**Plot FVS Variants help screen**

FVS simulations rely on equations (such as those that predict diameter and height growth) and computation code that differ among geographic areas, known as “variants” in FVS parlance. Surface fuel model assignment, site class calculation, mortality estimation, crown ratio and crown width parameters, and fuel moisture content assumptions are a few of the many other items that differ among variants. Thus it is very important that each plot, and the stands (conditions) that it contains be assigned to the variant in which it geographically resides. The *fiadb\_fvs\_variant* table in the *ref\_master* database contains the correct variant assignments for all plots in the FIA database in the states of CA, OR, WA, ID, MT and UT.

1. To assign the appropriate variant to plot records or to review the current assignments, select **<Plot FVS Variants>.**
2. The **Plot FVS** **Variants** window will appear, with a list of plots and their existing FVS variant assignment in a sienna-brown colored, editable column. This table can be browsed, sorted (indexed) or filtered, via functions available from the right click menu when right clicking while the cursor is placed in the desired column. However, it is easier to find cases of plots that lack a variant assignment by running an “audit” on the plot. Ignoring audits could result in unidentified issues that corrupt or invalidate the BioSum analysis.
3. To run an audit select the button labeled **<Check For Plots Without Variant Codes>,** which initiates a script that identifies plots without a variant assignment. A message box will indicate whether the audit passed or failed, and if it failed, those plots without variant assignments will appear in the table in the upper half of this task window, provided they exist in the fiafb\_fvs\_variant table in the database.
4. Select the records to be updated using the **<Check All>** button, or manually select individual plot records. After records are selected, update plot table using the **<Update Plot Records With FIADB FVS Variant Table>** button to automatically make variant assignments based on the values in the fiadb\_fvs\_variant table in the *ref\_master* database. To confirm that all plots have been assigned a variant, the audit can be re-run by selecting **<Check For Plots Without Variant Codes>**.
5. If plots exist outside the states for which the fiadb\_fvs\_variant table contains variant assignments, it will be necessary to correct NULL values manually.
6. Click **<Save>,** then **<Close>** to save the FVS variant assignments and exit the task window.

**Rx- Treatment List window help screen**

This window allows the analyst to define and label the silvicultural prescriptions/treatments (Rx) to be simulated in FVS. Treatments ultimately consist of a file of keywords and parameters provided to FVS to guide what happens at a particular time. Treatments may also include activities that take place in the stand that are not harvest *per se*, such as piling and burning or masticating harvest residues. Once treatments are defined, they can be assigned to one or more treatment packages, which are simply sequences of either the same or different prescriptions, implemented over 4 cycles. Note that some cycles in a package may have Rxs that are essentially “grow-only” and harvest no trees.

1. Define silvicultural treatments to be applied in FVS by clicking **<Rx>** to load the Rx task window.
2. For each treatment to be added to the project:
   1. Select **<New>** to open the **Treatments** window, which will display four tabs: Treatment, Harvest Method, Harvest Costs, and Associated FVS Command(s).
   2. **Treatment:** After selecting the treatment tab, choose a category, sub-category, and ID number. Treatment ids 001 to 699 represent pre-defined treatment categories, and treatment ids 700 to 999 can be used to label any custom-defined treatment. After choosing one for the new Rx, enter a brief description of that treatment. Apply your edits by clicking **<Select>.**
   3. **Harvest Method**: Choose the Harvest Method tab. Select a harvest method for low slopes and a harvest method for steep slopes. Percent slope threshold at which a slope is categorized as steep will be specified later in the Processor module of BioSum. Once a harvest method is selected, a brief description of the method will appear in the Description text box.
   4. **Harvest Costs:** Add any additional harvest cost components – i.e., those that are not accounted for by the OpCost model, such as the cost for conducting prescribed fire or pile and burn operations. The actual costs (in dollars per acre) of these components will need to be assigned during the Processor phase of BioSum. To define a cost component, select **<New>** and enter the name for the cost component and a brief description in the window that pops-up.
   5. **Associated FVS Commands**: A user may wish to enter FVS management keywords for the treatment for documentation purposes; if so, click this tab and then **<New>.** An interactive window will prompt you for FVS keywords and parameter values. Select **<OK>** when finished. This step is not required.
   6. When all desired information has been entered (treatment and harvest method are required; others are optional), select **<OK>** in the upper left hand corner to return to the Treatment List. Click <**Save**> to save the treatment.
3. To make changes to a treatment displayed in the treatment list, select it and click **<Edit>**.
4. When finished creating or editing treatments, click **<Save>,** then **<Close>,** to exit **Treatments** window.

**Rx Package- Treatment Package List window help screen**

In BioSum a series of treatments applied to a stand over a 15 or 30 year time period (three 5-year cycles or three 10-year cycles) is referred to as an Rx package. An Rx package consists of a sequence of one or more of the Rxs already defined with the possibility that some cycles will have no Rx assigned or a prescription of grow only.

1. Assemble a sequence of silvicultural prescriptions to be applied in FVS by clicking **<Rx Package>** to load the Treatment Packages task window.
2. To create a new package:
   1. Select **<New>** to open the Treatment Package Item window, which has three tabs: Package, Harvest Costs, and Associated FVS Command(s).
   2. **Package:** To create a new package**:**
      1. Select an available package ID number from the **<Package ID>** drop-down list.
      2. Write a brief description of the package in the **<Description>** text box.
      3. Next, specify whether your projection will utilize 5- or 10-year cycles by selecting the radio button next to the cycle length of choice in the **<FVS Cycle Length>** box. (Note: all packages within a BioSum project must have the same cycle length.)
      4. To add a treatment to a cycle year, select the year: 00, 10, 20, or 30, and click **<Edit>.**
      5. Uncheck the box next to **<Skip Treatment>** (by default, each cycle will be populated with a “skip treatment” via the check box)**.**
      6. Assign a prescription from the dropdown list next to **<Rx ID>.** You will see a list of prescription ids that have been defined in this project within in the dropdown window. Select the prescription to assign.
      7. Select **<OK>** to add the treatment to the package. The treatment selected should appear next to the desired year along with its description.
      8. To add another treatment to the package, return to step IV. If no treatment is to be administered in a cycle year, no action is necessary; BioSum will assume no treatment when the “skip treatment” box is checked.
      9. An FVS .kcp file can be “attached” to the package by selecting **<Assign KCP File>.** This allows the user to save a link in the BioSum project to the location of the KCP file used to run the FVS simulation for a given package. By establishing these links (for each package), the user can easily view the details of what happens in a package via the “Open KCP file to view/edit contents”, or even make tweaks to it.
   3. **Harvest Costs:** This window contains a list of harvest costs, assigned during **Rx** creation, for each prescription in the package. These items are read-only since they are bound to the treatment.
   4. **Associated FVS Commands:** A list of the FVS commands assigned during Rx creation for all prescriptions in the package. You can add package specific keywords by clicking **<New>** and picking a command from the drop down menu.
   5. Click **<OK>** to close the Treatment Package Item window.
3. Repeat step 2 for each package you wish to create. When finished, click **<Save>** then **<Close>** to exit.
4. To make changes to a treatment package you have already created, simply select the package from the Treatment Package List table and click **<Edit>.** Select **<Delete>** to delete a package from your project. Remember that no changes, including deletions, are saved as final until clicking <**Save**> at the bottom of the Treatment Package List.
5. To display full documentation of prescriptions and packages in the project click **<Properties>** from the Treatment Packages window to open an html file in your default browser. The page will open in your browser and display details for every treatment assembled for this project database. Clicking the hyperlink **<Printer Friendly>** in the upper left hand corner will display a printable version of the summary table.
6. Click **<Close>** to exit the Treatment Packages window.