

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



FireLab VMS

Applications

Variables

Variable Domains

Lists

Tags

Units

Languages

Invite User

Applications

BehavePlus

Applications

Name	Version	Modify
BehavePlus	7.0.0	<div>Edit</div> <div>Delete</div>

Add Application

Name

Major Version

Minor Version

Patch Version

Create

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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 applicaiton 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

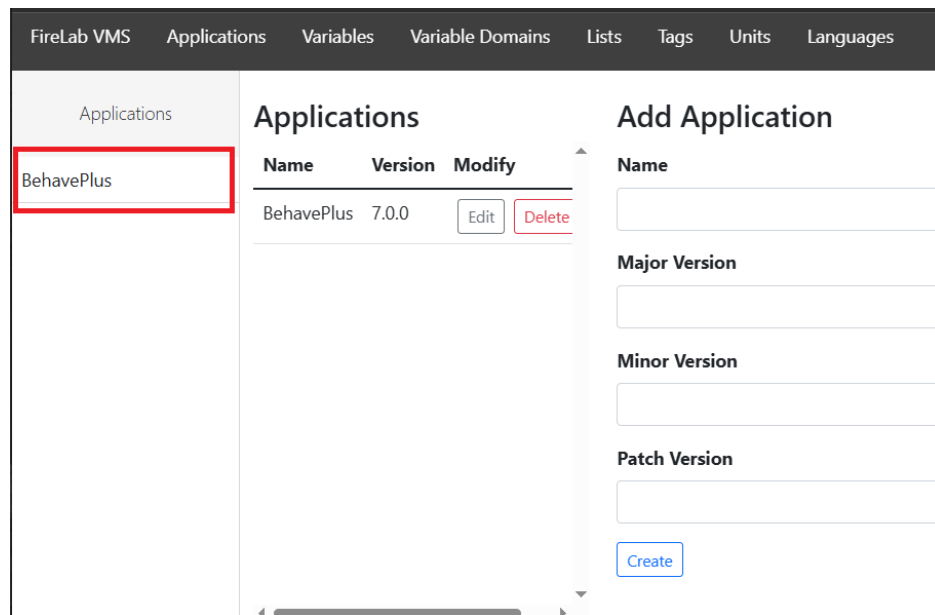


Figure 1: VMS: Home page

WORKING AREA

Module: Surface + Show Notes

Outputs Inputs

Submodules: Fire Behavior, Size, Spot, Wind and Fuel

Direction Mode:

☐ Heading

☐ Heading, Backing, Flanking

☐ Direction of Interest

Surface Fire Group:

☐ Rate of Spread

☐ Flame Length

☐ Fireline Intensity

Ignition:

☐ Probability of Ignition

Back Next

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

WORKING AREA

Module: Surface + Show Notes

Outputs Inputs

Submodules: Fuel Model, Fuel Moisture, Wind and Slope

Standard Group:

 Fuel Model Sub Group:

 Selected Fuel Model Code + Select More

 Your Fuel Model Code selections

Back Next

Figure 3: Application: Inputs page after a Surface Only workhseet 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.

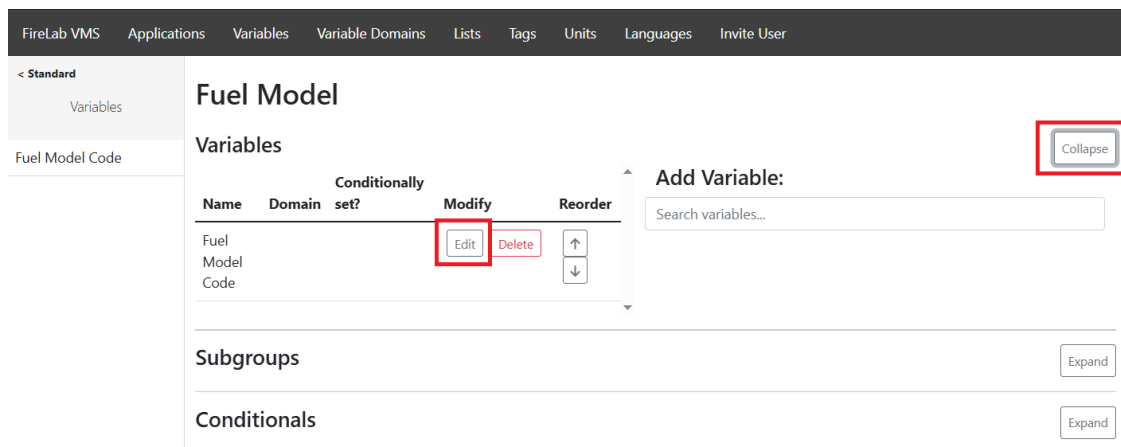


Figure 4: VMS: Finding the variable associated with a group variable

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.

The screenshot displays a software interface titled "WORKING AREA". At the top right, there are "Outputs" and "Inputs" buttons. Below the title bar, there is a "Surface" section with a circular icon and a "+ Show Notes" button. A tabbed interface shows "Fuel Model", "Fuel Moisture", and "Wind and Slope" tabs, with "Wind and Slope" being the active tab. The "Wind measured at:" section is highlighted in light green and contains a "List" label. Below this, three radio button options are shown: "Midflame (Eye Level)", "20-Foot", and "10-Meter". The "10-Meter" option is selected and highlighted with a red box. A red arrow points from the "List Option" label to the "10-Meter" option. Below this, the "Wind and slope are" section is highlighted in light green and contains two radio button options: "Aligned (Wind is $\leq 30^\circ$ from upslope)." and "Not Aligned (Wind is $> 30^\circ$ from upslope.)". The "Slope" section is highlighted in light green and contains a "Values:" input field with "0 - 604", a "Range Selector" button, and "Units used: %". At the bottom, there are "Back" and "Next" buttons.

Figure 5: Application: List options as radio selections.

WORKING AREA

Surface [+ Show Notes](#)

[Fuel Model](#) [Fuel Moisture](#) [Wind and Slope](#)

Standard

Fuel Model

Please select from the following Fuel Model Code (you can select multiple)

[Grass](#) [Grass Shrub](#) [Shrub](#) [Timber Understory](#) [Timber Litter](#) [Slash Blowdown](#)

Standard Fuel Models (Anderson, Scott and Burgan) Mediterranean Fuel Models (Fernandes et al; Portugal) Chaparral & Coastal Sage Shrub (Weise, Southern CA)

- + FB1/1 - Short grass (Static)
- + FB2/2 - Timber grass and understory (Static)
- + FB3/3 - Tall grass (Static)
- + FB4/4 - Chaparral (Static)
- + FB5/5 - Brush (Static)
- + FB6/6 - Dormant brush, hardwood slash (Static)
- + FB7/7 - Southern rough (Static)

Selected Fuel Model Code [View](#)

[Back](#) [Next](#)

Figure 6: Application: List options as multi select dropdown.

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.

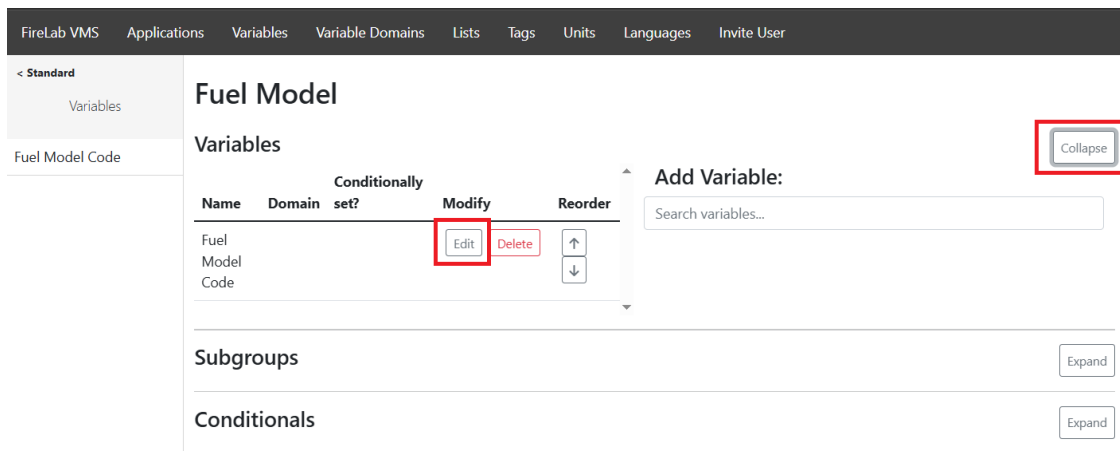


Figure 7: VMS: Group page

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

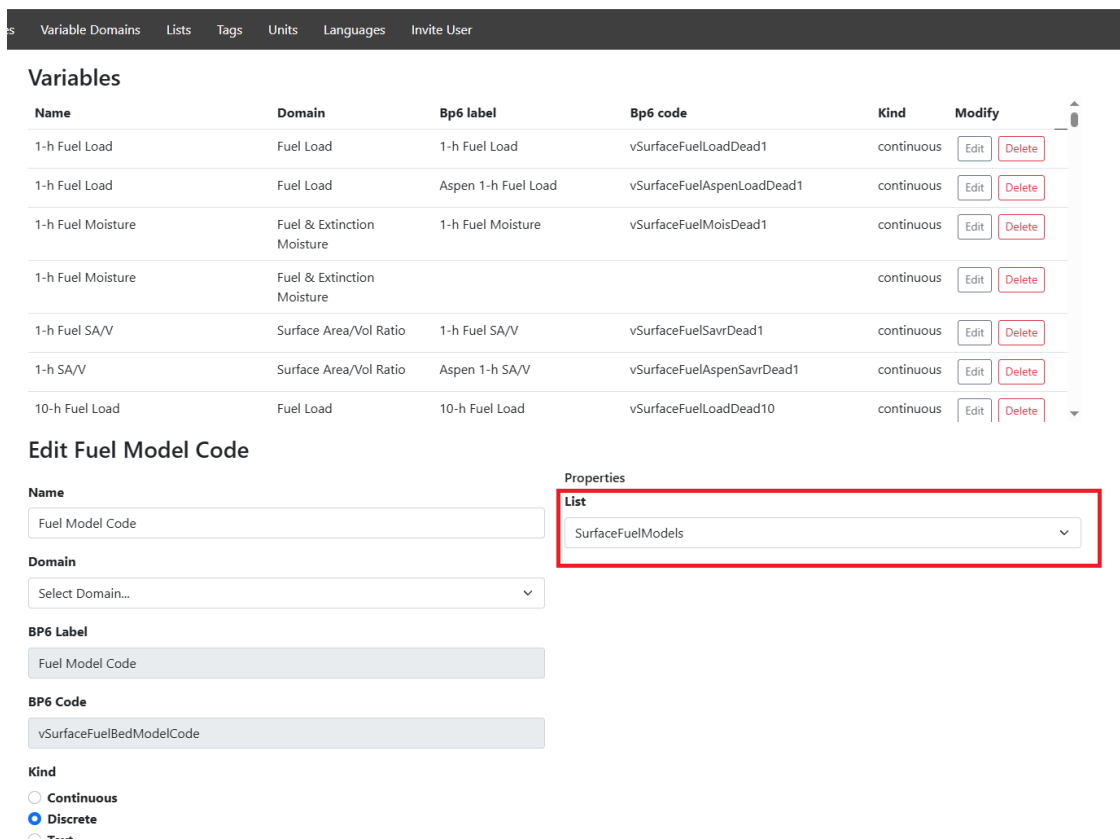


Figure 8: VMS: Variables page

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

es Variable Domains **Lists** Tags Units Languages Invite User

Lists

Name	Modify
MortalitySpeciesMasterList	Edit Delete
ScorchHeightOrFlameLength	Edit Delete
SpotFireSource	Edit Delete
SurfaceFuelModels	Edit Delete
SurfaceRunInDirectionOf	Edit Delete
SurfaceSpreadDirectionMode	Edit Delete
TimeZone	Edit Delete
TreeSpeciesList	Edit Delete

Add List

Name

Filter Tag Set

Color Tag Set

[Create](#)

All Options

Name	Value	Order	Default	Tags	Color tag	Modify	Reorder
------	-------	-------	---------	------	-----------	--------	---------

Add Option

Name

Value

Order

Default
☐

Tags

Color tag

Modify
[Edit](#) [Delete](#)

Reorder
[Up](#) [Down](#)

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.

The screenshot shows the 'WORKING AREA' interface with the 'Fuel Model' tab selected. The 'Filter Tag Set' section includes buttons for 'Grass', 'Grass Shrub', 'Shrub', 'Timber Understory', 'Timber Litter', and 'Slash Blowdown'. The 'Color Tag Set' section includes buttons for 'Standard Fuel Models (Anderson, Scott and Burgan)', 'Mediterranean Fuel Models (Fernandes et al; Portugal)', and 'Chaparral & Coastal Sage Shrub (Weise, Southern CA)'. Below these, a list of fuel model codes is shown, each with a plus icon and a static tag. At the bottom, there is a 'Selected Fuel Model Code' section with a 'View' button, and 'Back' and 'Next' buttons.

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

You can find existing tags in the VMS by:

1. Navigate to the "Tags" tab

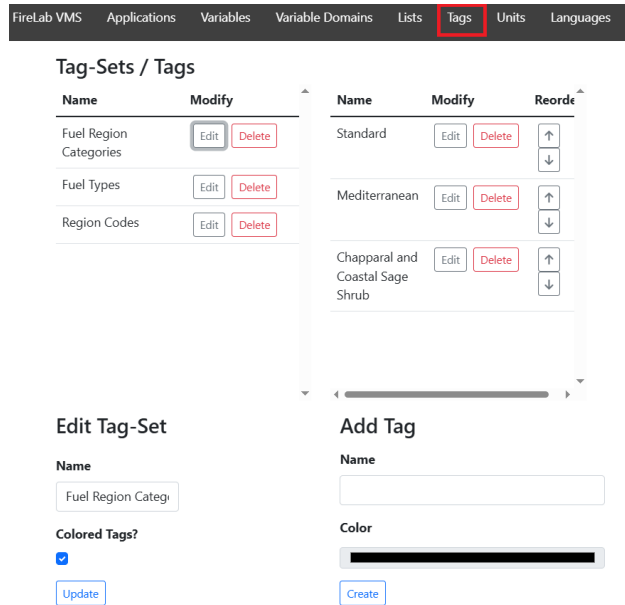


Figure 11: VMS: Tags page

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.

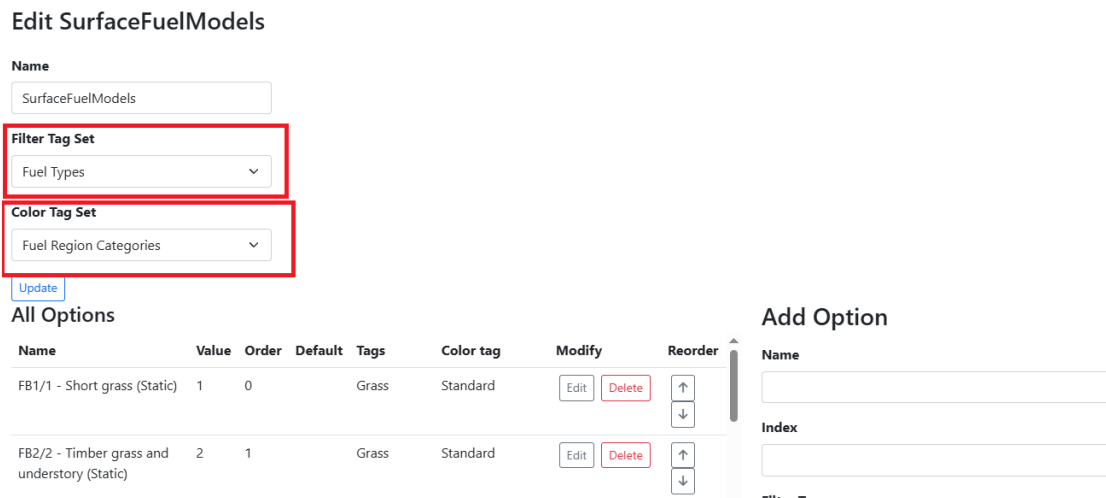


Figure 12: VMS: List page

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.

The screenshot shows the 'General Units' tab selected in the application. The left sidebar contains a 'Modules' section with icons for Surface, Crown, Contain, and Mortality, and a 'Tools & Settings' section with icons for Calculator and Settings. The 'Contain' domain set is selected, and its associated variable domains are listed in a table.

Variable Domain	Units	Decimals
Containment Distances	ch	0
Line Production Rate	ch/h	

Below the table, there are several domain sets listed as accordions: Fire & Effects, Fuel & Vegetation, Terrain & Spotting, Time & Map, and Weather.

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.

FireLab VMS
Applications
Variables
Variable Domains
Lists
Tags
Units
Languages

Domain Sets

Name	Modify
Contain	<div>Edit</div> <div>Delete</div>
Fire & Effects	<div>Edit</div> <div>Delete</div>
Fuel & Vegetation	<div>Edit</div> <div>Delete</div>
Terrain & Spotting	<div>Edit</div> <div>Delete</div>
Time & Map	<div>Edit</div> <div>Delete</div>
Weather	<div>Edit</div> <div>Delete</div>

Domains

Name	Modify
Containment Distances	<div>Edit</div> <div>Delete</div>
Line Production Rate	<div>Edit</div> <div>Delete</div>

Edit Domain Set

..

Add Domain

Name

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

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Variables

Name	Domain	Bp6 label	Bp6 code	Kind	Modify
1-h Fuel SA/V	Surface Area/Vol Ratio	1-h Fuel SA/V	vSurfaceFuelSavrDead1	continuous	Edit Delete
1-h SA/V	Surface Area/Vol Ratio	Aspen 1-h SA/V	vSurfaceFuelAspenSavrDead1	continuous	Edit Delete
10-h Fuel Load	Fuel Load	10-h Fuel Load	vSurfaceFuelLoadDead10	continuous	Edit Delete
10-h Fuel Moisture	Fuel & Extinction Moisture	10-h Fuel Moisture	vSurfaceFuelMoisDead10	continuous	Edit Delete
10-m wind and wind adjustment factor	Wind Speed	10-m Wind Speed (upslope)	vWindSpeedAt10MUpslope	continuous	Edit Delete
100-h Fuel Load	Fuel Load	100-h Fuel Load	vSurfaceFuelLoadDead100	continuous	Edit Delete
100-h Fuel Moisture	Fuel & Extinction	100-h Fuel Moisture	vSurfaceFuelMoisDead100	continuous	Edit Delete

Edit Heading Rate of Spread

Name

Domain

BP6 Label

BP6 Code

Properties
Dimension

English Units

English Decimal

Metric Units

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"

The figure displays four screenshots from the VMS interface. The top-left screenshot shows the 'Domain Sets' table with columns 'Name' and 'Modify'. The 'Contain' row has its 'Edit' button highlighted with a red box. The top-right screenshot shows the 'Domains' table with columns 'Name' and 'Modify'. The 'Containment Distances' row has its 'Edit' button highlighted with a red box. The bottom-left screenshot shows the 'Edit Domain Set' form with the 'Name' field set to 'Contain' and an 'Update' button. The bottom-right screenshot shows the 'Edit Domain' form for 'Containment Distances'. In this form, the 'Decimals' field (set to 0) and the 'Native Unit' dropdown (set to 'Chains (ch)') are highlighted with red boxes. Other fields include 'Dimension' (Length), 'English Unit' (Chains (ch)), 'Metric Unit' (Meters (m)), and 'Filtered Units' (Chains (ch) and Feet (ft) are checked).

Name	Modify
Contain	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Fire & Effects	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Fuel & Vegetation	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Terrain & Spotting	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Time & Map	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Weather	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Name	Modify
Containment Distances	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Line Production Rate	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Edit Domain Set

Name:

Edit Domain

Name:

Decimals:

Dimension:

Native Unit:

English Unit:

Metric Unit:

Filtered Units

- ☒ Chains (ch)
- ☒ Feet (ft)
- ☐ Inches (in)
- ☐ Miles (mi)

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

The screenshot shows the VMS interface for the 'Spot (input)' submodule. The 'Conditionals' section is expanded, showing three conditions. The third condition is selected, and its details are shown in the 'Manage Conditionals' panel on the right.

Spot (input)

Groups

Expand

Conditionals

OR

Surface "Firebrand Height from a Burning Pile" equal ["true"] Edit Delete Add Sub Conditional

Surface "Max Spot Dist from Burning Pile" equal ["true"] Edit Delete Add Sub Conditional

Surface "Max Spot Dist from Wind-Driven Surface Fire" equal ["true"] Edit Delete Add Sub Conditional

Manage Conditionals:

Conditional Type:

☐ Module

☒ Variable

Module:

Surface

Submodule:

Spot (output)

Group/Subgroup:

Maximum Spotting Distance

Variable:

Max Spot Dist from Wind-Driven Su

Operator:

=

Value:

True

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 useful to see where this group variable belongs and not just its module and name. (i.e. The conditional above belongs to the Surface (Module) → Spot Output (Submodule) → Maximum Spotting Distance (group)).

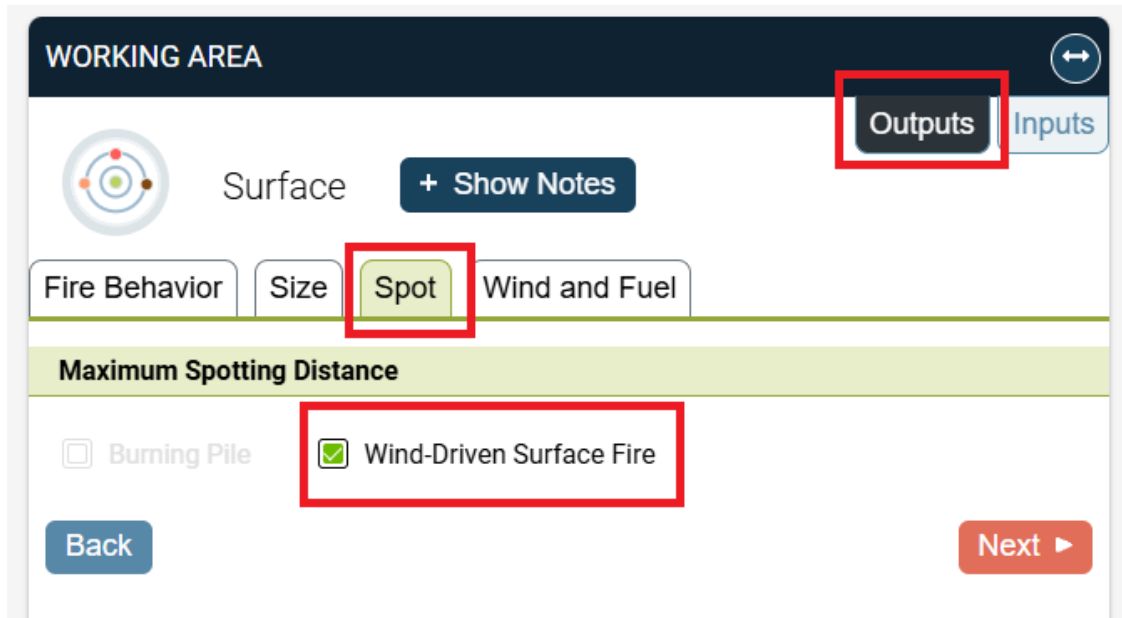


Figure 18: Application: "Wind Driven Surface Fire" is selected as an output.

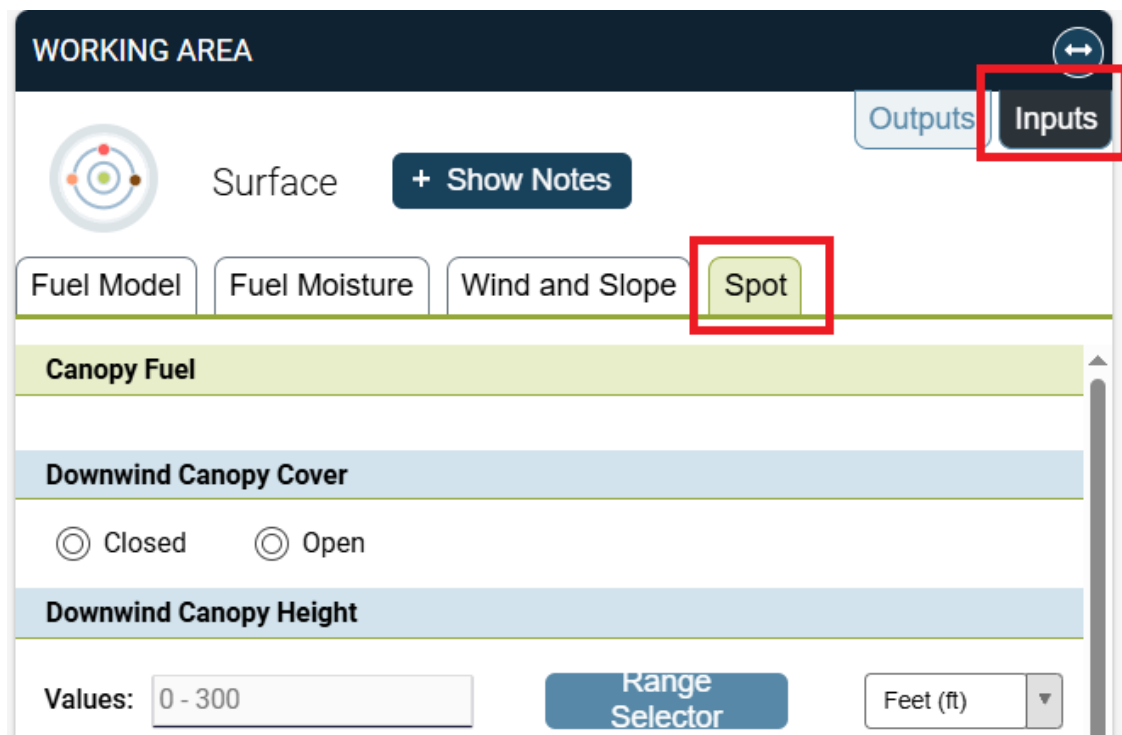


Figure 19: Application: Since "Wind-Driven Surface Fire" is selected as an output, the Spot(Input) submodule passes the conditional and is displayed.

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

< Wind measured at:

Variables

Wind Measured at

Wind Measured at

Translations

Help Page

CPP Functions

Links

Actions

Add Action:

Action Name:

Expand

Expand

Expand

Expand

Collapse

Name	Type	Target value	Modify
Default to 20 Ft Wind Speed when Spot Outputs selected OR Surface + Crown	select	1	<div>Edit</div> <div>Delete</div>
Disable Midflame when Midflame is selected as an output in Surface Module	disable	0	<div>Edit</div> <div>Delete</div>
Disable Midflame when Spot Outputs selected OR Surface + Crown	disable	0	<div>Edit</div> <div>Delete</div>

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

Disable Midflame when Spot Outputs selected OR Surface + Crown
disable 0

Edit
Delete

Edit Action:

Action Name:

Action Type:

☐ Select
☒ Disable

Option:

Conditionals

Conditional Operator:

Conditional Type:

☐ Module
☒ Variable

Module:

Submodule:

Group/Subgroup:

Variable:

Operator:

Value:


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.

WORKING AREA

↔

Outputs

Inputs

 Surface

+ Show Notes

Fire Behavior

Size

Spot

Wind and Fuel

Wind

☒ Midflame Wind Speed

Fuel

☐ Total Live Fuel Load

☐ Total Dead Fuel Load

☐ Total Dead Herbaceous Fuel Load

Back

Next ▶

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

WORKING AREA

Surface

+ Show Notes

Outputs

Inputs

Fuel Model

Fuel Moisture

Wind and Slope

Wind measured at:

☐ Midflame (Eye Level)

☐ 20-Foot

☐ 10-Meter

Wind and slope are

☐ Aligned (Wind is $\leq 30^\circ$ from upslope).

☐ Not Aligned (Wind is $> 30^\circ$ from upslope).

Slope

Values: 0 - 604

Range Selector

Units used: %

Back

Next ▶

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.

Surface Fire

Variables Expand

Subgroups Expand

Conditionals Expand

Translations Collapse

Worksheet Translations

Language	Key	Translation
English	behaveplus:surface:output:fire_behavior:surface_fire	Surface Fire

Result Translations

Language	Key	Translation
English	behaveplus:surface:result:fire_behavior:surface_fire	

Help Page Expand

Settings Expand

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

2.2 List Options

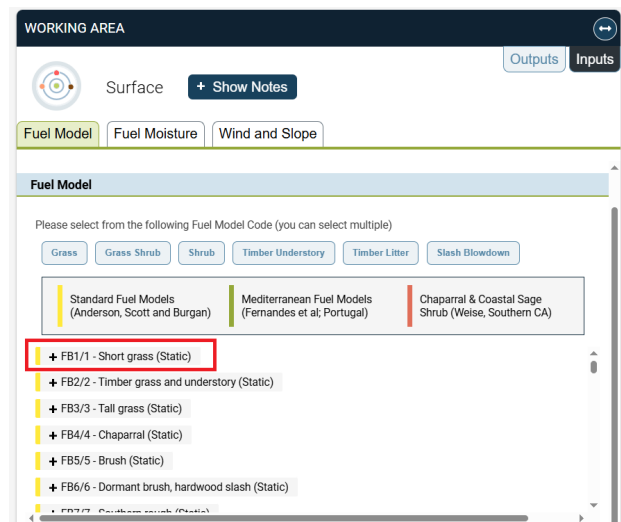


Figure 25: Application: Worksheet translations appear in the wizard.

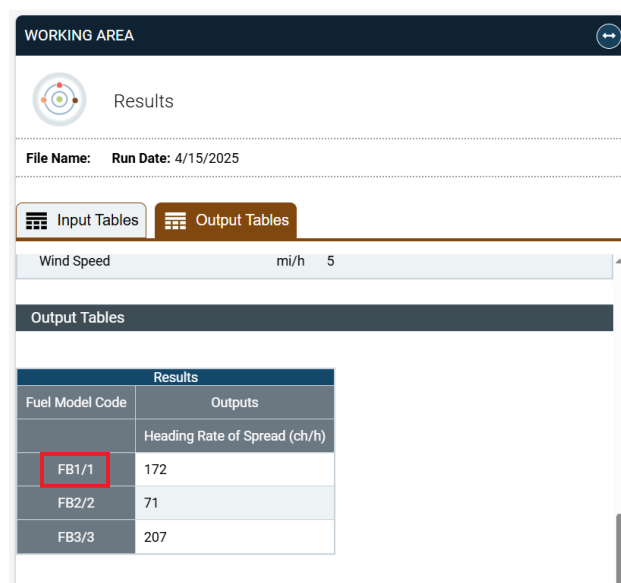


Figure 26: Application: Result translations appear in the results matrices and tables.

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.

Update

All Options

Name	Value	Order	Default	Tags	Color tag	Modify	Reorder
FB1/1 - Short grass (Static)	1	0		Grass	Standard	Edit Delete	↑ ↓
FB2/2 - Timber grass and understory (Static)	2	1		Grass	Standard	Edit Delete	↑ ↓
FB3/3 - Tall grass (Static)	3	2		Grass	Standard	Edit Delete	↑ ↓
FB4/4 - Chaparral (Static)	4	3		Shrub	Standard	Edit Delete	↑ ↓
FB5/5 - Brush (Static)	5	4		Shrub	Standard	Edit Delete	↑ ↓
FB6/6 - Dormant brush, hardwood slash (Static)	6	5		Shrub	Standard	Edit Delete	↑ ↓
FB7/7 - Southern rough (Static)	7	6		Shrub	Standard	Edit Delete	↑ ↓
FB8/8 - Short needle litter (Static)	8	7		Timber Litter	Standard	Edit Delete	↑ ↓
FB9/9 - Long needle or hardwood litter (Static)	9	8		Timber Litter	Standard	Edit Delete	↑ ↓
FB10/10 - Timber litter & slash (Static)	10	9		Timber Litter	Standard	Edit Delete	↑ ↓

Edit Option

Name

FB1/1 - Short grass (Static)

Index

1

Filter Tags

☒ Grass
☐ Grass Shrub
☐ Shrub
☐ Timber Understory
☐ Timber Litter
☐ Slash Blowdown

Color Tag

Standard

Hide Option?

☐

Default

☐ False
☐ True

Update

Worksheet Translation

Language	Key	Translation
English	behavepluslist-option:surface-fuel-models:fm1---short-grass-(s)	FB1/1 - Shor

Result Translation

Language	Key	Translation
English	behavepluslist-option:results:surface-fuel-models:fm1---short-grass-(s)	FB1/1

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.

The screenshot displays the VMS interface for managing tags. At the top is a navigation bar with links: Applications, Variables, Variable Domains, Lists, Tags, Units, Languages, and Invite User. Below this is the 'Tag-Sets / Tags' section, which contains two tables. The left table lists tag sets: 'Fuel Region Categories', 'Fuel Types', and 'Region Codes'. The 'Edit' button for 'Fuel Region Categories' is highlighted with a red box. The right table lists individual tags: 'Standard', 'Mediterranean', and 'Chapparal and Coastal Sage Shrub'. The 'Edit' button for 'Chapparal and Coastal Sage Shrub' is highlighted with a red box. Below these tables are two side panels. The left panel, 'Edit Tag-Set', shows the 'Fuel Region Categories' tag set with a 'Colored Tags?' checkbox checked and an 'Update' button. The right panel, 'Edit Tag', shows the 'Chapparal and Coastal Sage Shrub' tag with a color bar and an 'Update' button. Below the 'Edit Tag' panel is a 'Worksheet Translation' table with columns for Language, Key, and Translation. The 'Translation' column for the 'English' row is highlighted with a red box and contains the text 'Chaparral & Cc'.

Name	Modify
Fuel Region Categories	Edit Delete
Fuel Types	Edit Delete
Region Codes	Edit Delete

Name	Modify	Reorder
Standard	Edit Delete	↑ ↓
Mediterranean	Edit Delete	↑ ↓
Chapparal and Coastal Sage Shrub	Edit Delete	↑ ↓

Edit Tag-Set

Name: Fuel Region Categories

Colored Tags? ☒

[Update](#)

Edit Tag

Name: Chapparal and Coastal Sage Shrub

Color:

[Update](#)

Worksheet Translation

Language	Key	Translation
English	behaveplus:tags:fuel-region-categories:chapparal-and-coastal-sage-shrub	Chaparral & Cc

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

Domain Sets

Name	Modify
Contain	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Fire & Effects	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Fuel & Vegetation	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Terrain & Spotting	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Time & Map	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Weather	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Edit Domain Set

Name
Contain

Domains

Name	Modify
Containment Distances	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Line Production Rate	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Edit Domain

Name
Containment Distances

Decimals
0

Dimension
Length

Native Unit
Chains (ch)

English Unit
Chains (ch)

Metric Unit
Meters (m)

Filtered Units

- ☒ Chains (ch)
- ☒ Feet (ft)
- ☐ Inches (in)
- ☐ Miles (mi)

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

The figure displays four screenshots from the VMS interface, illustrating the process of updating domain precision. The top-left screenshot, titled "Domain Sets", shows a table with domain names and "Edit" and "Delete" buttons. The "Edit" button for the "Contain" domain is highlighted with a red box. The top-right screenshot, titled "Domains", shows a similar table with "Containment Distances" and "Line Production Rate" domains. The "Edit" button for "Containment Distances" is highlighted with a red box. The bottom-left screenshot, titled "Edit Domain Set", shows the form for editing the "Contain" domain set, with an "Update" button at the bottom. The bottom-right screenshot, titled "Edit Domain", shows the form for editing the "Containment Distances" domain. The "Decimals" field, which currently contains the value "0", is highlighted with a red box. Below the "Decimals" field are dropdown menus for "Dimension" (set to "Length"), "Native Unit" (set to "Chains (ch)"), "English Unit" (set to "Chains (ch)"), and "Metric Unit" (set to "Meters (m)"). At the bottom of this form is a "Filtered Units" section with checkboxes for "Chains (ch)", "Feet (ft)", "Inches (in)", and "Miles (mi)".

Name	Modify
Contain	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Fire & Effects	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Fuel & Vegetation	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Terrain & Spotting	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Time & Map	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Weather	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Name	Modify
Containment Distances	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Line Production Rate	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Edit Domain Set

Name:

Edit Domain

Name:

Decimals:

Dimension:

Native Unit:

English Unit:

Metric Unit:

Filtered Units

- ☒ Chains (ch)
- ☒ Feet (ft)
- ☐ Inches (in)
- ☐ Miles (mi)

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

The screenshot displays the VMS Domains Page with two main sections: a list of domains and two detailed edit forms.

Domains List:

Domain Name	Edit	Delete
Fire & Effects	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Fuel & Vegetation	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Terrain & Spotting	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Time & Map	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Weather	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>

Edit Domain Set:

Name
Fuel & Vegetation

Edit Domain:

Name
Tree & Canopy Height

Decimals

Dimension
Length

Native Unit
Feet (ft)

English Unit
Feet (ft)

Metric Unit
Meters (m)

Filtered Units

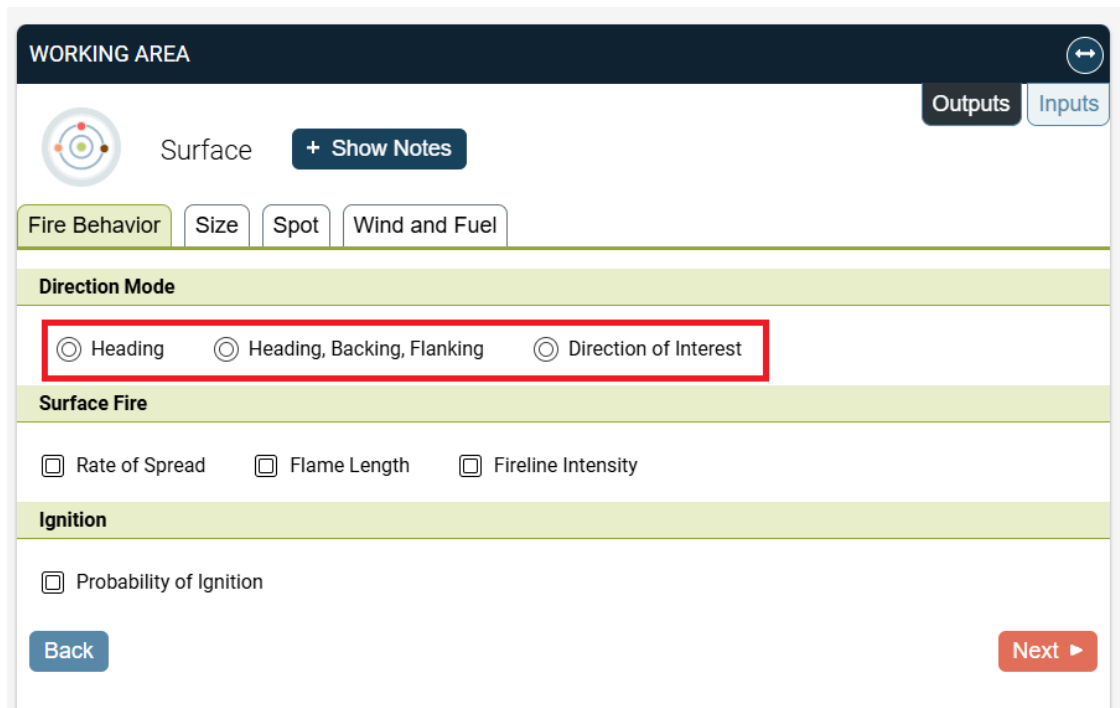
- ☐ Chains (ch)
- ☒ Feet (ft)
- ☐ Inches (in)
- ☐ Miles (mi)
- ☐ Centimeters (cm)
- ☐ Kilometers (km)
- ☒ Meters (m)
- ☐ Millimeters (mm)

Figure 31: VMS: Domains Page Updating Units dropdown 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



The screenshot shows a web application interface for configuring fire simulation parameters. At the top is a dark blue header labeled "WORKING AREA" with a circular arrow icon on the right. Below the header, there's a "Surface" section with a circular icon and a "+ Show Notes" button. To the right of this are "Outputs" and "Inputs" tabs. Below these are four tabs: "Fire Behavior" (selected), "Size", "Spot", and "Wind and Fuel". The "Direction Mode" section contains three radio button options: "Heading", "Heading, Backing, Flanking", and "Direction of Interest". The "Direction of Interest" option is selected and highlighted with a red rectangular box. Below this is the "Surface Fire" section with three checkboxes: "Rate of Spread", "Flame Length", and "Fireline Intensity". The "Ignition" section has one checkbox: "Probability of Ignition". At the bottom left is a "Back" button, and at the bottom right is a "Next" button with a right-pointing arrow.

Figure 32: Application: Reordering Direction Mode output selections.

Direction Mode

Variables

Name	Domain	Conditionally set?	Modify	Reorder
Heading			Edit Delete	↑ ↓
Heading, Backing, Flanking			Edit Delete	↑ ↓
Direction of Interest			Edit Delete	↑ ↓


Add Variable:

Subgroups

[Expand](#)

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

WORKING AREA

 Surface [+ Show Notes](#)

[Outputs](#) [Inputs](#)

[Fuel Model](#) [Fuel Moisture](#) [Wind and Slope](#)

Standard

Fuel Model

Please select from the following Fuel Model Code (you can select multiple)

[Grass](#) [Grass Shrub](#) [Shrub](#) [Timber Understory](#) [Timber Litter](#) [Slash Blowdown](#)

Standard Fuel Models (Anderson, Scott and Burgan)

Mediterranean Fuel Models (Fernandes et al; Portugal)

Chaparral & Coastal Sage Shrub (Weise, Southern CA)

+ FB1/1 - Short grass (Static)

+ FB2/2 - Timber grass and understory (Static)

+ FB3/3 - Tall grass (Static)

+ FB4/4 - Chaparral (Static)

+ FB5/5 - Brush (Static)

+ FB6/6 - Dormant brush, hardwood slash (Static)

+ FB7/7 - Southern rough (Static)

Selected Fuel Model Code [View](#)

Figure 34: Application: Reordering fuel model codes.

SurfaceFuelModels

EditDelete

SurfaceRunInDirectionOf

EditDelete

SurfaceSpreadDirectionMode

EditDelete

TimeZone

EditDelete

TreeSpeciesFofem

EditDelete

Edit SurfaceFuelModels

Name

SurfaceFuelModels

Filter Tag Set

Fuel Types

Color Tag Set

Fuel Region Categories

Update

All Options

Name	Value	Order	Default	Tags	Color tag	Modify	Reorder
FB1/1 - Short grass (Static)	1	0		Grass	Standard	EditDelete	↑ ↓
FB2/2 - Timber grass and understory (Static)	2	1		Grass	Standard	EditDelete	↑ ↓
FB3/3 - Tall grass (Static)	3	2		Grass	Standard	EditDelete	↑ ↓
FB4/4 - Chaparral (Static)	4	3		Shrub	Standard	EditDelete	↑ ↓

Add Option

Name

Index

Filter Tags

☐ Grass
 ☐ Grass Shrub
 ☐ Shrub
 ☐ Timber Understory
 ☐ Timber Litter
 ☐ Slash Blowdown

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