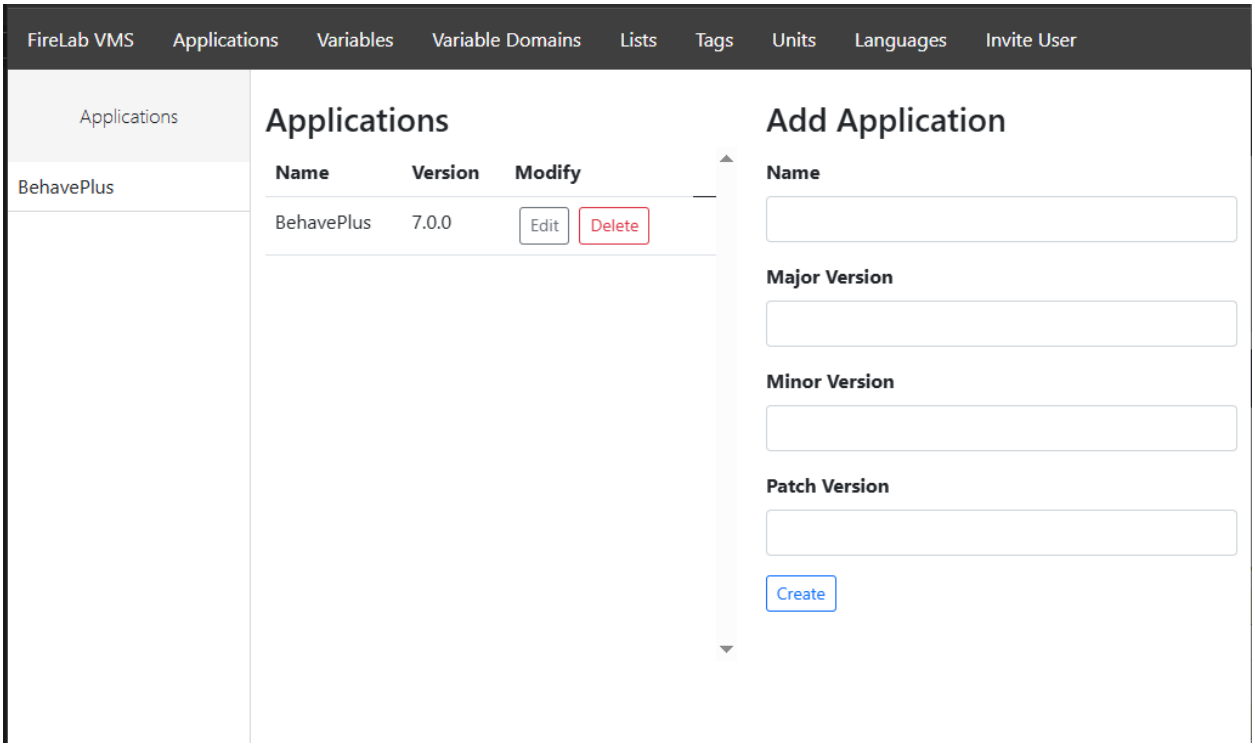
Hitchhiker's Guide to the Variable Management System (VMS)



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1 Finding VMS elements in the Application

The VMS holds the structure of our application. The data is a tree like structure that determines how the application is rendered. This section aims to help you understand how the data in the VMS translates to how it is shown in the application.

1.1 Modules/Submodules/Groups/Group Variables

In the VMS Use the side bar to navigate down these paths:

Applications → Modules → Submodules → Group → Group Variables → Variables

Example:

BehavePlus → Surface → Fire Behavior(output) → Surface Fire → Heading Rate of Spread → Heading Rate of Spread

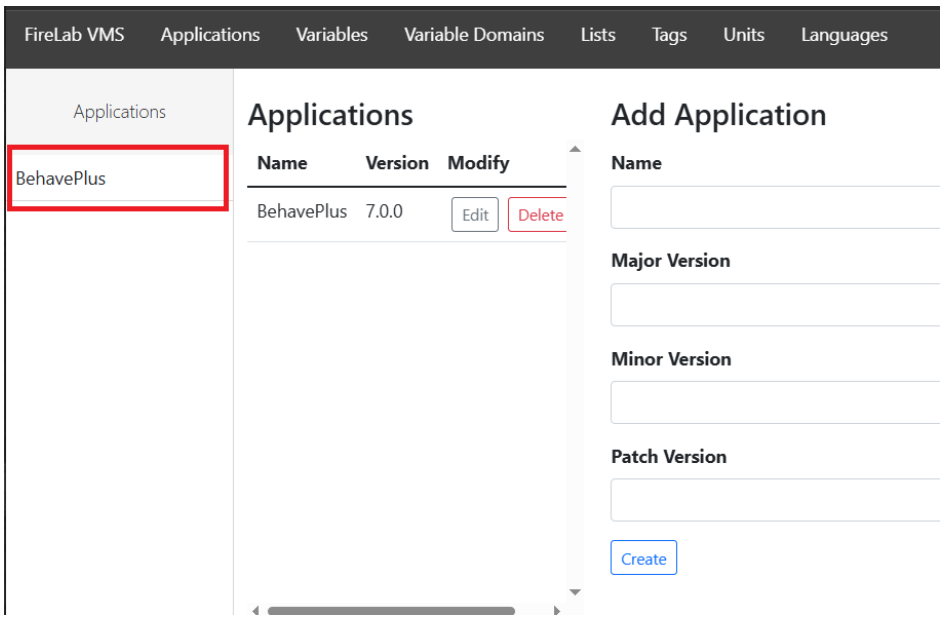

Figure 1: VMS: Home page

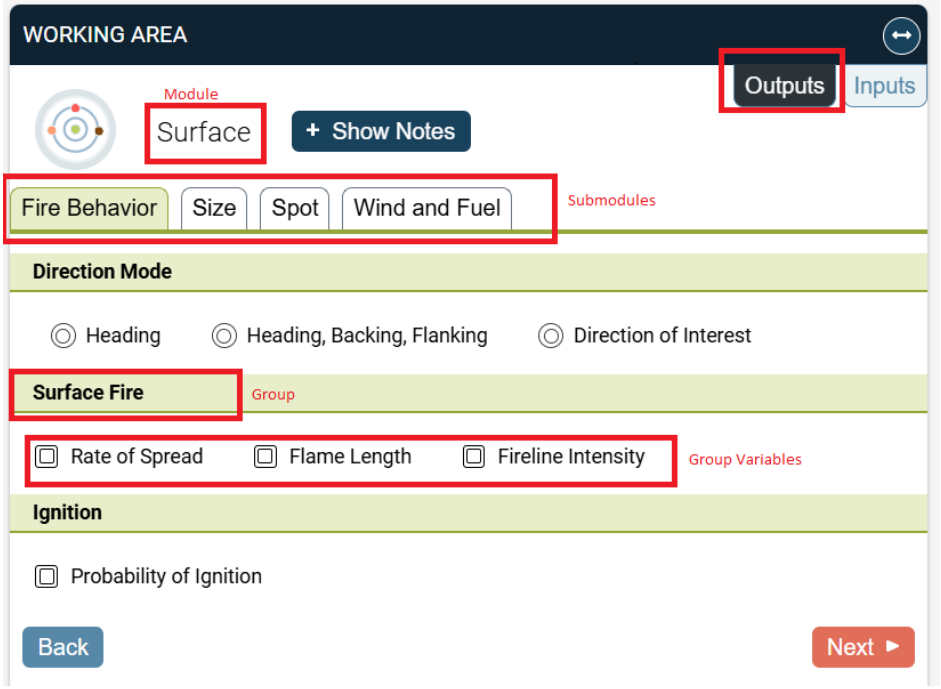

Figure 2: Application: Outputs page after a Surface Only worksheet has been created.

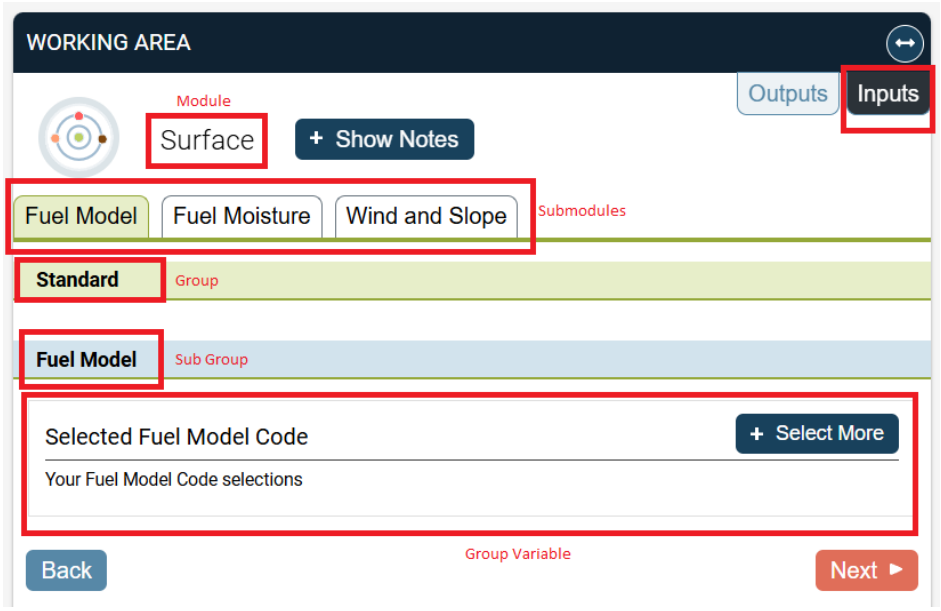

Figure 3: Application: Inputs page after a Surface Only worksheet has been created. NOTE Groups can have sub groups.

1.2 Variables

The Variables can be associated with multiple group variables but group variables can only be associated to a single variable. The Variable entity will hold information about Domains/Dimension/units

1.2.1 Variable Entities

1. Navigate to the "Variables" tab

1.2.2 Variable Associated with a Group Variable

1. Navigate to the Application → Module → Group
2. "Expand" the "Variables" accordion
3. Find the variable you are interested in and click "Edit". This will take you to the "Variables" page and populate the form with the variable's info.

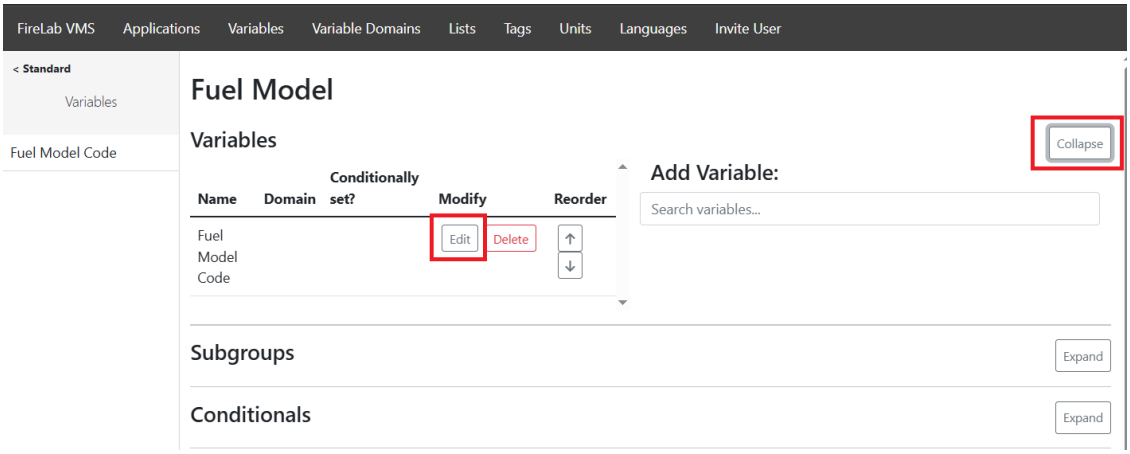

Figure 4: VMS: Finding the variable associated with a group variable

1.3 List and List Options

Certain Group Variables have a list associated with it (usually inputs). In the application lists show up as either radio selections or drop down selections.

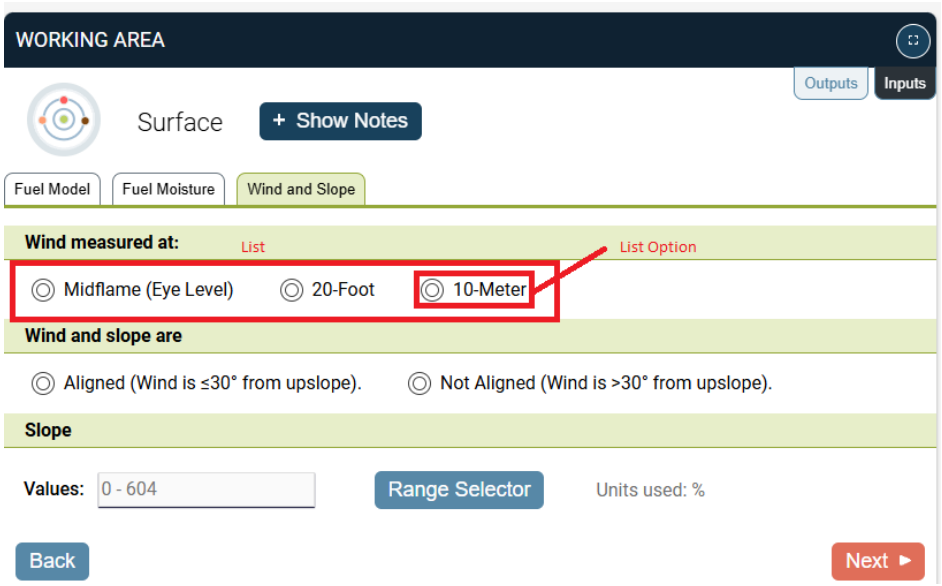

Figure 5: Application: List options as radio selections.

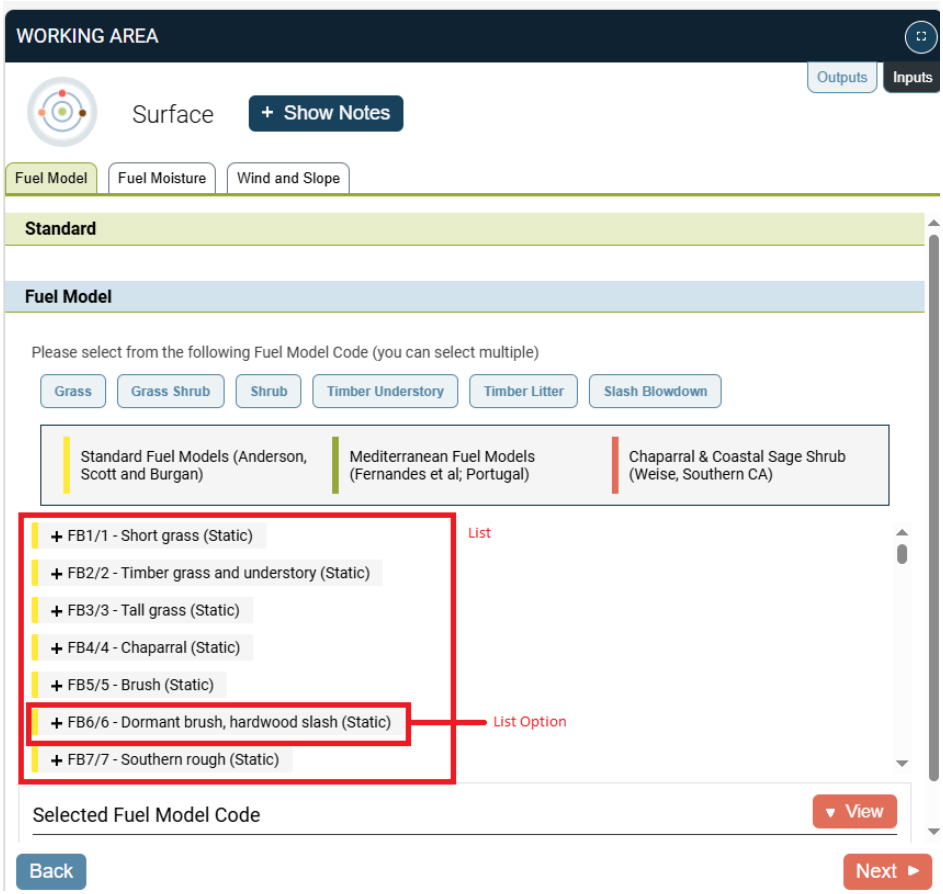

Figure 6: Application: List options as multi select drop down.

In the VMS you can find the list associated to a group variable by:

1. Navigating to the Module → Submodule → Group
2. Click "Expand" on the "Variables" accordion. Then click "Edit" on the Variable listed. This will Navigate you to the "Variables" page and populate the form with the variable's information.

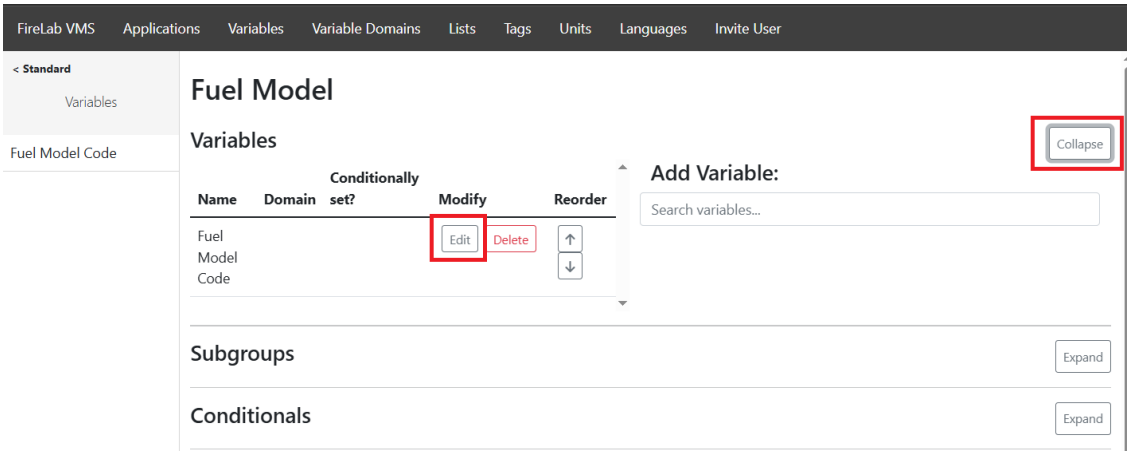

Figure 7: VMS: Group page

1. Look for the "List" field and note the list selected.

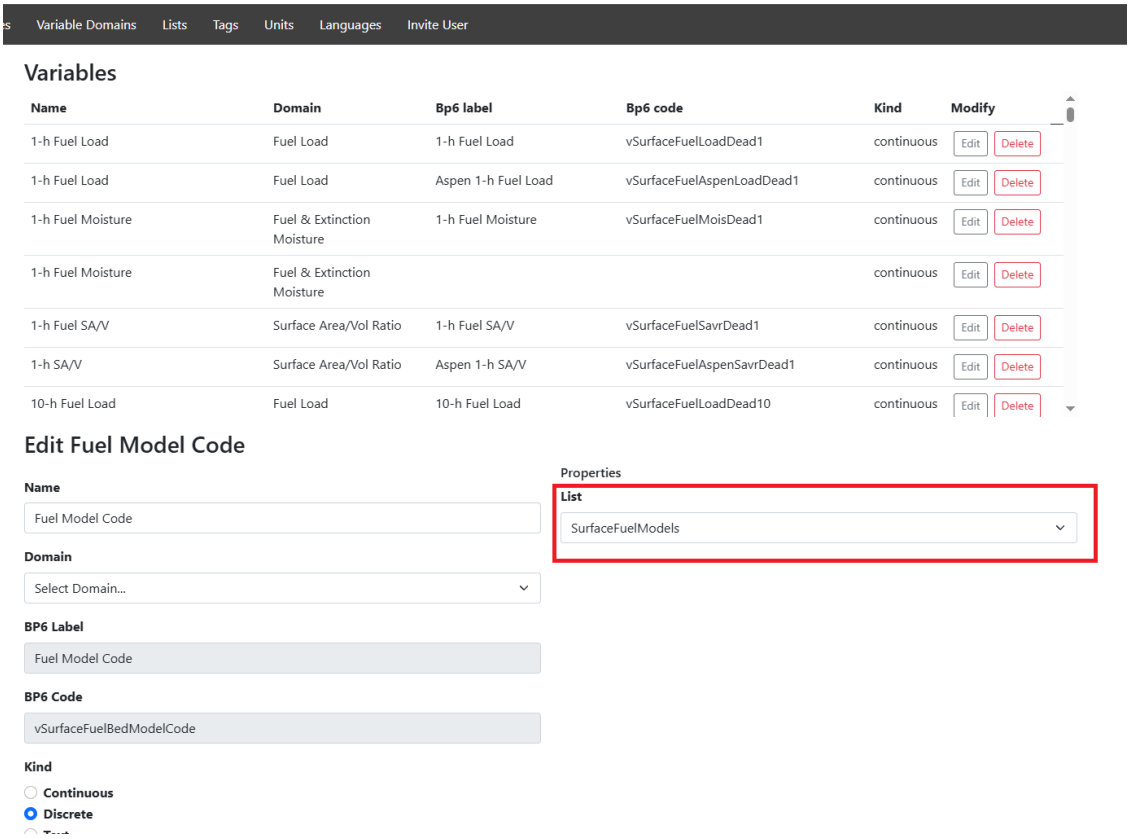

Figure 8: VMS: Variables page

1. Navigate to the "List" tab and scroll down or (Ctrl +f) to find the list mentioned above.

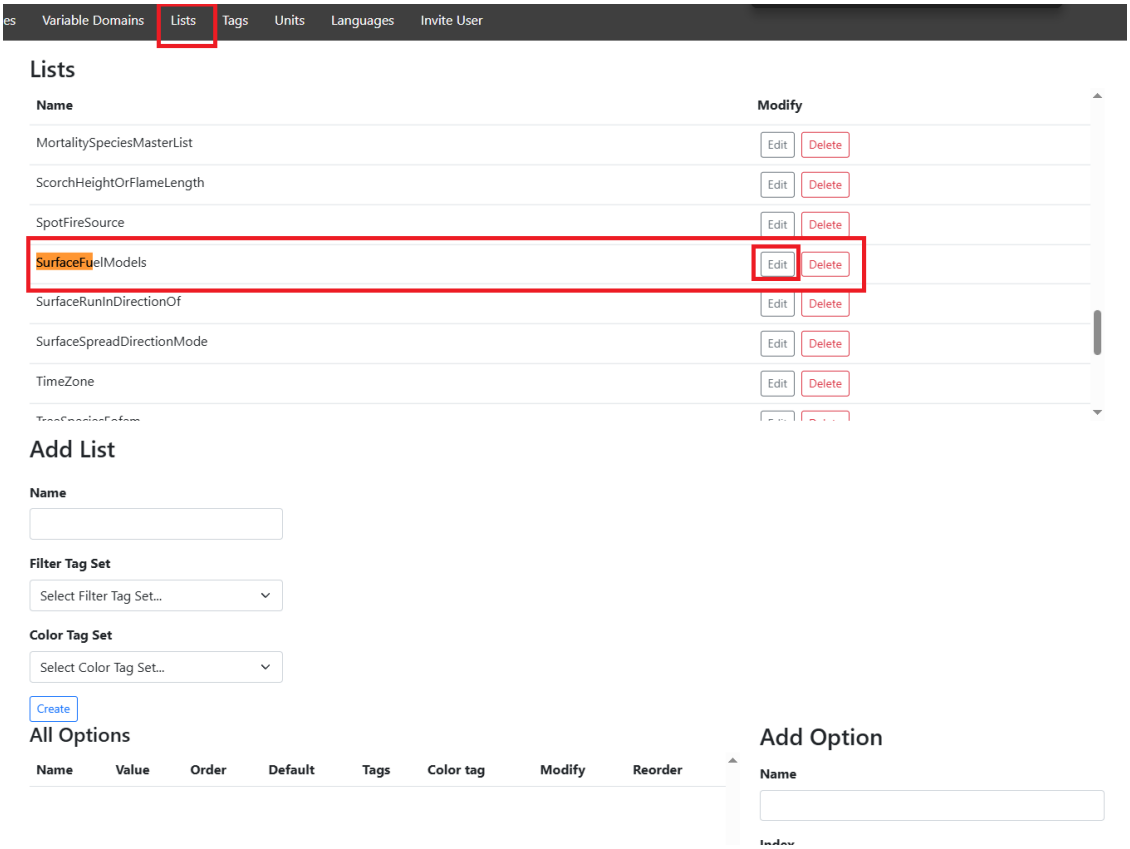

Figure 9: VMS: List page

1. Click "Edit". This will populate the form at the bottom of the page.

1.4 Filter and Color Tags

1.4.1 Filter and Color Tags Entities

Filter and Color tags in the application can be found in input group variables that allow users to select multiple inputs.

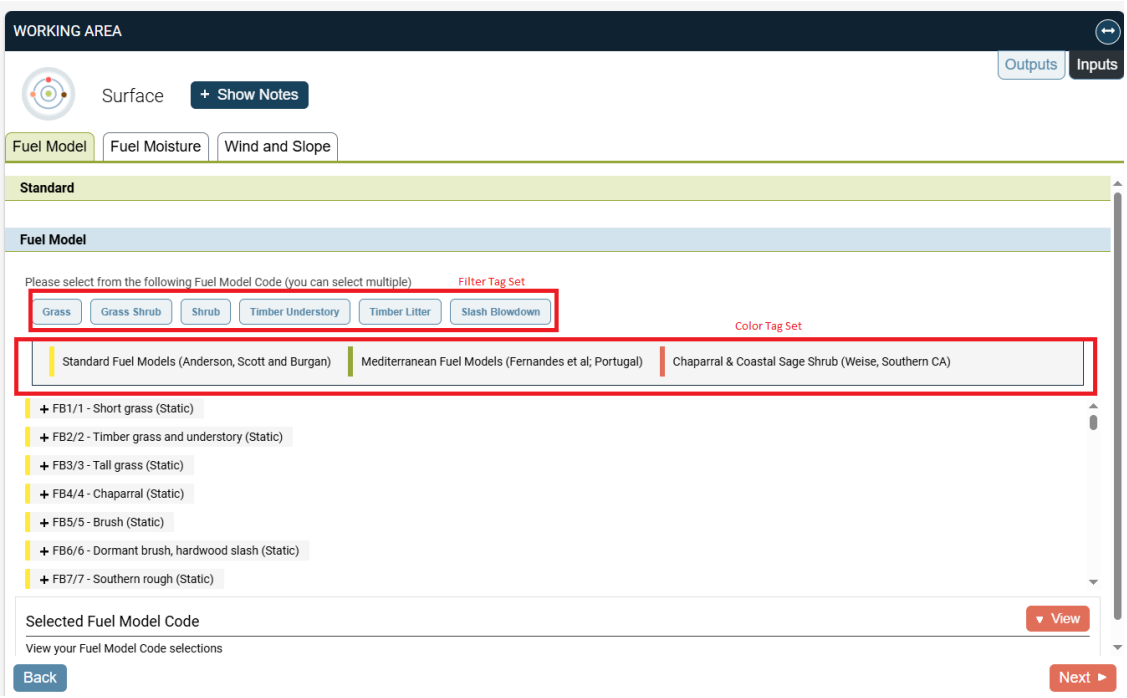

Figure 10: Application: Filter Tag and Color Tag example.

You can find existing tags in the VMS by:

1. Navigate to the "Tags" tab

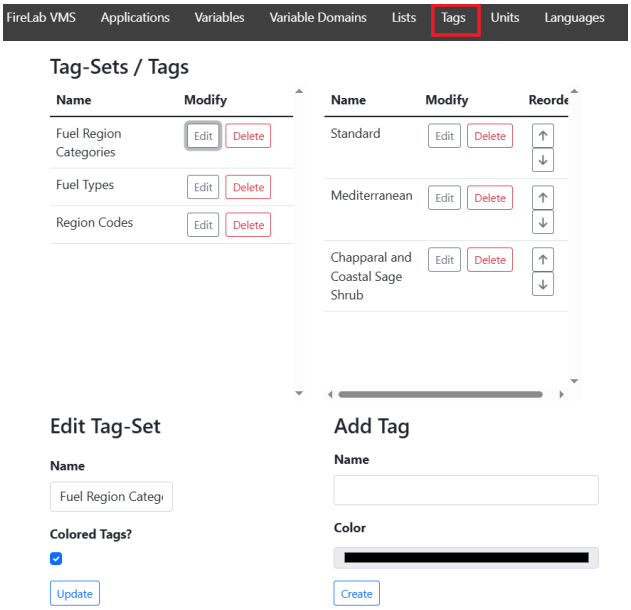

Figure 11: VMS: Tags page

1.4.2 Filter and Color Tags associated with a Group Variable

You can find the tag sets associated with a group variable by:

1. Find the list associated to the group variable, see List and List Options section.
2. Click "Edit" on the list
3. Once the form on the list page has been populated you can find the associated tag sets.

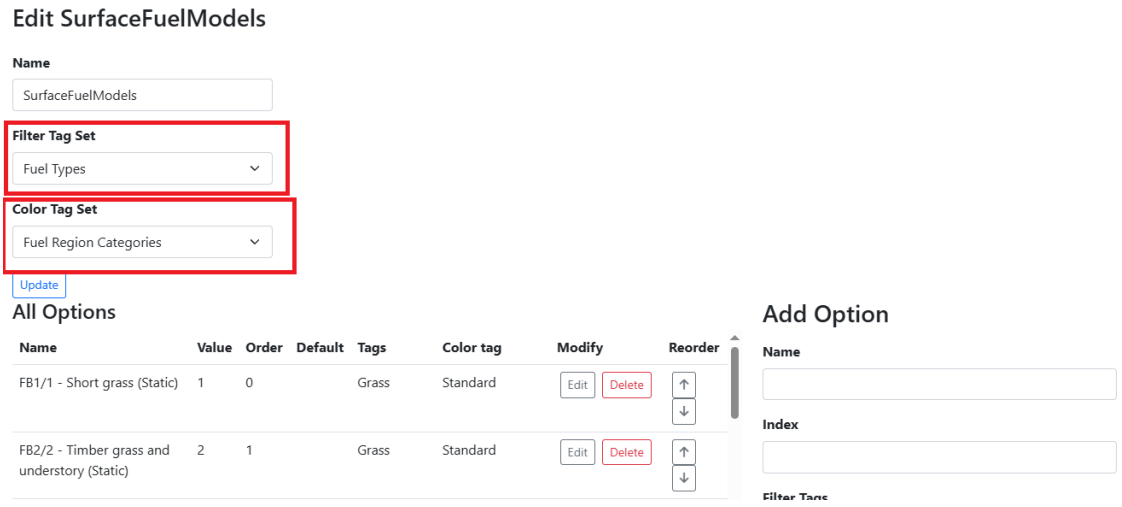

Figure 12: VMS: List page

1.5 Variable Domains

1.5.1 Variable Domain Entities

The Variable Domain entities is used primarily to associate a group of variables to some default units and decimal precision. Domain entities are grouped into Domain sets, primarily used for creating collapsing accordions in the application.

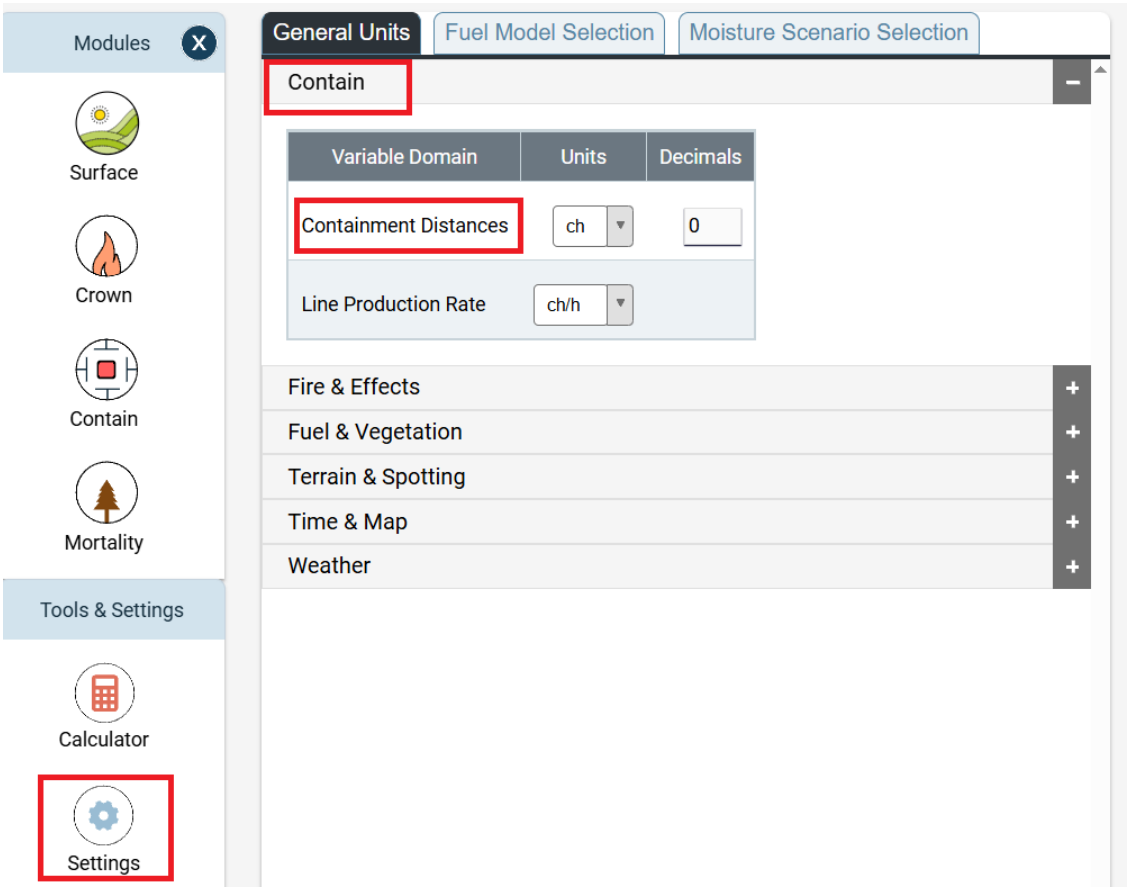

Figure 13: Application: Custom Unit Preferences table.

1. Navigate to the "Variable Domains" tab
2. Click "Edit" on the "Domain Set". This will populate the form on the right with a list of domains that belong to this set.

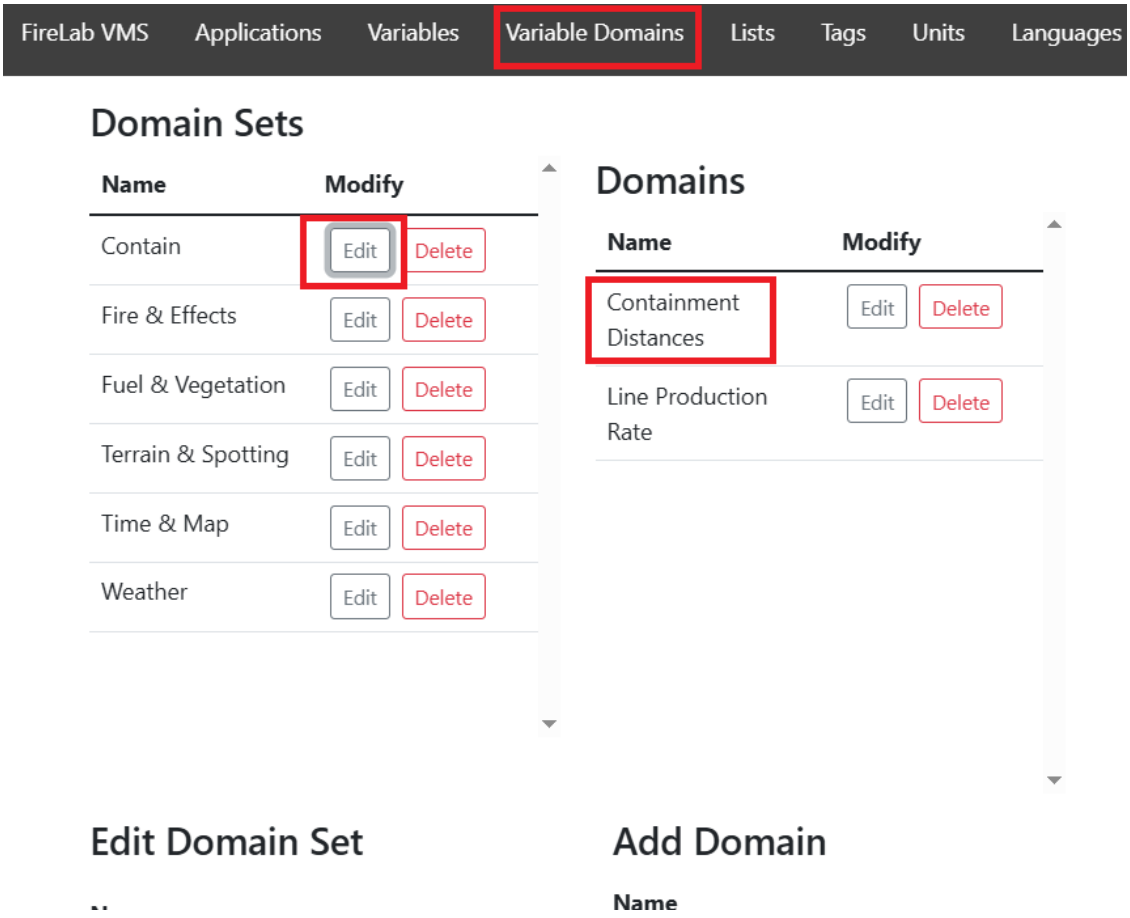

Figure 14: VMS: Variable Domains.

1.5.2 Variable Domains Associated with a Group Variable

1. Find the Variable associated with your group variable of interest. see Variable Associated with a Group Variable section
2. You can find the domain associated to the variable under the "Domain" field

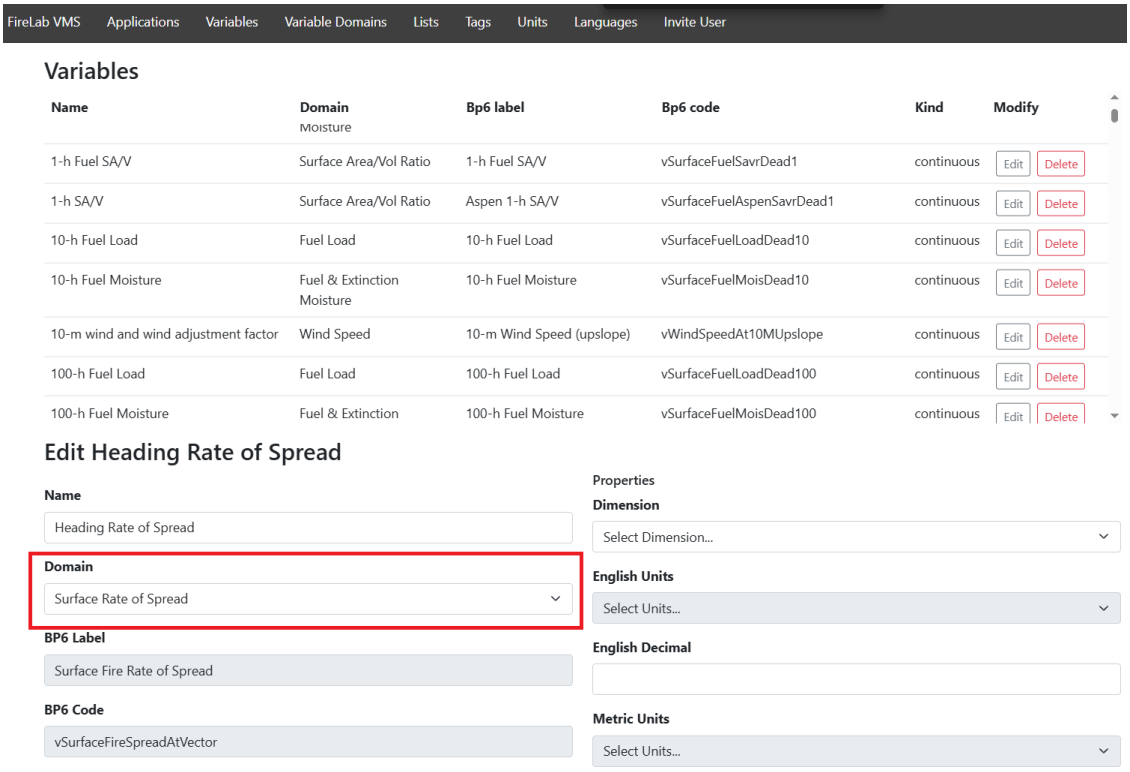

Figure 15: VMS: The Domain associated with this variable.

1.6 Units and Precision

Default Units and Precision live in the Domain Entities.

1. Find the Domain associated with your group variable see Variable Domains Associated with a Group Variable section.
2. Navigate to the "Domains" page and lookup the domain.
3. Click "Edit" on the "Domain Set" and "Edit" on the "Domain" entity to populate the forms.
4. Default units is shown under "Native Unit"
5. Default precision is shown under "Decimals"

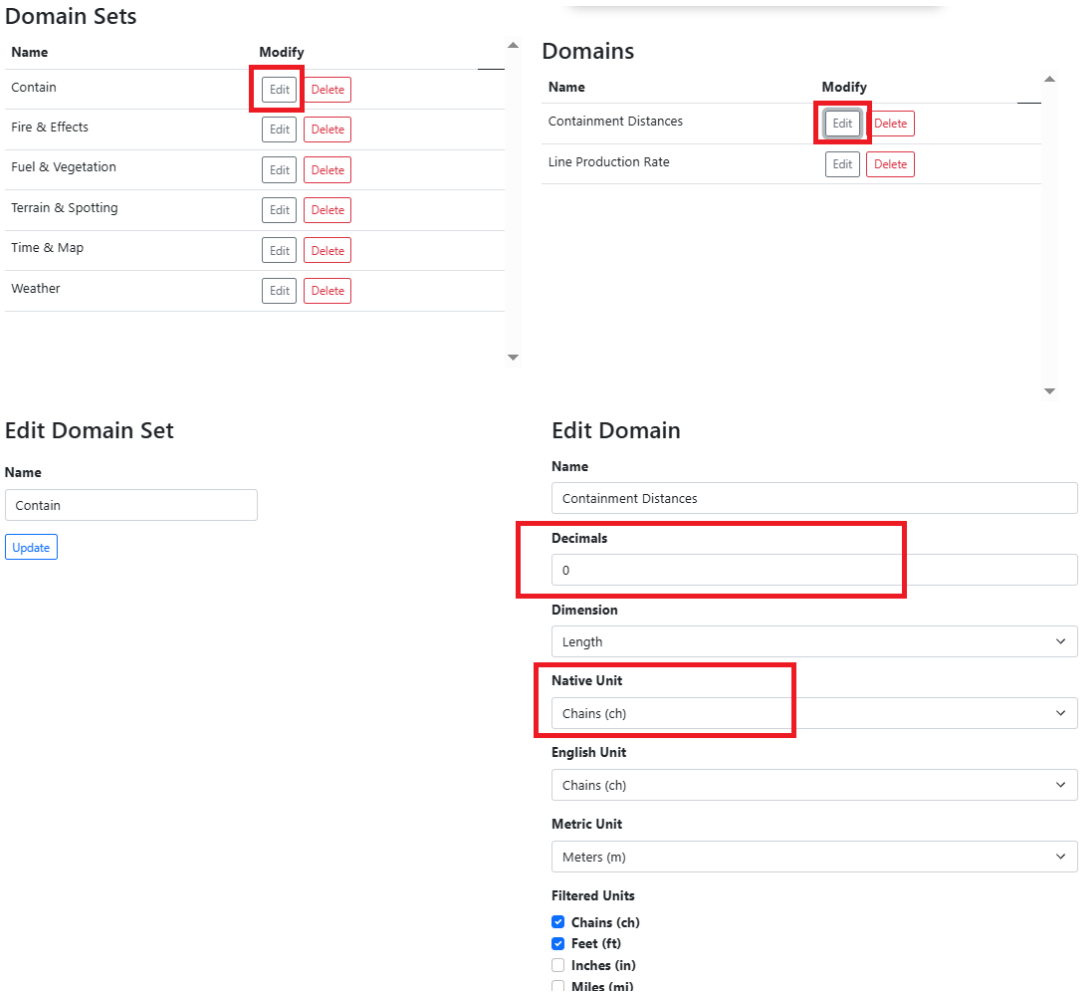

Figure 16: VMS: The Domain associated with this variable.

1.7 Conditionals

Conditionals serve one of two purposes. First and most common is to determine if Submodule or group should be displayed in the application. The second purpose is to attach them to actions. When attached to actions the conditional determines if that action should be fired (i.e. setting an input group variable to a default value if a certain output group variable is selected).

1.7.1 Submodule/Group Conditionals

To find a conditional that controls if Submodule/groups are hidden:

1. Navigate to the Submodule/group entity page and expand the "Conditionals" accordion

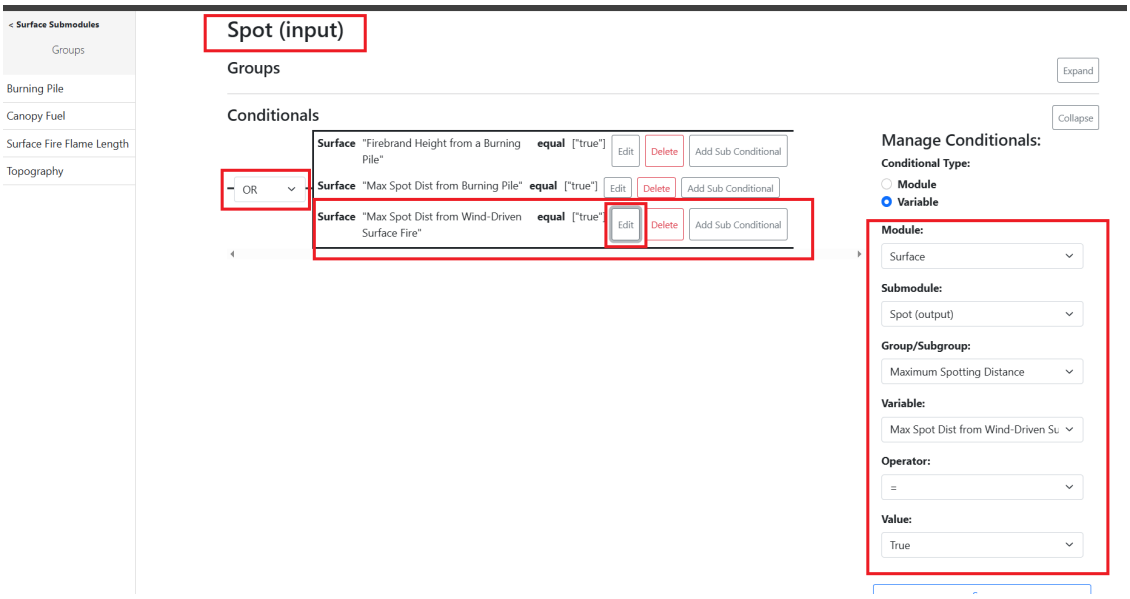

Figure 17: VMS: Conditionals to only show the Spot(input) submodule if either these output variables are selected. NOTE: Clicking "Edit" on the conditional will populate the form on the right. This is usefull to see where this group variable belongs and not just it's module and name. (i.e. The conditional above belongs to the Surface (Module) → Spot Output (Submodule) → Maximum Spotting Distance (group).

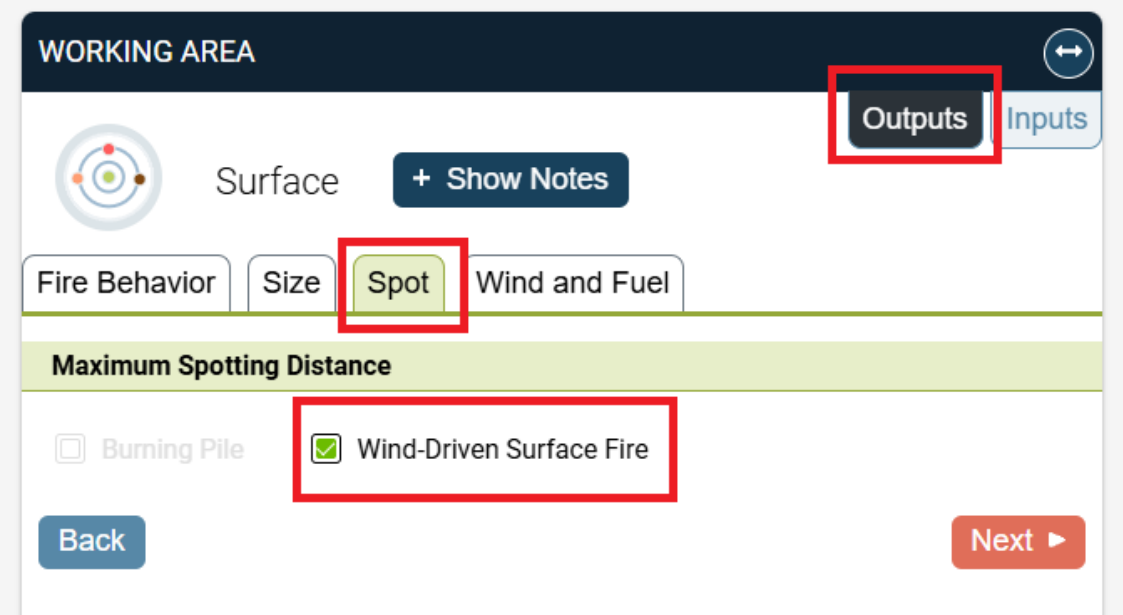

Figure 18: Application: "Wind Driven Surface Fire" is selected as an output.

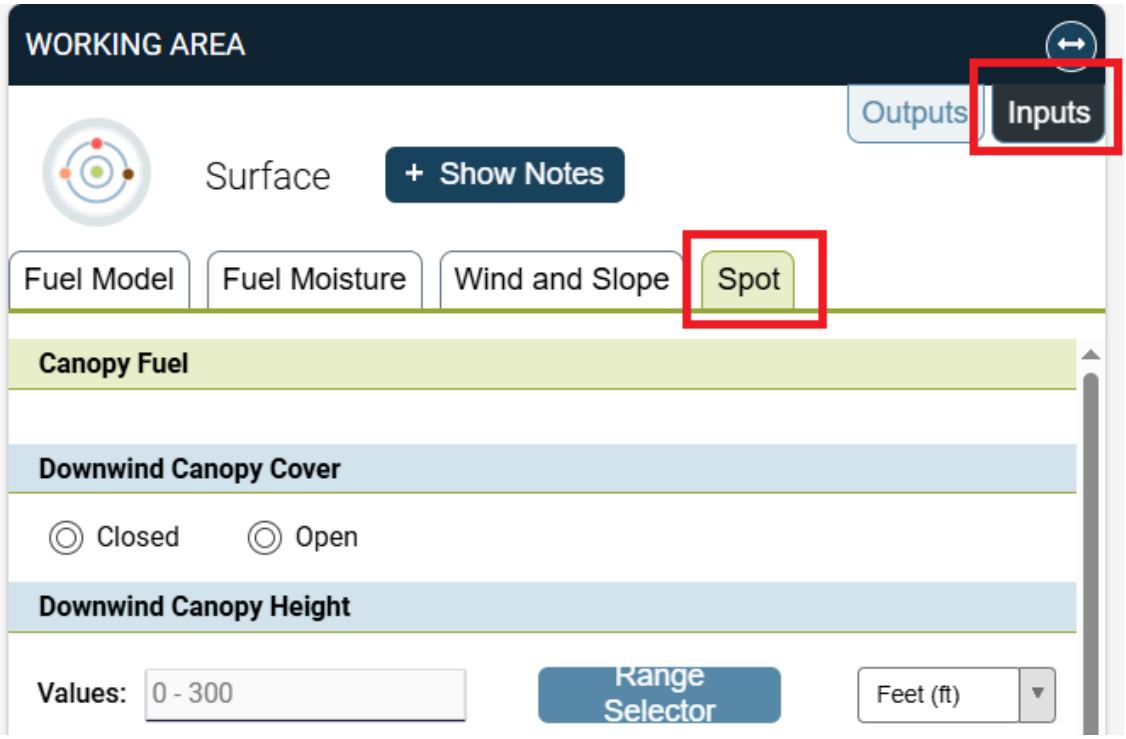

Figure 19: Application: Since "Wind-Driven Surface Fire" is selected as an output, the Spot(Input) submodule passes the conditional and is displayed.

1.7.2 Action Conditionals

To find a conditional attached to an action:

1. Navigate to the Group Variable entity page and expand the "Actions" accordion

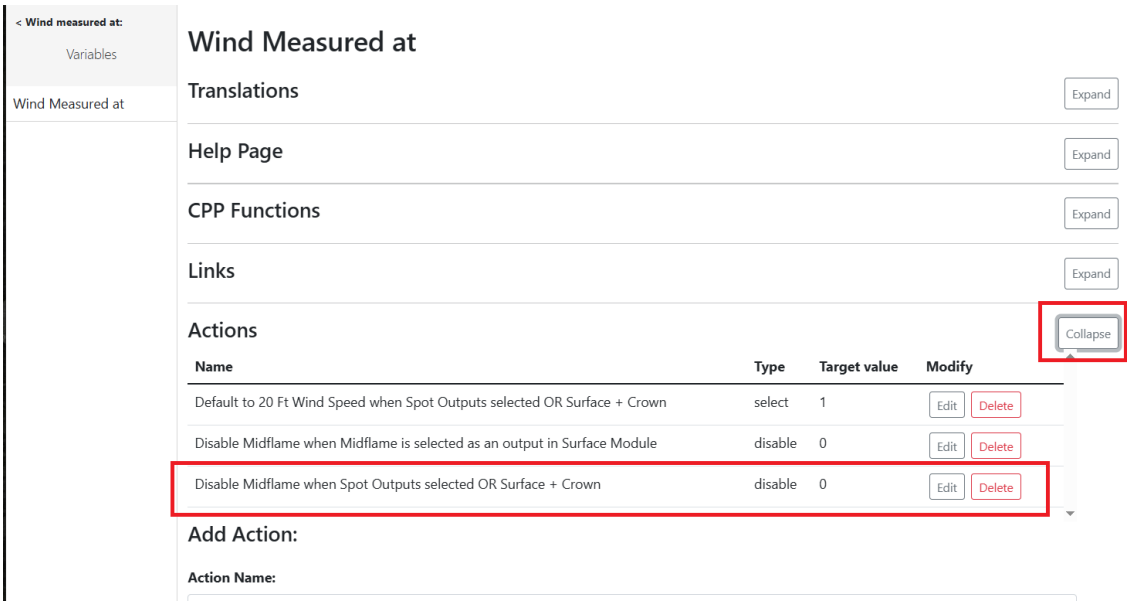

Figure 20: VMS: Group Variables can have multiple actions.

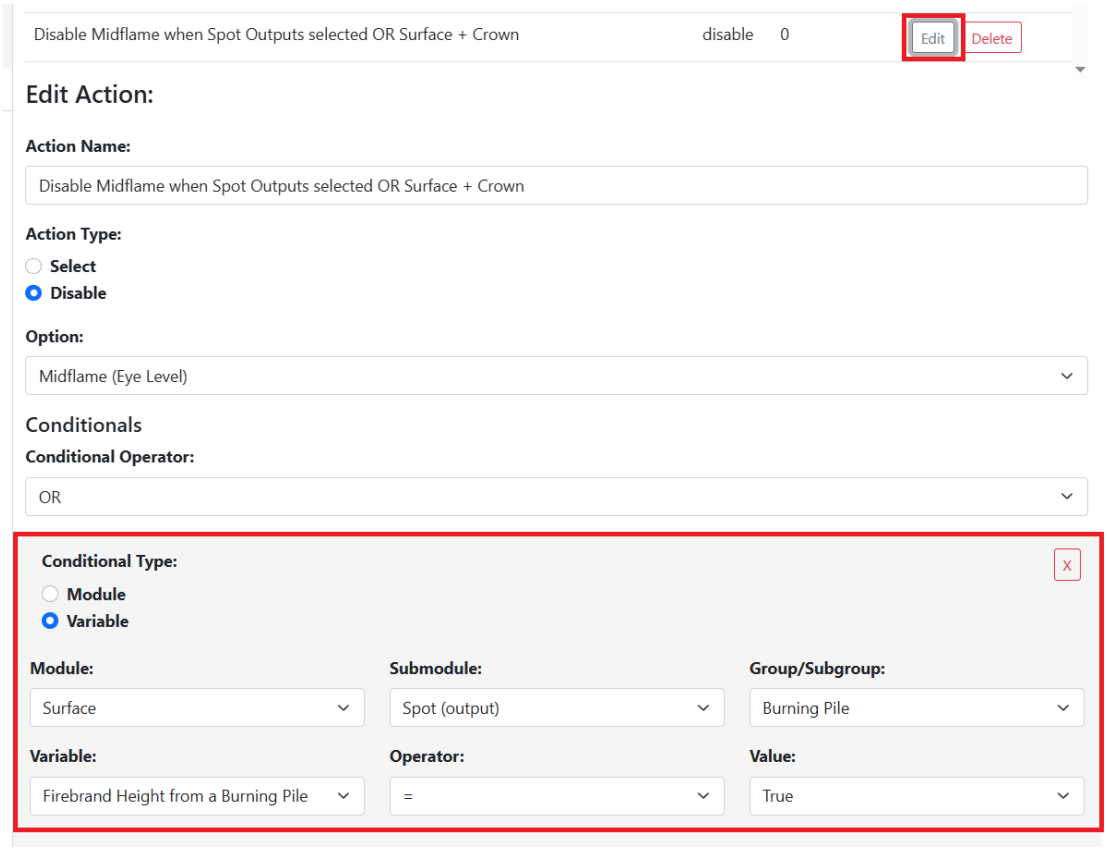

Figure 21: VMS: Each action has one or more conditionals. The name of the action should describe what is necessary to trigger the action but to more closely look at the conditionals, click "Edit" on the action you are interested in.

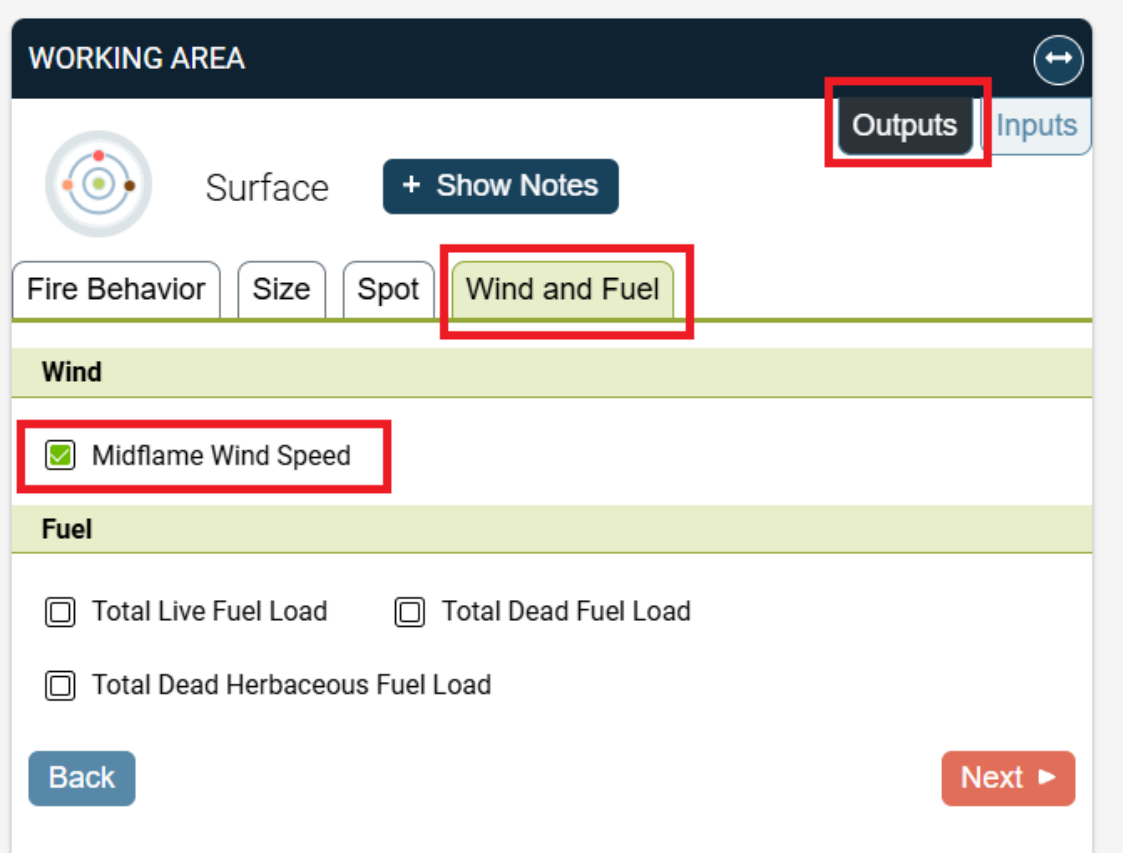

Figure 22: Application: "Midflame Wind Speed" is selected as an output

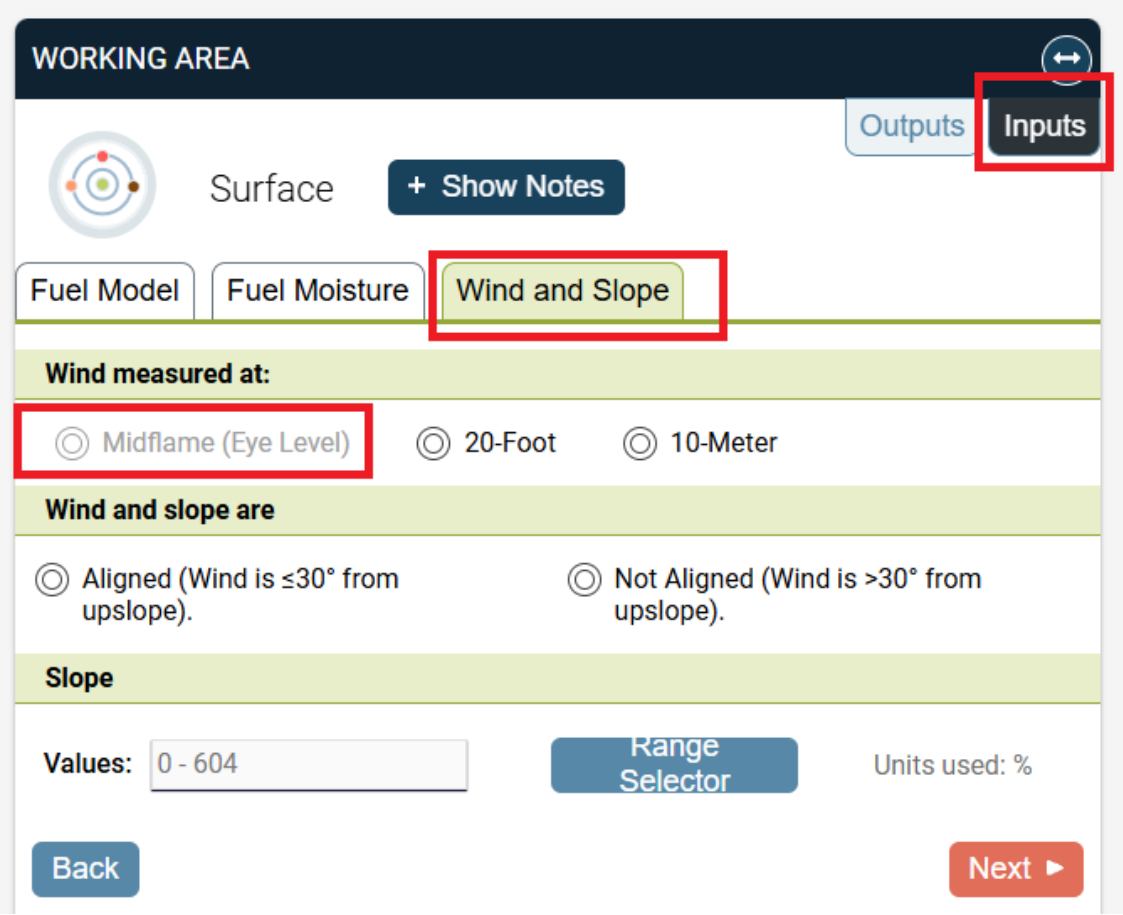

Figure 23: Application: Action is triggered to disable "Midflame (Eye Level)" as an option in the inputs page.

2 Updating Text

Most texts for entities displayed in the application can be updated by changing the translation field for that entity..These entities will have 2 translation fields. One field is used in the worksheet wizard (pages before computation) and the second is used for the results page. Usually the result translations are a short form of the worksheet translations. Here are some of the common entities you might want to update. The application will default to the worksheet translation if a result translation is not present.

2.1 Submodule/Group/Group-Variables

1. For these entities navigate to the entity page, see Modules/Submodules/Groups/Group Variables section.

2. Update the "Translation" field.

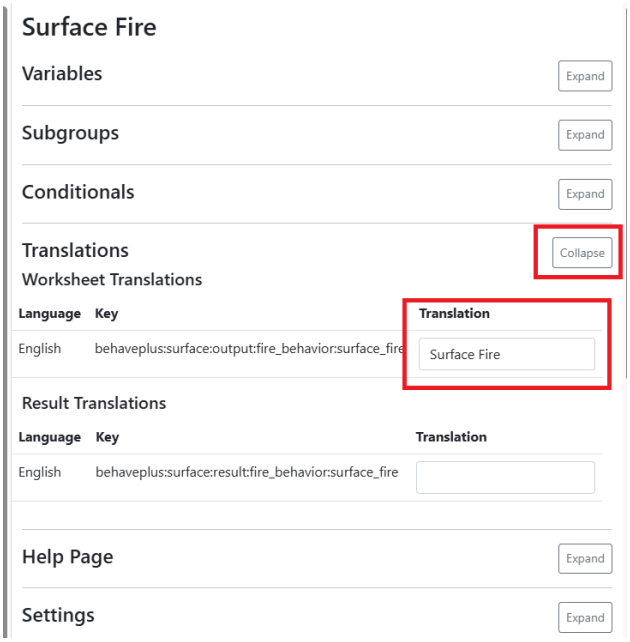

Figure 24: VMS: Group page after navigating BehavePlus → Surface → Fire Behavior(output) → Surface Fire

2.2 List Options

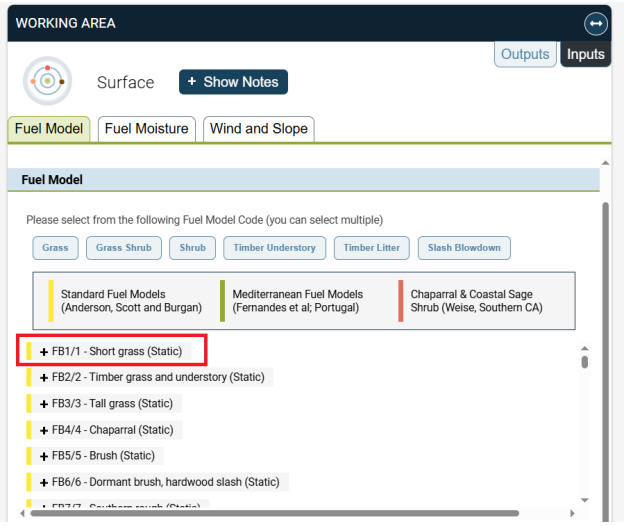

Figure 25: Application: Worksheet translations appear in the wizard.

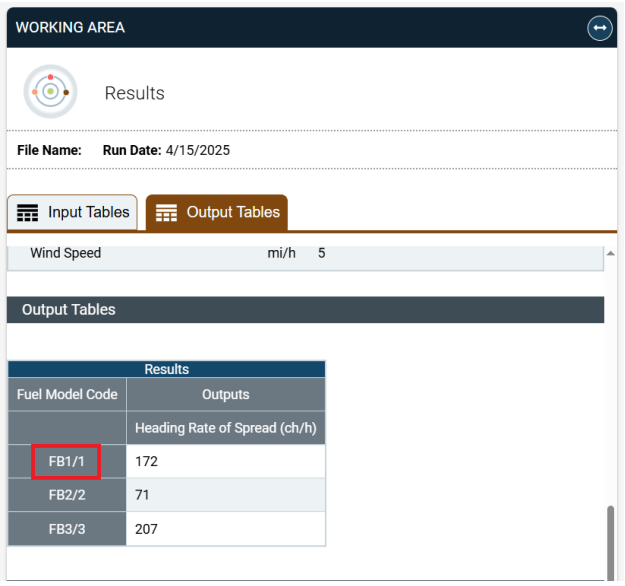

Figure 26: Application: Result translations appear in the results matrices and tables.

1. Find the list associated to the group variable, see List and List Options section.
2. Click "Edit" on the list.
3. Find the list option you are interested in updating and click "Edit".
4. Update the "Translation" field and the "Name" field.
5. Navigate to the list associated with the group variable. see List and List Options

6. Click "Edit" on the list option you want to update.

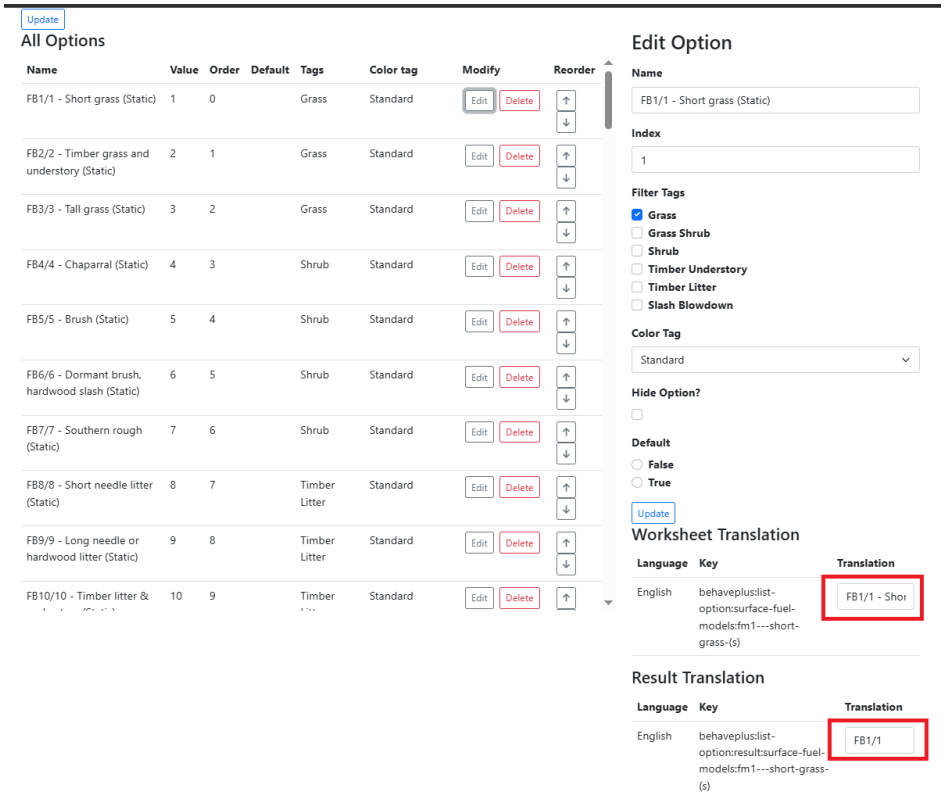

Figure 27: VMS: List Page

2.3 Tags

1. Navigate to the tag set associated with your group variable of interest. See Filter and Color Tags associated with a Group Variable
2. Click "Edit" on the tag set. This will populate the table on the right.
3. Click "Edit" on the tag option you'd like to update.
4. Update the "Translation" field and the "Name" field.

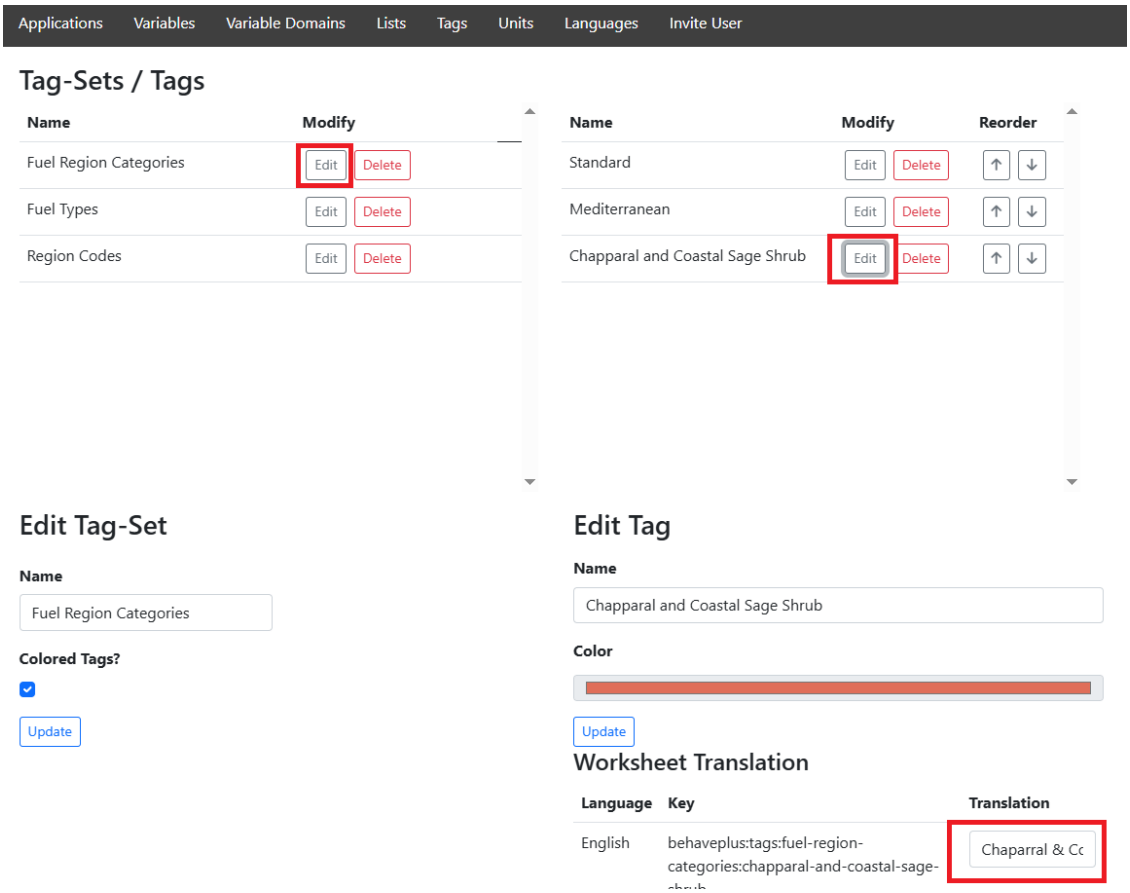

Figure 28: VMS: Updating translations on tags page.

3 Updating Default Unit Preferences

3.1 Units

1. Find the Domain associated with the variable you are interested in. See Variable Domains Associated with a Group Variable section.
2. Click "Edit" on the Domain set
3. Click "Edit" on the Domain found in step 1.
4. Update the "Native Unit" field

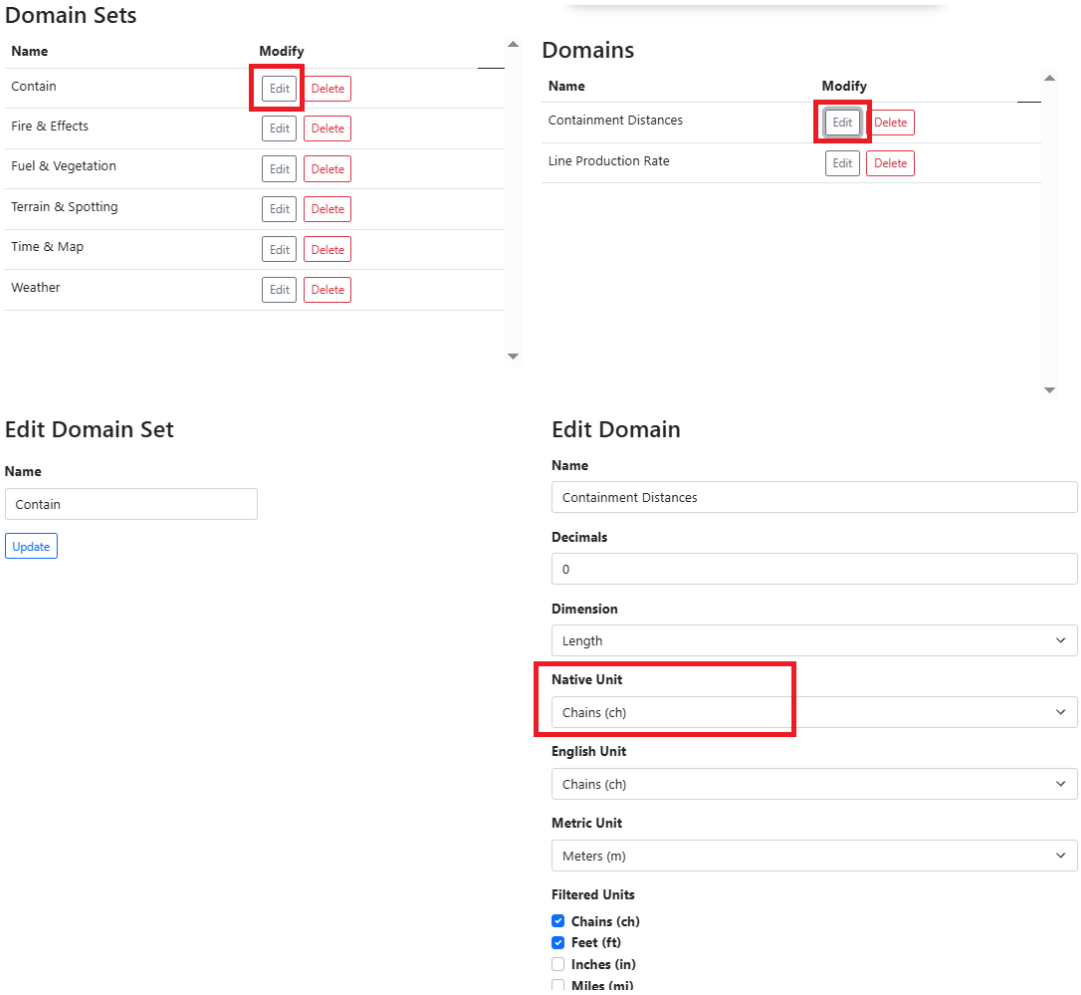

Figure 29: VMS: Updating translations on tags page.

3.2 Precision

1. Follow the steps from above to find the Domain entity.
2. Update the "Decimals" field

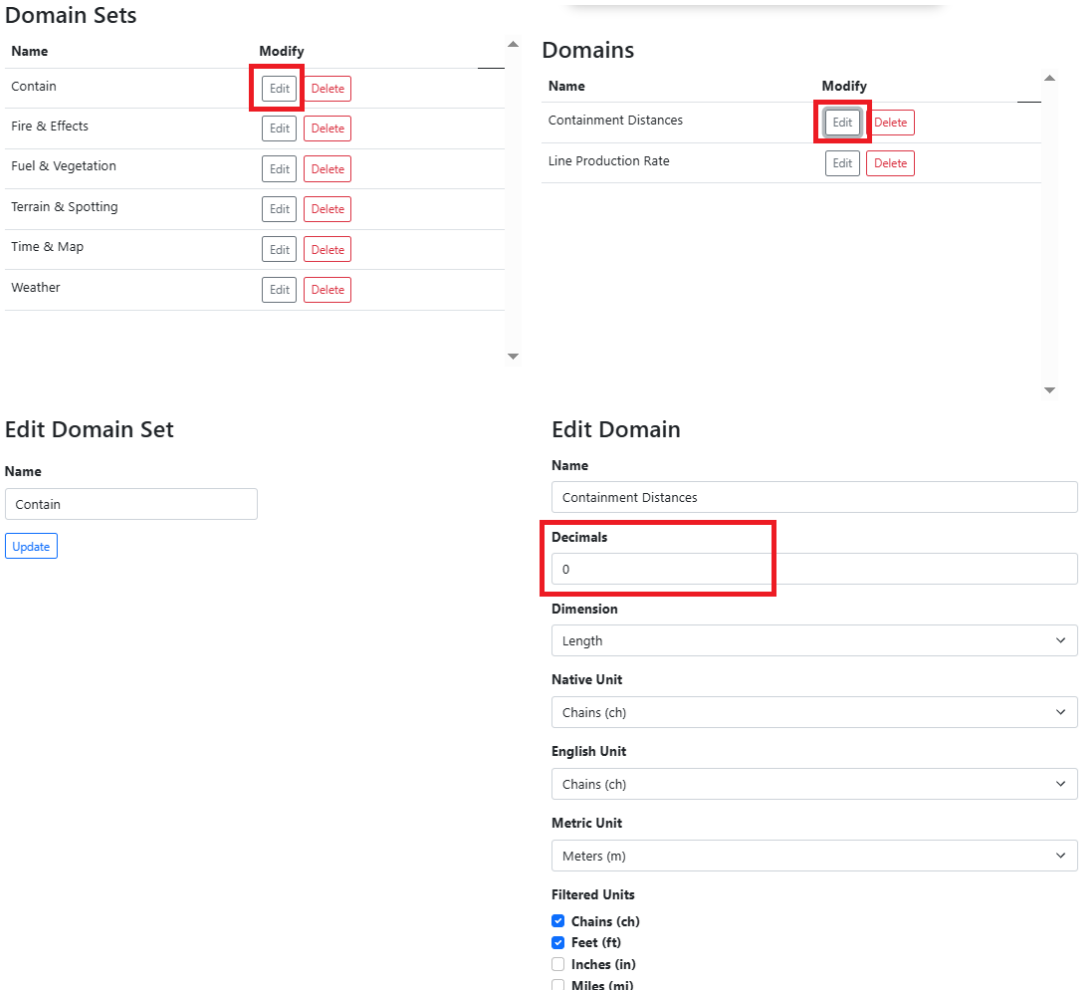

Figure 30: VMS: Updating translations on tags page.

4 Updating Units Dropdown Selections

In the Application's inputs page a user can change units via a drop down menu. By default a variable is linked to a "Dimension" (i.e. length) and will have all options available to select. However there are cases when this list should be limited to a subset. If this is desired do the following:

1. Find the Domain associated with the variable you are interested in. See Variable Domains Associated with a Group Variable section.
2. Click "Edit" on the Domain set
3. Click "Edit" on the Domain found in step 1.
4. Under "Filtered Units" select a subset of your desired units

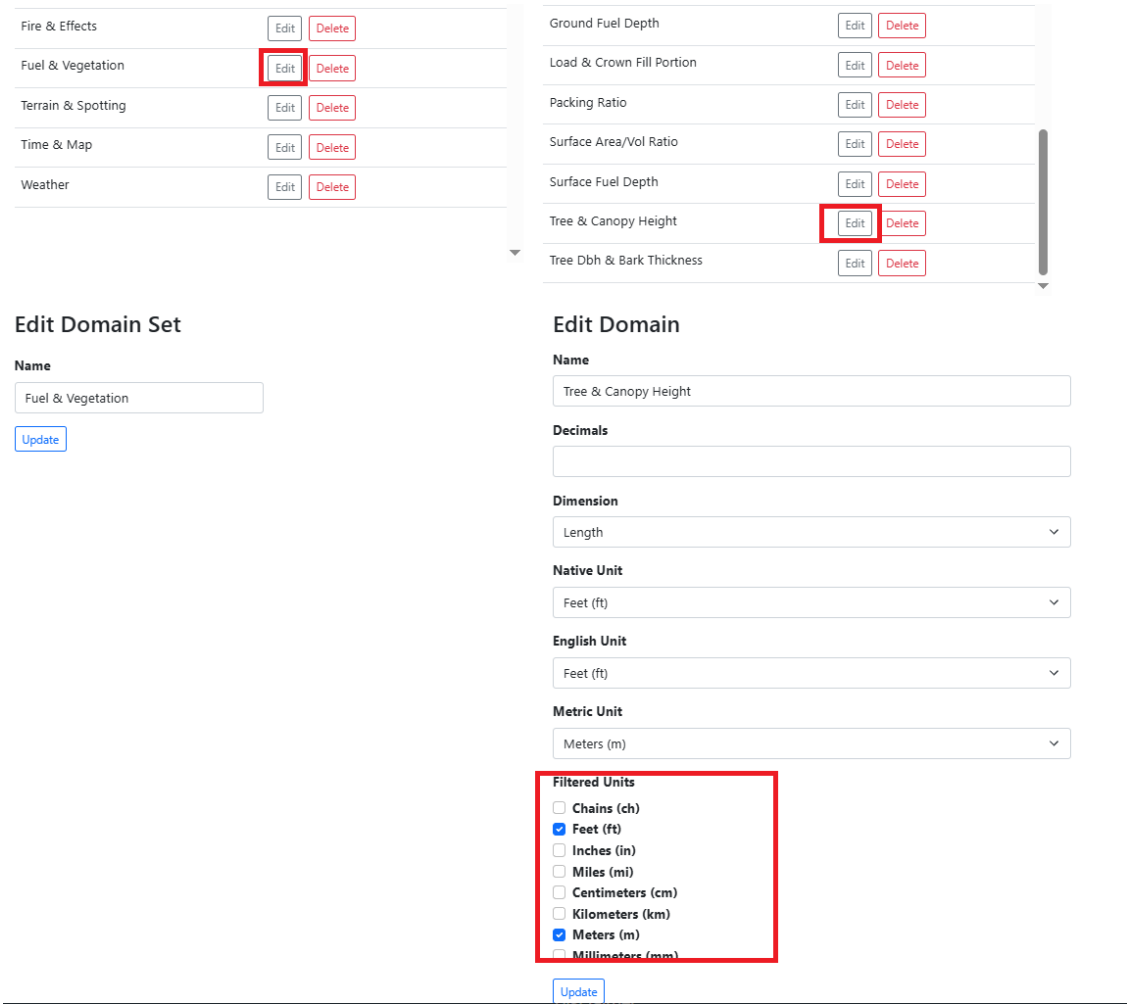

Figure 31: VMS: Domains Page Updating Units drop down to a subset of units.

5 Re-Ordering

Certain entities can be re-ordered via the VMS. To do this:

1. Find the parent entity of the entity you are trying to reorder (i.e. Need to reorder groups? find the submodule entity page. Need to reorder a list options? Find the List entity page.). See Finding VMS elements in the Application
2. Once you're on that page there should be a table that have a list of entities for you to reorder. Click on the "up" and "down" buttons to reorder

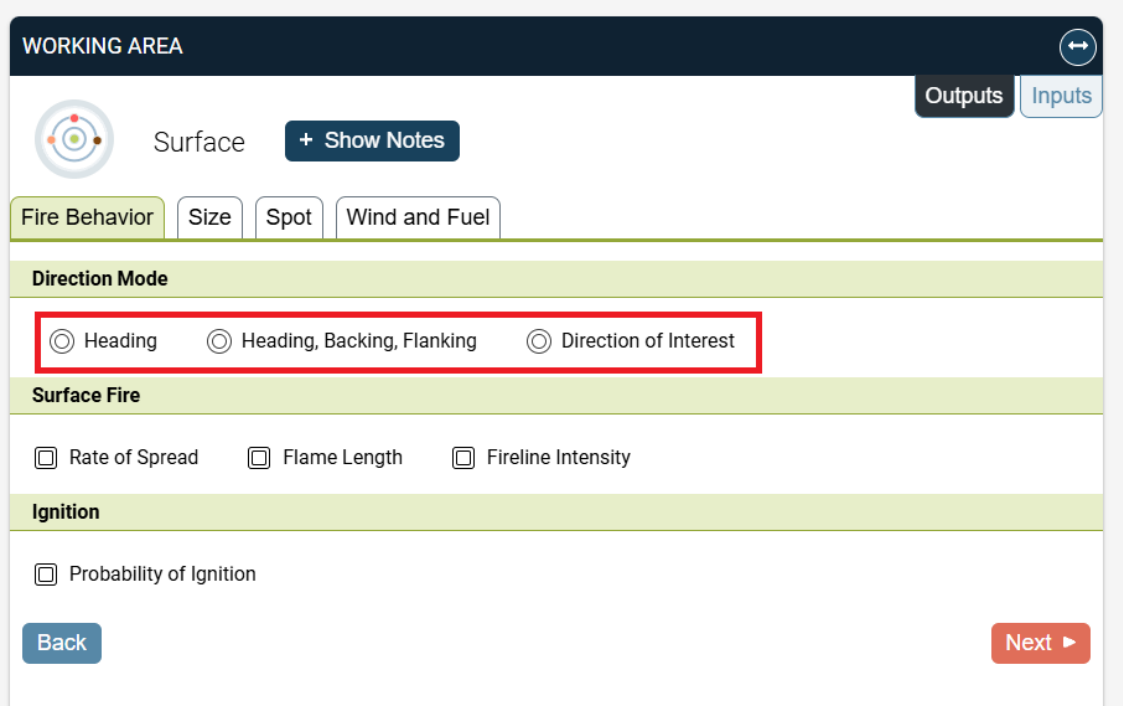

Figure 32: Application: Reordering Direction Mode output selections.

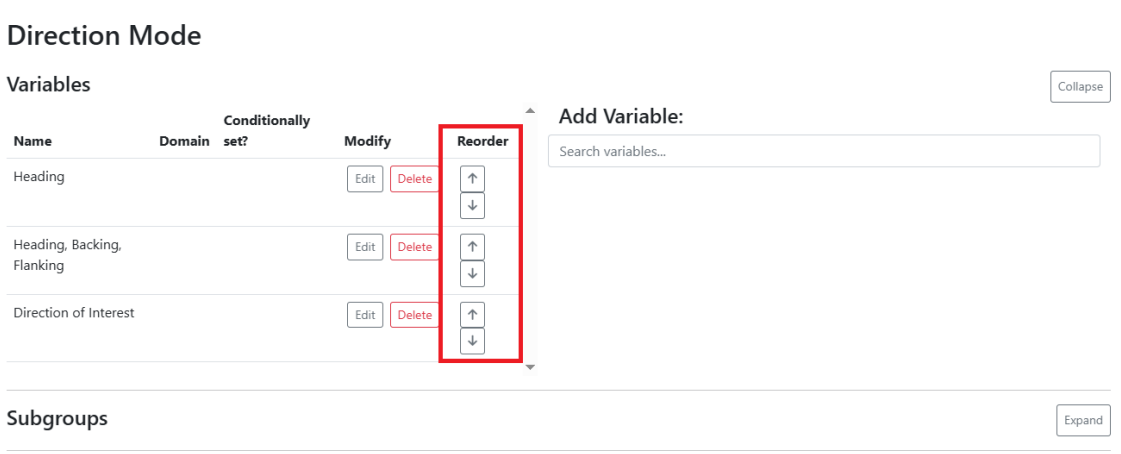

Figure 33: VMS: Reordering Direction Mode output selections: Navigate to BehavePlus → Surface → Fire Behavior(output) → Direction Mode

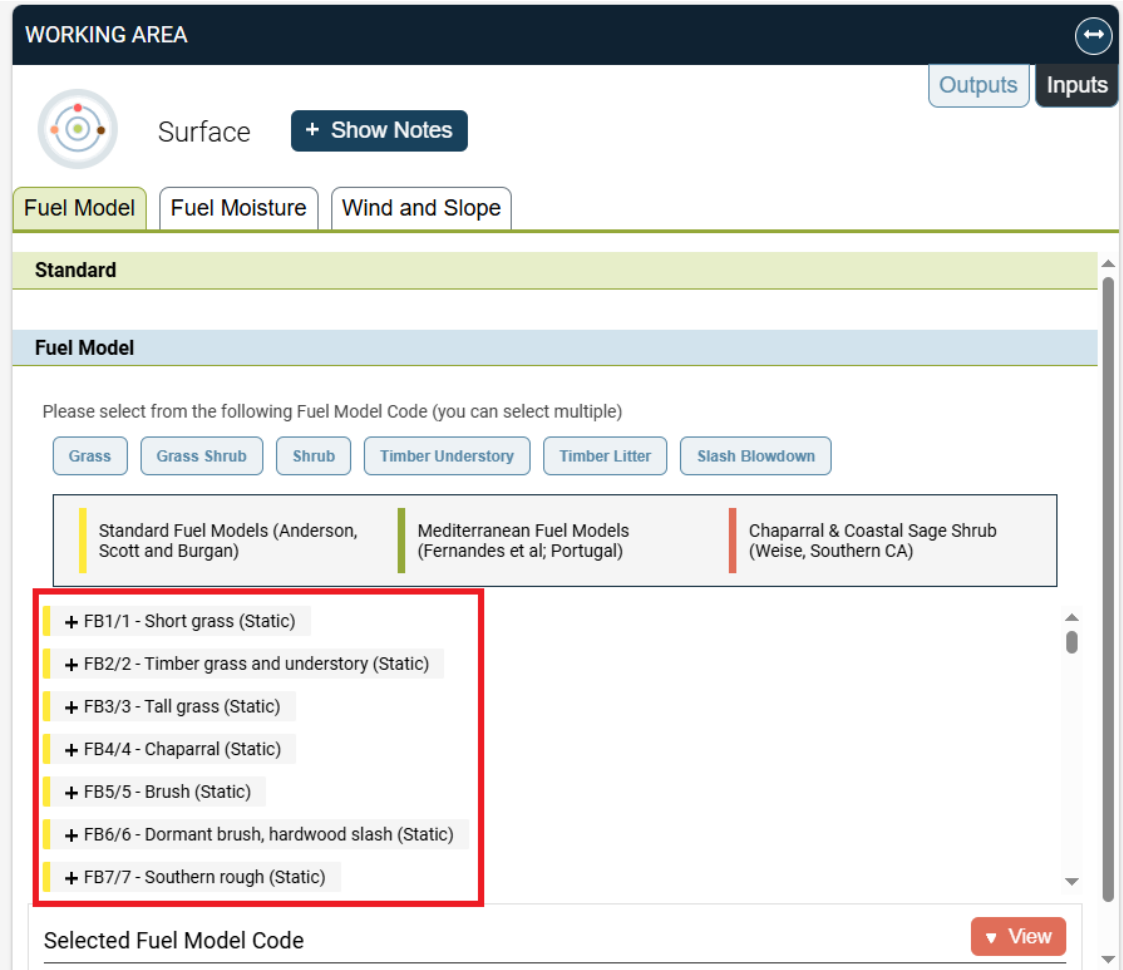

Figure 34: Application: Reordering fuel model codes.

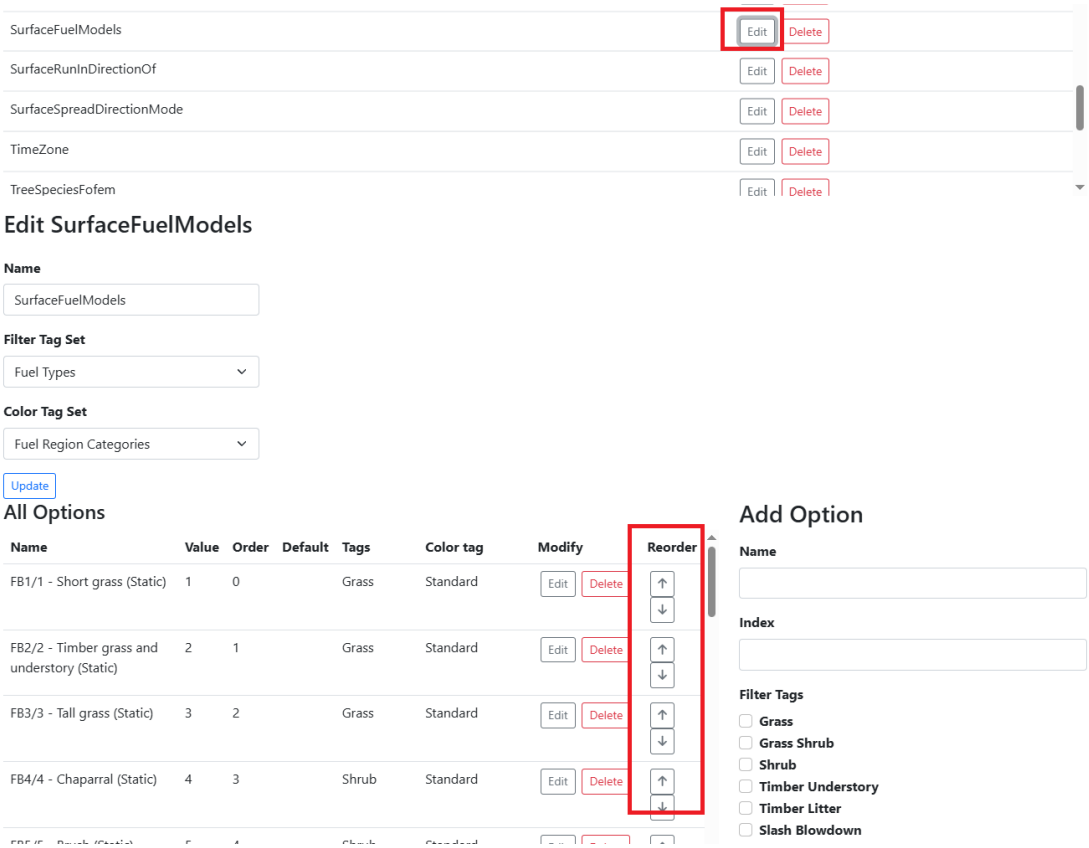

Figure 35: VMS: Reordering fuel model codes. Find list "SurfaceFuelModels" and click "Edit".