_daily(2,          I5      Grid row location for individual target locatio
       ngrid_cells_daily(2))                   # ngrid_cells_daily(1),Area #2
-------------------------------------------------------------------------------------------------------------
2.2.2  INFORMATION FOR OUTFLOW FROM AREA #2(AREA NAME and NUMBER OF THRESHOLD DEPTHS ARE THE SAME AS INFLOW TO AREA)
-------------------------------------------------------------------------------------------------------------
13-18  offset_out(2,1)           12X, F6.2    Threshold depths (ft) # 1
19-24  offset_out(2,2)                F6.2    Threshold depths (ft) # 2
          *
          *
..-..  ngrid_cells_daily_out(2)        I5      Number of individual target locations used as triggers for outflow.
                                               0 targets means no ENv. WS deliveries will be made to area
..-..  ngage_index_env(2,1,2)          I5      Column number (after the date column) in "import.nsm44" file for the
                                               stage target time series for individual target location #1, Area #2
       icol_cell_wca_daily_out(2,1)    I5      Grid column location for individual target location #1, Area #2
       irow_cell_wca_daily_out(2,1)    I5      Grid row location for individual target location #1, Area #2

..-..  ngage_index_env(2,2,2)          I5      Column number (after the date column) in "import.nsm44" file for the
                                               stage target time series for individual target location #2, Area #2
       icol_cell_wca_daily_out(2,2)    I5      Grid column location for individual target location #2 and Area #2
       irow_cell_wca_daily_out(2,2)    I5      Grid row location for individual target location #2, Area #2



..-..  ngage_index_env(2,              I5      Column number (after the date column) in "import.nsm44" file for the
       ngrid_cells_daily(2),2)                 stage target time series for individual target location
                                               # ngrid_cells_daily(1) and Area #2
       icol_cell_wca_daily__out(2,     I5      Grid column location for individual target location
       ngrid_cells_daily(2))                   # ngrid_cells_daily(1) and Area #2
       irow_cell_wca_daily__out(2,     I5      Grid row location for individual target locatio
       ngrid_cells_daily(2))                   # ngrid_cells_daily(1) and Area #2
-------------------------------------------------------------------------------------------------------------
                                          *
                                          *
                                          *
-------------------------------------------------------------------------------------------------------------
2.ntotal_no_import_areas.1  INFORMATION FOR INFLOW TO AREA #ntotal_no_import_areas
-------------------------------------------------------------------------------------------------------------
1-7    import_area_name(
       ntotal_no_import_areas)         A5, 2X  Name of AREA #ntotal_no_import_areas
8-12   n_offset_bkpts(
       ntotal_no_import_areas)         I5      Number of threshold depths relative to NSM target at area #2
13-18  offset(
       ntotal_no_import_areas,1)       F6.2    Threshold depths (ft) # 1
19-24  offset(
       ntotal_no_import_areas,2)       F6.2    Threshold depths (ft) # 2
```

```
           *
           *
..-..   offset(ntotal_no_import_areas
        ,n_offset_bkpts(
        ntotal_no_import_areas))        F6.2    Threshold depths (ft) # n_offset_bkpts(1)
..-..   ngrid_cells_daily(
        ntotal_no_import_areas)         I5      Number of individual target locations used as triggers for inflow.
                                                0 targets means no ENv. WS deliveries will be made to area
..-..   ngage_index_env(
        ntotal_no_import_areas,1,1)     I5      Column number (after the date columns) in "import.nsm44" file for
                                                the stage target time series for individual target location #1
                                                and Area #ntotal_no_import_areas

        icol_cell_wca_daily(
        ntotal_no_import_areas,1)       I5      Grid column location for individual target location #1
                                                and Area #ntotal_no_import_areas

        irow_cell_wca_daily(
        ntotal_no_import_areas,1)       I5      Grid row location for individual target location #1
                                                and Area #ntotal_no_import_areas


..-..   ngage_index_env(
        ntotal_no_import_a              I5      target time series for individual target location #
ngrid_cells_daily(1)                            and Area #ntotal_no_import_areas
                                        I5      target time series for individual target location #2
                                                and Area #ntotal_no_import_areas
        icol_cell_wca_daily(
        ntotal_no_import_areas,2)       I5      Grid column location for individual target location #2
                                                and Area #ntotal_no_import_areas

        irow_cell_wca_daily(
        ntotal_no_import_areas,2)       I5      Grid row location for individual target location #2
                                                and Area #ntotal_no_import_areas



..-..   ngage_index_env(
        ntotal_no_import_areas,         I5      Column number (after the date columns) in "import.nsm44" file for
        ngrid_cells_daily(                      the stage target time series for individual target location
                                                # ngrid_cells_daily(1),and Area #ntotal_no_import_areas

        ntotal_no_import_areas),1)
        icol_cell_wca_daily(1,          I5      Grid column location for individual target location
        ngrid_cells_daily(1))                   # ngrid_cells_daily(ntotal_no_import_areas)
                                                and Area #ntotal_no_import_areas
        irow_cell_wca_daily(1,          I5      Grid row location for individual target locatio
        ngrid_cells_daily(1))                   # ngrid_cells_daily(ntotal_no_import_areas)
                                                and Area #ntotal_no_import_areas
-------------------------------------------------------------------------------------------------------------
2.ntotal_no_import_areas.2  INFORMATION FOR OUTFLOW FROM AREA #ntotal_no_import_areas
                            (AREA NAME and NUMBER OF THRESHOLD DEPTHS ARE THE SAME AS INFLOW TO AREA)
-------------------------------------------------------------------------------------------------------------
```

```
13-18   offset_out(1,1)            12X, F6.2    Threshold depths (ft) # 1
19-24   offset_out(1,2)                 F6.2    Threshold depths (ft) # 2
           *
           *
..-..   ngrid_cells_daily_out(1)        I5      Number of individual target locations used as triggers for outflow.
                                                 0 targets means no ENv. WS deliveries will be made to area
..-..   ngage_index_env(1,1,2)          I5      Column number (after the date columns) in "import.nsm44" file for
                                                 the stage target time series for individual target location #1
                                                 and Area #ntotal_no_import_areas
        icol_cell_wca_daily_out(1,1)    I5      Grid column location for individual target location #1
                                                 and Area #ntotal_no_import_areas
        irow_cell_wca_daily_out(1,1)    I5      Grid row location for individual target location #1
                                                 and Area #ntotal_no_import_areas

..-..   ngage_index_env(1,2,2)          I5      Column number (after the date columns) in "import.nsm44" file for
                                                 the stage target time series for individual target location #2
                                                 and Area #ntotal_no_import_areas
        icol_cell_wca_daily_out(1,2)    I5      Grid column location for individual target location #2 and
                                                 Area #ntotal_no_import_areas
        irow_cell_wca_daily_out(1,2)    I5      Grid row location for individual target location #2 and
                                                 Area #ntotal_no_import_areas



..-..   ngage_index_env(1,             I5      Column number (after the date columns) in "import.nsm44" file for
        ngrid_cells_daily(1),2)                  the stage target time series for individual target location
                                                 # ngrid_cells_daily(1) and Area #ntotal_no_import_areas
        icol_cell_wca_daily__out(1,     I5      Grid column location for individual target location
        ngrid_cells_daily(1))                    # ngrid_cells_daily(1) and Area #ntotal_no_import_areas
        irow_cell_wca_daily__out(1,     I5      Grid row location for individual target locatio
        ngrid_cells_daily(1))                    # ngrid_cells_daily(1) and Area #ntotal_no_import_areas
-------------------------------------------------------------------------------------------------------------
END OF DESCRIPTION FOR INPUT FILE "stage_import_specs.dat"
-------------------------------------------------------------------------------------------------------------
```

SCCSID = static_grid_values.man v1.1 02/19/03

Documentation by: Sam Lee and Angela Montoya
Date Created: 18 October, 2002
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

static_grid_values.dat = defines data related to static data to be simulated (unit no. 60; subroutine grid_cell_based_data.F)

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. READ LAND SURFACE ELEVATION DATA NREC (ANY NUMBER OF RECODES)			
1-3	blank	3X	
4-13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14-80	ELLS(NODE)	11F6.2	ELEVATIONS
2. READ STORAGE COEFFICIENT NREC (ANY NUMBER OF RECODES)			
1-3	blank	3X	
4-13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14-80	S(NODE)	11F6.2	STORAGE COEFFICIENT (DIMENSIONLESS)
3. READ LAND USE INDICATORS NREC (ANY NUMBER OF RECODES)			
1-3	blank	3X	

4–13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14–17	blank	3X	
17–72	LUTYD(NODE)	27I2	LAND USE INDICATORS FOR EACH NODE

---

4. READ BASIN IDENTIFIERS
   NREC (ANY NUMBER OF RECODES)

1–3	blank	3X	
4–13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14–17	blank	3X	
17–72	IBSN(NODE)	27I2	SURFACE WATER BASIN INDICATORS

---

5. READ INITIAL GROUND WATER ELEVATIONS
   NREC (ANY NUMBER OF RECODES)

READ GROUND WATER DATA FROM UNIT NO. 55 FILE AND THEN

1–3	blank	3X	
4–13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14–80	H(NODE)	11F6.2	(INITIAL) WATER TABLE POSITION (FT NGVD)

---

6. READ AQUIFER DEPTH VALUES (FT FROM AQUIFER BOTTOM TO NGVD)
   NREC (ANY NUMBER OF RECODES)

1–3	blank	3X	
4–13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14–80	AQDEP(NODE)	11F6.2	AQUIFER THICKNESS FROM BOTTOM OF FORMATION TO NGVD (FT)

7. READ AQUIFER PERMEABILITY DATA (FT/DAY * 10**-4)
NREC (ANY NUMBER OF RECODES)

1-3	blank	3X	
4-13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14-74	TKX(NODE)	10F6.3	AQUIFER PERMEABILITY VALUES AT EACH NODE (FT/DAY*10^-4)

8. READ ET BASIN IDENTIFIERS (IETZON ARRAY)
NREC (ANY NUMBER OF RECODES)

1-3	blank	3X	
4-13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14-17	blank	3X	
17-72	IETZON(NODE)	27I2	ET BASIN INDICATORS FOR EACH NODE

9. READ INFILTRATION RATE (FT/DAY)
NREC (ANY NUMBER OF RECODES)

1-3	blank	3X	
4-13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14-80	SINF(NODE)	11F6.2	INFILTRATION RATE (FT/DAY)

10. READ IRRIGATED AREAS FOR EACH OF THE 6 USE TYPES
1) urban_landscape irrigated acreage
NREC (ANY NUMBER OF RECODES)

1-3	blank	3X	
4-13	JY, IX1, IX2	3I3	JY : row

```
                                    IX1: column 1
                                    IX2: column 2

14-80   irrig_area(NODE,1)  11F6.2  1) urban_landscape irrigated acreage

-------------------------------------------------------------------------------
11. READ IRRIGATED AREAS FOR EACH OF THE 6 USE TYPES
        2) nursery irrigated acreage
    NREC        (ANY NUMBER OF RECODES)
-------------------------------------------------------------------------------
1-3     blank               3X

4-13    JY, IX1, IX2        3I3     JY : row
                                    IX1: column 1
                                    IX2: column 2

14-80   irrig_area(NODE,2)  11F6.2  2) nursery irrigated acreage

-------------------------------------------------------------------------------
12. READ IRRIGATED AREAS FOR EACH OF THE 6 USE TYPES
        3) golf course irrigated acreage
        NREC    (ANY NUMBER OF RECODES)
-------------------------------------------------------------------------------
1-3     blank               3X

4-13  JY, IX1, IX2          3I3     JY : row
                                    IX1: column 1
                                    IX2: column 2

14-80   irrig_area(NODE,3)  11F6.2  3) golf course irrigated acreage

-------------------------------------------------------------------------------
13. READ IRRIGATED AREAS FOR EACH OF THE 6 USE TYPES
        4) agr. low-volume irrigated acreage
    NREC        (ANY NUMBER OF RECODES)
-------------------------------------------------------------------------------
1-3     blank               3X

4-13    JY, IX1, IX2        3I3     JY : row
                                    IX1: column 1
                                    IX2: column 2

14-80   irrig_area(NODE,4)  11F6.2  4) agr. low-volume irrigated acreage

-------------------------------------------------------------------------------
14. READ IRRIGATED AREAS FOR EACH OF THE 6 USE TYPES
        5) agr. overhead irrigated acreage
    NREC        (ANY NUMBER OF RECODES)
```

1–3	blank	3X	
4–13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14–80	irrig_area(NODE,5)	11F6.2	5) agr. overhead irrigated acreage

15. READ IRRIGATED AREAS FOR EACH OF THE 6 USE TYPES
    6) agr. other irrigated acreage
    NREC (ANY NUMBER OF RECODES)

1–3	blank	3X	
4–13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14–80	irrig_area(NODE,6)	11F6.2	6) agr. other irrigated acreage

16. READ EFFECTIVE ROOT ZONE DEPTH (FT)
    NREC (ANY NUMBER OF RECODES)

1–3	blank	3X	
4–13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14–80	erzd(NODE)	11F6.2	EFFECTIVE ROOT ZONE (FT)

17. READ MAXIMUM SOIL MOISTURE HOLDING CAPACITY IN THE UNSATURATED ZONE (AC–FT)
    NREC (ANY NUMBER OF RECODES)

1–3	blank	3X	
4–13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14–80	smmax(NODE)	11F6.2	MAXIMUM SOIL MOISTURE IN THE UNSATURATED ZONE (AC–FT)

18. READ FRACTION OF LANDSCAPE IRRIGATION RECEIVING WATER FROM PWS WELLS
NREC (ANY NUMBER OF RECODES)

1-3	blank	3X	
4-13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14-80	flirpws(NODE)	11F6.2	FRACTION OF LANDSCAPE IRRIGATION RECEIVING WATER FROM PUBLIC WATER SUPPLY WELLS

19. READ FRACTION OF LANDSCAPE IRRIGATION RECEIVING WATER FROM PWS WELLS
NREC (ANY NUMBER OF RECODES)

1-3	blank	3X	
4-13	JY, IX1, IX2	3I3	JY : row IX1: column 1 IX2: column 2
14-80	fgirtww(NODE)	11F6.2	fraction of landscape irrigation (use_type = 3)

END OF DESCRIPTION FOR INPUT FILE "statdta" (salee, 10/18/02)

SCCSID = storms.man v1.1 01/31/03

Prepared by: Michelle M. Irizarry, Danielle Lyons
Date: 9/17/02
Hydrologic Systems Modeling Division

| D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T |

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

storms.dat

storms.dat == ASCII file listing dates when pre-storm drawdown operations were initiated (~3 days before storm was forecast to hit) from 1965-1995

assigned unit number 137 in ALTWMM
read in subroutine:
cnldata.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
1. DATE OF START OF PRE-STORM DRAWDOWN OPERATIONS: (any number of records) FREE FORMAT			
	month_storm(nstorm)	FREE	Month of start of pre-storm drawdown operations.
	iday_storm(nstorm)	FREE	Day of start of pre-storm drawdown operations.
	iyear_storm(nstorm)	FREE	Year of start of pre-storm drawdown operations.
	NOT READ		Comment with the storm name (if applicable).

END OF DESCRIPTION FOR INPUT FILE "storms.dat"

SCCSID = trginput.man v1.1 02/15/03

Prepared by: Lehar Brion, Sharika Senarath
Date: 02/03/03
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

trginput.dat == defines public water supply and irrigation cutback parameters
(unit no.94) read in subroutine trigger_input from source file trg.F

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.

COLUMNS	VARIABLE NAME	FORMAT	DESCRIPTION
1. TRIGGER INPUT PARAMETERS: (1 record total)			
1-..	unit_trig_out	Free	unit number for output data file
	echo_trig	Free	unit number for output echo print
	min_lok_ssm_cnt	Free	minimum number of days LOK is in Supply-Side Management for cutbacks to be imposed in the LEC for the following month
2. PUBLIC WATER SUPPLY CUTBACK FRACTION: (1 record total)			
	note: The following field is repeated on the same record for phase = 1,4.		
1-	def_cutback(1,phase)	Free	cutback fraction to be applied to public water supply
3. URBAN LANDSCAPE MAX. NET IRRIGATION APPLICATION RATES: (1 record total)			
	note: The following field is repeated on the same record for phase = 1,4.		
1-	def_cutback(2,phase)	Free	Maximum net irrigation application rate (inches/month) for urban landscape irrigation
4. NURSERY MAX. NET IRRIGATION APPLICATION RATES: (1 record total)			
	note: The following field is repeated on the same record for phase = 1,4.		
1-	def_cutback(3,phase)	Free	Maximum net irrigation application rate (inches/month) for nursery irrigation
5. GOLF COURSE MAX. NET IRRIGATION APPLICATION RATES: (1 record total)			

	note: The following field is repeated on the same record for phase = 1,4.		
1-	def_cutback(4,phase)	Free	Maximum net irrigation application rate (inches/month) for golf course irrigation

6. AGRICULTURAL LOW VOLUME MAX. NET IRRIGATION APPLICATION RATES: (1 record total)

	note: The following field is repeated on the same record for phase = 1,4.		
1-	def_cutback(5,phase)	Free	Maximum net irrigation application rate (inches/month) for low volume irrigation

7. AGRICULTURAL OVERHEAD MAX. NET IRRIGATION APPLICATION RATES: (1 record total)

	note: The following field is repeated on the same record for phase = 1,4.		
1-	def_cutback(6,phase)	Free	Maximum net irrigation application rate (inches/month) for overhead irrigation

8. AGRICULTURAL (OTHERS) MAX. NET IRRIGATION APPLICATION RATES: (1 record total)

	note: The following field is repeated on the same record for phase = 1,4.		
1-	def_cutback(7,phase)	Free	Maximum net irrigation application rate (inches/month) for other irrigation types

9. PUBLIC WATER SUPPLY CUTBACK FRACTION: (1 record total)

1-	n_zone	Free	number of trigger zones

note: Set of records 10. through 25. is repeated for each trigger zone, i.e., zone = 1,n_zone.

10. ZONE NUMBER: (1 record total)

1-	zone1	Free	zone number; must be specified in increasing order

11. DEFINITION OF TWO CORNERS OF (RECTANGULAR) TRIGGER ZONE: (1 record total)

	note: The following field is repeated on the same record for phase = 1,4.		
1-	zone_corner(zone,1,1)	Free	model column number of lower left corner of trigger zone
	zone_corner(zone,1,2)	Free	model row number of lower left corner of trigger zone
	zone_corner(zone,2,1)	Free	model column number of upper right corner of trigger zone
	zone_corner(zone,2,2)	Free	model row number of upper right corner of trigger zone

12. NUMBER OF TRIGGERS IN ZONE: (1 record total)

1-	n_trigger(zone)	Free	number of triggers in zone

note: Set of records 13. through 25. is repeated for each trigger, i.e., trig = 1,n_trigger(zone).

13. TRIGGER TYPE: (1 record total)

1–	t_type	Free	type of trigger for trigger "trig" in zone "zone"; either groundwater level (gwhd or GWHD) or canal name.

14. TRIGGER LOCATION AND TRIGGER HEADS BASED GROUNDWATER HEAD: (1 record total)

1–	tcell_col(zone,trig)	Free	model column location of trigger cell "trig" in zone "zone"
	tcell_row(zone,trig)	Free	model row location of trigger cell "trig" in zone "zone"
	trig_value(zone,trig,1)	Free	threshold water levels (ft NGVD) below which cutback will be triggerred by trigger cell "trig" in zone "zone" at water restriction phase 1
	trig_value(zone,trig,1)	Free	threshold water levels (ft NGVD) below which cutback will be triggerred by trigger cell "trig" in zone "zone" at water restriction phase 2
	trig_value(zone,trig,1)	Free	threshold water levels (ft NGVD) below which cutback will be triggerred by trigger cell "trig" in zone "zone" at water restriction phase 3
	trig_value(zone,trig,1)	Free	threshold water levels (ft NGVD) below which cutback will be triggerred by trigger cell "trig" in zone "zone" at water restriction phase 4

note: This record is read in only if t_type = "gwhd" or GWHD".

15. TRIGGER PERIOD BASED ON GROUNDWATER HEAD: (1 record total)

1–	trig_period(zone,trig,1)	Free	minimum length of time (expressed as a fraction of the previous month) when trigger "trig" in zone "zone" has to stay below water level trig_value(zone,trig,1) as a necessary conditon before a phase 1 water restriction is declared for all water users (PWS and irrigation) in zone "zone"
	trig_period(zone,trig,2)	Free	minimum length of time (expressed as a fraction of the previous month) when trigger "trig" in zone "zone" has to stay below water level trig_value(zone,trig,2) as a necessary conditon before a phase 2 water restriction is declared for all water users (PWS and irrigation) in zone "zone"
	trig_period(zone,trig,3)	Free	minimum length of time (expressed as a fraction of the previous month) when trigger "trig" in zone "zone" has to stay below water level trig_value(zone,trig,3) as a necessary conditon before a phase 3 water restriction is declared for all water users (PWS and irrigation) in zone "zone"
	trig_period(zone,trig,4)	Free	minimum length of time (expressed as a fraction of the previous month) when trigger "trig" in zone "zone" has to stay below water level trig_value(zone,trig,4) as a necessary conditon before a phase 4 water restriction is declared for all water users (PWS and irrigation) in zone "zone"

note: This record is read in only if t_type = "gwhd" or GWHD".

16. TRIGGER VALUE BASED CANAL LEVEL: (1 record total)

1–	trig_value(zone,trig,1)	Free	threshold water levels (ft NGVD) below which cutback will be

			triggerred by trigger cell "trig" in zone "zone" at water restriction phase 1
	trig_value(zone,trig,2)	Free	threshold water levels (ft NGVD) below which cutback will be triggerred by trigger cell "trig" in zone "zone" at water restriction phase 2
	trig_value(zone,trig,3)	Free	threshold water levels (ft NGVD) below which cutback will be triggerred by trigger cell "trig" in zone "zone" at water restriction phase 3
	trig_value(zone,trig,4)	Free	threshold water levels (ft NGVD) below which cutback will be triggerred by trigger cell "trig" in zone "zone" at water restriction phase 4

note: This record is read in only if t_type is a canal name that matches one of the canal names as defined in input file "canal_grid_loc.dat" or model array variable name "cnm()".

17. TRIGGER PERIOD BASED ON CANAL LEVEL: (1 record total)

1-	trig_period(zone,trig,1)	Free	minimum length of time (expressed as a fraction of the previous month) when trigger "trig" in zone "zone" has to stay below canal level trig_value(zone,trig,1) as a necessary conditon before a phase 1 water restriction is declared for all water users (PWS and irrigation) in zone "zone"
	trig_period(zone,trig,2)	Free	minimum length of time (expressed as a fraction of the previous month) when trigger "trig" in zone "zone" has to stay below canal level trig_value(zone,trig,2) as a necessary conditon before a phase 1 water restriction is declared for all water users (PWS and irrigation) in zone "zone"
	trig_period(zone,trig,3)	Free	minimum length of time (expressed as a fraction of the previous month) when trigger "trig" in zone "zone" has to stay below canal level trig_value(zone,trig,3) as a necessary conditon before a phase 1 water restriction is declared for all water users (PWS and irrigation) in zone "zone"
	trig_period(zone,trig,4)	Free	minimum length of time (expressed as a fraction of the previous month) when trigger "trig" in zone "zone" has to stay below canal level trig_value(zone,trig,4) as a necessary conditon before a phase 1 water restriction is declared for all water users (PWS and irrigation) in zone "zone"

note: This record is read in only if t_type is a canal name that matches one of the canal names as defined in input file "canal_grid_loc.dat" or model array variable name "cnm()".

18. FLAG FOR DEFAULT CUTBACK LEVELS: (1 record total)

1-	check_default	Free	flag to be used to check if default cutback levels (records 2 through 8) are to be applied to this particular trigger "trig" and zone "zone"; either default values (default or DEFAULT) or non-default/special levels will be used. Cutback levels are assigned for a unique combination of zone, trigger, water use type (PWS or one of the six irrigation types) and water restriction phase.

note: Set of records 19. through 25. is read in only if check_default is different from "default" or "DEFAULT".

---

19. PUBLIC WATER SUPPLY CUTBACK FRACTION: (1 record total)

---

note: The following field is repeated on the same record for phase = 1,4.

1-	cutback(zone,trig,1,phase)	Free	cutback fraction to be applied to public water supply

---

20. URBAN LANDSCAPE MAX. NET IRRIGATION APPLICATION RATES: (1 record total)

---

note: The following field is repeated on the same record for phase = 1,4.

1-	cutback(zone,trig,2,phase)	Free	Maximum net irrigation application rate (inches/month) for urban landscape irrigation

---

21. NURSERY MAX. NET IRRIGATION APPLICATION RATES: (1 record total)

---

note: The following field is repeated on the same record for phase = 1,4.

1-	cutback(zone,trig,3,phase)	Free	Maximum net irrigation application rate (inches/month) for nursery irrigation

---

22. GOLF COURSE MAX. NET IRRIGATION APPLICATION RATES: (1 record total)

---

note: The following field is repeated on the same record for phase = 1,4.

1-	cutback(zone,trig,4,phase)	Free	Maximum net irrigation application rate (inches/month) for golf course irrigation

---

23. AGRICULTURAL LOW VOLUME MAX. NET IRRIGATION APPLICATION RATES: (1 record total)

---

note: The following field is repeated on the same record for phase = 1,4.

1-	cutback(zone,trig,5,phase)	Free	Maximum net irrigation application rate (inches/month) for low volume irrigation

---

24. AGRICULTURAL OVERHEAD MAX. NET IRRIGATION APPLICATION RATES: (1 record total)

---

note: The following field is repeated on the same record for phase = 1,4.

1-	cutback(zone,trig,6,phase)	Free	Maximum net irrigation application rate (inches/month) for overhead irrigation

---

25. AGRICULTURAL (OTHERS) MAX. NET IRRIGATION APPLICATION RATES: (1 record total)

---

note: The following field is repeated on the same record for phase = 1,4.

1-	cutback(zone,trig,7,phase)	Free	Maximum net irrigation application rate (inches/month) for other irrigation types

---

SCCSID = wca_out_struc_specs.man v1.1 02/15/03

Prepared by: Jenifer Barnes, Angela Montoya, Danielle Lyons
Date: 12/3/02
Hydrologic Systems Modeling Division

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SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

wca_out_struc_specs.dat == Water Conservation Areas (WCAs) inflow/outflow structures definition data file (previously defined as caoflpts) (unit no. 21; read in wcas_input_data.F)

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*)

WCA=Water Conservation Area
LEC=Lower East Coast
SA=Service Area
LECSA=Lower East Coast Service Area

COLS	VAR NAME	FORMAT	DESCRIPTION
1. IDENTIFICATION OF WCAS−FORMAT (i5,10(2x,a5))			
1−5	nwcas	i5	number of WCAs
−	wca_name(isa)	2x,a5	names of WCA #isa (isa = 1, nwcas)
2. INITIAL STAGE (FT. NGVD) FOR EACH WCA			
−	rinit_wca_stage(isa)	free	initial stages(ft. NGVD) for WCA #isa (isa = 1,nwcas)
3. HYDROLOGIC BASIN NUMBER FOR EACH WCA			
−	ibasin_no_wca(isa)	free	hydrologic basin numbers for WCA #isa (isa=1,nwcas) (CBN of STATDTA file)
4. ORDER IN WHICH WCAS ARE SIMULATED−FORMAT (5x,5(a5,2x))			
1−5	blank	5x	blank space
−	wca_name_order_sim(isa)	a5,2x	order in which WCAs are simulated (isa = 1, nwcas)

5. OPTION FOR RAIN-DRIVEN OPERATIONS FOR EACH WCA-FORMAT (5(a5,2x))

-	wcaenv(isa)	a5,2x	option for rain-driven operations for WCA #isa - TRUE or FALSE (5 characters), if FALSE,calendar operational schedules are implemented in simulation (isa = 1, nwcas)

6. MINIMUM THRESHOLD FOR MULTI SEASONAL FORECAST FOR LOK INFLOW TO ALLOW A CHANGE IN THE OPERATIONAL SCHEDULE OF EACH WCA

-	rmulti_seas_thres_chg_sched(isa)	free	minimum threshold for multi seasonal forecast for LOK inflow to allow a change in the operational schedule of WCA #isa (isa = 1, nwcas)

NOTE: Set of records 7 Through 9 are repeated for each WCA, i.e., isa=1, nwcas

7. NAMES AND FLOOR ELEVATIONS OF CONVEYANCE CANALS FOR SPECIFIC WCA FORMAT(i5,10(2x,a5,2x,f6.2))

1-7	n_intcnl(isa)	i5,2x	number of conveyance canals
8-14	intcnl_name(i)	a5,2x	names of conveyance canals (character identifiers)
-	rmnstg(isa,i)	f6.2	floor elevations (ft. NGVD) for conveyance canal #i (i = 1, n_intcnl(isa))

8. DAYS OF WEEK FOR DELIVERY FROM WCA TO SA1 WHEN SPECIFIC WCA IS ABOVE FLOOR ELEVATION

-	no_of_days_wk_wcadel(isa,1)	free	number of days of the week for delivery from WCA #isa to SA1 when WCA #isa is above floor elevation
-	days_of_wk_wcadel(k)	free	name of days of the week for delivery from WCA #isa to SA1 when WCA #isa is above floor elevation (k=1, no_of_days_wk_wcadel(isa,1))
-	frac_wcaws_del(isa,1)	free	fraction of expected volumes to be delivered

9. DAYS OF WEEK FOR DELIVERY FROM WCA TO SA2 WHEN SPECIFIC WCA IS ABOVE FLOOR ELEVATION

-	no_of_days_wk_wcadel(isa,2)	free	number of days of the week for delivery from WCA #isa to SA2 when WCA #isa is above floor elevation
-	days_of_wk_wcadel(k)	free	days of the week for delivery

			from WCA #isa to SA2 when WCA #isa is above floor elevation (k=1, no_of_days_wk_wcadel(isa,2))
–	frac_wcaws_del(isa,2)	free	fraction of expected volumes to be delivered

10. NAMES OF CONVEYANCE CANALS USED AS TRIGGERS FOR OUTFLOW FOR EACH WCA
FORMAT(5(a5,2x))

–	iconvey_canal_no_wca_name(isa)	a5,2x	names of conveyance canals used as triggers for outflow for WCA #isa (isa = 1, nwcas) (NOCNL means no canal is used for appropriate WCA #isa)

11. MINIMUM NUMBER OF CONSECUTIVE DAYS SIMULATED STAGE MUST BE BELOW A THRESHOLD STAGE AT ANY CHOSEN LOCATION(S) IN WCAS IN ORDER FOR DELIVERY OF WATER FROM LOK TO HELP MAINTAIN CANALS IN LECSA

–	min_consec_days_bel_strtstg	free	minimum number of consecutive days simulated stage must be below a threshold stage at any chosen location(s) in WCAS in order for delivery of water from LOK to help maintain canals in LECSAs to occur. (Input 1 if CANAL option for Minimum Flows and Levels Criteria is input)

NOTE: Set of records 12 through 13 are repeated for each WCA, i.e., isa=1, nwcas

12. NUMBER OF MARSH TRIGGERS USED FOR MINIMUM FLOWS AND LEVELS CRITERIA FOR SPECIFIC WCA (nwcas records total)

–	no_of_subareas_floor(isa)	free	number of marsh triggers used for Minimum Flows and Levels Criteria for WCA

NOTE: Record 13 is repeated for each marsh trigger, i.e., i=1, no_of_subareas_floor(isa)

13. LOCATIONS AND STAGE OF MARSH TRIGGERS USED FOR MINIMUM FLOWS AND LEVELS CRITERIA FOR SPECIFIC WCA–FORMAT (3f6.2,i3,1x,5(2i3,2x,a6))

1–6	avg_wca_subarea_stg_strt_count(isa,i)	f6.2	threshold stage for starting the counter for number of consecutive days simulated stage is below
6–11	avg_wca_subarea_crit_stage(isa,i)	f6.2	threshold stage for deliveries from LOK to meet LEC demands if

			counter is greater than or equal to user specified threshold (min_consec_days_bel_strtstg)
12−17	avg_wca_subarea_stg_disc_lok(isa,i)	f6.2	threshold stage that discontinues the deliveries from LOK to meet LEC demands
18−21	nmpts_wca_floor(isa,i)	i3,1x	number of marsh trigger points for determining deliveries of water from LOK to meet LEC demands

NOTE: The following three fields are repeated for each trigger point #j, i.e., j=1, nmpts_wca_floor(isa,i)

−	icol_stg_floor(j)	i3	column number of cell of trigger point #j
−	irow_stg_floor(j)	i3,2x	row number of cell of trigger point #j
−	gage_name(isa,i,j)	a6	gage name of trigger point #j

NOTE: Record 14 is repeated for each WCA, i.e., isa=1, nwcas

---

13. CELL LOCATIONS USED TO TRIGGER REGULATORY RELEASES FROM SPECIFIC WCA WHEN IMPLEMENTING NON RAIN_DRIVEN OPERATIONAL SCHEDULE

−	n_gage_loc(isa)	free	number of cell locations used to trigger regulatory releases from WCA when implementing non rain−driven operational schedule

NOTE: The following two fields are repeated for each cell #j, i.e., j=1, n_gage_loc(i)

−	icol_wca_loc(j)	free	column number of cell #j
−	irow_wca_loc(j)	free	row number of cell #j

---

15. NUMBER OF STRUCTURES SIMULATED IN WCAS WITH SPECIAL CODE FORMAT(i2,2x,40(a6,1x))

1−4	no_of_struc_spec_code	i2,2x	number of structures simulated in WCAs with special code
−	name_struc_w_spec_code_wca(i)	a6,1x	names of structure #i (i=1, no_of_struc_spec_code) (order can not be changed from the LECDEF file; structures can only be added at the end of the lecdef file)

NOTE: Set of records 16 Through 45 are repeated for each WCA, i.e., isa=1, nwcas
The following records are used to compute available water from WCA to meet LEC demands.

16. INPUT DATA FOR SPECIFIC WCA–FORMAT(a)			
1–*	wcaid(isa)	a	name of WCA (max 5 characters)

NOTE: Set of records 17 Through 18 are repeated for each conveyance canal, i.e., i=1, n_intcnl(isa)

17. INPUT DATA FOR SPECIFIC CONVEYANCE CANAL SIMULATED IN WCA FORMAT(i5,2x,10(a5,1x)) (1 record total)			
1–7	nclns(isa,i)	i5,2x	number of canals receiving water supply directly from WCA
–	cisacnl(j)	a5,1x	names of canal #j (j=1,nclns(isa,i))
18. NUMBER OF INFLOW STRUCTURES CONTRIBUTING WATER SUPPLY DIRECTLY FROM WCA TO LECSA FORMAT(i5,2x,10(a6,1x)) (1 record total)			
1–7	nstrinf(isa,i)	i5,2x	number of inlet structures for WCA contributing water directly to water supply for LECSA
8–14	cistrindx(j)	a6,1x	name of inlet structure #j (j=1, nstrinf(isa,i))
19. GENERAL INFORMATION FOR SPECIFIC WCA OUTFLOW STRUCTURES			
–	nstrpt(isa)	free	number of outflow structures simulated for WCA
20. PRIORITY OPTION FOR MEETING WATER SUPPLY NEEDS IN LECSA			
–	iprorte(isa)	free	priority option for meeting water supply needs in LECSA (1 – priority equal adversity, 0 – priority in order structures are simulated)
21. MINIMUM CONVEYANCE CANAL STAGE (FT NGVD) ALLOWED FOR REGULATORY RELEASES AND MAXIMUM OFFSET (FT) THAT CAN BE LOWERED DUE TO REGULATORY RELEASES			
–	stgmnrg(isa)	free	minimum conveyance canal stage (ft NGVD) that is allowed for regulatory releases (non rain driven operations only)
–	regcoffset(isa)	free	maximum offset (ft) from regulation schedule that conveyance canal can be lowered

			due to regulatory releases

NOTE: Set of records 22 through 45 are repeated for each outflow structure simulated for specific WCA, i.e., is=1, nstrpt(isa)

22. SPECIFIC INFORMATION FOR SPECIFIC WCA OUTFLOW STRUCTURES
FORMAT(a6,2(2x,a3),2x,i1,2x,f5.1,2i3)

1-6	struc_name_sim_wca(is,isa)	a6	character id of structure (max 6 characters)
7-11	icode_s(is,isa)	2x,a3	type of code used to simulate structure (GEN - general code common to simulated structures, SPC - code is unique to structure)
12-16	sim_opt(is,isa)	2x,a3	option in operation of structure (ENV - rain-driven operations, REG - calendar based operational schedule)
17-19	iopt_for_reg_releases(is,isa)	2x,i1	option to send regulatory releases (REG option above) OR excess water for rain-driven operations (ENV option above)
20-26	rmulti_seas_thres_struc(is,isa)	2x,f5.1	threshold (million acre-ft) of multi-seasonal outlook for regulatory releases (used for REG option only)
27-29	iwca_reg_zone(is,isa)	i3	zone index for lowest zone allowed for regulatory releases
30-32	iopt_for_lokreg_flwth(is,isa)	i3	option to route regulatory releases from LOK through WCA to LEC when WCA is below schedule (1-yes, 0-not active)

NOTE: This record is read in only if general code is used to simulate operations of specific outflow structure, i.e., icode_s(is,isa) = GEN

23. NAME OF COMPONENTS OF STRUCTURE FLOW TO BE OUTPUT IN STR2X2.DSS FILE, OFFSET TO REGULATION SCHEDULE WHEN GATES OPEN FULL FOR REGULATORY RELEASES, AND CELL LOCATIONS IMMEDIATELY UPSTREAM AND DOWNSTREAM OF STRUCTURE
FORMAT(3(a6,2x),f6.1,4i5)

1-8	sname_env_dss(is,isa)	a6,2x	name of component of structure flow for environmental releases to be output in str2x2.dss file
9-16	sname_reg_dss(is,isa)	a6,2x	name of component of structure flow for regulatory releases to be output in str2x2.dss file
17-24	sname_ws_dss(is,isa)	a6,2x	name of component of structure

			flow for water supply releases to be output in str2x2.dss file
25−30	offset_reg(is,isa)	f6.1	offset to regulation schedule when gates open fully for regulatory releases (non rain−driven operations only)
31−35	icolposup_wcaot(is,isa)	i5	column number immediately upstream of structure
36−40	irowposup_wcaot(is,isa)	i5	row number immediately upstream of structure
40−44	icolposdn_wcaot(is,isa)	i5	column number immediately downstream of structure
44−48	irowposdn_wcaot(is,isa)	i5	row number immediately downstream of structure

24. OPTION FOR HEADWATER

−	ihwopt(is,isa)	free	option for headwater (0 − headwater is a canal, otherwise is a grid cell)

NOTE: This record is read in only if the headwater of the structure is a canal, i.e., ihwopt(is,isa) = 0

25. UPSTREAM CANAL NAME
FORMAT(a5)

1−5	iup_canal_name(is)	a5	upstream canal name (max 5 characters) if option for headwater is 0

NOTE: This record is read in only if the headwater of the structure is a grid cell, i.e., ihwopt(is,isa)

26. UPSTREAM CELL LOCATION

−	ixhw(is,isa)	free	column number of cell
−	iyhw(is,isa)	free	row number of cell

27. OPTION FOR TAILWATER

−	itwopt(is,isa)	free	option for tailwater (0 − tailwater is a canal, otherwise is a grid cell)

NOTE: This record is read in only if the headwater of the structure is a canal, i.e., itwopt(is,isa) = 0

28. UPSTREAM CANAL NAME
FORMAT(a5) (1 record total)

–	idn_canal_name(is)	a5	downstream canal name (max 5 characters) if option for tailwater is 0

NOTE: This record is read in only if the headwater of the structure is a grid cell, i.e., itwopt(is,isa) /= 0

29. UPSTREAM CELL LOCATION

1–5	ixtw(is,isa)	i5	column number of cell
6–10	iytw(is,isa)	i5	row number of cell

30. LECSA SERVED BY STRUCTURE

–	iserv_area_indx(is,isa)	free	LECSA served by structure (1–SA1, 2–SA2, 3–SA3)
–	ieaa_conduit_name	free	name of EAA conduit used to bring runoff/LOK water directly or indirectly to structure (max 5 characters)

31. DISCHARGE COEFFICIENT AND EXPONENT USED IN DISCHARGE EQUATION

–	dcoeff(is,isa)	free	discharge coefficient (–901 input if data not needed)
–	power(is,isa)	free	exponent used in discharge equation

32. OPTION FOR TRIGGER TO CONSTRAIN DISCHARGES THROUGH STRUCTURES

–	iopt_for_tw_constraint(is,isa)	free	option for trigger to constrain discharges through structures (1 – cell trigger discharges through structure, otherwise, canal trigger discharges through structure)

NOTE: This record is read in only if a cell trigger discharges through structures, i.e., iopt_for_tw_constraint(is,isa)=1

33. TRIGGER CELL LOCATION AND MAXIMUM ALLOWABLE STAGE FOR OUTFLOW

–	n_cells_c(is,isa)	free	number of trigger cells

NOTE: The following two fields are repeated for each grid cell #kk,

i.e., kk=1,n_cells_c(is,isa)

−	icol_constrnt(kk)	free	column number for trigger cell #kk if option in previous record is 1
−	irow_constrnt(kk)	free	row number for trigger cell #kk if option in previous record is 1
−	dnstrm_wca_name	free	name of downstream WCA which will be used as tailwater constraint for outflow through structure if option in previous record is 1

NOTE: This record is read in only if a canal trigger discharges through structures, i.e., iopt_for_tw_constraint(is,isa)/= 1 and the structure is S355, i.e., struc_name_sim_wca(is,isa) = S355

34. TRIGGER CANAL STAGE (ASSUMED TO BE THE TAILWATER) AND MAXIMUM DOWNSTREAM STAGE ALLOWED FOR OUTFLOW

−	no_of_ds_stg_lmits	free	number of downstream triggers for limiting outflow
−	rmxstge(is,isa,ij)	free	maximum downstream stage (ft NGVD) allowed for outflow (999 means no maximum stage is used) defined for trigger #ij (ij=1,no_of_ds_stg_lmits)

NOTE: This record is read in only if a canal trigger discharges through structures, i.e., iopt_for_tw_constraint(is,isa)/=1 and the structure is not S355, i.e., struc_name_sim_wca(is,isa)/=S355

35. TRIGGER CANAL STAGE (ASSUMED TO BE THE TAILWATER) AND MAXIMUM ALLOWABLE DOWNSTREAM STAGE FOR OUTFLOW

−	rmxstge(is,isa,1)	free	maximum downstream stage(ft NGVD) allowed for outflow (999 means no maximum stage is used)

36. DESIGN CAPACITY (CFS) OF STRUCTURE FORMAT(1x,2f6.0,i4)

1−7	desgncp(is,isa)	1x,f6.0	design capacity (cfs) of structure
8−13	capfact(is,isa)	f6.0	multiplier for the structure capacity (1.0 − use present capacity , > 1.0 − if proposed capacity is greater than present capacity, < 1.0 − if proposed capacity is less than present

			capacity)
14-17	iopt_lim_des_cap_wca(is,isa)	i4	option to limit outflow to design capacity (1-yes,0-no)

37. BREAKPOINTS IN STAGE USED IN SIMULATED OPERATION OF STRUCTURE

-	nbpt(is,isa)	free	number of breakpoints in stage used in simulated operation of structure
-	stgbpt_s(is,isa,ibpt)	free	stage for breakpoint #ibpt in ft NGVD (ibpt=1,nbpt(is,isa))

38. NAMES OF CANALS IMMEDIATELY DOWNSTREAM RECEIVING WATER SUPPLY DISCHARGES FROM STRUCTURE-FORMAT(i5,5(2x,a5))

1-5	no_dsws_canal(is,isa)	i5	number of canals immediately downstream receiving water supply discharges from structure
6-12	dsws_canal_name(i)	2x,a5	names of the canal #i (i=1,no_dsws_canal(is,isa)) (maximum of 5 characters)

39. NAME OF RESERVOIR THAT COULD LIMIT DISCHARGE FROM STRUCTURE FORMAT(4x,a6)

1-10	down_res_name	4x,a6	name of reservoir (maximum of 6 characters) that could limit discharge from structure (NORES means no reservoir is used for appropriate structure)

40. NAME OF UPSTREAM TARGET AREA FOR ENVIRONMENTAL (RAIN DRIVEN) OPERATIONS FORMAT(4x,a5) (1 record total)

1-9	up_targ_name	4x,a5	name of upstream target area (Maximum of 5 characters) for environmental (rain driven) operations (NOTRG means no stage target is used)

41. NAME OF ENVIRONMENTAL (PRESENTLY NSM) TARGET AREAS MET BY STRUCTURE FORMAT(i5,2x,5(a5,2x))

1-5	no_of_targets(is,isa)	i5	number of environmental (presently NSM) target areas met by structure
6-12	itarg_name(i)	2x,a5	character ids of the target area #i (i=1, no_of_targets(is,isa))

			(maximum of 5 characters)
42. NAME OF UPSTREAM CONVEYANCE CANAL IN WCA DELIVERING WATER THROUGH STRUCTURE FORMAT(a5)			
1-5	iconv_canal_up_name	a5	name of upstream conveyance canal in WCA delivering water through structure (maximum of 5 characters)
43. ADDITIONAL CANALS TRIGGERING OPERATIONS OF STRUCTURE FORMAT(i5,10(2x,a5)) (1 record total)			
1-5	n_add_can_dep_s(is,isa)	i5	number of additional canals triggering operations of structure
6-12	add_can_dep_id(i)	2x,a5	names of the additional canal #i (i=1, n_add_can_dep_s(is,isa))
44. ADDITIONAL GRID LOCATIONS USED TO DETERMINING DISCHARGE			
-	n_add_grid_loc_s(is,isa)	free	number of additional grid locations used in determining discharge
NOTE: The following set of two fields are repeated for each additional grid #i, i.e., i=1, n_add_can_dep_s(is,isa)			
-	icol_add(i)	free	column number of cell #i
-	irow_add(i)	free	row number of cell #i
45. ADDITIONAL NAMES OF STRUCTURE FLOWS DIRECTLY USED IN DETERMINING DISCHARGE FORMAT(i5,10(2x,a6)) (1 record total)			
1-5	n_add_str_dep_s(is,isa)	i5	number of additional structure flows directly used in determining discharge
6-12	add_str_dep_id(i)	2x,a6	names of the structure #i (maximum of 6 characters) (i=1, n_add_str_dep_s(is,isa))
END OF STRUCTURE INFORMATION FOR WCAS			
ADDITIONAL MISCELLANEOUS INFORMATION			
46. FRACTION OF NON REGULATORY COMPONENT OF FLOW TARGET TO ENP TO BE PASSED THROUGH STRUCTURE			

NOTE:	The following set of two fields are repeated for dry and wet seasons, i.e., i=1, 2		
–	rfcfs355(i)	free	fraction of NON regulatory component of flow target to ENP to be passed through S–333/S–355
–	rfcfs12(i)	free	fraction of NON regulatory component of flow target to ENP to be passed through S–12s

47. FRACTION OF REGULATORY COMPONENT OF FLOW TARGET TO ENP TO BE PASSED THROUGH STRUCTURE

NOTE:	The following set of two fields are repeated for dry and wet seasons, i.e., i=1, 2		
–	rfcfs355_reg(i)	free	fraction of Regulatory component of flow target to ENP to be passed through S–333/S–355
–	rfcfs12_reg(i)	free	fraction of Regulatory component of flow target to ENP to be passed through S–12s

48. MAXIMUM FRACTION OF NON REGULATORY COMPONENT OF TARGET FLOW ALLOWED THROUGH S12S FOR ZONES B,C,D,E OF WCA3A SCHEDULE FOR DRY AND WET SEASONS

NOTE:	The following field is repeated for zones B,C,D,E of WCA3A schedule, respectively, for dry season, i.e., i=1,4		
–	total_frac_s12(i,1)	free	maximum fraction of NON–regulatory component of target flow allowed through S12s
NOTE:	The following field is repeated for Zones B,C,D,E of WCA3A schedule, respectively, for wet season, i.e., i=1,4		
–	total_frac_s12(i,2)	free	maximum fraction of NON–regulatory component of target flow allowed through S12s

49. MAXIMUM FRACTION OF REGULATORY COMPONENT OF TARGET FLOW ALLOWED THROUGH S12S FOR ZONES B,C,D,E OF WCA3A SCHEDULE FOR DRY AND WET SEASONS

NOTE:	The following field is repeated for zones B,C,D,E of WCA3A schedule, respectively, for dry seasons, i.e., i=1,4		
–	total_frac_s12_reg(i,1)	free	maximum fraction of Regulatory component of target flow allowed through S12s

NOTE: The following field is repeated for Zones B,C,D,E of WCA3A schedule, respectively, for wet seasons, i.e., i=1,4

–	total_frac_s12_reg(i,2)	free	maximum fraction of Regulatory component of target flow allowed through S12s

NOTE: Record 50 is repeated for each month January through December i.e., month =1, 12

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50. FRACTION OF FLOW TARGET TO BE MET BY S12A,S12B,S12C,S12D FOR LOW and HIGH FLOW CONDITIONS–FORMAT(5x,15f6.0)

1–5	blank	5x	

NOTE: The following field is repeated for S12A,S12B,S12C,S12D, respectively, i.e., j=1,4

6–11	ftargs12(1,j,month)	f6.0	fraction of flow target to be met by structure for low flow conditions (< 250cfs)

NOTE: The following field is repeated for S12A,S12B,S12C,S12D, respectively, i.e., j=1,4

36–41	ftargs12(2,j,month)	f6.0	fractions of flow target by structure (> 250cfs)

NOTE: The following field is repeated for S12A,S12B,S12C,S12D, respectively, i.e., j=1,4

66–51	ftargs12(3,j,month)	f6.0	fractions of flow target by structure for high flow conditions (flood control mode)

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51. COEFFICIENT FOR REGULATORY PORTION OF FLOW TARGET DICTATED BY EXPERIMENTAL RAINFALL PLAN FOR EACH MONTH–FORMAT(15f6.0) (1 record total)

NOTE: The following field is repeated for each month January through December, i.e.., i=1,12

1–6	rfregcf(i)	f6.0	coefficient for regulatory portion of flow target dictated by experimental rainfall plan

NOTE: Record 52 is repeated for S12A,S12B,S12C,S12D, i.e., i=1,4

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52. MINIMUM STAGE (FT NGVD) ALLOWED FOR UNCONDITIONAL EMERGENCY OUTFLOW THROUGH S12A, S12B, S12C,S12D FOR EACH MONTH–FORMAT(15f6.0)

NOTE: The following field is repeated for each month January through December i.e., j=1,12

1-6	rmin_stg_for_outf_s12(i,j)	f6.0	minimum stage (ft NGVD) allowed for unconditional emergency outflow through specific S12 structure

53. FRACTION OF CAPACITY ALLOWED FOR OUTFLOW FROM S343AB AND S344 FOR EACH MONTH

NOTE: The following field is repeated for each month January through December i.e.., i=1,12

-	frac_capac_s343ab(i)	free	fraction of capacity allowed for outflow from S343AB and S344

NOTE: Record 54 is repeated for each trigger cell, i.e., i=1,5

54. MAXIMUM ALLOWABLE STAGE AT LOCATION FOR OUTFLOW THROUGH S343AB AND S344 FOR EACH MONTH

-	no_cells_trig_s12s343(i)	free	id of cell or number of cell
-	icol_s12s343	free	column number of cell
-	irow_s12s343	free	row number of cell
-	rmax_stg_s12s343(i,j)	free	maximum allowable stage at location for outflow through S-343AB and S344 for each month January through December (j=1,12)

END OF DESCRIPTION FOR INPUT FILE "wca_out_struc_specs.man"

SCCSID = weekly_excess.man v1.1 02/15/03

Documentation by: Cary White
Hydrologic Systems Modeling Division

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SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT FILE DOCUMENTATION

weekly_excess2.dat

THIS DATA FILE PROVIDES THE SFWMM MODEL WITH THE ASCII DATA ARRAY OF "PSUEDO" WEEKLY KISSIMMEE NET RAINFALL (INCHES) AND WEEKLY S65E FLOWS (CFS) FROM 1914-2000. 48 WEEKS PER YEAR IN THIS FILE. 4 PERIODS / MONTH (7.6 DAYS / WEEK)

FOR ANY GIVEN SIMULATION AND INCLUDES THE FOLLOWING:
A) THE INITIAL YEAR OF CLIMATE DATA (1914 CURRENTLY)
B) AN ARRAY OF THE YEAR, MONTH, DAY, NET RAINFALL AND S65E FLOW

THIS FILE IS ASSIGNED TO UNIT NUMBER 134 IN THE ALTWMM FILE
AND IS READ UNIT 134 IN SUBROUTINES:
main.F
open_ascii_output_files.F

COLS.	VAR.NAME	FORMAT	DESCRIPTION
	1. BEGINNING YEAR OF CLIMATIC DATA		
	RECORD 1: FORMAT(*)		
1	ibeg_yr_hydro	(*)	BEGINNING YEAR OF CLIMATIC HYDROLOGIC DATA FOR THE KISSIMMEE TRIBUTARY BASIN
	2. ARRAY OR KISSIMMEE BASIN WEEKLY TRIBUTARY CONDITIONS		
	RECORDS 87: FORMAT(*)		
1	iyear_hydro	(*)	YEAR OF DATEA (YYYY)
2	imo_hydro	(*)	MONTH OF DATA (MM)
3	iday_hydro	(*)	DAY OF RECORD (DD) [*NOTE INTERVAL IS IRREGULAR]
4	trib_rf_et0	(*)	NET RAINFALL FOR KISSIMMEE TRIBUTARY BASIN IN INCHES
5	s65e_runff_wkly0	(*)	S65E "PSUEDO" WEEKLY FLOWS IN CFS

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END OF DESCRIPTION FOR INPUT FILE "weekly_excess.dat" (cwhite 2/3/2003)
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SCCSID = weir_specs.man v1.1 02/19/03

Prepared by: Jennifer Barnes
Date: 2/19/03
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

weir_specs.dat == specifications for passive weirs (berms)
(unit no. 133; wcas_input_data.F)

COLS	VAR NAME	FORMAT	DESCRIPTION
1. NUMBER OF PASSIVE WEIRS: (1 record total)			
-	no_of_wiers	free	total number of weirs in input file
2. LOCATION OF SOURCE, DISCHARGE COEFFICIENT, EQUATION EXPONENT, CREST HEIGHT, DIRECTION OF FLOW (no_of_wiers records total)			
-	icol_wier	free	grid column location of headwater for weir (headwater location must have higher land surface elevation than tailwater location)
-	irow_wier	free	grid row location of headwater for weir (headwater location must have higher land surface elevation than tailwater location)
-	dcoef_wier(i)	free	discharge coefficient of weir (= c * weir length)
-	pwr_wier(i)	free	weir exponent used in equation for flow
-	crstelev_w(i)	free	weir crest elevation (feet NGVD), weir crest height must be greater than the land surface elevation at the headwater location
-	wier_orient(i,k)	free	orientation of weir (direction of flow) options are in order of E W N S D: where E is eastward (west to east) where W is westward (east to west) where N is northward (south to north) where S is southward (north to south) where D is diagonal
Note: Where option is not set a capital letter O should be used as a placeholder.			
3. NAME OF WEIR, GRID LOCATION OF TAILWATER CONSTRAINT, STAGE OF TAILWATER CONSTRAINT (no_of_wiers records total)			

–	weir_name_wca	free	name of passive weir or berm (maximum of 6 characters)
–	icol_weir_tw_constrnt	free	column location of tailwater constraint used to determine when to stop flow
–	irow_weir_tw_constrnt	free	row location of tailwater constraint used to determine when to stop flow
–	rmax_tw_stage_wier	free	stage (feet NGVD) of tailwater constraint used to determine when to stop flow

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END OF DESCRIPTION FOR INPUT FILE "weir_specs.dat" (jabarne 11/20/02)

SCCSID = well_ind_rss.man v1.1 02/15/03

Prepared by: Lehar Brion, Jenifer Barnes
Date: 02/03/03
Hydrologic Systems Modeling Division

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SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

well_ind_rss.* == simulation wellfield pumpage for industrial, residential and self-supplied irrigation; daily pumping rate for each of the 12 months of the year; (unit no.37) read in subroutine munic_well_pump_setup from source file munic_well_pump_setup.F

COLUMNS	VARIABLE NAME	FORMAT	DESCRIPTION
1. NUMBER OF WELL LOCATIONS: (1 record total)			
1-4	nwell_ind_rss	I4	number of records to follow that specifies the number of well locations where pumpage data is given
2. ACTUAL PUMPAGE DATA: (nwell_ind_rss records total)			
1-9	wfld_ind_rss(iw)	A9	comment; usually public water supply permit number as used by Regulation Division; multiple lines of the same permit number can be used to represent different wells or well clusters for a given SFWMM model grid cell or multiple grid cells
10-12	blank	3X	
13-16	ixp_ind_rss	I4	model column location where pumpage values will be assigned
17-19	blank	1X	
20-23	iyp_ind_rss	I4	model row location where pumpage values will be assigned
24-30	pump_ind_rss(iw,1)	F7.2	average pumpage rate (MGD) for the month of January
31-37	pump_ind_rss(iw,2)	F7.2	average pumpage rate (MGD) for the month of February
38-44	pump_ind_rss(iw,3)	F7.2	average pumpage rate (MGD) for the month of March
45-51	pump_ind_rss(iw,4)	F7.2	average pumpage rate (MGD) for the month of April
52-58	pump_ind_rss(iw,5)	F7.2	average pumpage rate (MGD) for the month of May
59-65	pump_ind_rss(iw,6)	F7.2	average pumpage rate (MGD) for the month of June
66-72	pump_ind_rss(iw,7)	F7.2	average pumpage rate (MGD) for the month of July
73-79	pump_ind_rss(iw,8)	F7.2	average pumpage rate (MGD) for the month of August
80-86	pump_ind_rss(iw,9)	F7.2	average pumpage rate (MGD) for the month of September
87-93	pump_ind_rss(iw,10)	F7.2	average pumpage rate (MGD) for the month of October
94-100	pump_ind_rss(iw,11)	F7.2	average pumpage rate (MGD) for the month of November
101-107	pump_ind_rss(iw,12)	F7.2	average pumpage rate (MGD) for the month of December

note: This record is repeated for each well and/or wellfield where monthly pumpage representing public water supply is defined, i.e., IW = 1,NWELL.

SCCSID = welprdt.man v1.1 02/15/03

Prepared by: Lehar Brion, Jenifer Barnes
Date: 02/03/03
Hydrologic Systems Modeling Division

D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T D R A F T

SOUTH FLORIDA WATER MANAGEMENT MODEL V5.0
INPUT MAN PAGE FOR

welprdt == simulation wellfield pumpage for public water supply; daily pumping rate for each of the 12 months of the year;
(unit no. 18) read in subroutine munic_well_pump_setup from source file munic_well_pump_setup.F

COLUMNS	VARIABLE NAME	FORMAT	DESCRIPTION
1. NUMBER OF WELL LOCATIONS AND PUMPAGE FRACTION: (1 record total)			
1-4	NWELL	I4	number of records to follow that specifies the number of well locations where pumpage data is given
5	blank	1X	
6-11	frac_pump	F6.2	multiplier used to pumpage values to be read in succeeding records; if left blank will be assumed to be equal to 1.0
2. ACTUAL PUMPAGE DATA: (NWELL records total)			
1-9	WFLD(IW)	A9	comment; usually public water supply permit number as used by Regulation Division; multiple lines of the same permit number can be used to represent different wells or well clusters for a given SFWMM model grid cell or multiple grid cells
10-12	blank	3X	
13-16	IXP	I4	model column location where pumpage values will be assigned
17-19	blank	3X	
20-23	IYP	I4	model row location where pumpage values will be assigned
24-30	PUMP(IW,1)	F7.2	average pumpage rate (MGD) for the month of January
31-37	PUMP(IW,2)	F7.2	average pumpage rate (MGD) for the month of February
38-44	PUMP(IW,3)	F7.2	average pumpage rate (MGD) for the month of March
45-51	PUMP(IW,4)	F7.2	average pumpage rate (MGD) for the month of April
52-58	PUMP(IW,5)	F7.2	average pumpage rate (MGD) for the month of May
59-65	PUMP(IW,6)	F7.2	average pumpage rate (MGD) for the month of June
66-72	PUMP(IW,7)	F7.2	average pumpage rate (MGD) for the month of July
73-79	PUMP(IW,8)	F7.2	average pumpage rate (MGD) for the month of August
80-86	PUMP(IW,9)	F7.2	average pumpage rate (MGD) for the month of September

87–93	PUMP(IW,10)	F7.2	average pumpage rate (MGD) for the month of October
94–100	PUMP(IW,11)	F7.2	average pumpage rate (MGD) for the month of November
101–107	PUMP(IW,12)	F7.2	average pumpage rate (MGD) for the month of December

note: This record is repeated for each well and/or wellfield where monthly pumpage representing public water supply is defined, i.e., IW = 1,NWELL.
