Module 4: WinSLAMM v 9.1 Control Practice Cost Analysis

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We will cover . . .

- Cost Analysis Overview
- Sources of Cost Data
- Entering Cost Data
- Running the model with Cost Data and Reviewing Cost Output

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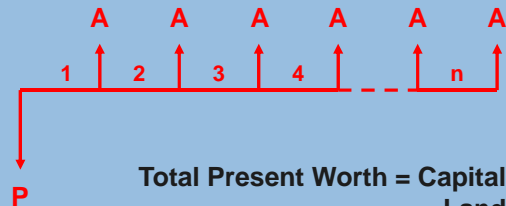## Cost Analysis Overview

What Does the Cost Analysis Program Do?

- Calculates the cost of the control practices listed in a model run
- Allows you to compare the cost of different sets of practices
- Provides the option of applying either pre-determined costs or user-defined costs
- Doesn't evaluate the cost reductions due to the use of control practices, ie, no asphalt pavement reduction determined if porous pavement is used. The separate cost spreadsheet calculates the basic drainage system costs for comparison though.
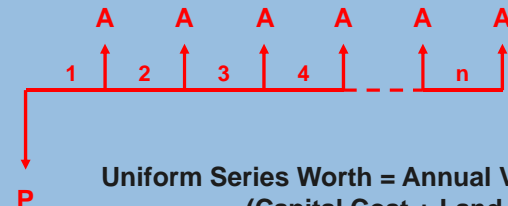
Cost Analysis Overview

How are the Cost Values Normalized?

A A A A A A

1 2 3 4 n

P

**Total Present Worth = Capital Cost +
Land Cost +
Present Worth of
Annual Maintenance Cost**

Cost Analysis Overview

How are the Cost Values Normalized?

A A A A A A

1 2 3 4 n

P

**Uniform Series Worth = Annual Value of
(Capital Cost + Land Cost) +
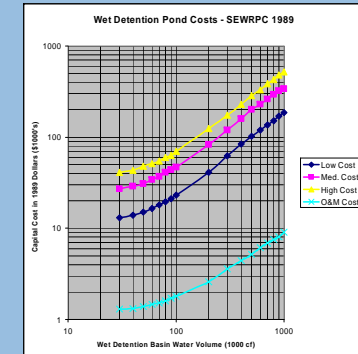Annual Maintenance Cost**

Cost Analysis Overview

What is the General Cost Evaluation Process?

➢ Edit and Save the Cost Template.csv File

➢ Select the Cost Data File for a Model Run

➢ Run the Program

➢ Review the Cost Output

We will cover . . .

➢ Cost Analysis Overview

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Sources of Cost Data

Construction Cost Index by City
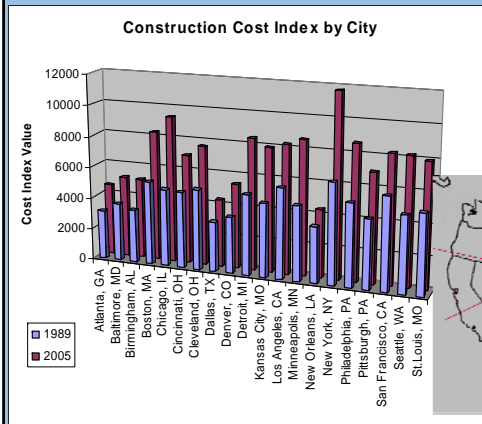
- ➢ Pre-Determined Costs
  - Cost Report
  - Costs Updated Using ENR Cost Indices
  - Cost Indices Available for 20 Cities
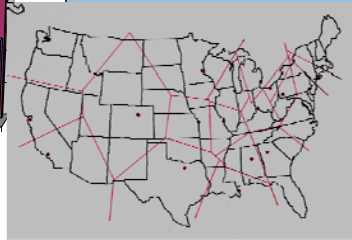
Sources of Cost Data

- ➢ Pre-Determined Costs
  - Costs Available for –
    - Wet Detention
    - Porous Pavement
    - Grass Swales
    - Street Cleaning
    - Catchbasins
    - Infiltration Trenches

Wet Detention Pond Costs - SEWRPC 1989

Sources of Cost Data

- ➢ User-Defined Costs for Each Practice
  - Enter Items that Define the Practice
  - Select Unit
  - Enter Cost per Unit
  - Enter Quantity
  - Program Calculates Cost
- ➢ Program Determines Total Unit Cost
- ➢ Enter Routine Maintenance Cost

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Edit and Save the Cost Template.csv File

- ➤ On the Summary Data Page
  - Enter project life and interest rate information
  - Enter Land Costs
  - Select Cost Index
- ➤ For Each Control Practice
  - Select either Pre-Determined or User-Defined Costs
  - For Pre-Determined Costs, select Cost Range
  - For User-Defined Costs, enter Cost Data
  - Enter Land Use Multiplier
- ➤ Re-name and Save Cost Data File

Edit and Save the Cost Template.csv File

From the Main Menu go to the Options/Access Cost Data Summary Tab . . .
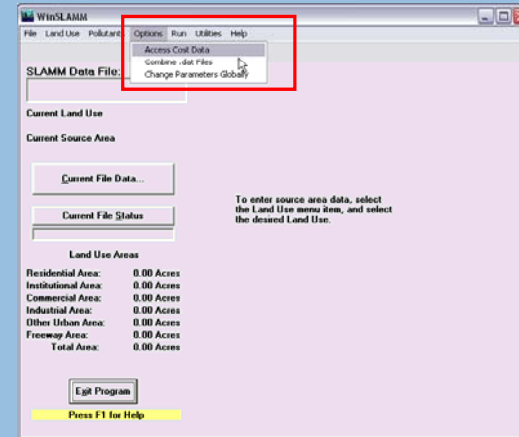
Edit and Save the Cost Template.csv File
Summary Data Tab
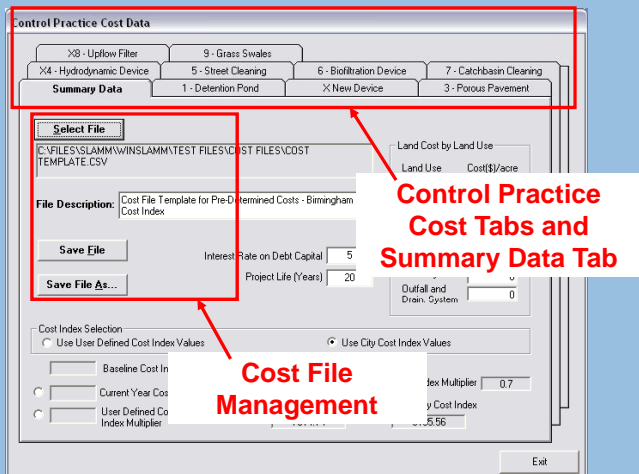
Control Practice Cost Tabs and Summary Data Tab

Cost File Management

Edit and Save the Cost Template.csv File
Summary Data Tab

Land Use Costs

Interest Rate and Project Life

Cost Index Selection
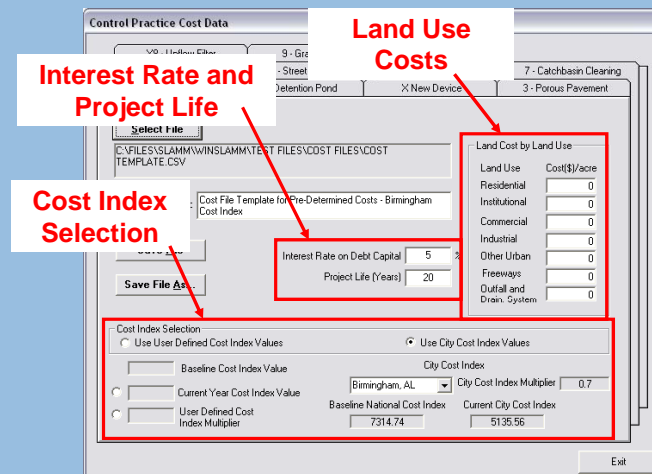
Edit and Save the Cost Template.csv File

Wet Detention Pond Cost Data

Pre-Determined Cost Table

Pre-Determined Capital Cost Range

Edit and Save the Cost Template.csv File

Wet Detention Pond Cost Data

User-Defined Cost Table

Total Unit Cost per 1000 cubic feet

Maintenance Cost Data
- Sediment Removal Costs
- Routine Maintenance Cost

Land Area Multiplier

Edit and Save the Cost Template.csv File

Porous Pavement Cost Data

Pre-Determined Cost Table

Pre-Determined Capital Cost Range

Edit and Save the Cost Template.csv File

Porous Pavement Cost Data

User-Defined Cost Table

Total Unit Cost per square foot

Maintenance Cost Data
- Routine Maintenance Cost

Land Area Multiplier

Edit and Save the Cost Template.csv File
Street Cleaning Cost Data

Edit and Save the Cost Template.csv File
Street Cleaning Cost Data

Edit and Save the Cost Template.csv File
Biofiltration Cost Data

Edit and Save the Cost Template.csv File
Biofiltration Cost Data

Edit and Save the Cost Template.csv File
Catchbasin Cleaning Cost Data

Pre-Determined Cost Data

Pre-Determined Capital Cost Range

Edit and Save the Cost Template.csv File
Catchbasin Cleaning Cost Data

User-Defined Cost Table

Total Unit Cost per unit

Maintenance Cost Data
- Routine Maintenance Cost

Edit and Save the Cost Template.csv File
Grass Swale Cost Data

Pre-Determined Cost Tables

Edit and Save the Cost Template.csv File
Grass Swale Cost Data

User-Defined Cost Table

Total Unit Cost per foot

Maintenance Cost Data
- Routine Maintenance Cost

Land Area Multiplier

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- ➢ **Running the Model with Cost Data and Reviewing Cost Output**

Two Types of Cost Output

1. Capital, Land, and Maintenance Costs on the Summary Tab of a WinSLAMM Model Run
2. Capital, Land, and Maintenance Costs included with the output when you run a set of .dat files using the Batch Processor

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1. Output on a Model Run Summary Tab

Enter the Cost Data File Name in the Current File Data Window

1. Output on a Model Run Summary Tab

Total Control Practice Costs

2. Output from a Set of .dat Files

Enter the Cost Data File Name by checking the box and pressing the 'Select Cost Data File' Window
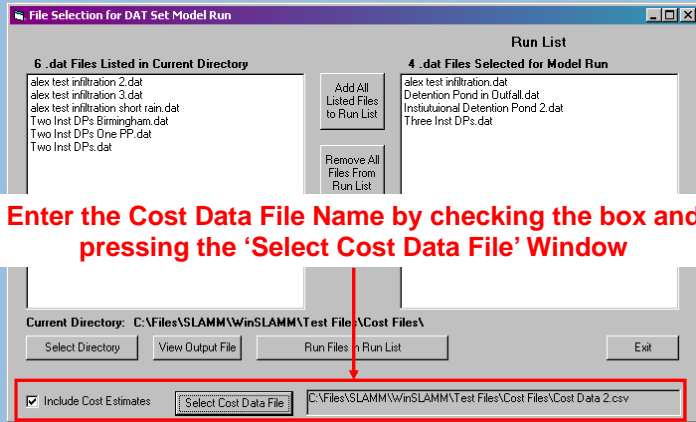
2. Output from a Set of .dat Files

Import the output file 'DATSetOutput.CSV' into Excel

Cost Output for each .dat file

2. Output from a Set of .dat Files

Import the output file 'DATSetOutputCostDetail.CSV' into Excel

Cost Information for each control practice

2. Output from a Set of .dat Files

Import the output file 'DATSetOutputCostDetail.CSV' into Excel

Additional Detention Pond Sediment and Biofilter Volume Information

2. Output from a Set of .dat Files

Import the output file 'DATSetOutputCostDetail.CSV' into Excel

Present Value and Annual Value Cost Information

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