

## REVISION 59.1 – May 7, 2019

- I. NEW\_INPUT\_FILES  
Contains a list of new input files that are being tested.
- II. NEW\_OUTPUT\_FILES  
Contains a list of new output files being review.
- III. Existing output files  
List of changes in output files
- IV. Existing input files  
List of changes in input files
- V. Other  
Other files that were modified in this revision.

- I. **NEW INPUT FILES**
- II. **NEW OUTPUT FILES**
- III. **EXISTING OUTPUT FILES**
- IV. **EXISTING INPUT FILES**
- V. **OTHER**

■ Note on perennial plants: Don't plant/kill every year like it is an annual crop (example datasets edited to account for perennial plants)

■ **crop\_yld\_aa.out** - file added headers

■ **cal\_parms.cal** – added **dep\_bot**

dep_bot	aqu	0	10	m
edited: <b>flo_min</b> and <b>revap_min</b>				
flo_min	aqu	0	10	m
revap_min	aqu	0	10	m

(example dataset updated with new file)

■ **aquifer.aqu file:** the values have changed in this file for the following (modular spreadsheet updated with new min/max and defaults and commit datasets updated)

<b><u>NEW</u></b>	<b><u>PREV</u></b>
flo	flo flow from aquifer (mm)
dep_bot	stor depth -mid-slope surface to bottom of aquifer (m)
dep_wt	hgt depth -mid-slope surface to water table (initial) (m)

...

bf_max	bf_max
	delay_max daily baseflow where all channels are contributing (only used for geomorphic baseflow) (mm)
flo_min	flo_min
	water table depth for return flow to occur (m)
revap_min	revap_min
	water table depth for revap to occur (m)

- mgt\_harvgrainop.f90 renamed to mgt\_harvgrain.f90
- added mgt\_harvtuber.f90
- added mgt\_harvbiomass.f90
- hru\_re\_initialize.f90 is now called re\_initialize.f90
- pl\_nut\_demand.f90 added
- cal\_allo\_init.f90 added
- removed mgt\_harvestop.f90

## REVISION 59 – April 16, 2019

- I. **NEW\_INPUT\_FILES**  
Contains a list of new input files that are being tested.
- II. **NEW\_OUTPUT\_FILES**  
Contains a list of new output files being review.
- III. **Existing output files**  
List of changes in output files
- IV. **Existing input files**  
List of changes in input files
- V. **Other**  
Other files that were modified in this revision.

### I. **NEW INPUT FILES**

### II. **NEW OUTPUT FILES**

### III. **EXISTING OUTPUT FILES**

- Added FLO\_IN and AQU\_IN to the aquifer SD output files;
- Units added back to all output files

### IV. **EXISTING INPUT FILES**

- **LUM.DTL** – Deleted the crops that are cross walked with the plants.plt file that have been renamed in earlier revision (all datasets updated):

<b>OLD</b>	<b>NEW</b>
wwht1500	wwht
corn1500	corn
soyb1300	soyb

- **IRR.OPS** – This file updated (all datasets updated).

#### ■ **CAL\_PARM.S.CAL**

- 1) added remaining tile calibration variables to this file;

tile_lag	hru	0	100	hrs
tile_rad	hru	3	40	mm
tile_dist	hru	7600	30000	mm
tile_drain	hru	10	51	mm/day
tile_pump	hru	0.00	10	mm/hr
tile_latk	hru	0.01	4	null

- 2) added pest calibration variables to this file;

pst_solub	pst	0	11000000	mg/L (ppm)
pst_aq_hlife	pst	0	10000	1/day
pst_aq_volat	pst	0	10	m/day
pst_aq_settle	pst	0	10	m/day
pst_aq_resus	pst	0	1	m/day
pst_ben_hlife	pst	0	10000	1/day
pst_ben_bury	pst	0	0.1	m/day
pst_ben_act_dep	pst	0	1	m

NOTE: cleaned up variables that were not being used in this file.

- FILE.CIO – Renaming of default calibration files; moved codes.sft for grouping all soft calibration files together

```
!! calibration change
type input_chg
character(len=25) :: cal_parms = "cal_parms.cal"
character(len=25) :: cal_upd = "calibration.cal"
character(len=25) :: codes_sft = "codes.sft"                !!old name codes.cal
character(len=25) :: wb_parms_sft = "wb_parms.sft"         !!old name ls_parms.cal
character(len=25) :: water_balance_sft = "water_balance.sft" !!old name ls_regions.cal
character(len=25) :: ch_sed_budget_sft = "ch_sed_budget.sft" !!old name ch_orders.cal
character(len=25) :: ch_sed_parms_sft = "ch_sed_parms.sft"  !!old name ch_parms.cal
character(len=25) :: plant_parms_sft = "plant_parms.sft"    !!old name pl_parms.cal
character(len=25) :: plant_gro_sft = "plant_gro.sft"        !!old name pl_regions.cal
end type input_chg
type (input_chg) :: in_chg
```

- **PESTICIDE.PST** - (headers only changed in this file – all datasets updated):
  - AQ\_REAC → AQ\_HLIFE
  - BEN\_REAC → BEN\_HLIFE
  -
- print.prt – HRU\_CS removed from this file (if there);
- RES\_REL.DTL – “below\_prinipal” should be “below\_principal” (commit data updated);
- RECCNST/ave annual option added in EXCO (CEAP\_CONNECTIVITY\_TEST dataset)
- Updated RECALL measured in commit data files to new format (deleted PSOL, PSOR, C, BACP, BACLP, MET1, MET2, MET3 columns)

### 3) OTHER

- An irrigation issue fixed in this revision; (unlim option added to decision tables);
- Added subroutine: define\_unit\_elements.f90
- CALHARD\_CONTROL.F90 added;

- Renaming of default files for soft calibration:

OLD	NEW
codes.cal	codes.sft
ls_parms.cal	wb_parms.sft
ls_regions.cal	water_balance.sft
ch_orders.cal	ch_sed_budget.sft
ch_parms.cal	chsed_parms.sft
pl_parms.cal	plant_parms.sft
pl_regions.cal	plant_gro.sft

## REVISION 58 – March 11, 2019

- I. NEW\_INPUT\_FILES  
Contains a list of new input files that are being tested.
- II. NEW\_OUTPUT\_FILES  
Contains a list of new output files being review.
- III. Existing output files  
List of changes in output files
- IV. Existing input files  
List of changes in input files
- V. Other  
Other files that were modified in this revision.

### I. NEW INPUT FILES

#### ■ INITIAL.AQU – New file

Location in FILE.CIO

```
! aquifer
type input_aqu
  character(len=25) :: init = "initial.aqu"
  character(len=25) :: aqu = "aquifer.aqu"
end type input_aqu
type (input_aqu) :: in_aqu
```

initial.aqu					
NAME	ORG-MIN	PESTICIDES	PATHOGENS	HEAVY_METALS	SALTS
low_init	low_init	no_ini	no_ini	null	null
high_init	high_init	low_ini	low_ini	null	null

- These files are required for those input datasets that read a constituents.cs file (2-Stage/saturated buffer)

#### SALT\_WATER.INI

salt_hru.ini:													
NAME	SO4	Ca	Mg	Na	K	Cl	CO3	HCO3	CaCO3	MgCO3	CaSO4	MgSO4	NaCl
no_salt													
soil	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.2	0.2
plant	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.2	0.2
low_hru													
soil	19	3.3	1.75	44	1	3.5	5	35	0.2	0.2	0.2	0.2	0.2
plant	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.2	0.2
high_hru													
soil	1975	330	175	440	10	350	5	350	0.2	0.2	0.2	0.2	0.2
plant	19	3.3	1.75	44	1	3.5	5	35	0.2	0.2	0.2	0.2	0.2
low_aquifer													
soil	19	3.3	1.75	44	1	3.5	5	35	0.2	0.2	0.2	0.2	0.2
plant	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.2	0.2
high_aquifer													
soil	19	3.3	1.75	44	1	3.5	5	35	0.2	0.2	0.2	0.2	0.2
plant	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.2	0.2

## SALT\_HRU.INI

salt_hru.ini													
NAME	SO4	Ca	Mg	Na	K	Cl	CO3	HCO3	CaCO3	MgCO3	CaSO4	MgSO4	NaCl
no_salt													
soil	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.2	0.2
plant	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.2	0.2
low_hru													
soil	19	3.3	1.75	44	1	3.5	5	35	0.2	0.2	0.2	0.2	0.2
plant	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.2	0.2
high_hru													
soil	1975	330	175	440	10	350	5	350	0.2	0.2	0.2	0.2	0.2
plant	19	3.3	1.75	44	1	3.5	5	35	0.2	0.2	0.2	0.2	0.2
low_aquifer													
soil	19	3.3	1.75	44	1	3.5	5	35	0.2	0.2	0.2	0.2	0.2
plant	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.2	0.2
high_aquifer													
soil	19	3.3	1.75	44	1	3.5	5	35	0.2	0.2	0.2	0.2	0.2
plant	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0.2	0.2

## II. NEW OUTPUT FILES

## III. EXISTING OUTPUT FILES

Removed the units line from all output files;

## IV. EXISTING INPUT FILES

- **PESTICIDE.PST** – Database updated to combine land and aquatic parameters (all example datasets have this updated file as well as in the \database\_files sub-directory).
- Remove **PESTICIDE.CHA** and **PESTICIDE.RES** files from **FILE.CIO** (no longer needed since they are now combined in **PESTICIDE.PST** file)
- Remove **PATHOGENS.CHA**, **METALS.CHA** and **SALT.CHA** files from **FILE.CIO** (in\_cha)
- Remove **PATHOGENS.RES**, **METALS.RES** and **SALT.RES** from **FILE.CIO** (in\_res)
- Changed the order of **SEDIMENT.RES** in **FILE.CIO** (in\_res) (moved this after **HYDROLOGY.RES**)

- **CHANNEL.CHA** - DELETE THE FOLLOWING COLUMNS (last three columns):

CHA\_PSTreservoir.res  
CHA\_LS\_LNK  
CHA\_AQU\_LNK

- **CHANNEL-LTE.CHA** – DELETE THE FOLLOWING COLUMNS:

CHA\_PST  
CHA\_PATH  
CHA\_HMET  
CHA\_SALT  
CHA\_TEMP

Added **ID** to the front of this file;

- **RESERVOIR.RES** – DELETE THE LAST COLUMN:

RES\_PST

- **SEDIMENT.RES** – Carbon and bulk density were added to this file

- **HYD-SED-LTE.CHA** – 1) Carbon added to this file  
2) RTE\_DB column taken out of this file

- **PLANTS.PLT** – updated files with DAY\_MAT substituted for PLT\_HU.  
(Jeff incorporated the Potential Heat Unit Program with this revision)

- **AQUIFER.AQU** – 1) added column AQU\_INIT that is cross walked with INITIAL.AQU file;  
2) DELAY column replaced with BF\_MAX(previous was named FLO\_MAX).

BF\_MAX is the baseflow rate

when entire area is contributing to baseflow.

- **SOILS\_LTE.SOL** – Fixed a problem with the SILTY\_CLAY entries that was duplicated.

- **PLANT.INI** – added initial rotation year to the input file (**ROT\_YR\_INI** in table below)

plant.ini:										
NAME	PLANTS_COM	ROT_YR_INI	CPNM	IGRO	LAI	BIOMS	PHUACC	POP	YRMAT	RSDIN
frst_mixed	1	1								
			frst	y	0	0	0	0	0	10000
pasture	1	1								
			past	n	0	0	0	0	0	3000
agriculture_land_gen	1	1								
			agrl	n	0	0	0	0	0	1000
urban_residential	1	1								
			berm	n	0	0	0	0	0	3000
corn_soybean	2	1								
			corn	n	0	0	0	0	0	2000
			soyb	n	0	0	0	0	0	2000
ryegrass	1	1								
			ryeg	y	1	500	0	0	0	2000
canary_grass	1	1								
			cana	y	1	500	0	0	0	2000

- **ROUT\_UNIT.ELE** – HYP column deleted

rout_unit.ele					
NUMB	NAME	OBTYP	OBTYPNO	FRAC	DR
1	hru1	hru	1	0.5	0.00
2	hru2	hru	2	0.5	0.00

- **FILE.CIO** – ADDED SOILS\_LTE.SOL to file.cio (partial file below):

SOILS	soils.sol	nutrients.sol	<b>soils_lte.sol</b>	
DECISION_TABLE	lum.dtl	res_rel.dtl	scen_lu.dtl	flo_con.dtl

- **CAL\_PARMS.CAL** file – example input datasets updated with new file (LREW):

- 1) Removed PST and PLT variables in this database file;
- 2) The **GW** variables in OBJ\_TYP changed to **AQU**
- 3) “delay” variable (in AQU OBJ\_TYP column) renamed to “bf\_max”  
Range = 0-2  
Units = mm

- **CAL\_PARMS\_CAL** file (continued) – added following calibration variables to database file.

NAME	OBJ_TYP	ABSMIN	ABSMAX	UNITS
snofall_tmp	hru	-20	20	degrees
snomelt_tmp	hru	-20	20	degrees
snomelt_max	hru	0	20	mm/deg/c/day
snomelt_min	hru	0	20	mm/deg/c/day
snomelt_lag	hru	0	1	none

tile_dep	hru	0	6000	mm
tile_dtime	hru	0	100	hrs
tile_lag	hru	0	100	hrs

## V. OTHER

Removed the following subroutines in the source codes:

hmet\_hru\_init.f90  
 path\_hru\_init.f90  
 path\_water\_init.f90  
 pest\_hru\_init.f90  
 pest\_water\_init.f90  
 constit\_hyd\_frac.f90  
 constit\_water\_frac.f90  
 constit\_water\_add.f90  
 ch\_read\_pst.f90  
 constit\_hyd\_add.f90  
 res\_read\_pst.f90  
 readlup.f90

Added new subroutines:

PEST\_HRU\_AQU\_READ.F90  
 HMET\_HRU\_AQU\_READ.F90  
 PATH\_CHA\_RES\_READ.F90  
 SALT\_CHA\_RES\_READ.F90  
 SALT\_HRU\_AQU\_READ.F90  
 OUTPUT\_LS\_SALT\_MODULE.F90  
 CONSTIT\_DB\_READ.F90

### Code edited for LINUX compile:

- Change all i\_exist statements:

#### **Old**

i\_exist /=0 .or.

if (i\_exist == 0 .or.

#### **New**

i\_exist .or.

if (.not. i\_exist .or.

- Ambiguous functions: om\_add and om\_mult\_const (in organic\_minteral\_mass\_module.f90)
- Deleted RES\_CONVERT\_MASS.F90 (TWO ROUTINES INCLUDED)
- AQU\_READ\_ELEMENTS.F90 – initialize MREG = 0 at top of routine;



## REVISION 57 – December 17, 2018

- I. NEW\_INPUT\_FILES  
Contains a list of new input files that are being tested.
- II. NEW\_OUTPUT\_FILES  
Contains a list of new output files being review.
- III. Existing output files  
List of changes in output files
- IV. Existing input files  
List of changes in input files
- V. Other  
Other files that were modified in this revision.

### **I. NEW INPUT FILES**

Added new decision table file: flo\_con.dtl

### **II. NEW OUTPUT FILES**

New pesticide output files added. If the time series (day/month/year/aa for PEST in the PRINT.PRT file are set to 'y' the following pesticide files will be printed.

**NOTE:** these files are currently active, but have not been tested properly in this revision.

#### **HRU\_PESTICIDE:**

hru\_pest\_day.txt  
hru\_pest\_mon.txt  
hru\_pest\_yr.txt  
hru\_pest\_aa.txt

#### **CHANNEL\_PESTICIDE:**

channel\_pest\_day.txt  
channel\_pest\_mon.txt  
channel\_pest\_yr.txt  
channel\_pest\_aa.txt

#### **RESERVOIR\_PESTICIDE:**

reservoir\_pest\_day.txt  
reservoir\_pest\_mon.txt  
reservoir\_pest\_yr.txt  
reservoir\_pest\_aa.txt

#### **BASIN\_CHANNEL\_PESTICIDE:**

basin\_ch\_pest\_day.txt  
basin\_ch\_pest\_mon.txt  
basin\_ch\_pest\_yr.txt  
basin\_ch\_pest\_aa.txt

#### **BASIN\_RESERVOIR\_PESTICIDE:**

basin\_res\_pest\_day.txt  
basin\_res\_pest\_mon.txt  
basin\_res\_pest\_yr.txt  
basin\_res\_pest\_aa.txt

#### **BASIN\_LS\_PESTICIDE:**

basin\_ls\_pest\_day.txt  
basin\_ls\_pest\_mon.txt  
basin\_ls\_pest\_yr.txt  
basin\_ls\_pest\_aa.txt

### **III. EXISTING OUTPUT FILES**

### **IV. EXISTING INPUT FILES**

- 1) recall\_day.rec/recall\_mon.rec/recall\_ann.rec updated (2\_stage dataset) to remove inputs in from previous revision:

PSOL, PSOR, BACP, BACLP, MET1, MET2, MET3

- 2) FILE.CIO – added the new decision table name to COND section  
COND lum.dtl res\_rel.dtl scen\_lu.dtl **flo\_con.dtl**
- 3) PRINT.PRT – added CS\_PEST to file for constituents print (last line of print.prt)
- 4) AQUIFER.AQU – STOR column changed to DEP\_BOT (10.0)  
HGT column changed to DEP\_WT (5.0)

### **V. OTHER**

- Added following subroutines:

RLS\_ROUTETILE.F90  
DTBL\_FLOCON\_READ.F90  
HRU\_DTBL\_ACTIONS.F90  
HRU\_PESTICIDE\_OUTPUT.F90  
CH\_PESTICIDE\_MODULE.F90  
CH\_PESTICIDE\_OUTPUT.F90  
RES\_PEST\_MODULE.F90  
RES\_PEST\_OUTPUT.F90  
BASIN\_CH\_PEST\_OUTPUT.F90  
BASIN\_RES\_PEST\_OUTPUT.F90  
BASIN\_LS\_PEST\_OUTPUT.F90

0.

- Added: saturated\_buffer input data files to the commit datasets
- Added: 2\_stage\_constituents input data files to the commit datasets
- Removed: 2\_stage commit dataset
- Renamed the following subroutines:
  - pst\_apply.f90 – pest\_apply.f90
  - pst\_decay.f90 – pest\_decay.f90
  - pst\_enrsb.f90 – pest\_enrsb.f90
  - pst\_lch – pest.lch.f90
  - pst\_pesty.f90 – pest\_pesty.f90
  - pst\_soil\_tot.f90 – pest\_soil\_tot.f90
  - pst\_washp.f90 – pest\_washp.f90
  - pestparm\_read.f90 – pest\_parm\_read.f90

plantparm\_read.f90 – plant\_parm\_read.f90  
tillparm\_read.f90 – till\_parm\_read.f90  
fertparm\_read.f90 – fert\_parm\_read.f90  
urbanparm\_read.f90 – urban\_parm\_read.f90  
pathparm\_read.f90 – path\_parm\_read.f90  
septicparm\_read.f90 – septic\_parm\_read.f90

## REVISION 56 – November 6, 2018

- I. NEW\_INPUT\_FILES  
Contains a list of new input files that are being tested.
- II. NEW\_OUTPUT\_FILES  
Contains a list of new output files being review.
- III. Existing output files  
List of changes in output files
- IV. Existing input files  
List of changes in input files
- V. Other  
Other files that were modified in this revision.

### I. NEW INPUT FILES

#### 2 new files added to FILE.CIO – CHANNEL Section

- hyd-sed-lte.cha (formerly channel\_lte.cha)
- temperature.cha (NAME column in 'temperature.cha' cross walked with CH\_TEMP in 'channel-lte.cha')

temperature.cha:					
NAME	SNO_MLT	GW	SUR_LAT	BULK_CO	AIR_LAG
CHA1	1.00	0.97	1.00	0.0025	6.00

#### FILE.CIO – "INIT" Section added following files:

soil\_plant.ini  
 om\_water.ini  
 pest\_hru.ini  
 pest\_water.ini  
 path\_hru.ini (formerly path\_soil.ini)  
 path\_water.ini  
 hmet\_hru.ini  
 hmet\_water.ini  
 salt\_hru.ini  
 salt\_water.ini

- **soil\_plant.ini** - name column crossed walked in HRU-DATA.HRU (soil\_plant\_init column):  
 SW\_FRAC – taken from PARAMETERS.BSN file, FFCB column  
 NUTRIENT – name from NUTRIENTS.SOL file;  
 PESTICIDES – name from PEST\_HRU.INI file  
 PATHOGENS – name from PATH\_HRU.INI file  
 HEAVY METALS – name from HMET\_HRU.INI  
 SALTS – name from SALT\_HRU.INI

soil_plant.ini						
NAME	SW_FRAC	NUTRIENTS	PESTICIDES	PATHOGENS	HEAVY_METALS	SALTS
no_init	0.2	in25	no_ini_pst	no_ini_path	null	null
low_init	0.7	in25	low_ini_pst	low_ini_path	null	null

- **pest\_hru.ini** – NAME cross walked from PESTICIDES column in SOIL\_PLANT.INI file

pest_hru.ini:			
NAME		PLANT	SOIL
low_ini_pst			
	aatrex	0.1	0.6
	banvel	0.05	0.5
	prowl	0	0.4
	roundup	0.01	0.7
NAME		PLANT	SOIL
no_ini_pst			
	aatrex	0	0
	banvel	0	0
	prowl	0	0
	roundup	0	0

- **path\_hru.ini** – cross walked from PATHOGENS column in SOIL\_PLANT.INI file;

path_hru.ini:			
NAME		PLANT	SOIL
low_ini_path			
	fecal_coliform	0.1	0.6
	e_coli	0.05	0.5
NAME		PLANT	SOIL
low_ini_path			
	fecal_coliform	0	0
	e_coli	0	0

- **hmet\_hru.ini** – cross walked from HEAVY\_METALS column in SOIL\_PLANT.INI file (not currently active)
- **salt\_hru.ini** – cross walked from SALTS column in SOIL\_PLANT.INI file; (not currently active)
- **om\_water.ini** – name column – cross walked in initial.res/initial.cha ORG-MIN column;

om_water.ini																			
	fio	sed	orgn	sedp	no3	solp	chla	nh3	no2	cbod	dox	san	sil	cla	sag	lag	grv	temp	C
om_low_init	0.8	1000	90	80	70	60	30	20	10	9	8	2	1	1000	90	80	70	60	50
om_high_init	0.9	1100	99	88	77	66	33	22	11	19	28	82	91	1900	98	87	76	65	54

- **pest\_water.ini** - name column cross walked with initial.cha/initial.res, PESTICIDES column

pest_water.ini:						
NAME	Water	SOL	SOR	BENTHIC	SOL	SOR
low_ini_wat_pst						
	aatrex	0.1	0.6		0.001	0.8
	banvel	0.05	0.5		0.002	0.81
	prowl	0	0.4		0.003	0.82
	roundup	0.01	0.7		0.004	0.83
NAME	Water	SOL	SOR	BENTHIC	SOL	SOR
no_ini_wat_pst						
	aatrex	0	0		0	0
	banvel	0	0		0	0
	prowl	0	0		0	0
	roundup	0	0		0	0

- **path\_water.ini** – name column cross walked with initial.cha/initial.res, PATHOGENS column

path_water.ini							
NAME		Water	SOL	SOR	Benthic	SOL	SOR
low_ini_wat_path							
	fecal_coliform		0.1	0.6		0.001	0.4
	e_coli		0.05	0.5		0.002	0.7
NAME		Water	SOL	SOR	Benthic	SOL	SOR
no_ini_wat_path							
	fecal_coliform		0	0		0	0
	e_coli		0	0		0	0

- hmet\_water.ini (not currently active)
- salt\_water.ini (not currently active)
- Split the decision table file into three new files (d\_table.dtl no longer exists)
  - lum.dtl** (landuse management table)
  - res\_rel.dtl** (reservoir/release table)
  - scen\_lu.dtl** (scenario/landuse table)

## II. NEW OUTPUT FILES

hru\_pathogen\_output – HRU\_PATH\_\*.TXT  
 hru\_pesticide\_output – HRU\_PEST\_\*.TXT

## III. EXISTING OUTPUT FILES

- All of the output files were renamed in this revision. The output filenames should match with the objects in the print.prt file. A list of the new names are listed in this document under RENAME OUTPUT.
- Removed bactp and bactlp from the following output files:
  - hru\_ls\_day.txt (formerly named 'losses\_day\_hru.txt')
  - hru\_ls\_mon.txt (formerly named 'losses\_mon\_hru.txt')
  - hru\_ls\_yr.txt (formerly named 'losses\_yr\_hru.txt')
  - hru\_ls\_aa.txt (formerly named 'losses\_aa\_hru.txt')
- Removed: PSOL, PSOR, BACP, BACL, MET1, MET2, MET3 from the following output files:
  - basin\_res\_\*.txt (formerly 'reservoir\_\*\_bsn.txt')
    - removed: bres\_d → added: bres\_in\_d, bres\_out\_d
    - bres\_m → added: bres\_in\_m, bres\_out\_m
    - bres\_y → added: bres\_in\_y, bres\_out\_y
    - bres\_a → added: bres\_in\_a, bres\_out\_a
  - reservoir\_\*.txt (name not changed)
    - removed: res\_d → added: res\_in\_d, res\_out\_d
    - res\_m → added: res\_in\_m, res\_out\_m
    - res\_y → added: res\_in\_y, res\_out\_y
    - res\_a → added: res\_in\_a, res\_out\_a
  - wetland\_\*.txt (name not changed)
    - removed: wet\_d → added: wet\_in\_d, wet\_out\_d
    - wet\_m → added: wet\_in\_m, wet\_out\_m
    - wet\_y → added: wet\_in\_y, wet\_out\_y
    - wet\_a → added: wet\_in\_a, wet\_out\_a
  - hydin\_\*.txt (name not changed)
  - hydout\_\*.txt (name not changed)
  - deposition\_\*.txt (name not changed)
  - basin\_psc\_\*.txt (formerly 'pts\_day\_bsn.txt') (recall)

#### IV. EXISTING INPUT FILES

**CAL\_PARMS.UPD** (database file updated – not user supplied)

- Replaced DEPIMP with PERCO
- Deleted CNCOEF and SMXCO

**PLANTS.PLT**

- added Juniper plant (updated all datasets)
- added variable curyr\_gro to database

**HYDROLOGY.HYD** – MOVE PERCO column to REPLACE the DEP\_IMP column

**PARAMETERS.BSN** – The following columns are no longer being used and are open for future development:

CN\_COEF – in the type, called      openvar1  
 SMXCO - “                              openvar2  
 R2ADJ - “                                openvar3

■ **FERTILIZER.FRT** -

- Removed columns BACTPB, BACTLPDB and BACTKDDDB; A added 'Pathogens' column (character, currently all set == 'null')
- Previous fertilizer files were off by a line; this file corrected and all values should be correct. All committed datasets files were updated.

fertilizer.frt							
FERTNM	FMINN	FMINP	FORGN	FORGP	FNH3N	Pathogens	Description
elem_n	1	0	0	0	0	null	ElementalNitrogen
elem_p	0	1	0	0	0	null	ElementalPhosphorous
anh_nh3	0.82	0	0	0	1	null	AnhydrousAmmonia
urea	0.46	0	0	0	1	null	Urea
46_00_00	0.46	0	0	0	0	null	46_00_00

■ **AQUIFER.AQU** – Header 'REVAP' changed to 'REVAP\_CO'

■ **LS\_UNIT.DEF** – Check line #2 to ensure it includes total number

ls\_unit.def

1 ←

SUB_NUMB	SUB_NAME	SUB_AREA	ELEM_TOT	ELEM1	ELEM2
1	lcu1	493.38	1	1	2

■ **FILE.CIO** – DECISION\_TABLE section updated with three new files;

DECISION\_TABLE lum.dtl res\_rel.dtl scen\_lu\_dtl

■ **PESTICIDE.CHA**

SEDPST\_CONC/SPST\_CONC is now PST\_SOLUB (pesticide solubility)

■ **CHANNEL-LTE.CHA FILE** – format change and cross walk files;

channel-lte.cha									
CHA_NAME	CHA_INI	CHA_HYD	CHA_SED	CHA_NUT	CHA_PST	CHA_PATH	CHA_HMET	CHA_SALT	CH_TEMP
cha1	high_init	First_Ord1	null	midwest_1stord	organochlorines	e_coli	null	null	null
cha2	low_init	Gully_hru2	null	midwest_1stord	epsp_inhibitors	fecal_coliform	null	null	null

Where: CHA\_INI → initial.cha  
 CHA\_HYD → hyd-sed-lte.cha  
 CHA\_SED → sediment.cha (not currently used)  
 CHA\_NUT → nutrients.cha  
 CHA\_PST → pesticide.cha  
 CHA\_PATH → pathogens.cha  
 CHA\_HMET → metals.cha  
 CHA\_SALT → salt.cha



CHA\_TEMP → temperature.cha

■ **INITIAL.CHA FILE** – format change and crosswalk files;

initial.cha					
NAME	ORG-MIN	PESTICIDES	PATHOGENS	HEAVY_METALS	SALTS
low_init	low_init	no_ini	no_ini	null	null
high_init	high_init	low_ini	low_ini	null	null

Where: ORG-MIN → om\_water.ini  
PESTICIDES → pest\_water.ini  
PATHOGENS → path\_water.ini  
HEAVY\_METALS → hmet\_water.ini  
SALTS → salt\_water.ini

■ **INITIAL.RES FILE** – format of file changed and crosswalk files:

**Note:** Initial.res file must have ORG-MIN filename

initial.res					
NAME	ORG-MIN	PESTICIDES	PATHOGENS	HEAVY_METALS	SALTS
low_init	low_init	no_ini	no_ini	null	null
high_init	high_init	low_ini	low_ini	null	null

Where: ORG-MIN → om\_water.ini  
PESTICIDES → pest\_water.ini  
PATHOGENS → path\_water.ini  
HEAVY\_METALS → hmet\_water.ini  
SALTS → salt\_water.ini

■ **HRU-DATA.HRU** – change header “soil\_nutr\_init” to “soil\_plant\_init”

■ **PST\_CONC** and **SPST\_CONC** have been removed from calibration parameters.

■ **EXCO\_OM.EXC** – The following columns/inputs removed from this file:

PSOL, PSOR  
BACP, BACLP, MET1, MET2, MET3

These inputs are now being read from: **EXCO\_PEST.EXC** (see new input files section).

■ **DR\_OM.DEL** – The following columns/inputs removed from this file:

PSOL, PSOR  
BACP, BACLP, MET1, MET2, MET3

These inputs are now being read from: **DR\_PEST.DEL** (see new input files section).

■ **RECALL\_DAY.REC FILE** – The following columns/inputs removed from the **recall\_day.rec**, **recall\_ann.rec** and **recall\_month.rec** files)

PSOL, PSOR

BACP, BACLP, MET1, MET2, MET3

## V. OTHER

### ■ Added new subroutines:

CH\_PESTICIDE\_OUTPUT.F90  
CH\_PESTICIDE\_MODULE.F90  
CH\_PATHOGEN\_OUTPUT.F90  
CH\_PATHOGEN\_MODULE.F90  
CHANNEL\_OM\_OUTPUT.F90  
CH\_READ\_TEMP.F90  
CH\_RTPATH.F90  
CH\_WATQUAL4.F90  
CONSTIT\_WATER\_FRAC.F90  
CONSTIT\_WATER\_ADD.F90  
DTBL\_SCEN\_READ.F90  
DTBL\_LUM\_READ.F90  
DTBL\_RES\_READ.F90  
HEADER\_PATH.F90  
HEADER\_PEST.F90  
HRU\_PESTICIDE\_OUTPUT.F90  
HRU\_PATHOGEN\_OUTPUT.F90  
HYD\_CONVERT\_MASS\_TO\_CONC.f90 (included in hydrograph\_module.f90)  
HYD\_CONVERT\_CONC\_TO\_MASS.f90 (included in hydrograph\_module.f90)  
PATHOGEN\_INIT.F90  
OM\_WATER\_INIT.F90  
PEST\_WATER\_INIT.F90  
PATH\_WATER\_INIT.F90  
OUTPUT\_LS\_PATHOGEN\_MODULE.F90  
OUTPUT\_LS\_PESTICIDE\_MODULE.F90  
SD\_HYDSED\_READ.F90  
SD\_HYDSED\_INIT.F90  
PATHPARM\_READ.F90  
PATH\_LS\_SWROUTING.F90  
PATH\_LS\_PROCESS.F90  
PATH\_LS\_RUNOFF.F90  
PATHOGEN\_DATA\_MODULE.F90  
PATH\_APPLY.F90  
SOIL\_PLANT\_INIT.F90  
HMET\_HRU\_INIT.F90  
PATH\_HRU\_INIT.F90  
SALT\_HRU\_INIT.F90  
PEST\_HRU\_INIT.F90  
PST\_APPLY.F90  
RES\_CONVERT\_MASS.F90

### ■ Deleted subroutines:

CH\_RTBACK.F90  
CH\_RTHPEST.F90  
BAC\_READ\_LSPARMS.F90

BACTERIA\_INIT.F90  
 HRU\_SOIL\_ASSIGN.F90  
 MGT\_TILLMIX.F90  
 HMET\_SOIL\_INIT.F90  
 PATH\_SOIL\_INIT.F90  
 PEST\_SOIL\_INIT.F90  
 SALT\_SOIL\_INIT.F90  
 CH\_RTHMUSK.F90

■ The following calibration subroutines were renamed:

Rev 56 - Calibration rename	
<b>CALIBRATION ROUTINES</b>	
<b>OLD NAME</b>	<b>NEW NAME</b>
cal_read_parms.f90	cal_parm_read.f90
chg_par.f90	cal_parm_chg.f90
current_par_val.f90	cal_parm_select.f90
update_init.f90	cal_conditions.f90
update_read_cond.f90	cal_cond_read.f90
update_read_parm.f90	cal_parmchg_read.f90
<b>SOFT CALIBRATION ROUTINES</b>	
<b>OLD NAME</b>	<b>NEW NAME</b>
cal_ave_output.f90	calsoft_ave_output.f90
cal_chsed.f90	calsoft_chsed.f90
cal_control.f90	calsoft_control.f90
cal_hyd.f90	calsoft_hyd.f90
cal_init.f90	calsoft_init.f90
cal_plant.f90	calsoft_plant.f90
cal_sed.f90	calsoft_sed.f90
cal_sum_output.f90	calsoft_sum_output.f90
calt_hyd.f90	caltsoft_hyd.f90
codes_read_cal.f90	calsoft_read_codes.f90

■ The following output files were renamed:

old output name	<u>NEW OUTPUT FILENAME</u>		old CSV filename	<u>NEW CVS FILE NAME</u>
waterbal_day_bsn.txt	basin_wb_day.txt		waterbal_day_bsn.csv	basin_wb_day.csv
waterbal_mon_bsn.txt	basin_wb_mon.txt		waterbal_mon_bsn.csv	basin_wb_mon.csv
waterbal_yr_bsn.txt	basin_wb_yr.txt		waterbal_yr_bsn.csv	basin_wb_yr.csv
waterbal_aa_bsn.txt	basin_wb_aa.txt		waterbal_aa_bsn.csv	basin_wb_aa.csv
nutbal_day_bsn.txt	basin_nb_day.txt		nutbal_day_bsn.csv	basin_nb_day.csv
nutbal_mon_bsn.txt	basin_nb_mon.txt		nutbal_mon_bsn.csv	basin_nb_mon.csv
nutbal_yr_bsn.txt	basin_nb_yr.txt		nutbal_yr_bsn.csv	basin_nb_yr.csv
nutbal_aa_bsn.txt	basin_nb_aa.txt		nutbal_aa_bsn.csv	basin_nb_aa.csv
losses_day_bsn.txt	basin_ls_day.txt		losses_day_bsn.csv	basin_ls_day.csv
losses_mon_bsn.txt	basin_ls_mon.txt		losses_mon_bsn.csv	basin_ls_mon.csv
losses_yr_bsn.txt	basin_ls_yr.txt		losses_yr_bsn.csv	basin_ls_yr.csv
losses_aa_bsn.txt	basin_ls_aa.txt		losses_aa_bsn.csv	basin_ls_aa.csv
plantwx_day_bsn.txt	basin_pw_day.txt		plantwx_day_bsn.csv	basin_pw_day.csv
plantwx_mon_bsn.txt	basin_pw_mon.txt		plantwx_mon_bsn.csv	basin_pw_mon.csv
plantwx_yr_bsn.txt	basin_pw_yr.txt		plantwx_yr_bsn.csv	basin_pw_yr.csv
plantwx_aa_bsn.txt	basin_pw_aa.txt		plantwx_aa_bsn.csv	basin_pw_aa.csv
aquifer_day_bsn.txt	basin_aqu_day.txt		aquifer_day_bsn.csv	basin_aqu_day.csv
aquifer_mon_bsn.txt	basin_aqu_mon.txt		aquifer_mon_bsn.csv	basin_aqu_mon.csv
aquifer_yr_bsn.txt	basin_aqu_yr.txt		aquifer_yr_bsn.csv	basin_aqu_yr.csv
aquifer_aa_bsn.txt	basin_aqu_aa.txt		aquifer_aa_bsn.csv	basin_aqu_aa.csv
reservoir_day_bsn.txt	basin_res_day.txt		reservoir_day_bsn.csv	basin_res_day.csv
reservoir_mon_bsn.txt	basin_res_mon.txt		reservoir_mon_bsn.csv	basin_res_mon.csv
reservoir_yr_bsn.txt	basin_res_yr.txt		reservoir_yr_bsn.csv	basin_res_yr.csv
reservoir_aa_bsn.txt	basin_res_aa.txt		reservoir_aa_bsn.csv	basin_res_aa.csv
channel_day_bsn.txt	basin_cha_day.txt		channel_day_bsn.csv	basin_cha_day.csv
channel_mon_bsn.txt	basin_cha_mon.txt		channel_mon_bsn.csv	basin_cha_mon.csv
channel_yr_bsn.txt	basin_cha_yr.txt		channel_yr_bsn.csv	basin_cha_yr.csv
channel_aa_bsn.txt	basin_cha_aa.txt		channel_aa_bsn.csv	basin_cha_aa.csv
channel_day_sd_bsn.txt	basin_sd_cha_day.txt		channel_day_sd_bsn.csv	basin_sd_cha_day.csv

channel_mon_sd_bsn.txt	basin_sd_cha_mon.txt		channel_mon_sd_bsn.csv	basin_sd_cha_mon.csv
channel_yr_sd_bsn.txt	basin_sd_cha_yr.txt		channel_yr_sd_bsn.csv	basin_sd_cha_yr.csv
channel_aa_sd_bsn.txt	basin_sd_cha_aa.txt		channel_aa_sd_bsn.csv	basin_sd_cha_aa.csv
pts_day_bsn.txt	basin_psc_day.txt		pts_day_bsn.csv	basin_psc_day.csv
pts_mon_bsn.txt	basin_psc_mon.txt		pts_mon_bsn.csv	basin_psc_mon.csv
pts_yr_bsn.txt	basin_psc_yr.txt		pts_yr_bsn.csv	basin_psc_yr.csv
pts_aa_bsn.txt	basin_psc_aa.txt		pts_aa_bsn.csv	basin_psc_aa.csv
waterbal_day_lsu.txt	lsunit_wb_day.txt		waterbal_day_lsu.csv	lsunit_wb_day.csv
waterbal_mon_lsu.txt	lsunit_wb_mon.txt		waterbal_mon_lsu.csv	lsunit_wb_mon.csv
waterbal_yr_lsu.txt	lsunit_wb_yr.txt		waterbal_yr_lsu.csv	lsunit_wb_yr.csv
waterbal_aa_lsu.txt	lsunit_wb_aa.txt		waterbal_aa_lsu.csv	lsunit_wb_aa.csv
nutbal_day_lsu.txt	lsunit_nb_day.txt		nutbal_day_lsu.csv	lsunit_nb_day.csv
nutbal_mon_lsu.txt	lsunit_nb_mon.txt		nutbal_mon_lsu.csv	lsunit_nb_mon.csv
nutbal_yr_lsu.txt	lsunit_nb_yr.txt		nutbal_yr_lsu.csv	lsunit_nb_yr.csv
nutbal_aa_lsu.txt	lsunit_nb_aa.txt		nutbal_aa_lsu.csv	lsunit_nb_aa.csv
losses_day_lsu.txt	lsunit_ls_day.txt		losses_day_lsu.csv	lsunit_ls_day.csv
losses_mon_lsu.txt	lsunit_ls_mon.txt		losses_mon_lsu.csv	lsunit_ls_mon.csv
losses_yr_lsu.txt	lsunit_ls_yr.txt		losses_yr_lsu.csv	lsunit_ls_yr.csv
losses_aa_lsu.txt	lsunit_ls_aa.txt		losses_aa_lsu.csv	lsunit_ls_aa.csv
plantwx_day_lsu.txt	lsunit_pw_day.txt		plantwx_day_lsu.csv	lsunit_pw_day.csv
plantwx_mon_lsu.txt	lsunit_pw_mon.txt		plantwx_mon_lsu.csv	lsunit_pw_mon.csv
plantwx_yr_lsu.txt	lsunit_pw_yr.txt		plantwx_yr_lsu.csv	lsunit_pw_yr.csv
plantwx_aa_lsu.txt	lsunit_pw_aa.txt		plantwx_aa_lsu.csv	lsunit_pw_aa.csv
waterbal_day_sd.txt	hru-lte_wb_day.txt		waterbal_day_sd.csv	hru-lte_wb_day.csv
waterbal_mon_sd.txt	hru-lte_wb_mon.txt		waterbal_mon_sd.csv	hru-lte_wb_mon.csv
waterbal_yr_sd.txt	hru-lte_wb_yr.txt		waterbal_yr_sd.csv	hru-lte_wb_yr.csv
waterbal_aa_sd.txt	hru-lte_wb_aa.txt		waterbal_aa_sd.csv	hru-lte_wb_aa.csv
nutbal_day_sd.txt	no nutrients hru-lte		nutbal_day_sd.csv	no nutrients hru-lte
nutbal_mon_sd.txt	no nutrients hru-lte		nutbal_mon_sd.csv	no nutrients hru-lte
nutbal_yr_sd.txt	no nutrients hru-lte		nutbal_yr_sd.csv	no nutrients hru-lte
nutbal_aa_sd.txt	no nutrients hru-lte		nutbal_aa_sd.csv	no nutrients hru-lte
losses_day_sd.txt	hru-lte_ls_day.txt		losses_day_sd.csv	hru-lte_ls_day.csv
losses_mon_sd.txt	hru-lte_ls_mon.txt		losses_mon_sd.csv	hru-lte_ls_mon.csv
losses_yr_sd.txt	hru-lte_ls_yr.txt		losses_yr_sd.csv	hru-lte_ls_yr.csv

losses_aa_sd.txt	hru-lte_ls_aa.txt		losses_aa_sd.csv	hru-lte_ls_aa.csv
plantwx_day_sd.txt	hru-lte_pw_day.txt		plantwx_day_sd.csv	hru-lte_pw_day.csv
plantwx_mon_sd.txt	hru-lte_pw_mon.txt		plantwx_mon_sd.csv	hru-lte_pw_mon.csv
plantwx_yr_sd.txt	hru-lte_pw_yr.txt		plantwx_yr_sd.csv	hru-lte_pw_yr.csv
plantwx_aa_sd.txt	hru-lte_pw_aa.txt		plantwx_aa_sd.csv	hru-lte_pw_aa.csv
channel_day.txt	channel_day.txt		channel_day.csv	channel_day.csv
channel_mon.txt	channel_mon.txt		channel_mon.csv	channel_mon.csv
channel_yr.txt	channel_yr.txt		channel_yr.csv	channel_yr.csv
channel_aa.txt	channel_aa.txt		channel_aa.csv	channel_aa.csv
channel_day_sd.txt	channel_sd_day.txt		channel_day_sd.csv	channel_sd_day.csv
channel_mon_sd.txt	channel_sd_mon.txt		channel_mon_sd.csv	channel_sd_mon.csv
channel_yr_sd.txt	channel_sd_yr.txt		channel_yr_sd.csv	channel_sd_yr.csv
channel_aa_sd.txt	channel_sd_aa.txt		channel_aa_sd.csv	channel_sd_aa.csv
output filename	same name		CSV filename	same name
aquifer_day.txt	aquifer_day.txt		aquifer_day.csv	aquifer_day.csv
aquifer_mon.txt	aquifer_mon.txt		aquifer_mon.csv	aquifer_mon.csv
aquifer_yr.txt	aquifer_yr.txt		aquifer_yr.csv	aquifer_yr.csv
aquifer_aa.txt	aquifer_aa.txt		aquifer_aa.csv	aquifer_aa.csv
output filename	same name		CSV filename	same name
reservoir_day.txt	reservoir_day.txt		reservoir_day.csv	reservoir_day.csv
reservoir_mon.txt	reservoir_mon.txt		reservoir_mon.csv	reservoir_mon.csv
reservoir_yr.txt	reservoir_yr.txt		reservoir_yr.csv	reservoir_yr.csv
reservoir_aa.txt	reservoir_aa.txt		reservoir_aa.csv	reservoir_aa.csv
output filename	same name		CSV filename	same name
wetland_day.txt	wetland_day.txt		wetland_day.csv	wetland_day.csv
wetland_mon.txt	wetland_mon.txt		wetland_mon.csv	wetland_mon.csv
wetland_yr.txt	wetland_yr.txt		wetland_yr.csv	wetland_yr.csv
wetland_aa.txt	wetland_aa.txt		wetland_aa.csv	wetland_aa.csv
output filename	same name		CSV filename	same name
hydin_day.txt	hydin_day.txt		hydin_day.csv	hydin_day.csv
hydin_mon.txt	hydin_mon.txt		hydin_mon.csv	hydin_mon.csv
hydin_yr.txt	hydin_yr.txt		hydin_yr.csv	hydin_yr.csv
hydin_aa.txt	hydin_aa.txt		hydin_aa.csv	hydin_aa.csv
output filename	same name		CSV filename	same name
hydout_day.txt	hydout_day.txt		hydout_day.csv	hydout_day.csv

hydout_mon.txt	hydout_mon.txt		hydout_mon.csv	hydout_mon.csv
hydout_yr.txt	hydout_yr.txt		hyd_yr_hyd.csv	hyd_yr_hyd.csv
hydout_aa.txt	hydout_aa.txt		hydout_aa.csv	hydout_aa.csv
output filename			CSV filename	
routing_units_day.txt	ru_day.txt		routing_units_day.csv	ru_day.csv
routing_units_mon.txt	ru_mon.txt		routing_units_mon.csv	ru_mon.csv
routing_units_yr.txt	ru_yr.txt		routing_units_yr.csv	ru_yr.csv
routing_units_aa.txt	ru_aa.txt		routing_units_aa.csv	ru_aa.csv
output filename	same name		CSV filename	
soil_nutcarb_out.txt	soil_nutcarb_out.txt		NO CSV FILE	
output filename	same name		CSV filename	
mgt_out.txt	mgt_out.txt		NO CSV FILE	
output filename	same name			
flow_duration_curve.out	flow_duration_curve.out			
pco%hyd== y	same name		CSV filename	same name
deposition_day.txt	deposition_day.txt		deposition_day.csv	deposition_day.csv
deposition_mon.txt	deposition_mon.txt		deposition_mon.csv	deposition_mon.csv
deposition_yr.txt	deposition_yr.txt		deposition_yr.csv	deposition_yr.csv
deposition_aa.txt	deposition_aa.txt		deposition_aa.csv	deposition_aa.csv
	same name		CSV filename	same name
channel_om_day.txt	channel_om_day.txt		channel_om_day.csv	channel_om_day.csv
channel_om_mon.txt	channel_om_mon.txt		channel_om_mon.csv	channel_om_mon.csv
channel_om_yr.txt	channel_om_yr.txt		channel_om_yr.csv	channel_om_yr.csv
channel_om_aa.txt	channel_om_aa.txt		channel_om_aa.csv	channel_om_aa.csv
	same name		CSV filename	same name
channel_path_day.txt	channel_path_day.txt		channel_path_day.csv	channel_path_day.csv
channel_path_mon.txt	channel_path_mon.txt		channel_path_mon.csv	channel_path_mon.csv
channel_path_yr.txt	channel_path_yr.txt		channel_path_yr.csv	channel_path_yr.csv
channel_path_aa.txt	channel_path_aa.txt		channel_path_aa.csv	channel_path_aa.csv
	same name		CSV filename	same name
hru_path_day.txt	hru_path_day.txt		hru_path_day.csv	hru_path_day.csv
hru_path_mon.txt	hru_path_mon.txt		hru_path_mon.csv	hru_path_mon.csv
hru_path_yr.txt	hru_path_yr.txt		hru_path_yr.csv	hru_path_yr.csv

hru_path_aa.txt	hru_path_aa.txt		hru_path_aa.csv	hru_path_aa.csv
	same name		CSV filename	same name
hru_pest_day.txt	hru_pest_day.txt		hru_pest_day.csv	hru_pest_day.csv
hru_pest_mon.txt	hru_pest_mon.txt		hru_pest_mon.csv	hru_pest_mon.csv
hru_pest_yr.txt	hru_pest_yr.txt		hru_pest_yr.csv	hru_pest_yr.csv
hru_pest_aa.txt	hru_pest_aa.txt		hru_pest_aa.csv	hru_pest_aa.csv



## REVISION 55.2 – November 27, 2018

- I. NEW\_INPUT\_FILES  
Contains a list of new input files that are being tested.
  - II. NEW\_OUTPUT\_FILES  
Contains a list of new output files being review.
  - III. Existing output files  
List of changes in output files
  - IV. Existing input files  
List of changes in input files
  - V. Other  
Other files that were modified in this revision.
- I. **NEW INPUT FILES**
  - II. **NEW OUTPUT FILES**
  - III. **EXISTING OUTPUT FILES**
  - IV. **EXISTING INPUT FILES**
  - V. **OTHER**
    - Renamed pl\_leaf\_mortality routine to pl\_mortality
    - Computational changes in pl\_leaf\_drop and pl\_grow subroutines
    - Fixed issue with harvest for clover crop in mgt\_harvestop subroutine
    - Added 2\_stage\_constituents to the commit datasets;

## **REVISION 55.1 – October 15, 2018**

**Note: This revision had some computational changes made.**

- **Rounding problem (Chris George)**
- **Backspace statement in daily weather routines**

**There were no input or output edits in this Revision 55.1.**

- I.      **NEW\_INPUT\_FILES**  
Contains a list of new input files that are being tested.
- II.     **NEW\_OUTPUT\_FILES**  
Contains a list of new output files being review.
- III.    **Existing output files**  
List of changes in output files
- IV.    **Existing input files**  
List of changes in input files
- V.      **Other**  
Other files that were modified in this revision.

- I.      NEW INPUT FILES**
- II.     NEW OUTPUT FILES**
- III.    EXISTING OUTPUT FILES**
- IV.    EXISTING INPUT FILES**
- V.      OTHER**