FOR 451

Introduction to FVS

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Intro to FVS

- Predicts forest stand dynamics
  - Extensively used in the US
  - Summarize current stand conditions
  - Predict future stand conditions
  - Update inventory statistics
- This program is <u>not </u>restricted to timber management
  - Effect of management practices on stand structure and composition
  - Wildlife habitat
  - Estimate hazard ratings for insect, diseases and fire
  - Predict losses from fire, or insect and disease outbreaks

Getting FVS

- http://www.fs.fed.us/fmsc/fvs/

The Parts of FVS

- Presuppose –
  - reads inventory data from various sources and produces the suppose data files
- Data translators –
  - reads ASCII data files and produce data files, stand lists and locations needed by suppose
- Suppose –
  - a graphical user interface for FVS
- FVS –
  - the Forest Vegetation Simulator growth model
- Post-processors
  - are programs which read FVS output files and produce reports
- SVS
  - The stand visualization system, takes an FVS output file and creates a drawing of how the stand might look on the ground

Data requirements of FVS

- Site Conditions
  - Slope
  - Aspect
  - Elevation
  - Habitat type
  - Location
  - Site Index
  - SDI or Basal area Maximums

Data requirements of FVS

- Inventory design
  - Basal area factor
  - Fixed plot size
  - Critical diameters for multiple fixed plots
  - Number of inventory plots

Data requirements of FVS

- Tree variables
  - Plot identification
  - Species
  - Current DBH

  - Other variables include:
    - Height
    - Crown Ratio
    - Tree damage and severity
    - Etc...

Managing files in FVS

- ## Location Files
  - ### Information about the lists of stands and or inventory plots
  - ### Has the extension .loc
- ## Stand List File
  - ### Contain the stand level information and inventory methods for each stand in the project
  - ### Has the extension .slf
- ## Tree Data Input File
 - ### Each plot or stand has its own tree data file where each tree has an entry

Stumbling around in FVS

Entering data into FVS

Entering Data

- Creating the suppose location file
  - Open suppose
  - Click options and select edit locations file
    - Click Ok when warning button comes up
  - Click the browse button and navigate to the FVSData folder
  - Create a new folder named UIEF
  - Enter suppose.loc in the file name field

Creating the suppose location file
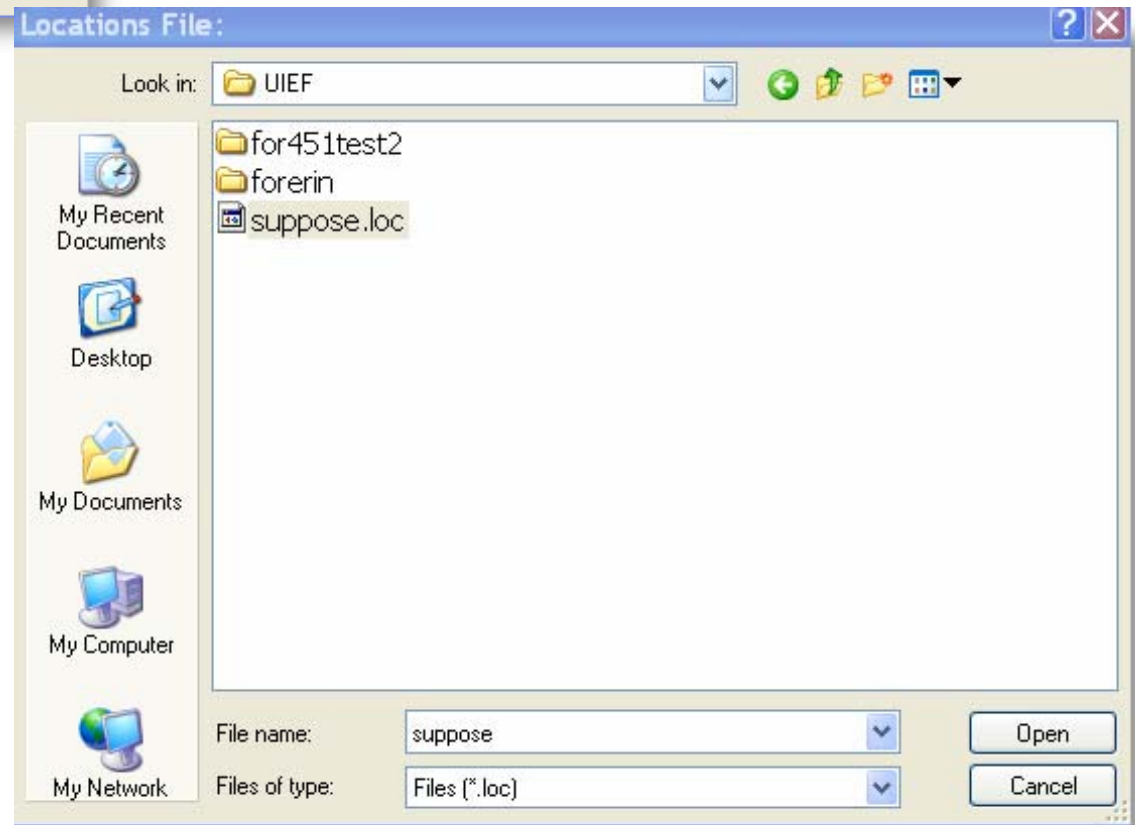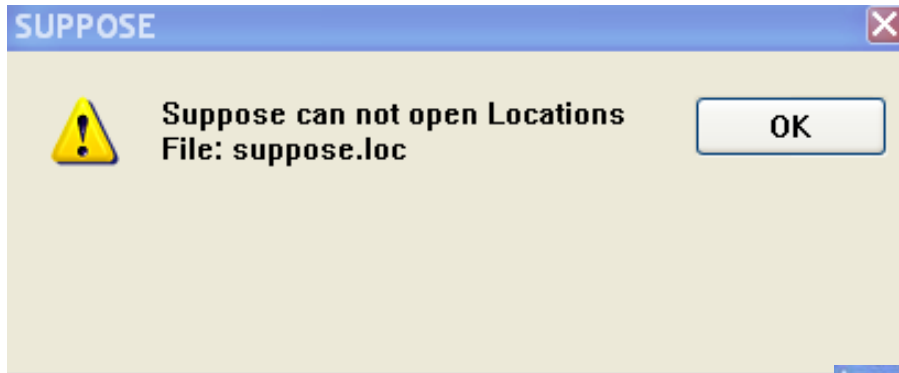
Creating the suppose location file

- Click open
  - You will get another warning window just click OK
- In the edit Locations File Window enter the Location Name: FOR_451_07
- Enter the Stand List File for45107
- Click save than ok
  - Another warning window will pop up click ok in both cases

Creating the suppose location file

Creating the stand list file

- In suppose click on file in the menu bar
- Select open locations file
- Go to FVSData\uief and open the suppose.loc file we just created
- From the Suppose window menu select options and than select edit stand list files
- Set the stand list file to for45107
  - NOTE this needs to be exactly as we entered it befor

Creating the stand list file

- Enter all data applicable to your stand
  - Stand ID
  - FVS tree file
    - typically this is similar to the stand id plus a .fvs extension
  - FVS Variant code
    - ie = Inland Empire (determines the variant that will be used)
  - Inventory Year
  - Location Code
  - Habitat type
  - Aspect
  - Slope
  - Elevation
    - entered in 100 of feet (3000 feet = 30)
  - BAF
  - Inverse of fixed plot size
  - Break Point diameter
  - Number of plots
  - Group codes

Creating the stand list file

Creating the stand list file

- Once you have entered the data and double checked it click save and than OK

Creating the FVS Tree Data File

- From the suppose window select options than edit FVS Tree Data
- Enter the FVS tree data file name (exactly as you entered in the stand list file)
- Enter the variant code
- Then enter all the information for each tree

Creating the FVS Tree Data File

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Creating the FVS Tree Data File

- Once you are done entering the first tree click the new button and repeat the process

- After all your data has been entered click save and then ok

- Notes:
  - All tree records need to have species and DBH but height, and crown ratio are recommended
  - Stand variables should include habitat type, aspect, slope, elevation, site index and the inventory methods are also recommended

You can now run your data in FVS