Editing Landscape Data for Landscape Evaluation

Landscape Editing can occur in both the Landscape Evaluation stage of the Planning Cycle under **Landscape Edit**, or within the Strategic Planning stage under Develop **Treatment Alternatives**. Menu options and results are the same for both. The first option is used for making landscape edits, regardless of other activities you are performing in IFTDSS. The second option is built into a larger workflow of creating and comparing treatment alternatives, that we will look at for the final tutorial in this workshop.

Editing in IFTDSS creates a new, edited, version of the landscape you select. This allows you to create different conditions or scenarios with your editing, while never overwriting your original landscape file.

Tutorial Information: This tutorial includes edits that alter specific parts of our example Haypress landscape. You may follow along with your own landscape, though you may have to select different landscape features to make edits to. Note that this is the last short tutorial, and not directly linked to activities later in the workshop. As such, feel free to experiment with these editing rules if you like.

Editing Rule Background

There are two editing methods in IFTDSS:

- **Default Fuels Treatment / Disturbance Edit Rules** allow you to represent landscape changes based on default editing rules.
- **User Created Edit Rules** allow you to directly select and change landscape features.

IFTDSS allows you to either edit your landscape with a single rule, or string together different rules before applying them to your landscape.The online Help Center contains more technical documentation on how rules are implemented, but we will outline a few general rules of thumb here:

Applying Default Fuels Treatment / Disturbance Edit Rules

Default Fuels Treatment / Disturbance Rules are applied based on the order in which you add them to your editing session. If multiple Default Fuels Treatment / Disturbance Rules are used within one editing session, they are applied sequentially, meaning that the output from Rule 1 is the input for Rule 2, etc.

Applying User Created Edit Rules

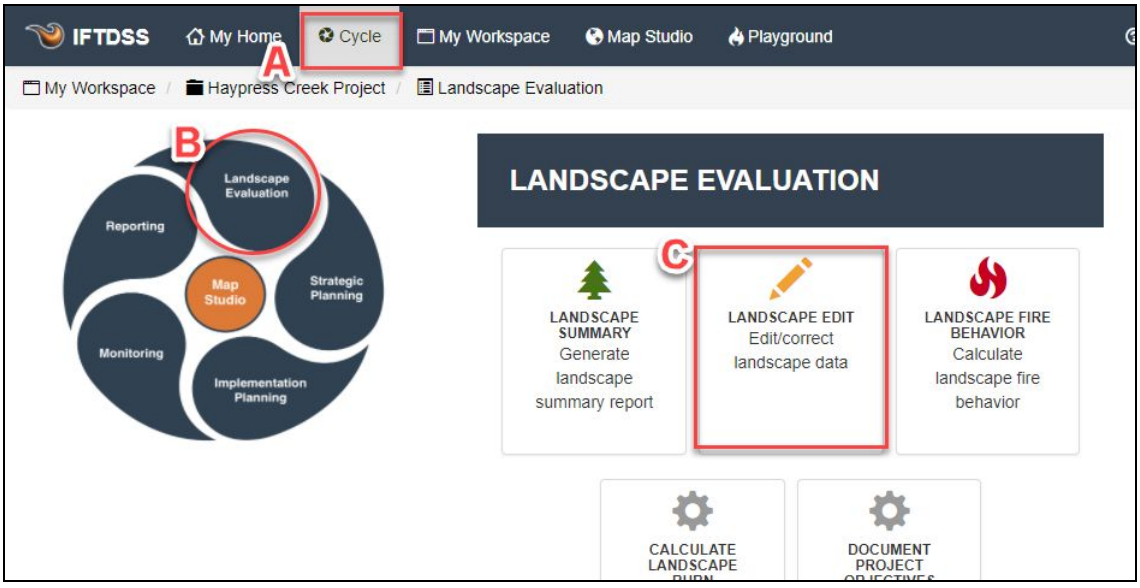
- A specific attribute for a given cell can only be changed once per editing session. It is the first edit of an attribute for a cell that affects the change. Subsequent rules that prescribe changes to a cell that has already been changed by a previous rule in the same editing session are ignored.
- Attributes are considered separately when applying User Created Edit rules. For example, a rule that modifies fuel model for a particular cell does not preclude canopy cover or another fuel

attribute from being modified by a subsequent rule.

- When applying multiple User Created Edit Rules, the selection criteria cannot be contingent on another change that is being made in the same editing session.

Beginning to Edit

Navigate to the Landscape Edit Task:

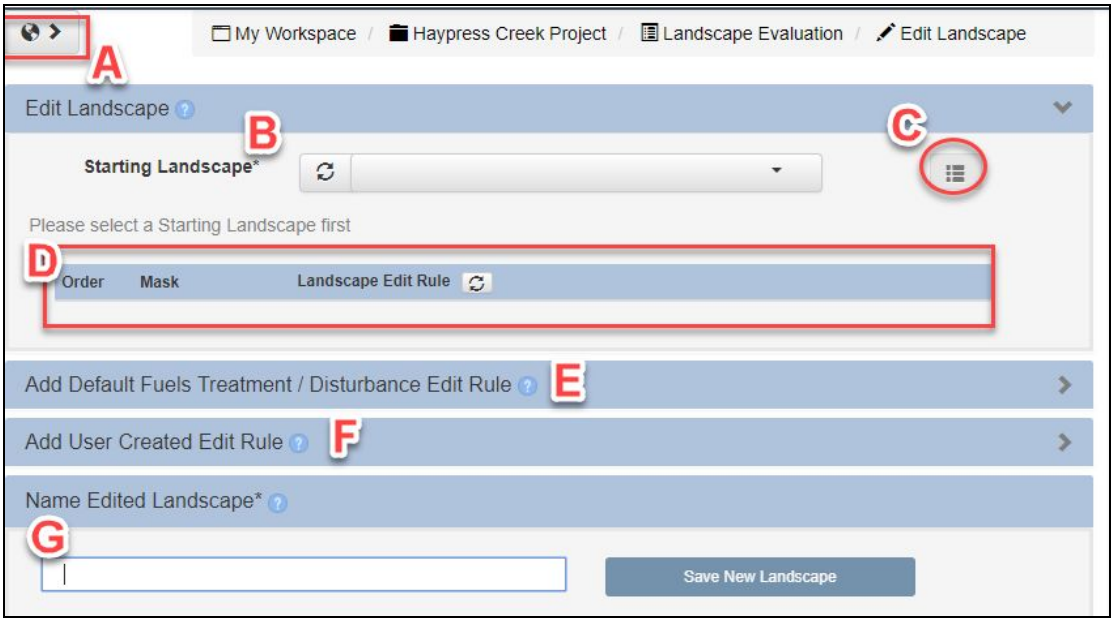


A. Click on the **Cycle** from the top navigation menu.

B. Click on the **Landscape Evaluation** stage.

C. Click on the **Landscape Edit** Task.

Take a couple moments to become familiar with the Editing interface:



A. The **Split Screen** button will display a map on the left, and shift your editing interface to the right side of screen. Clicking this button again will restore the interface to full screen mode.

B. The Starting Landscape dropdown allows you to choose a landscape to edit

C. Clicking the button to the right of the dropdown will display any rules applied to your chosen landscape during its last edit session (if it has been edited before).

D. As you specify or create rules they will be listed here, along the order they are to be applied. If needed, they can also be deleted from this location before they are applied (a trash can icon is available to the right of each rule).

E. Dropdown interface to select Default Fuels Treatment/Disturbance Edit Rules

F. Dropdown interface to create your own custom rules

G. Name field to name your newly edited landscape. Clicking the **Save New Landscape** button.

Now you will create an edited landscape using a Default Fuels Treatment/Disturbance Rule. While still in the interface you will create a second landscape with a User Created Rule.

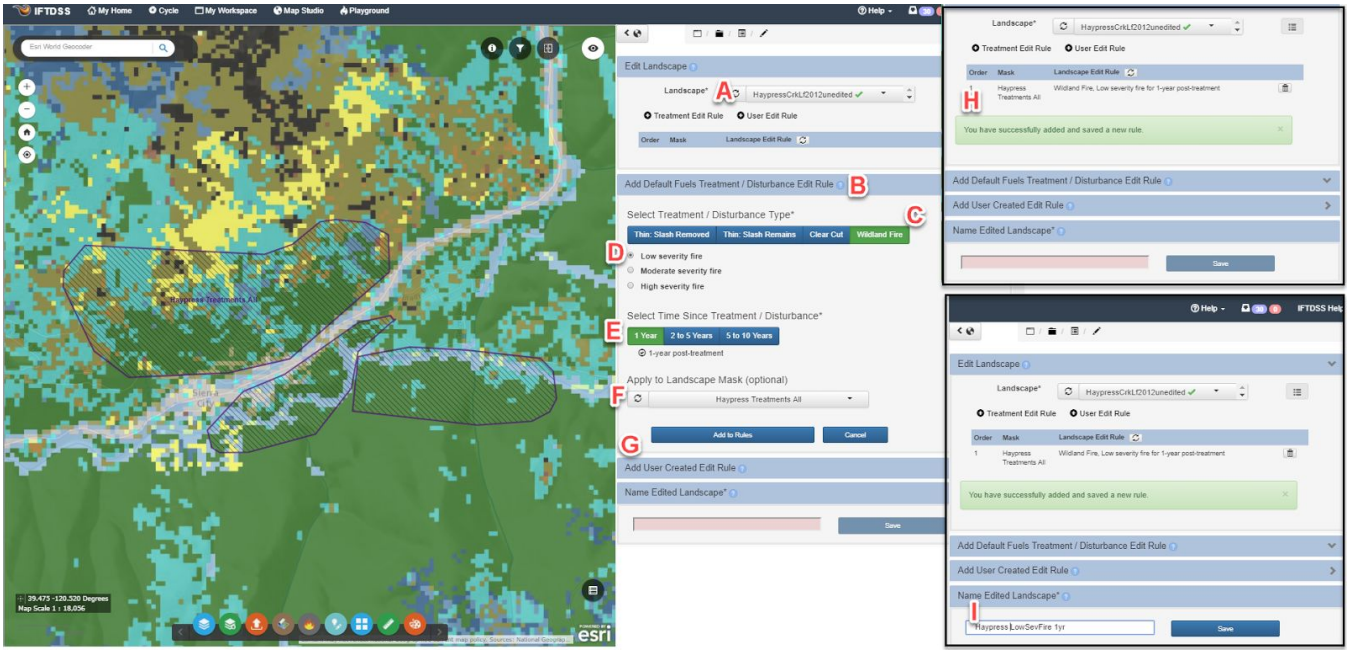
Before proceeding, click the **Split Screen** button .

Add Default Fuels Treatment/Disturbance Rule

Before beginning, we'll provide a brief explanation on how the Default Fuel Treatment / Disturbance Edit Rules function. These rules are applied using LANDFIRE Lookup tables (LFLU) and Fuel Model Lookup (FMLU) tables. These are applied within IFTDSS, as a user you will not see this process. The LFLU tables were created in an effort to improve the LANDFIRE fuels layers between versions. The LFLU tables are used to adjust the fuel attributes of cells, including fuel model, canopy cover, stand

height, canopy base height, and canopy bulk density, based on the type and intensity of treatment or disturbance and the time that has elapsed since that treatment or disturbance. For the full technical details on these rules, visit the Default Edit Rule Technical Documentation Topic.

Generate an edited landscape that represents low severity fire just within an area of interest, 1 year post:



A. Select your landscape from the dropdown menu, in this example “HaypressCrk2012 unedited”
B. Click the Default Fuel Treatment heading to display editing options
C. Select Wildland Fire
D. Choose the Low Severity fire option. You may hover over these options for more details on what each of them means. We have also listed brief explanations for all possible default options at the end of this tutorial as an appendix.
E. Select 1 Year for time since disturbance
F. Choose an Area of Interest to limit this edit to, in this example “Haypress Treatments All”
G. Click Add to Rules
H. Notice that a green confirmation box will appear after adding the rule. This verifies the rule has been created. There is a “1” displayed under order. The “1” indicates this rule will be the first to be applied to the landscape. If you were to follow it with another treatment/disturbance rule, that one would be marked with a “2”, indicating it would be applied to the landscape after rule #1.

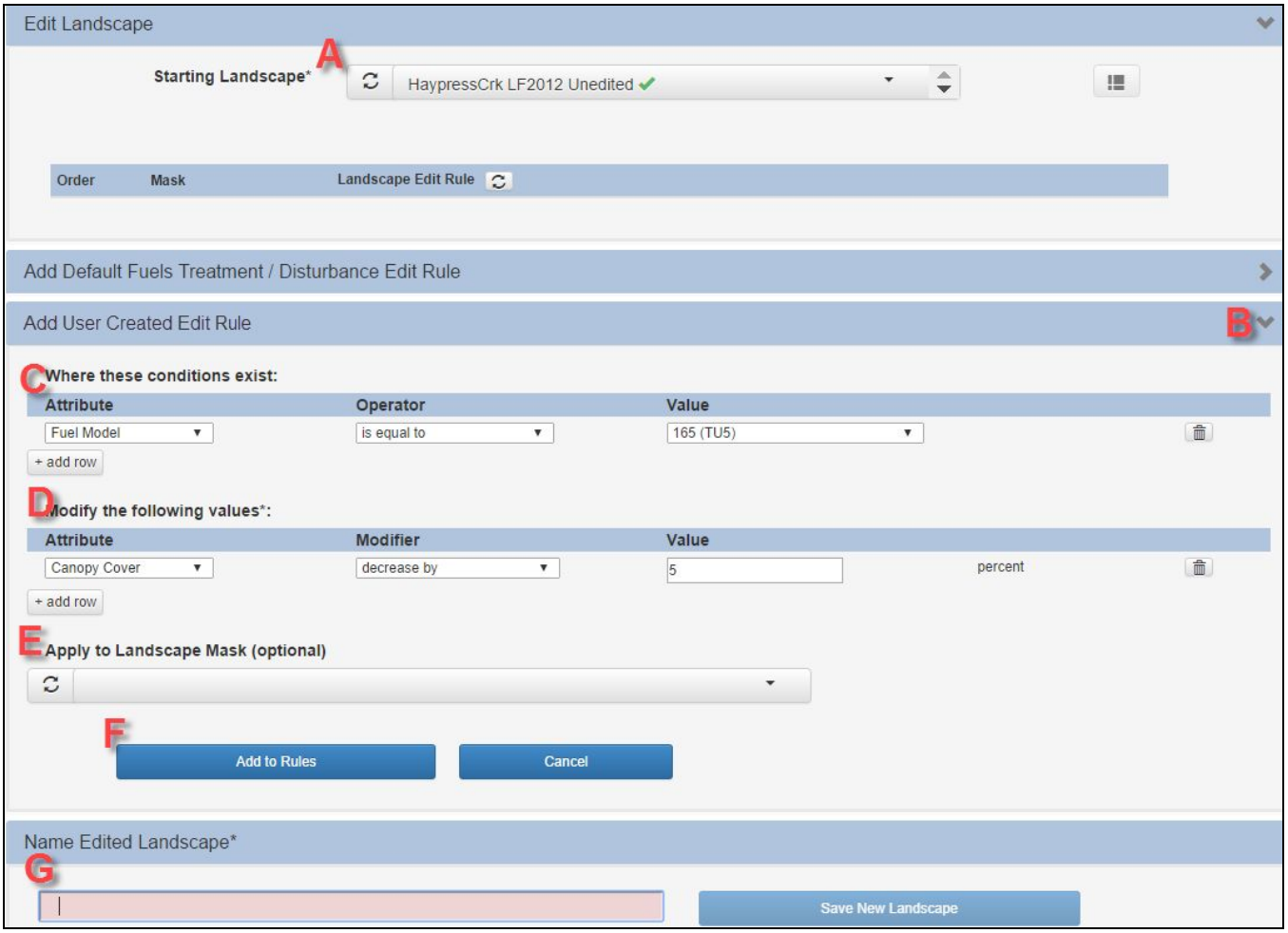
Rules are applied top to bottom, first by Default Fuels Treatment / Disturbance Edit Rules then by User Created Edit Rules. Currently there is no way to order your rules other than by the order in which you enter them, so be deliberate about how you apply rules and in what order you enter them.
If you begin creating editing rules, and navigate away from the edit page without saving, IFTDSS will retain those rules if you return, or begin edits through another part of the system (e.g.leaving Landscape Evaluation edits and then going into landscape comparison and editing). Partially completed edits will persist until they are saved or deleted.

I. Enter a name for the newly edited landscape and click **Save**. The new landscape will now be available throughout IFTDSS. Edited landscapes are placed in the same folder as their parent landscape.

Next, stay in the editing interface, and create a new edited landscape with a custom rule.

Add User Created Edit Rule

Create a newly edited landscape with a custom rule. For this example we'll decrease the canopy cover by 5% for all areas with fire behavior fuel model TU5:



A. Choose the **Starting Landscape** you want to edit, in this example, "Haypress Crk LF2012 unedited"

B. View the User Created Edit Rule option by clicking the dropdown heading.

C. Specify the conditions you would like to select in the fields below **Where these conditions exist**. In this example we have selected 'Fuel Model' as the Attribute, 'is equal to' as the Operator and fire behavior fuel model '165 (TU5)' as the Value. This selected all TU5 fuel modeled areas across the landscape.

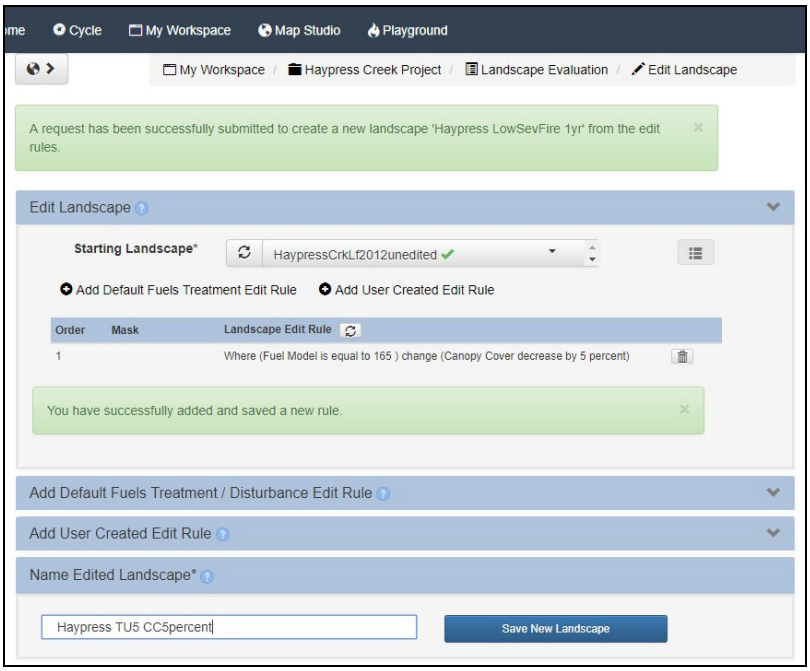
D. Specify the conditions you would like to change by populating the fields below **Modify the following values**. In the example pictured here we have selected 'Canopy Cover' as the

Attribute, 'decrease by' as the Operator, and '5' (for 5 percent) as the Value. For all TU5 fuel modeled areas, the application decreases the canopy cover by 5 percent.

E. Leave the ‘apply to Landscape Mask’ option blank. This will apply the rule to the entire landscape.

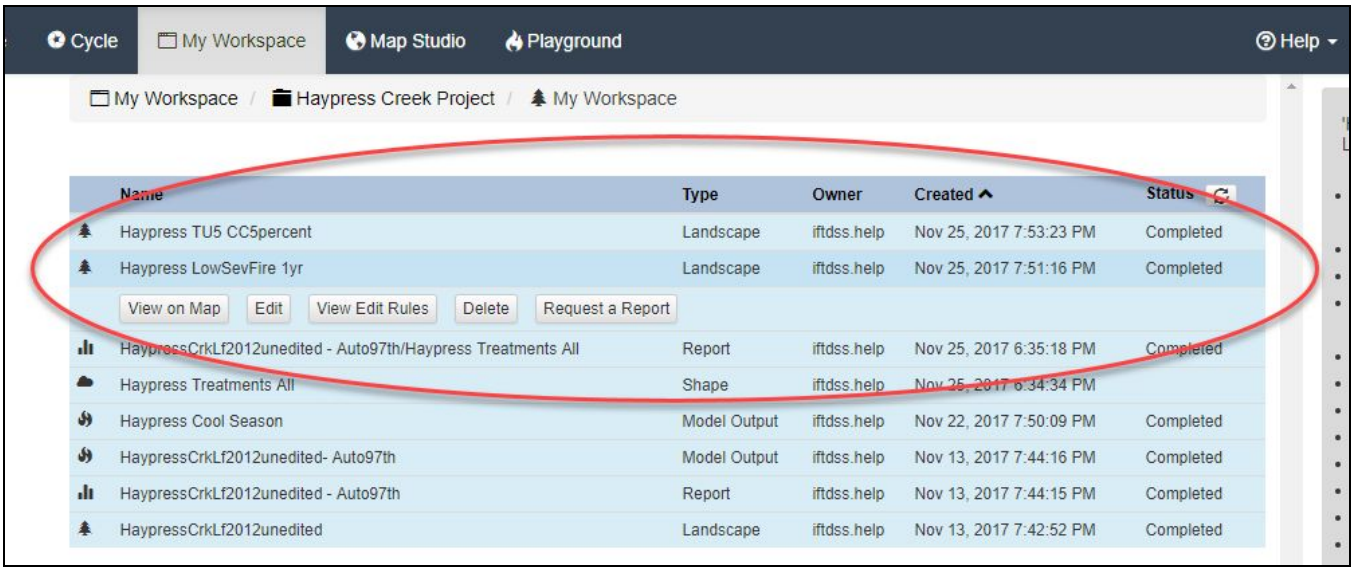
F. When you are ready to apply this rule select **Add to Rules**. Notice the rule has been added to the list, and the order noted. You can delete rules before saving by using the delete button to the right of each rule.

G. Give the landscape a descriptive name, in this case “Haypress TU5 CC5percent” and click **Save New Landscape**. A Green confirmation will appear to let you know your landscape has been created. It is now available throughout IFTDSS



Editing Wrap-up

Navigate to **My Workspace** and take a couple minutes to view your newly created landscapes:



Notice that you have all the same options and capabilities to view, edit, delete, or summarize an edited landscape as you do for any other landscape in IFTDSS.

Congratulations! You have completed the first half of the IFTDSS workshop. You performed all the functions in IFTDSS that are currently under the Landscape Evaluation stage of the Planning Cycle. You are now ready for the second half of this workshop. In the second half, you will apply these skills to the Develop Treatment Alternatives workflow in IFTDSS as you develop and compare treatment alternatives in a realistic management scenario.

Appendix - Default Landscape Edit Rule Explanations

Light Thinning; Pile Burn - Thins the stand to ~80% of present density by removing understory up to 8" DBH. Subsequent pile burning of thinned material.

Heavy Thinning; Pile Burning - Thins the stand to ~35% of present density with no upper diameter limit.

Moderate Thin; Lop and Scatter - Thins the stand to ~45% of present density by removing understory up to 6" DBH. Thinned material left on site and spread evenly.

Moderate Thin; Masticate - Thins the stand to ~25% of present density by removing understory up to 6” DBH. Thinned material crushed, chipped, and left on site.

Heavy Thin; Masticate - Thins the stand to ~10% of present density by removing understory up to 8” DBH. Thinned material crushed, chipped, and left on site.

Clearcut and Broadcast Burn - This treatment consists of removal of 100% of overstory with subsequent prescribed burn covering 100% of the area.

Low Severity Fire: Fire with resulting mortality of above ground vegetation <25%.

Moderate Severity Fire: Fire with resulting mortality of above ground vegetation from 25-75%.

High Severity Fire: Fire with resulting mortality of above ground vegetation from 75 to 100%.

1 Year Since Disturbance:

This assumes that the fuel treatment or disturbance occurred the previous year. This time period assumes a minimum reaccumulation of fuel post disturbance or treatment but recognizing that this reaction will vary depending on Existing Vegetation Type (EVT), disturbance or treatment intensity, and local factors of the LANDFIRE zone.

2-5 Years Since Disturbance:

This time period assumes a median of 4 years. Utilizing the Forest Vegetation Simulator (FVS), the LANDFIRE team utilizes the median of this period to model vegetation recovery and fuel accumulation for the purposes of informing the local workshops of local experts to determine an appropriate new EVT and resulting fuel model.

6-10 Year Since Disturbance:

This time period assumes a median of 8 years. Utilizing the Forest Vegetation Simulator (FVS), the LANDFIRE team utilizes the median of this period to model vegetation recovery and fuel accumulation for the purposes of informing the local workshops of local experts to determine an appropriate new EVT and resulting fuel model.