1. Import Treatment Data from Previous Project
   1. Navigate to the project directory folder /db and open *fvsmaster.mdb*
   2. Copy the *rx* table from the project you wish to copy the treatment packages from into the blank *rx* table in the project you are copying to
   3. Repeat for the *rxpackage* tables
   4. Repeat for *rx\_harvest\_cost\_columns* tables
2. Run Predispose
   1. Download and install Predispose from <https://www.fs.fed.us/fvs/software/archive.php>
   2. Predispose should automatically install to your FVSbin folder
   3. Open Predispose. The **<Suppose.loc>** radio button will automatically be selected. Select the **<Initiation Source>** button
   4. In the window that opens, navigate to a variant folder (any variant; this should be under *projectfolder*\fvs\data)
   5. Select the *variantname*.loc file (e.g. CA.loc). The *variantname*.loc file will have been created by BioSum, at the same time as the .SLF and .FVS text files containing FVS input data, as part of the FVS Input Data task within BioSum’s FVS module
   6. Select **<Ok>**. When the process is complete, a window will appear saying *Predispose.mdb* has been created. This file will be located in the variant folder.
   7. Predispose will automatically close.
   8. Repeat steps c-g for each variant in the BioSum project.
3. Update FVS\_GroupAddFilesAndKeywords table in *Predispose.mdb*
   1. Navigate to the *Presidpose.mdb file in the projectfolder\fvs\data\{variantname}* folder and open it by double-clicking
   2. Open the FVS\_GroupAddFilesAndKeywords table by double-clicking
   3. In the “Groups” field, replace “All\_Stands” with “All”
4. Populate “County” values in *Predispose.mdb*
   1. Navigate to the *Presidpose.mdb file in the projectfolder\fvs\data\{variantname}* folder and open it by double-clicking
   2. Right-click on one of the tables in the *Predispose.mdb* file and select **<Import><Accessdatabase>**
   3. In the window that appears, navigate to the *projectfolder\db* directory and select *master.mdb*
   4. In the window that appears, select the *cond* table and select **<OK>** from the buttons at the right. A window will appear saying the objects were imported successfully. Close the window.
   5. From the top toolbar menu, select **<Create><Query Design>**
   6. In the window that appears, select the *cond* and *FVS\_StandInit* tables.
   7. A window should open up for each table. From the *cond* table window, click on the *biosum\_cond\_id* field and drag it to the *Stand\_ID* field in the *FVS\_StandInit* table window. A black line should appear connecting them.
   8. In the top toolbar menu, under the **<Design>** tab, select **<Update>**
   9. Enter information such that it matches the figure below
   10. Repeat steps a-i for each variant

|  |
| --- |
|  |
| Figure X. Query to populate “County” field in *FVS\_Standinit* table in *Predispose.mdb* with *owncd* values from *master.mdb* |

1. Run “fixPredispose” script on *Predispose.mdb*
   1. Open *Predispose.mdb* in Microsoft Access by double-clicking on the file name. This should be located in the variant folder under *projectfolder*\fvs\data.
   2. Select the **<Database Tools>** toolbar at the top of the Access window
   3. In the **<Macro>** section, select **<Visual Basic>**
   4. In the new window that opens, select the **<Insert Module>** button. A new window will open with the text “Option Compare Database” as the first line
   5. Navigate to the “scripts” directory in the project fvs folder. This should be located under *projectfolder*\fvs\scripts.
   6. Copy and paste text from the “SCRIPT\_VB\_PREDISPOSE\_FIXTREEID.txt” file into the **Microsoft Visual Basic for Applications** window so the text in the window reads the same as in the .txt file (i.e. copy over any pre-existing text)
   7. In the **Properties** window to the left, select the text where it says “Module 1” and write over it to name the module as “FIXTREEID”
      1. If the Properties window does not appear, navigate to the top menu bar and select **<View>**, **<Properties Window>**
   8. Select **<File>** and **<Save>** the module you just created (to deselect a module, click it again)
   9. In the top menu bar, select **<Run>**, **<Run Macro>**. Select the “fixPredispose” module.
   10. A window will appear with the text “I am called.” Select **<OK>**.
   11. Additional windows will appear stating “You are about to update #### row(s).” Select **<Yes>** for each window that appears.
   12. Close the **Microsoft Visual Basic for Applications** window.
   13. Save the *Predispose.mdb* file by selecting **<File> <Save>**.
   14. Close *Predispose.mdb*.
   15. Repeat steps a-o for each variant in the BioSum project.
2. Create a blank Access database and name it *FVSOUT\_forBY.mdb*
   1. Open Microsoft Access
   2. Select **<Blank database>**
   3. Navigate to **<File>** and select **<Save & Publish>**
   4. From the menu to the right, select **<Access 2002-2003 Database (\*mdb)>**
   5. A dialog will open saying “All open objects must be closed prior to completing this operation.” Make sure all other items are saved, and select **<Yes.>**
   6. Save the file to a variant directory (any variant; this should be under *projectfolder*\fvs\data) as *FVSOUT\_forBY.mdb*)
3. Create the “FM\_BY” module
   1. Select the **<Database Tools>** toolbar at the top of the Access window
   2. In the **<Macro>** section, select **<Visual Basic>**
   3. In the new window that opens, select the **<Insert Module>** button. A new window will open with the text “Option Compare Database” as the first line
   4. Navigate to the “FVSout\_for\_BY.txt” file in windows explorer
   5. Copy and paste text from the “FVSout\_for\_BY.txt” into the **Microsoft Visual Basic for Applications – FVSOUT\_forBY** window so the text in the window reads the same as in the .txt file
   6. In the **Properties** window to the left, select the text where it says “Module 1” and write over it to name the module as “FM\_BY”
      1. If the Properties window does not appear, navigate to the top menu bar and select **<View>**, **<Properties Window>**

|  |
| --- |
|  |
| Figure X. Module creation window for the Fuel Model assignment script |

* 1. Select **<File>** and select the module you just created to be saved (to deselect a module, click it again)

1. Copy the *FVSOUT\_forBY.mdb* file to all other variants (if applicable)
   1. Navigate to that variant folder in the finder (this should be under *projectfolder*\fvs\data)
   2. Right click on the *FVSOUT\_forBY.mdb* file, and select **<Copy>**
   3. Navigate back to the other variant files and paste the *FVSOUT\_forBY.mdb* file in each variant folder
2. Run the FVSout\_BY.KCP file through FVS – Suppose
   1. Open FVS – Suppose
   2. On the top tool bar select **<File> <Select Locations File>.**
   3. Navigate to the BioSum project files folder. Then go to the “fvs\data\*variant*” folder and select the *variantname*.loc file (e.g. CA.loc)
   4. After selecting the locations file, the **Select Simulation Stand** window will open. By default, the **<Pick Locations First>** radio button is selected. Click on the two-letter variant code listed in the left window pane. A list of all available stands will appear in the right window pane, as in Figure 4.20. Add all stands to the simulation using the **<All Stands>** button on the lower right of the window or use pre-defined groups to filter which stands are added. Finalize selection by clicking **<Add {count} Stands>.** **<Close>** the window.
   5. Before proceeding, verify that the Fire and Fuels Extension (FFE) is turned on for the simulation. From the SUPPOSE toolbar menu, select **<Simulation Preparation>.** Click **<Select Variant and Extensions>**. From the list of FVS extensions, highlight **<Fire and Fuel Extension>** if not already selected. Click **<Close>** when done.
   6. Now that all stands have been selected, the next step is to add the package and related .kcp files to the current simulation. The **Simulation file contents** window lists all stands in the simulation. Clicking on any stand will expand the list to show all FVS keywords that will be applied to this stand during the simulation. This is where the .kcp file will be “attached” in the simulation.
   7. Click **<Insert from file>**. Browse to the folder where .kcp files have been saved and select the .kcp file you wish to include for this simulation (in this case, FVSOUT\_forBY.KCP). As soon as the .kcp file has been added, it should be displayed in the window. By default, FVS applies all keywords within the .kcp file to all plots selected for this simulation.
   8. FVS is now ready to run the simulation. From the **Main** window, click on **<Run Simulation>.**
   9. Name the .key file “FVSOUT\_forBY.key” and click **<Save>.** Click **<Run>** from the pop-up window to begin the simulation.
   10. When the simulation is complete, the DOS window will close and all output data will be exported to the Access database file defined in the .kcp file, assuming that a database of that name already exists and contains no FVS output tables (such as SUMMARY, POTFIRE, etc.) before the simulation executes.
   11. Check the *FVSOUT\_forBY.mdb* file
       1. Navigate to the variant folder within your project (this should be under *projectfolder*\fvs\data)
       2. Open the *FVSOUT\_forBY.mdb* file
       3. Four tables should appear:
          1. FVS\_Cases
          2. FVS\_PotFire
          3. FVS\_StrClass
          4. FVS\_Summary
   12. Repeat this procedure for each variant.
   13. When complete, the database files are stored in the corresponding “fvs\data\*variant*” folder
3. Import the *FVS\_StandInit* table from the *Predispose.mdb* database to the *FVSOUT\_forBY.mdb* database
   1. Navigate to the variant folder within your project (this should be under *projectfolder*\fvs\data)
   2. Open the *FVSOUT\_forBY.mdb* file
   3. Right-click one of the tables in the file and select **<Import>**, **<Access Database>.**
   4. In the window that opens, navigate to the variant folder (this should be under *projectfolder*\fvs\data)
   5. Select the *Predispose.mdb* file and select **<Open>**. In the next window, select “OK.”
   6. In the window that appears, select the *FVS\_StandInit* table and select **<OK>** from the buttons at the right. A window will appear saying the objects were imported successfully. Close the window.
   7. The *FVS\_StandInit* table should now appear in your database.

|  |
| --- |
|  |
| Figure X. Import *FVS\_StandInit* table |

1. Add a NUMBER field “FM\_BY” to the *FVSOUT\_forBY.mdb* *FVS\_StandInit* table
   1. Open the *FVS\_StandInit* table by double-clicking on the table name
   2. Navigate to the tool bar menu at the top and select **<Table Tools>**, **<Fields>**
   3. In the **<Add & Delete>** section, select **<Number>**. A new column will appear in the table with the column name “Field 1”

|  |
| --- |
|  |
| Figure X. Adding a number field to the *FVS\_StandInit* Table |

* 1. Change the field name to “FM\_BY”
     1. If the column header does not let you type in it, right click on the column header and select **<Rename Field>**
  2. Save the *FVSOUT\_forBY.mdb* file.

1. Run the “FM\_BY” module
   1. Navigate to the tool bar menu at the top and select **<Database Tools>**
   2. In the **<Macro>** section, click **<Visual Basic>**
   3. A new window should appear with the “FM\_BY” module listed. If this does not appear, see Section 3 above.
   4. In the toolbar menu in the **Microsoft Visual Basic for Applications** window, click **<Run>**, then select **<Run Sub/User Form>**
   5. A window will appear stating how many rows will be updated. Select **<OK>** on this window and any additional windows that appear.
      1. If all the windows show 0 rows being updated, there is an error in your KCP file.
   6. Save the new *FVSOUT\_forBY.mdb* file.
   7. Close the file.
2. Replace the *FVS\_StandInit* table in the Predispose.mdb with the updated *FVS\_StandInit* table in the *FVSOUT\_forBY.mdb* file.
   1. Navigate to the variant folder within your project (this should be under *projectfolder*\fvs\data)
   2. Open the *Predispose.mdb* file.
   3. Right-click the *FVS\_StandInit* table and select **<Delete>**. Select **<Yes>** in the window that appears.
   4. Right-click one of the remaining tables and select **<Import>**, **<Access Database>**
   5. In the window that opens, navigate to the variant folder (this should be under *projectfolder*\fvs\data)
   6. Select the *FVSOUT\_forBY.mdb* file and select **<Open>**. In the next window, select “OK.”
   7. In the window that appears, select the *FVS\_StandInit* table and select **<OK>** from the buttons at the right. A window will appear saying the objects were imported successfully. Close the window.
   8. The *FVS\_StandInit* table should now appear in your database with a column labeled “FM\_BY” that is populated with the assigned fuel model.
      1. Stands may have blank values if there are no non-zero Biomass or TPA values (this can be checked by looking up the Stand\_ID values for blank rows in the FVS\_Summary table in the *FVSOUT\_forBY.mdb* file).
   9. Save the *Predispose.mdb* file.
   10. Close the file
3. Repeat steps 8-12 for each variant
4. Run the FVSOUT\_variant\_POTFIRE\_BaseYr.KCP file (created by BioSum) through FVS - Suppose.
   1. Open FVS – Suppose
   2. On the top tool bar select **<File> <Select Locations File>.**
   3. Navigate to the BioSum project files folder. Then go to the “fvs\data\*variant*” folder and select the **Predispose.loc** file (**NOTE**: Do not select the *variantname.loc* file)
   4. After selecting the locations file, the **Select Simulation Stand** window will open. By default, the **<Pick Locations First>** radio button is selected. Click on the two-letter variant code listed in the left window pane. A list of all available stands will appear in the right window pane, as in Figure 4.20. Add all stands to the simulation using the **<All Stands>** button on the lower right of the window or use pre-defined groups to filter which stands are added. Finalize selection by clicking **<Add {count} Stands>.** **<Close>** the window.
   5. Before proceeding, verify that the Fire and Fuels Extension (FFE) is turned on for the simulation. From the SUPPOSE toolbar menu, select **<Simulation Preparation>.** Click **<Select Variant and Extensions>**. From the list of FVS extensions, highlight **<Fire and Fuel Extension>** if not already selected. Click **<Close>** when done.
   6. Now that all stands have been selected, the next step is to add the package and related .kcp files to the current simulation. The **Simulation file contents** window lists all stands in the simulation. Clicking on any stand will expand the list to show all FVS keywords that will be applied to this stand during the simulation. This is where the .kcp file will be “attached” in the simulation.
   7. Click **<Insert from file>**. Browse to the folder where .kcp files have been saved and select the .kcp file you wish to include for this simulation (in this case, FVSOUT\_*variant*\_POTFIRE\_BaseYr.KCP). As soon as the .kcp file has been added, it should be displayed in the window. By default, FVS applies all keywords within the .kcp file to all plots selected for this simulation.
   8. FVS is now ready to run the simulation. From the **Main** window, click on **<Run Simulation>.**
   9. Name the .key file “FVSOUT\_*variant*\_POTFIRE\_BaseYr.key” and click **<Save>.** Click **<Run>** from the pop-up window to begin the simulation.
   10. When the simulation is complete, the DOS window will close and all output data will be exported to the Access database file defined in the .kcp file, assuming that a database of that name already exists and contains no FVS output tables (such as SUMMARY, POTFIRE, etc.) before the simulation executes.
       1. If the DOS window shows all zeros or your FVS\_Treelist table in the output package database are missing, see the question “Why does the Suppose interface have connection errors with Microsoft Access Databases in either Windows 7 or Windows 10 Operating Systems?” at <https://www.fs.fed.us/fvs/support/index.shtml#qa37> and install the drivers recommended for your system
   11. Check the *FVSOUT\_{variant}\_POTFIRE\_BaseYr.mdb* file
       1. Navigate to the variant folder within your project (this should be under *projectfolder*\fvs\data)
       2. Open the *FVSOUT\_{variant}\_POTFIRE\_BaseYr.mdb* file
       3. Two tables should appear:
          1. FVS\_Cases
          2. FVS\_PotFire
   12. Repeat this procedure for each variant.
   13. When complete, the database files are stored in the corresponding “fvs\data\*variant*” folder
5. Create SDI Max KCP
   1. Create an empty mdb database named *FVS\_SDImax\_out.accdb*.
   2. Open FVS – Suppose
   3. On the top tool bar select **<File> <Select Locations File>.**
   4. Navigate to the BioSum project files folder. Then go to the “fvs\data\*variant*” folder and select the **Predispose.loc** file (**NOTE**: Do not select the *variantname.loc* file)
   5. After selecting the locations file, the **Select Simulation Stand** window will open. By default, the **<Pick Locations First>** radio button is selected. Click on the two-letter variant code listed in the left window pane. A list of all available stands will appear in the right window pane, as in Figure 4.20. Add all stands to the simulation using the **<All Stands>** button on the lower right of the window or use pre-defined groups to filter which stands are added. Finalize selection by clicking **<Add {count} Stands>.** **<Close>** the window.
   6. Now that all stands have been selected, the next step is to add the package and related .kcp files to the current simulation. The **Simulation file contents** window lists all stands in the simulation. Clicking on any stand will expand the list to show all FVS keywords that will be applied to this stand during the simulation. This is where the .kcp file will be “attached” in the simulation.
   7. Click **<Insert from file>**. Browse to the folder where .kcp files have been saved and select the SDI.KCP file. As soon as the .kcp file has been added, it should be displayed in the window. By default, FVS applies all keywords within the .kcp file to all plots selected for this simulation.
   8. FVS is now ready to run the simulation. From the **Main** window, click on **<Run Simulation>.**
   9. Name the .key file *{variantname}\_SDImax.key* and click **<Save>.** Click **<Run>** from the pop-up window to begin the simulation.
   10. When the simulation is complete, the DOS window will close and all output data will be exported to the Access database file defined in the .kcp file, assuming that a database of that name already exists and contains no FVS output tables (such as SUMMARY, POTFIRE, etc.) before the simulation executes.
       1. If the DOS window shows all zeros or your FVS\_Treelist table in the output package database are missing, see the question “Why does the Suppose interface have connection errors with Microsoft Access Databases in either Windows 7 or Windows 10 Operating Systems?” at <https://www.fs.fed.us/fvs/support/index.shtml#qa37> and install the drivers recommended for your system
   11. Check the *FVS\_SDImax\_out.accdb* file
       1. Navigate to the variant folder within your project (this should be under *projectfolder*\fvs\data)
       2. Open the *FVS\_SDImax\_out.accdb* file
       3. Four tables should appear:
          1. FVS\_Cases
          2. FVS\_Compute
          3. FVS\_StrClass
          4. FVS\_Summary
   12. Export each table by right-clicking the table name and selecting **<Export>** from the drop down menu that appears. Select **<Text File>** as your export format.
   13. In the window that appears, select the **<Browse>** button and navigate to your variant folder, then select **<OK>**.
   14. In the **Export Text Wizard** window, make sure the radio button for **<Delimited>** is selected and select **<Next>**. On the next page, select the **<Comma>** radio button, and check the **<Include Field Names on First Row>** box. Then press **<Next>**. If the file you are exporting has the extension .txt, change it to .csv. Select **<Finish>.**
   15. Once you have all the tables exported, open R and run the SDImax2.R script. Follow the directions within the R script to create the variant SDImax KCP files.
   16. Repeat for each variant.
6. REPUTE/regen file process
7. BA\_pref file process?
8. Check your *Predispose.mdb* file is properly set up
   1. Before proceeding, navigate to the variant folder and open the *Predispose.mdb*
   2. Run these checks:
      1. *FVS\_StandInit* contains a “County” field that is populated.
         1. If values are not populated, go to step 4
      2. *FVS\_StandInit* contains a “FM\_BY” field that is populated.
         1. Some values may be blank. If all values are blank, go to steps 6-13
      3. *FVS\_TreeInit* values in the “TREE\_ID” field are 7 characters (e.g. 0001001).
         1. If not, go to step 5
      4. *FVS\_StandInit* “Inv\_Year” values are all 2007
         1. If not, go to step 5
      5. *FVS\_GroupAddFilesAndKeywords* has a “Groups” field with the value “All”
         1. If it reads “All\_Stands”, go to step 3
9. Run the package KCPs through FVS Suppose
   1. Open FVS – Suppose
   2. On the top tool bar select **<File> <Select Locations File>.**
   3. Navigate to the BioSum project files folder. Then go to the “fvs\data\*variant*” folder and select the **Predispose.loc** file (**NOTE**: Do not select the *variantname.loc* file)
   4. After selecting the locations file, the **Select Simulation Stand** window will open. By default, the **<Pick Locations First>** radio button is selected. Click on the two-letter variant code listed in the left window pane. A list of all available stands will appear in the right window pane, as in Figure 4.20. Add all stands to the simulation using the **<All Stands>** button on the lower right of the window or use pre-defined groups to filter which stands are added. Finalize selection by clicking **<Add {count} Stands>.** **<Close>** the window.
   5. Now that all stands have been selected, the next step is to add the package and related .kcp files to the current simulation. The **Simulation file contents** window lists all stands in the simulation. Clicking on any stand will expand the list to show all FVS keywords that will be applied to this stand during the simulation. This is where the .kcp file will be “attached” in the simulation.
   6. Click **<Insert from file>**. Browse to the folder where .kcp files have been saved and select the *{packagename}.KCP* file. As soon as the .kcp file has been added, it should be displayed in the window (see Figure X). By default, FVS applies all keywords within the .kcp file to all plots selected for this simulation.
      1. Make sure *{packagename}.KCP* is the first KCP file in the list
   7. Repeat the step above to add any other KCP files you wish to add (see Figure X for CEC example).
   8. FVS is now ready to run the simulation. From the **Main** window, click on **<Run Simulation>.**
   9. Name the .key file *{packagename}.key* and click **<Save>.** Click **<Cancel>** instead of **<Run>.** This will create the .bat and .key files you need to run the simulation, but will not start them running. This allows you to run the .bat files at a later date after necessary checks have been run.

|  |
| --- |
|  |
| Figure X. FVS – Suppose screen for running package KCP files along with BApref, regen, and SDImax |

1. Run the “key file test” R script according to the documentation within the script file.
2. Run the .bat files according to the documentation within the “combinebatfiles” script file.
3. Run the “postFVSqa” script according to the documentation within the script file.
4. Run the “MortCalc” R script according to the documentation within the script file.