



WinSLAMM v 9.4 User's Guide

Introduction



Start-Up Hints

- **Press F1 on any screen within the program to see the corresponding Help File Topic**
- **Throughout this User's Guide, the text in red walks you through the program**
- **The User may need to press Enter in various input screens to activate the next data input**

Introduction Summary

- Basic Program Structure
- Data Entry
- Running the Program



Introduction & *.DAT File Construction



Introduction – Basic Program Structure

- **Land Uses.** There are six land uses defined by the model, listed in Table 1 below. To evaluate a land use, you must define source areas within the land use using numeric values corresponding to the area, in acres, of the source area and the appropriate parameters for the source area, as required.

Table 1. WinSLAMM Land Uses

1. Residential Land Uses
2. Institutional Land Uses
3. Commercial Land Uses
4. Industrial Land Uses
5. Other Urban Land Uses
6. Freeway Land Uses

Introduction – Basic Program Structure

- **Source Areas.** Each source area listed in Table 2 below has specific data requirements, or parameters, that depend upon the characteristics of the source area and upon the source area's land use. These parameters include the area (acres), the roof slope, the drainage system connection type, the soil type, building density, and alleys. Not all parameters apply to each source area (see model documentation for details).

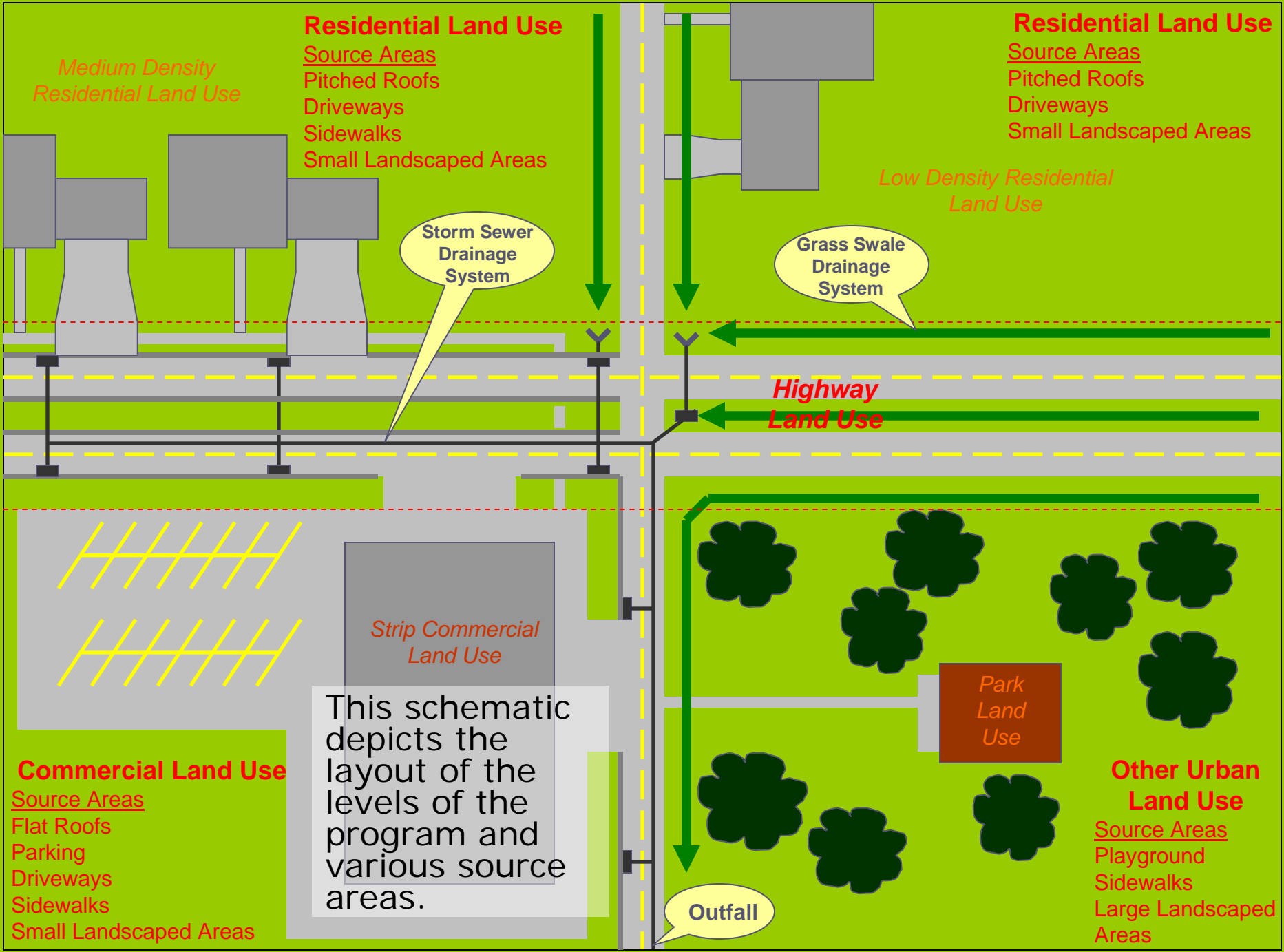
Table 2. WinSLAMM Source Areas

Impervious Areas

Driveways
Freeway Lanes/Shoulders
Paved Parking/Storage
Roofs
Sidewalks/Walks
Streets/Alleys
Unpaved Parking/Storage
Other Impervious Areas

Pervious Areas

Large Landscaped Areas
Large Turf Areas
Undeveloped Areas
Playgrounds
Small Landscaped Areas
Other Pervious Areas



Residential Land Use

- Source Areas
- Pitched Roofs
- Driveways
- Sidewalks
- Small Landscaped Areas

Residential Land Use

- Source Areas
- Pitched Roofs
- Driveways
- Small Landscaped Areas

Medium Density Residential Land Use

Low Density Residential Land Use

Storm Sewer Drainage System

Grass Swale Drainage System

Highway Land Use

Strip Commercial Land Use

Park Land Use

This schematic depicts the layout of the levels of the program and various source areas.

Commercial Land Use

- Source Areas
- Flat Roofs
- Parking
- Driveways
- Sidewalks
- Small Landscaped Areas

Other Urban Land Use

- Source Areas
- Playground
- Sidewalks
- Large Landscaped Areas

Outfall

Introduction – Basic Program Structure

- **Runoff Volumes and Particulate Loading Calculations.** Runoff volume and particulate loadings from all source areas for each land use are calculated, treated by appropriate source area controls, summed, and routed to the drainage system. They may be treated by any of the applicable control devices (e.g. grass swales or catchbasins) for the drainage system. The resulting runoff and particulate loadings are then routed to the outfall, where they may be treated by any of the applicable outfall control devices.
- **Parameter Files.** The model also uses parameter files (or support files) to determine runoff, particulate, and pollutant loading. These parameter files include:
 - Rainfall Data
 - Runoff Coefficient Data
 - Particle Size Data
 - Particulate Solids Concentration Data
 - Particulate Residue Reduction Data
 - Street Delivery Data
 - Pollutant Distribution Data

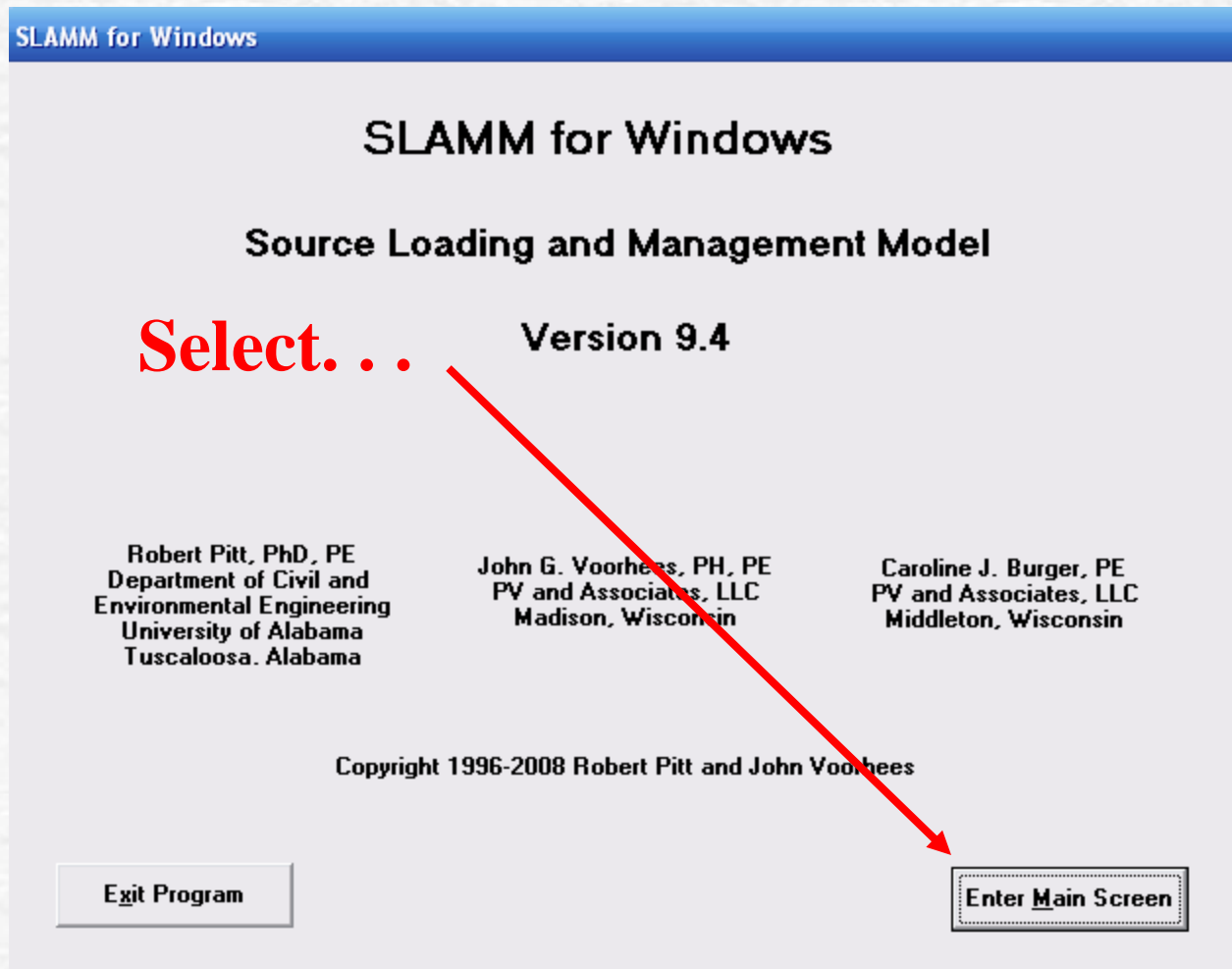
Entering Data...

The following is an introduction to entering the data described in the last few slides into model. It assumes that you have read the model documentation that describes, in detail, the data requirements of the model as well as the model limitations. Data requirements and model limitations are detailed in the Help File.

Prior to creating your own model, you must:

1. Identify your basic modeling objectives, such as examining alternative land development options, comparing different stormwater management alternatives, or calculating loadings for different subdrainage basins in a watershed.
2. List the basic characteristics of the areas to be modeled, such as location, area, time frame, land uses, and stormwater controls.
3. Understand the objectives of the modeling activities, the limitations of the model, and the needed accuracy of the analyses.

Start the Program



to get to the ...

Main Data Window

The screenshot shows the WinSLAMM Main Data Window. The window title is "WinSLAMM" and the menu bar includes "File", "Land Use", "Pollutants", "Tools", "Run", "Utilities", and "Help". The "Main Menu" callout points to the menu bar. Below the menu bar is a text input field for "SLAMM Data File:". The "Data File Name" callout points to this field. Below the input field is the "Current Land Use" section, which includes a "Current Source Area" field and a "Current Source Area" callout. Below this are three buttons: "Current File Data...", "Current File Status", and "Check Current File Status". The "Active Land Use Area Summary" callout points to a table of land use areas. At the bottom, there is an "Exit Program" button and a yellow bar with the text "Press F1 for Help".

Main Menu

Data File Name

Current Source Area

Active Land Use Area Summary

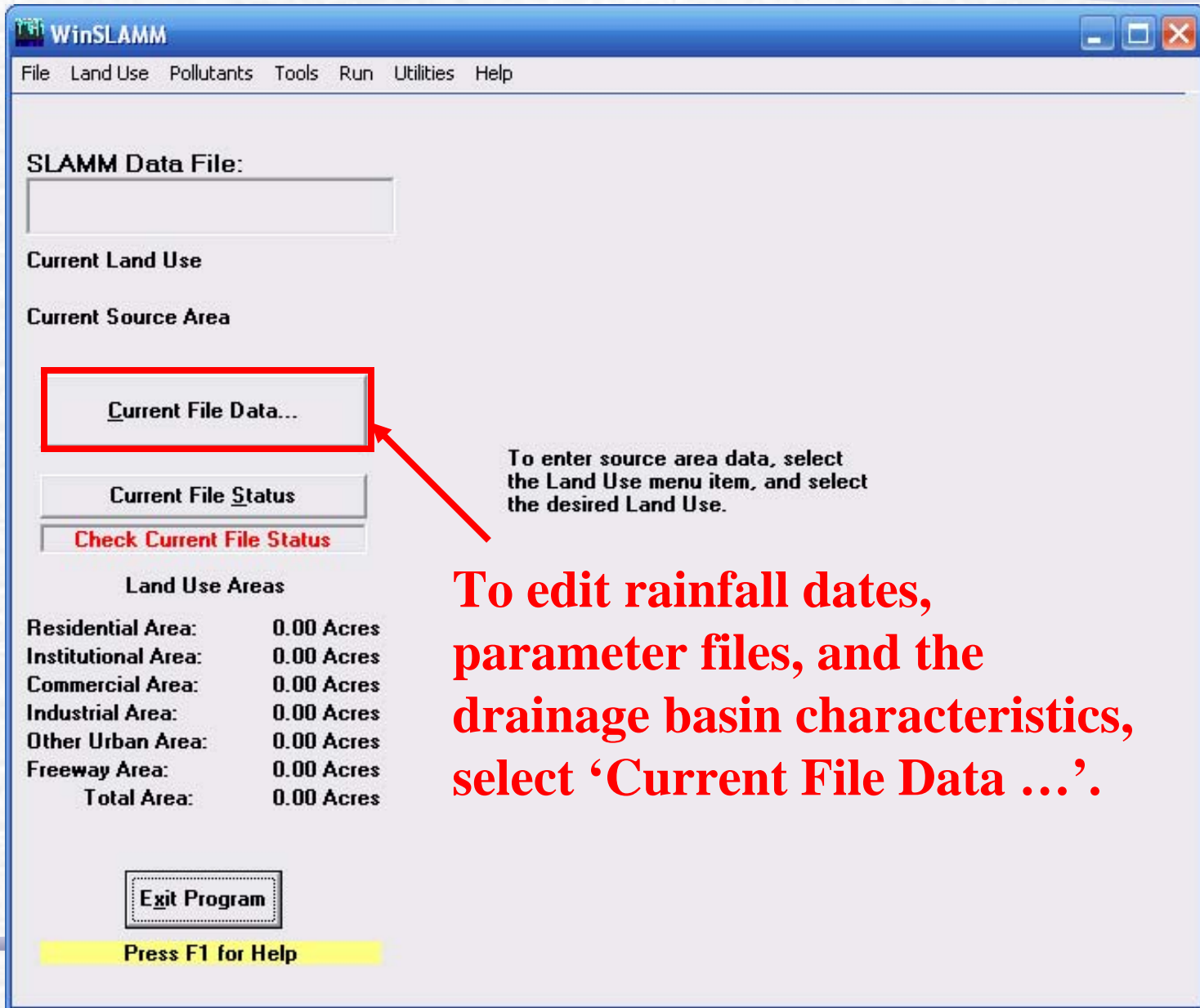
Exit Program

Press F1 for Help

Land Use Areas	
Residential Area:	0.00 Acres
Institutional Area:	0.00 Acres
Commercial Area:	0.00 Acres
Industrial Area:	0.00 Acres
Other Urban Area:	0.00 Acres
Freeway Area:	0.00 Acres
Total Area:	0.00 Acres

This is the Main Data Window. All features in the program can be accessed through this window. A summary of the data currently entered in the program can also be found here.

Enter Parameter Files



Current File Data

Current File Data

SLAMM Data File Name:

Site Descript:

Select the 'Edit' buttons to Enter or Change values

Edit Seed:

Edit Rain File:

Edit Start Date: Winter Season Range
Edit End Date: Start of Winter (mm/dd) End of Winter (mm/dd)

Edit Pollutant Probability Distribution File:

Edit Runoff Coefficient File:

Edit Particulate Solids Concentration File:

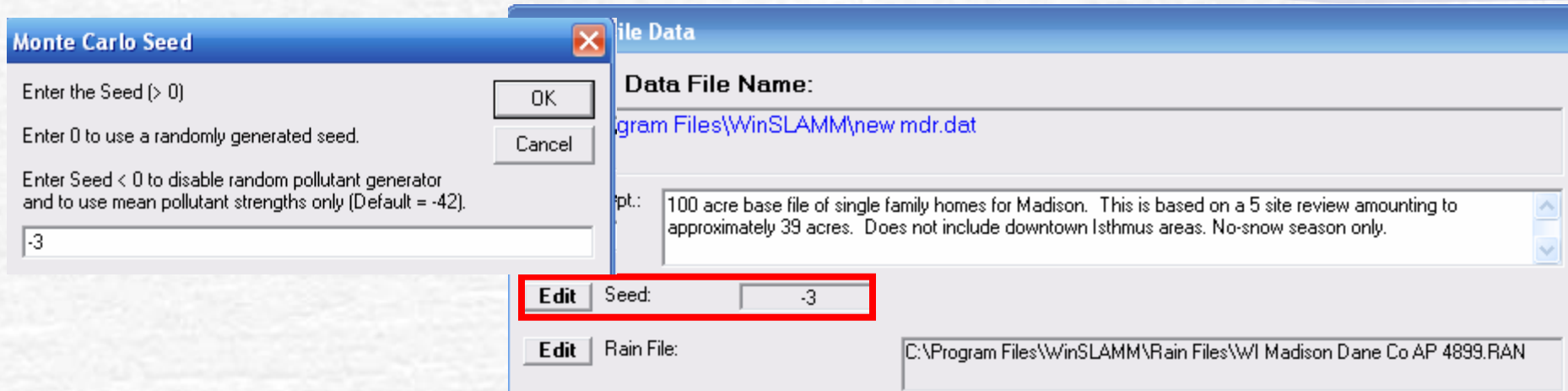
Edit Particulate Residue Delivery File:

Edit Street Delivery File (Select LU)
 Residential LU Industrial LU
 Institutional LU Other Urban LU
 Commercial LU Freeways

Use Cost Estimation Option

Edit Drainage System:

Seed



Enter the Seed. A seed value >1 activates the Monte Carlo simulations for the pollutant loadings. A seed value $= 0$ randomly generates a seed value based on the clock time a model begins. A seed value <0 turns off the Monte Carlo simulation.

The Monte Carlo simulation only affects the loads for the pollutants, not particulate solids or runoff volume.

Using the Monte Carlo simulation will result in more accurate simulations due to the inherent randomness found in the environment, however, it will not produce repeatable results.

Therefore, if repeatable results are desired, the user should use a seed < 0 . This will calculate the pollutant loadings based on the average pollutant value found in the pollutant probability distribution file.



Rain File

Current File Data

SLAMM Data File Name:
C:\Program Files\WinSLAMM\new.mdr.dat

Site Descript.: 100 acre base file of single family homes for Madison. This is based on a 5 site review amounting to approximately 39 acres. Does not include downtown Isthmus areas. No-snow season only.

Edit Seed: -3

Edit Rain File: C:\Program Files\WinSLAMM\Rain Files\WI Madison Dane Co AP 4899.RAN

Edit Start Date: 03/01/81 Winter Season Range

Edit End Date: 11/30/81 Start of Winter (mm/dd) 12/02 End of Winter (mm/dd) 03/12

Enter the Rain File. The Start and End Dates will fill in automatically based on the first and last dates found in the rainfall file. The user can exclude periods the rain fall file (for example, the winter season) by changing the Start and End Dates.

Rain File Name ? X 7.PPD

Look in: Rain Files

- WisReg - Green Bay WI 1969.RAN
- WisReg - Madison Five Year Rainfall.ran
- WisReg - Madison WI 1981.RAN
- WisReg - Madison WI 6392.ran
- WisReg - Milwaukee 6392.ran
- WisReg - Milwaukee Five Year Rainfall.ran
- WisReg - Milwaukee WI 1969.RAN
- WisReg - Minneapolis 5382.ran
- WisReg - Minneapolis Five Year Rainfall.ran
- WisReg - Minneapolis MN 1959.RAN
- WV Elkins Randolph Cty AP 6194.RAN
- WV Huntington Tri State 6299.RAN

File name: WisReg - Madison WI 1981.RAN

Files of type: Rain Files (*.RAN)

Open Cancel **Cancel** **Continue**

Winter Season Range

Current File Data

SLAMM Data File Name:
C:\Program Files\WinSLAMM\new.mdr.dat

Site Descript.: 100 acre base file of single family homes for Madison. This is based on a 5 site review amounting to approximately 39 acres. Does not include downtown Isthmus areas. No-snow season only.

Edit Seed: -3

Edit Rain File: C:\Program Files\WinSLAMM\Rain Files\WI Madison Dane Co AP 4899.RAN

Edit Start Date: 03/01/81
Edit End Date: 11/30/81

Winter Season Range
Start of Winter (mm/dd) 12/02 End of Winter (mm/dd) 03/12

Edit Pollutant Probability Distribution File: C:\PROGRAM FILES\WINSLAMM\MADISON7.PPD

Edit Runoff Coefficient File: C:\P

Edit Particulate Solids Concentration File: C:\P

Edit Particulate Residue Delivery File: C:\P

Edit Street Delivery File (Select LU)
 Residential LU Industrial LU
 Institutional LU Other Urban LU
 Commercial LU Freeways

Use Cost Estimation Option **Select Cost Data File**

Edit Drainage System: Data Entered **Cancel** **Continue**

To use the Winter Season Range option, check the box and enter the start and end of the winter season, as month and date. Note: enter the start of winter first (ex. 12/03), then the end of winter (ex. 03/12).

When a Winter Season is used, the following occurs: 1) there is no activity in the model during the winter season range entered, 2) street cleaning starts on the day the winter season ends, and 3) the initial street dirt loading due to winter is populated in the street source area.

Current File Data

Current File Data

SLAMM Data File Name:
C:\Program Files\WinSLAMM\new.mdr.dat

Site Descript.: 100 acre base file of single family homes for Madison. This is based on a 5 site review amounting to approximately 39 acres. Does not include downtown Isthmus areas. No-snow season only.

Edit Seed: -3

Edit Rain File:

Edit Start Date: 03/01/81 Winter Season Range
Edit End Date: 11/30/81 Start of Winter (mm/dd): 12/02 End of Winter (mm/dd): 03/12

Edit Pollutant Probability Distribution File: C:\PROGRAM FILES\WINSLAMM\MADISON7.PPD

Edit Runoff Coefficient File: C:\Program Files\WinSLAMM\WI_SL06 Dec06.rsv

Edit Particulate Solids Concentration File: C:\PROGRAM FILES\WINSLAMM\MADISON.PSC

Edit Particulate Residue Delivery File: C:\PROGRAM FILES\WINSLAMM\MADISON.PRR

Edit Street Delivery File (Select LU)
 Residential LU Industrial LU
 Institutional LU Other Urban LU
 Commercial LU Freeways
Change all Street Delivery Files to Match the Current File

Use Cost Estimation Option

Edit Drainage System: Data Entered

Parameter Files, Cost File, and Drainage System Data are listed here.

Street Delivery Files

To enter the Street Delivery (.std) Files, select a Land Use (LU) button and then press the 'Edit' button. Select the desired .std file and Select 'Open'. Then select the next Land Use button to enter the next .std file.

This is based on a 5 site review amounting to Isthmus areas. No-snow season only.

LAMM\Rain Files\WI Madison Dane Co AP 4899.RAN

ge

Start of Winter (mm/dd) **12/02** End of Winter (mm/dd) **03/12**

Edit Pollutant Probability Distribution File: C:\PROGRAM FILES\WINSLAMM\MADISON7.PPD

Edit Runoff Coefficient File: C:\Program Files\WinSLAMM\WI_SL06 Dec06.rsv

Edit Particulate Solids Concentration File: C:\PROGRAM FILES\WINSLAMM\MADISON.PSC

Edit Particulate Residue Delivery File: C:\PROGRAM FILES\WINSLAMM\MADISON.PRR

Edit Street Delivery File (Select LU) C:\Program Files\WinSLAMM\WI_Res and Other Urban Dec06.std

Residential LU Industrial LU

Institutional LU Other Urban LU

Commercial LU Freeways

Change all Street Delivery Files to Match the Current File

Data File

Edit Drainage System: Data Entered **Cancel** **Continue**

This is the land use button

Street Delivery Files

Current File Data

SLAMM Data File Name:
C:\Program Files\WinSLAMM\new.mdr.dat

Site Descript.: 100 acre base file of single family homes for Madison. This is based on a 5 site review amounting to approximately 39 acres. Does not include downtown Isthmus areas. No-snow season only.

M:\Rain Files\WI Madison Dane Co AP 4899.RAN

Edit Start Date: 03/01/81 Winter Season Range
Edit End Date: 11/30/81 Start of Winter (mm/dd) 12/02 End of Winter (mm/dd) 03/12

Edit Pollutant Probability Distribution File: C:\PROGRAM FILES\WINSLAMM\MADISON7.PPD

Edit Runoff Coefficient File: C:\Program Files\WinSLAMM\WI_SL06 Dec06.rsv

Edit Particulate Solids Concentration File: C:\PROGRAM FILES\WINSLAMM\MADISON.PSC

Edit Particulate Residue Delivery File: C:\PROGRAM FILES\WINSLAMM\MADISON.PRR

Edit Street Delivery File (Select LU) C:\Program Files\WinSLAMM\WI_Com Inst Indust Dec06.std

Residential LU Industrial LU
 Institutional LU Other Urban LU
 Commercial LU Freeways

Edit Drainage System: Data Entered

Continue entering .std files until each land use has one.

This is the land use button

Street Delivery Files

Current File Data

SLAMM Data File Name:
C:\Program Files\WinSLAMM\new.mdr.dat

Site Descript.: 100 acre base file of single family homes for Madison. This is based on a 5 site review amounting to approximately 39 acres. Does not include downtown Isthmus areas. No-snow season only.

Edit Seed:

Edit Rain File:

Edit Start Date:
Edit End Date:

Edit Pollutant Probability

Edit Runoff Coefficient F

Edit Particulate Solids Concentration File: C:\PROGRAM FILES\WINSLAMM\MADISON.PSC

Edit Particulate Residue Delivery File: C:\PROGRAM FILES\WINSLAMM\MADISON.PRR

Edit Street Delivery File (Select LU)
 Residential LU Industrial LU
 Institutional LU Other Urban LU
 Commercial LU Freeways

Use Cost Estimation Option **Select Cost Data File**

Edit Drainage System:

Change all Street Delivery Files to Match the Current File

Data Entered **Cancel** **Continue**

Or, if there is only one land use modeled in the .dat file, the user can select the 'Change all Street Delivery Files to Match the Current File' button. This will enter the same .std file for all land uses.

Cost Estimation Option

Current File Data

SLAMM Data File Name:
C:\Program Files\WinSLAMM\new.mdr.dat

Site Descript.: 100 acre base file of single family homes for Madison. This is based on a 5 site review amounting to approximately 39 acres. Does not include downtown Isthmus areas. No-snow season only.

Edit Seed:
Edit Rain File:
Edit Start Date:
Edit End Date:
Edit Pollutant f
Edit Runoff Co
Edit Particulate
Edit Particulate Residue Delivery File: C:\PROGRAM FILES\WINSLAMM\MADISON.PRR
Edit Street Delivery File (Select LU): C:\Program Files\WinSLAMM\WI_Res and Other Urban Dec06.std
 Residential LU Industrial LU
 Institutional LU Other Urban LU
 Commercial LU Freeways
 Use Cost Estimation Option **Select Cost Data File**
Edit Drainage System: Data Entered **Cancel** **Continue**

To perform a cost analysis on the control practices, check the 'Use Cost Estimation Option' box and press the 'Select Cost Data File' button to select a cost file.

This topic is discussed further in the Advanced Features User's Guide.

Defining the Drainage System

Current File Data

SLAMM Data File Name:
C:\Program Files\WinSLAMM\new.mdr.dat

Site Descript.: 100 acre base file of single family homes for Madison. This is based on a 5 site review amounting to approximately 39 acres. Does not include downtown Isthmus areas. No-snow season only.

Edit Seed: -3

Edit Rain File: C:\Program Files\WinSLAMM\Rain Files\WI Madison Dane Co AP 4899.RAN

Edit Start Date: 03/01/81 Winter Season Range
Edit End Date: 11/30/81 Start of Winter (mm/dd) 12/02 End of Winter (mm/dd) 03/12

Edit Pollutant Probability Distribution File: C:\PROGRAM FILES\WINSLAMM\MADISON7.PPD

Edit Runoff Coefficient File: C:\Program Files\WinSLAMM\WI_SL06 Dec06.rsv

Edit Particulate Solids Concentration File: C:\PROGRAM FILES\WINSLAMM\MADISON.PSC

Edit Particulate

Edit Street Delivery
 Residential LU Industrial LU
 Institutional LU Other Urban LU
 Commercial LU Freeways
Change all Street Delivery Files to Match the Current File

Use Cost Estimation Option **Select Cost Data File**

Edit Drainage System: Data Entered **Cancel** **Continue**

To define the Drainage System, select the 'Edit' Button for the Drainage System

Defining the Drainage System

Drainage System

Enter the fraction of each type of drainage system serving the study area:

1. Grass Swales
Note: The grass swale drainage system fraction is calculated from the areas of the drainage system that are served by swales. These areas are entered in the Grass Swale control practice
2. Undeveloped Roadside:
3. Curb and Gutters, Valleys, or Sealed Swales in poor condition or very flat
4. Curb and Gutters, Valleys, or Sealed Swales in fair condition
5. Curb and Gutters, Valleys, or Sealed Swales in good condition or very steep

The total must equal 1. Total: 0.000
The balance left is: 1.000

Define the drainage system by selecting the fraction of each type of drainage system that serves the study area.

When creating a new file, even if you have swales, enter a “1” in the other drainage system type describing the remainder of your system. Once you enter the swale data, the program will automatically recalculate the fractions.

For example, if you have 50% swales and 50% Curb and Gutters in Fair conditions, enter a “1” in Curb and Gutters in Fair Condition. After you enter the swale data, the program will change the fractions to 0.5 and 0.5.

Review Current File Data Status

To Review the Current File Data Status, select this button

To enter source area data, select the Land Use menu item, and select the desired Land Use.

Current File Status
Check Current File Status

Land Use Areas

Residential Area:	0.00 Acres
Institutional Area:	0.00 Acres
Commercial Area:	0.00 Acres
Industrial Area:	0.00 Acres
Other Urban Area:	0.00 Acres
Freeway Area:	0.00 Acres
Total Area:	0.00 Acres

Exit Program

Press F1 for Help

Current File Data Entry Status

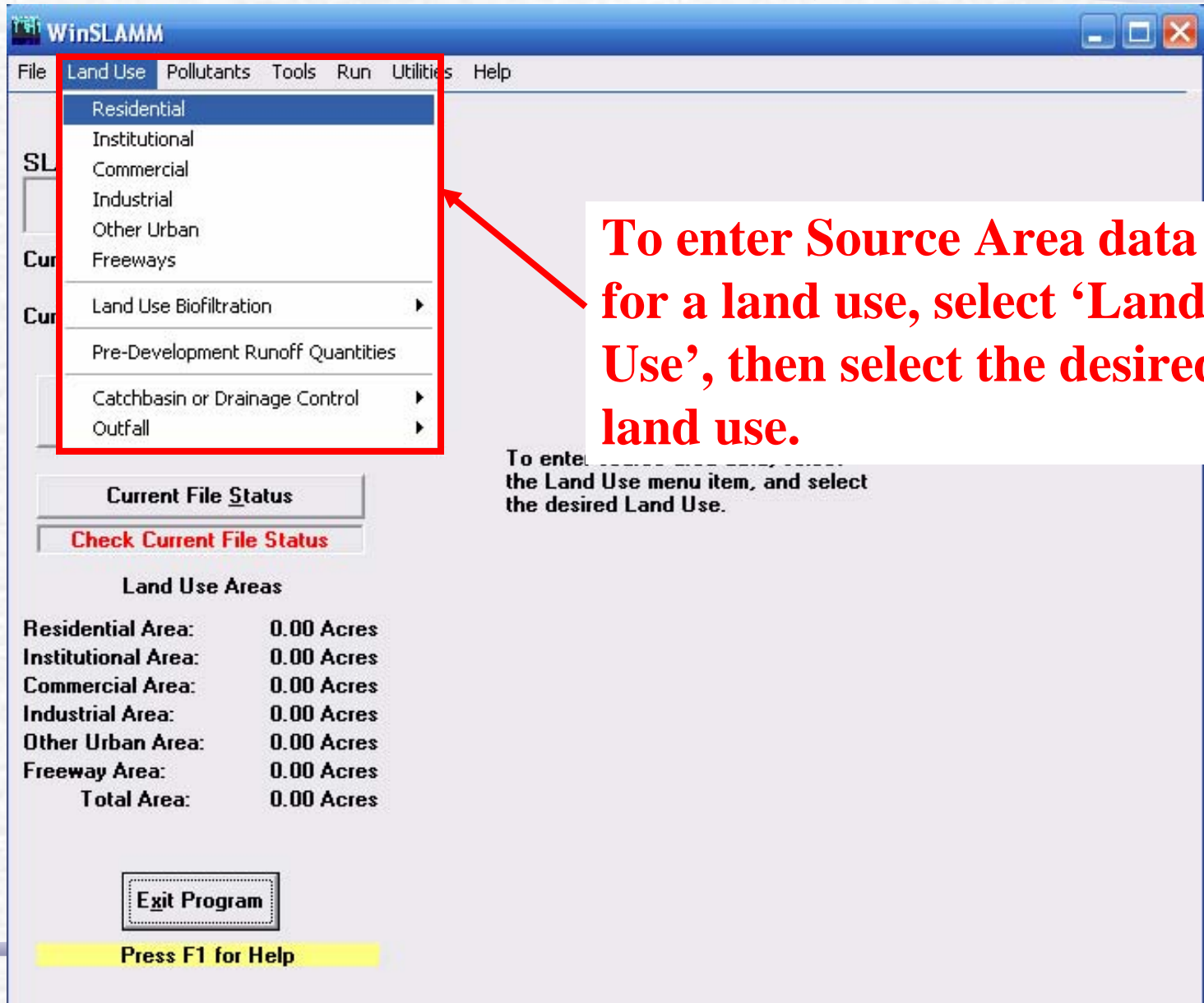
Current File Data Entry Status

File Version Number: V9.4

Status	Required Data
Entered	Data File Name
Entered	Start Date
Entered	End Date
Entered	Rain File
Entered	Pollutant Probability Distribution File
Entered	Runoff Coefficient File
Entered	Particulate Solids Concentration File
Entered	Particulate Residue Delivery File
Entered	Source Area Data Entered
Entered	Street Delivery File
Entered	Drainage System
4	Output Printing Option Selected

The ‘Current File Data Entry Status’ window tells you if all required data necessary for the model run has been entered. It only indicates that all the necessary fields have data in them. It does not indicate that the information is complete nor that the model is correctly set up.

Entering Source Area and Parameter Data



The screenshot shows the WinSLAMM software interface. The 'Land Use' menu is open, displaying a list of land use types: Residential, Institutional, Commercial, Industrial, Other Urban, and Freeways. Below this list are options for 'Land Use Biofiltration', 'Pre-Development Runoff Quantities', 'Catchbasin or Drainage Control', and 'Outfall'. A red box highlights the 'Land Use' menu and its list of options. A red arrow points from a text box to the 'Land Use' menu item.

To enter Source Area data for a land use, select 'Land Use', then select the desired land use.

To enter the Land Use menu item, and select the desired Land Use.

Current File Status

Check Current File Status

Land Use Areas

Residential Area:	0.00 Acres
Institutional Area:	0.00 Acres
Commercial Area:	0.00 Acres
Industrial Area:	0.00 Acres
Other Urban Area:	0.00 Acres
Freeway Area:	0.00 Acres
Total Area:	0.00 Acres

Exit Program

Press F1 for Help

Entering Source Areas

WinSLAMM

File Land Use Pollutants Tools Run Utilities Help

SLAMM Data File:

Current Land Use: Residential

Current Source Area

Current File Data...

Current File Status

Current File Data Entered

Land Use Areas

Residential Area: 0.00 Acres
Institutional Area: 0.00 Acres
Commercial Area: 0.00 Acres
Industrial Area: 0.00 Acres
Other Urban Area: 0.00 Acres
Freeway Area: 0.00 Acres
Total Area: 0.00 Acres

Exit Program

Press F1 for Help

Source Area No.	Source Area	Area (acres)	H	W	P	O	S	B	Source Area Parameters
1	Roofs 1								
2	Roofs 2								
3	Roofs 3								
4	Roofs 4								
5	Roofs 5								
6	Paved Parkir								
7	Paved Parkir								
8	Paved Parkir								
9	Unpaved Prk								
10	Unpaved Prk								
11	Playground 1								
12	Playground 2								
13	Driveways 1								
14	Driveways 2								
15	Driveways 3								
16	Sidewalks/W								
17	Sidewalks/W								
18	Street Area 1								
19	Street Area 2								
20	Street Area 3								
21	Large Landsc								
22	Large Landscaped Area 2								
23	Undevelope								
24	Small Landsc								
25	Small Landsc								
26	Small Landsc								
27	Isolated/Wal								
28	Other Pervio								
29	Other Dir Cnr								
30	Other Part Cr								

To enter data for a Source Area, double-click on the desired Source Area in any of the following three columns:

1. 'Source Area',
2. 'Area (acres)', or
3. 'Source Area Parameters'

After double-clicking in one of the three columns, you will be prompted to enter the Area, in acres, of the Source Area, and . .

Source Area Parameters

... enter the Source Area Parameter data. The window below illustrates the type of data that most Source Areas require.

Source Area Parameters

Land Use: Residential
Source Area: Roofs 1 Total Area: 2.06 acres

Roofs: Flat Roof Pitched Roof

Is the Source Area:
 Directly Connected or Draining to a Directly Connected Area
 Draining to a Pervious Area (partially connected impervious area)

Soil Type: Sandy Silty Clayey

Building Density: Low Medium or High

Alleys present: Yes No

Continue

Note: To delete a Source Area, enter “0” (zero) in the Area (acres) screen and press Enter.

Street Source Area Parameters

Street Source Area Parameters

Current Land Use: Residential

Current Source Area: Street Area 1 Total Area: 3.92 acres

Total street length in the study area (curb-miles): Estimated street width (ft) assuming 2 curb-mi/street mile:

Street Texture

1. Smooth 2. Intermediate

3. Rough 4. Very Rough (including oil and screens)

Street Dirt Accumulation

1. Use value calculated by program based upon land use and street texture

2. Enter accumulation equation coefficients

Equation Form: $y = mx + b$ where $m =$ Accumulation Rate $m =$

$y =$ loading (lbs/curb mile) $b =$ Intercept Load, $x=0$ $b =$

$x =$ time (days) $C =$ Maximum Load $C =$

Initial Street Dirt Loading (lbs/curb-mi)

1. Use value calculated by program based upon land use and street texture

2. Specify value:

Initial Street Dirt Loading at End of Winter Season (lbs/curb-mi):

This window illustrates the data required for Street Source Areas.

The street length can be defined in terms of curb-miles or street width. The program will automatically calculate the corresponding length or width.

Freeway Source Area Parameters

Freeway Source Area Parameters

Current Land Use: Freeways

Current Source Area: Pavd Lane_Shldr Area 1 Total Area: 2 acres

Freeway Drainage System

1. Grass Swales

2. Curb and Gutters, Valleys, or Sealed Swales in poor condition or very flat

3. Curb and Gutters, Valleys, or Sealed Swales in fair condition

4. Curb and Gutters, Valleys, or Sealed Swales in good condition or very steep

Freeway Length (miles):

Average Daily Traffic (# vehicles/day):

Initial Freeway Dirt Loading (lbs/mi)

1. Use value calculated by program based upon average daily traffic and freeway length

2. Specify value:

Continue

This window illustrates the data required for Freeway Source Areas.

Pollutant Selection

WinSLAMM Data File: [C:\Program Files\WinSLAMM\new mdr.dat]

File Land Use **Pollutants** Tools Run Utilities Help

SLAMM Data File:
new mdr.DAT

Current Land Use: Resid

Current Source Area

Current File Data

Current File Stat

Current File Data Er

Land Use Area

Residential Area: 10

Institutional Area:

Commercial Area:

Industrial Area:

Other Urban Area:

Freeway Area:

Total Area: 10

Exit Program

Press F1 for Help

Pollutant Selection

	Particulate	Dissolved	Total
Solids	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phosphorus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TKN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fecal Coliform Bacteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Copper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zinc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ammonia (mg/L)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The pollutants listed above are in the file
C:\PROGRAM FILES\WINSLAMM\MADISON7.PPD
Select a pollutant to evaluate it.

Select All

Clear All

Continue

26	Other Previous Area		
29	Other Dir Cnctd Imp Area		
30	Other Part Cnctd Imp Area		

To select the pollutants that you want to analyze, select 'Pollutants' from the main menu. Then check the pollutants that you want to analyze in the Pollutant Selection window.

Note: Particulate Solids is always selected.

WinSLAMM Data File: [C:\Program Files\WinSLAMM\new mdr.dat]

File Land Use Pollutants Tools Run Utilities Help

New...
Open...
Save...
Save As...
Save As Earlier Version . . .
Save Input Data . . .
Output Options...

P	O	S	B	Source Area Parameters
				Entered
				Entered
				Version 9.3
				Version 9.2
				Version 9.1

C:\Program Files\WinSLAMM\new mdr.dat
C:\WinSLAMM\Testing\y 9.4.0\06 Biofilter\1 ac Commercial at DS.dat
C:\WinSLAMM\Testing\y 9.4.0\06 Biofilter\1 ac Commercial at Outfall.dat
C:\WinSLAMM\Testing\y 9.3.3\Street Cleaning\SLU Files Madison\SLU Commercial Downtown Silt.dat

Exit

Current File Status

Current File Data Entered

Land Use Areas

Residential Area: 100.00 Acres
Institutional Area: 0.00 Acres
Commercial Area: 0.00 Acres
Industrial Area: 0.00 Acres
Other Urban Area: 0.00 Acres
Freeway Area: 0.00 Acres
Total Area: 100.00 Acres

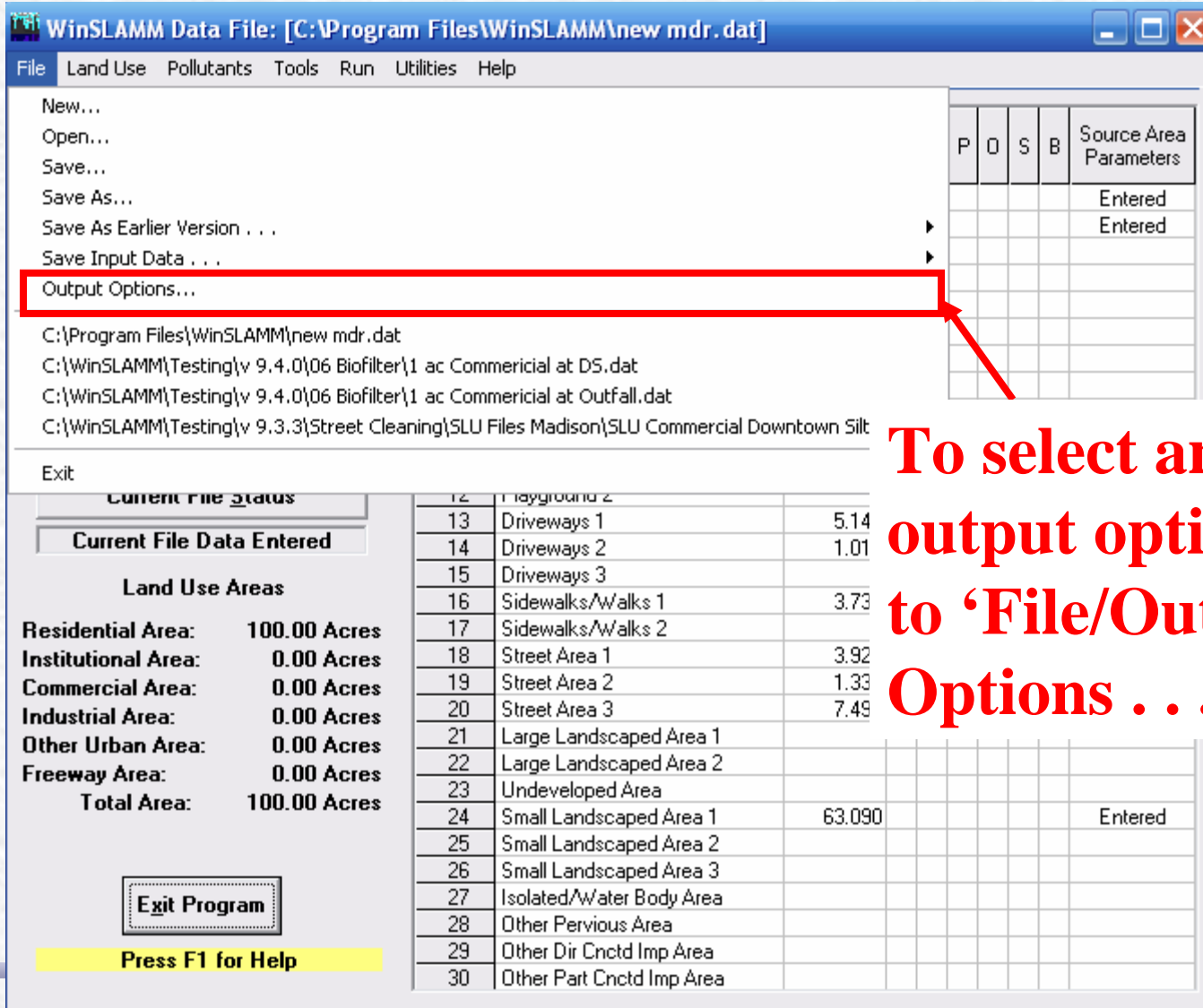
Exit Program

Press F1 for Help

12	Playground 2	
13	Driveways 1	5.14
14	Driveways 2	1.01
15	Driveways 3	
16	Sidewalks/Walks 1	3.73
17	Sidewalks/Walks 2	
18	Street Area 1	3.92
19	Street Area 2	1.33
20	Street Area 3	7.49
21	Large Landscaped Area 1	
22	Large Landscaped Area 2	
23	Undeveloped Area	
24	Small Landscaped Area 1	63.09
25	Small Landscaped Area 2	
26	Small Landscaped Area 3	
27	Isolated/Water Body Area	
28	Other Pervious Area	
29	Other Dir Cnctd Imp Area	
30	Other Part Cnctd Imp Area	

To save and run the data file in an earlier version, Select 'File', then 'Save As Earlier Version...', then select the desired version.

File/Output Options



WinSLAMM Data File: [C:\Program Files\WinSLAMM\new mdr.dat]

File Land Use Pollutants Tools Run Utilities Help

New...
Open...
Save...
Save As...
Save As Earlier Version . . .
Save Input Data . . .
Output Options...
C:\Program Files\WinSLAMM\new mdr.dat
C:\WinSLAMM\Testing\y 9.4.0\06 Biofilter\1 ac Commercial at DS.dat
C:\WinSLAMM\Testing\y 9.4.0\06 Biofilter\1 ac Commercial at Outfall.dat
C:\WinSLAMM\Testing\y 9.3.3\Street Cleaning\SLU Files Madison\SLU Commercial Downtown Silt

Exit

Current File Status					
Current File Data Entered					
Land Use Areas					
Residential Area:	100.00 Acres	12	Playground 2		
Institutional Area:	0.00 Acres	13	Driveways 1	5.14	
Commercial Area:	0.00 Acres	14	Driveways 2	1.01	
Industrial Area:	0.00 Acres	15	Driveways 3		
Other Urban Area:	0.00 Acres	16	Sidewalks/Walks 1	3.73	
Freeway Area:	0.00 Acres	17	Sidewalks/Walks 2		
Total Area:	100.00 Acres	18	Street Area 1	3.92	
		19	Street Area 2	1.33	
		20	Street Area 3	7.49	
		21	Large Landscaped Area 1		
		22	Large Landscaped Area 2		
		23	Undeveloped Area		
		24	Small Landscaped Area 1	63.090	Entered
		25	Small Landscaped Area 2		
		26	Small Landscaped Area 3		
		27	Isolated/Water Body Area		
		28	Other Pervious Area		
		29	Other Dir Cnctd Imp Area		
		30	Other Part Cnctd Imp Area		

Exit Program

Press F1 for Help

To select an output option, go to ‘File/Output Options . . .’

Output Format Options

Output Format Options

1. Source Areas by Land Use for Each Rain - Complete Printout

2. Source Area Totals and Outfall Summaries

3. Outfall Data Only for Each Rain

4. Outfall Summaries Only

5. One Line per Event Runoff and Flow Summary

6. Continuous Hydrograph With 6 Minute Time Increments

7. Continuous Hydrograph With 15 Minute Time Increments

8. Continuous Hydrograph With 60 Minute Time Increments

Water Balance Summary of All Detention Ponds

Save Outfall Runoff and Particulate Loading for WinDETPOND Analysis

Save Model Output for Input into CE-QUAL-RIV1

File Name

There are Eight Output Options, as well as:

- **Additional information about wet detention pond performance,**
- **An option to create input data for a WinDETPOND analysis, and**
- **An option to save the model output for input into the CE-QUAL-RIV1 model.**

Execute the Program

The screenshot shows the WinSLAMM software interface. The title bar reads "WinSLAMM Data File: [C:\Program Files\WinSLAMM\new mdr.dat]". The menu bar includes "File", "Land Use", "Pollutants", "Tools", "Run", "Utilities", and "Help". The "Run" menu is open, showing "Calculation Module..." and "Run Batch Editor...". A red arrow points to the "Run" menu. A dialog box titled "Execute Program" is overlaid on the main window, with three buttons: "Save File and Execute" (highlighted with a red box), "Save File with a Different Name and Execute", and "Cancel Program Execution".

Select Run/Calculation Module

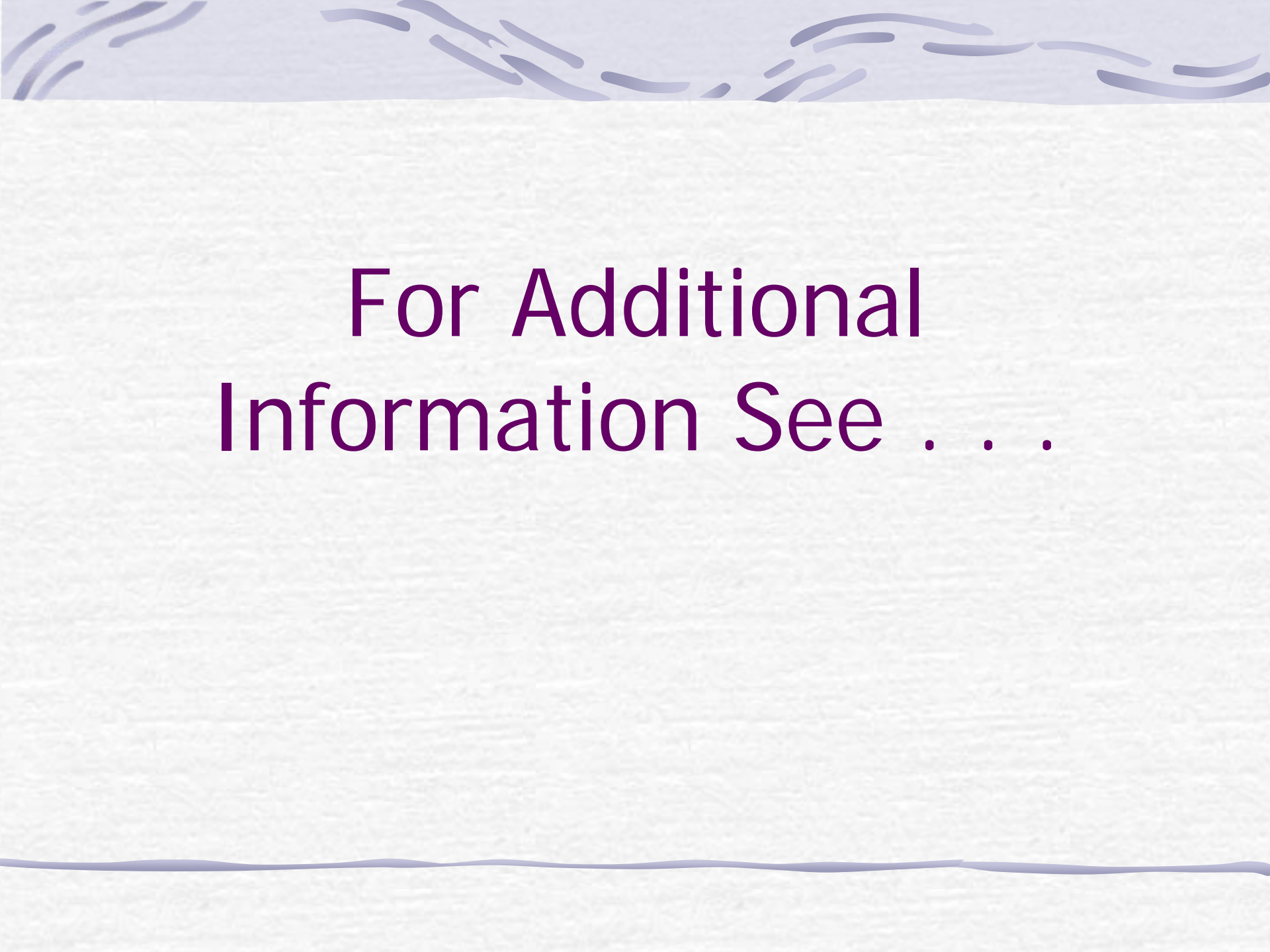
No.	Source Area	Area (acres)	I	W	P	O	S	B	Area Parameters
1	Roofs 1	2.06							Entered
2	Roofs 2	12.23							Entered
20	Street Area 3	7.49					S		Entered
21	Large Landscaped Area 1						S		Entered
22	Large Landscaped Area 2						S		Entered
23	Undeveloped Area								Entered

Execute Program

- Save File and Execute
- Save File with a Different Name and Execute
- Cancel Program Execution

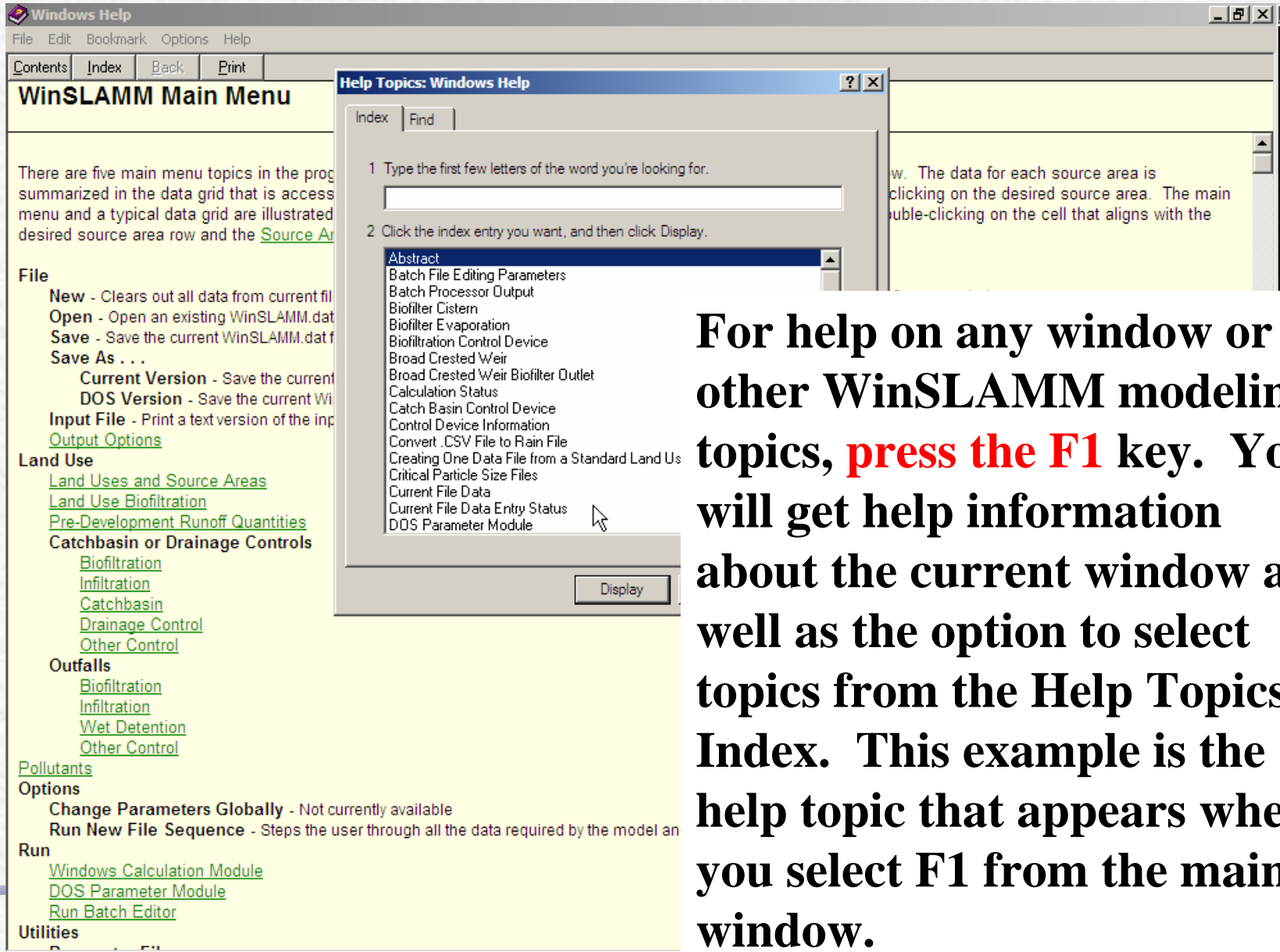
Select 'Save File and Execute' to run the *.dat file.

If you want to rename the file before you run it, select 'Save File with a Different Name and Execute'.



For Additional
Information See . . .

The Context-Sensitive Help in the Program



For help on any window or on other WinSLAMM modeling topics, **press the F1 key. You will get help information about the current window as well as the option to select topics from the Help Topics Index. This example is the help topic that appears when you select F1 from the main window.**

Model Documentation Included on the CD

- WinSLAMM Introduction and Basics
- Integration of Water Quality and Design Objectives
- Sources of Stormwater Pollutants
- Stormwater Quality Controls in WinSLAMM
- Using SLAMM
- Biofiltration Example
- Detention Pond Design
- National Stormwater Quality Database (NSQD, version 1.1)