**EFH2 Overview - Read Me First**

This Visual Basic program supports the procedures for estimating surface runoff and peak discharge from small rural watersheds for use in designing soil and water conservation measures. Computation procedures described in the Engineering Field Handbook, Chapter 2 (EFH2) for estimating runoff and peak discharge are included in this program.

Data needed to use this procedure include the following watershed characteristics:

* Drainage area
* Curve number
* Watershed length
* Watershed slope

and rainfall amount and distribution.

Surface runoff is the volume of excess water that runs off a drainage area. Peak discharge is the peak rate of runoff for a given rainfall.

This peak discharge determination method applies when the following conditions exist:

* Watershed is accurately represented by a single curve number between 40 and 98.
* Watershed area is between 1 and 2000 acres.
* Watershed hydraulic length is between 200 and 26000 feet.
* Average watershed slope is between 0.5 and 64 percent.
* No valley or reservoir routing is required.
* Urban land use within the watershed does not exceed 10%.

The watershed drainage area must be greater than 1.0 acre and less than 2,000 acres. If the drainage area is outside these limits, another procedure such as TR-55 or TR-20 Project Formulation – Hydrology, should be used to estimate peak discharge.

The percentage of urban land use within the watershed can be calculated for percent of land use greater than 10%, when data entered is either in percentage or acres. This calculation is present in the optional CN Calculator (RCN tab).

If you are familiar with other Microsoft Windows applications, then learning to use EFH2 will be very straightforward. EFH2 uses common Windows conventions including toolbars, lists, and multiple windows. EFH2 uses many of the features of Windows.

In addition to this Introduction screen, three data entry screens are included:

a. **Basic Data** screen to enter data describing the location of the drainage area and the description of the drainage area.

b. **Rainfall/Discharge Data** screen to enter rainfall data including Rainfall Type and Storm Data (Frequency and 24-HR Rain for each storm). Determination can be made for up to 7 storms per run. Frequency and Rainfall data may be populated manually or automatically retrieved from the Rainfall\_Data.xlsx file for your state.

c. **RCN (Runoff Curve Numbers) – Optional CN Calculation**

RCN data can be entered for 5 different types of Cover Description including:

* Urban Area - Fully Developed Urban Areas (Vegetation Established)
* Developing Urban - Developing Urban Area (No Vegetation)
* Cultivated Agriculture – Cultivated Agricultural Lands
* Other Agriculture – Other Agricultural Lands
* Arid Rangeland – Arid and Semiarid Rangelands