

The information in this chapter describes how to enter non-behavioral fire attributes for each FWA. These user-defined attributes describe how FPA should model fires, how fires should be grown, and how fire resources should provide initial attack. Users can also affect how fast fires spread, when fires “escape,” and what fire intensity level (FIL) causes damage to resources within the FWA.

FPA applies attributes at the FWA level, but users may enter them at the Fire Planning Unit (FPU) level, Fire Management Group (FMG) level, or directly into each FWA.

## Data Requirements for Managing FWA Attributes

Enter the following information into FPA before managing FWA attributes:

- FPU and FWA as entered in **Set Up FPU >FPU Attributes**, **Set Up FPU > FPU Agencies**, **Set Up FPU > Define Team** screens.
- Import the FWA set using the **Set Up FPU >FPU Attributes**, **Select FWA Set to Import** box.

## In This Chapter

This chapter discusses [adding or modifying FWA attributes](#).

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## Managing FWA and Fire Attributes

Use this screen to enter FWA and non-behavioral fire attributes for each FWA in your Fire Planning Unit (FPU). FPA can reduce data entry time by allowing users affected to enter attribute values at the FPU or FMG level and have those values globally applied to all FWAs. For example, if Fire Planners enter attribute information at the FPU level, the same information automatically populates values for all FWAs within the FPU. Similarly, if users enter attributes at the FMG level, the same information applies to all FWAs within that FMG.

Use the global feature to save time by setting those fields that are common among FWAs at the FPU or FMG level then go back to the individual FWAs and adjust attributes that are unique for each work area.

If you edit attributes at the FWA level, do not use the global feature because the global feature overwrites all previous changes made at the FWA level.

Required fields have an asterisk (\*) before the field name.

## Adding or Modifying FWA and Fire Attributes

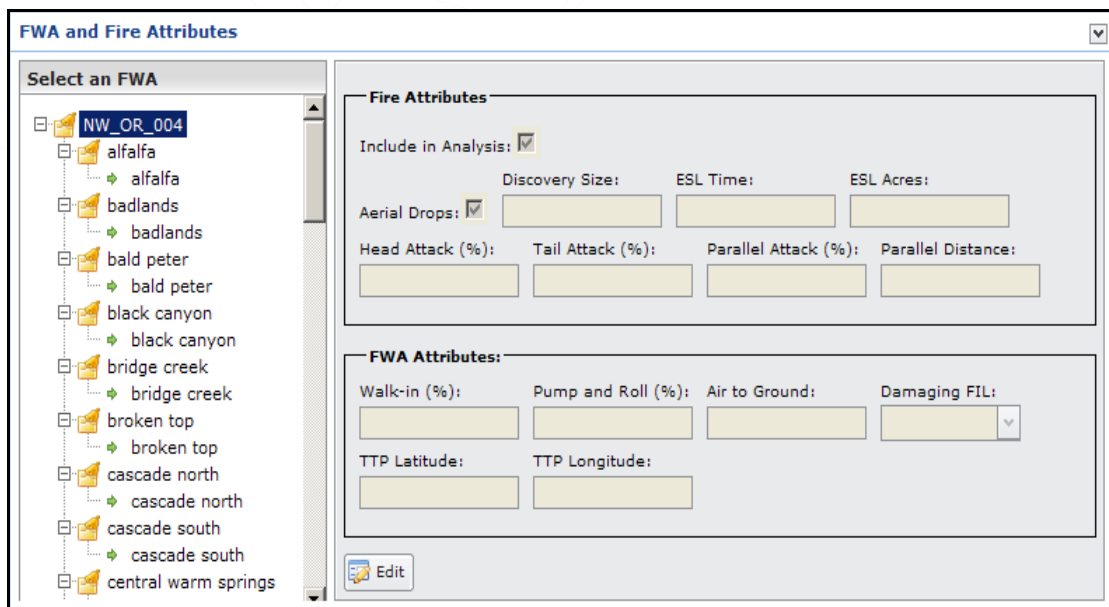
Refer to Managing FWA Behavior Attributes to further information about setting non-behavioral attributes.

1. Select **Input Data > FWAs > Attributes**.

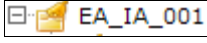

Displays the default view for the FWA and Fire Attributes box.

Attributes only display at the FWA levels.

All checkboxes and fields are disabled.



This box contains two sections.

- **Fire Attributes:** Users enter the size of fires at first discovery, the time or size when fires “escape,” and whether or not the FWA allows aerial drops.
  - **FWA Attributes:** Users enter values for walk-in response, Pump and Roll (%), air to ground coefficient, and Fire Intensity Level (FIL).
2. Click the cross next to the FPU name,  to expand the folder and display FMGs and FWAs for that FPU.
  3. In the Select an FWA box, click to highlight the appropriate FPU, FMG, or FWA you want to edit.
  4. Click .
- The Attributes screen refreshes and enables all fields and checkboxes.
5. Accept the displayed values, or enter new values.

- **Include In Analysis:** Click the checkbox to include the FWA in the analysis. Checking the box includes all the ignitions for this FWA in the results for the analysis.
- **Aerial Drops OK:** Click the checkbox when the FWA allows aurally delivered water or retardant. Ensure that the Dispatch Logic Table assigned to this FWA also includes Helicopters, SEATs or Airtankers. If an FWA has a restriction for dropping retardant you can still allow bucket drops by checking the box and excluding Airtankers and SEATs in your Dispatch Logic Table for the specific FWA.
- **\*Discovery Size:** Enter the fire Discovery Size (from 0.001 to whole acres) for the FWA. This is the initial size of the fire (ellipse at discovery, not arrival) from which the calculated Rate of Spread will be used to increase the fire size. If you are having difficulty attaining an expected Initial Attack Success Rate, it may be because the discovery size is either too big or too small.
- **\*ESL Time:** Enter Exceed Simulation Limit (ESL) Time in minutes for each FWA. If an ignition has not been contained prior to reaching the ESL time, then FPA considers it “escaped.” The clock starts at the time of fire discovery. If you enter insufficient time, the IRS model may not have enough time to respond to fires prior to them reaching this time limit. This will result in these fires not being contained.
- **\*ESL Acres:** Enter the ESL Acres for each FWA. If an ignition has not been contained prior to reaching the ESL acre size, then it is “escaped.” Entering a size in acres that is small compared to the rate of spread, fire resource arrival time and resource production rate may result in IRS not having enough time to contain fires before they reach the ESL size.
- **\*Head Attack (%):** Percent of fires in the model where initial response fire resources attack a fire at the head rather than the tail. Many FWAs can model a large percentage of their ignitions as a head attack. If the IRS model fails to

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contain the fire using a head attack, the system automatically restarts the simulation using a tail attack.

- **\*Tail Attack (%):** Percent of fires in the model where initial response fire resources attack a fire from the tail rather than at the head. The IRS model does not try to rerun the model when the tail attack fails to contain the fire.
- **\*Parallel Attack (%):** Percent of fires in the model where initial response fire resources attack fires parallel to the fire's perimeter. If you identify a percent of your fires as parallel attack, then you must define the distance that line production occurs from the fire perimeter. The system adds this percentage to the parallel attack distance which increases the size of the fire. The FPA model takes the discovery size and adds your parallel distance input (in feet) to build fire line around this larger area. If you use parallel attack in timber (FM 165), you are now "creating" a bigger fire and increasing your chance of having a crown fire that the model may not catch. If the model catches the fire when using Parallel Attack you may see an increase in total acres as a result of the fire growing towards the parallel attack fire lines.
  - **\*Parallel Distance:** Required when Parallel Attack field value is greater than zero. Distance, in feet, on which you will be performing the Parallel Attack.
- **Walk-in (%):** The percent of fires that would typically be walked into rather than driven to. This has an effect on the arrival time; it will be longer in most cases than fires where resources drive to the fire site. Fireline production **rate for engines on walk-in fires** will be the "dry" rate rather than the "wet" rate.
- **\*Pump and Roll (%):** Enter the percentage of fires that require the pump and roll production rates. This is applied to the total number of candidate fires. Candidate fires are "drive to" fires that occur in these fuel models:

Pump and Roll Fire Line Production Rates in FPA						
10/24/2007						
Fire Behavior Surface Fuel Model	Specific Condition	Chains per Crew Hour				
		Number of Persons in Crew				
		1	2	3	4	5+
GR1 (101) Short, Sparse Dry Climate Grass (Dynamic) (Grass)	Grass	6	60	70	74	80
GR2 (102) Low Load, Dry Climate Grass (Dynamic) (Grass)	Grass	6	35	50	65	80
GR3 (103) Low Load, Very Coarse, Humid Climate Grass (Dynamic)	All	2.49	20	30	40	60
GR4 (104) Moderate Load, Dry Climate Grass (Dynamic)	All	2.49	20	30	40	60
GR5 (105) Low Load, Humid Climate Grass (Dynamic)	All	3	20	30	40	60
GR6 (106) Moderate Load, Humid Climate Grass (Dynamic)	All	2.49	20	30	40	60
GR7 (107) High Load, Dry Climate Grass (Dynamic)	All	2	20	30	40	60
GR8 (108) High Load, Very Coarse, Humid Climate Grass (Dynamic)	All	2	20	30	40	60
GR9 (109) Very High Load, Humid Climate Grass (Dynamic)	All	2	20	30	40	60
GS1 (121) Low Load, Dry Climate Grass-Shrub (Dynamic)	All	2.7	20	30	40	60
GS2 (122) Moderate Load, Dry Climate Grass-Shrub (Dynamic)	All	2.7	20	30	40	60
GS3 (123) Moderate Load, Humid Climate Grass-Shrub (Dynamic)	All	2.7	20	30	40	60
GS4 (124) High Load, Humid Climate Grass-Shrub (Dynamic)	All	2	20	30	40	60
SH1 (141) Low Load Dry Climate Shrub (Dynamic)	All	3	15	25	35	45
SH2 (142) Moderate Load Dry Climate Shrub	All	2.49	15	25	35	45
SH3 (143) Moderate Load, Humid Climate Shrub	All	3	15	25	35	45
SH4 (144) Low Load, Humid Climate Timber-Shrub	All	2	15	25	35	45
SH5 (145) High Load, Dry Climate Shrub	All	2	15	25	35	45
SH6 (146) Low Load, Humid Climate Shrub	All	3	15	25	35	45
SH7 (147) Very High Load, Dry Climate Shrub	All	2	10	22	30	40
SH8 (148) High Load, Humid Climate Shrub	All	2	10	20	28	38
TU1 (161) Low Load Dry Climate Timber-Grass-Shrub (Dynamic) (Conifer)	Conifers	3	10	18	22	24
TU1 (161) Low Load Dry Climate Timber-Grass-Shrub (Dynamic)(Hardwood)	Hardwoods	3	10	18	22	24
TU2 (162) Moderate Load, Humid Climate Timber-Shrub	All	2.7	10	18	22	24



- **\*Air to Ground Coefficient:** This coefficient converts the system calculated air miles or straight line miles from a Dispatch Location to the Travel Time Point within each Fire Workload Area. The system default is 1.6; if the calculated air miles are 10 then the ground miles would be 16 miles. The ground miles are used to calculate ground based travel time.
- **\*Damaging FIL:** Click the down arrow on the drop-down list and select the Damaging Fire Intensity Level (FIL). Users should define the FIL above which damages to natural and cultural resources will occur. Entering a FIL 3 indicates that all fires with an FIL greater than 3 will cause damage to resources. If all fires in a FWA are damaging, then enter a FIL of zero (0); if no fires within a FWA are damaging, then enter a FIL 6. FPA uses this value as a threshold when the FPU's performance measurements are being calculated for acres meeting or trending toward desired condition, and for the measure of how effectively the investment manages fire in areas designated as highly valued resources. See the [FPA Glossary](#) for more information about Fire Intensity Levels.

6. After entering the required fire attributes, click  to save the information and update the database.
  - If a user entered fire attributes at the FPU level, the global update box displays.

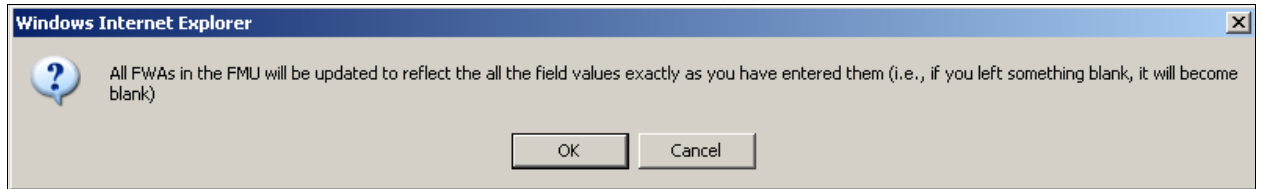
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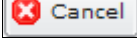
Click  to continue the global update, or click  and return to the FWA and Fire Attributes screen.

- If a user entered fire attributes at the FMG level, the global update box displays.



Click  to continue the global update, or click  and return to the FWA Attributes screen.

Users return to the FWA and Fire Attributes box.

If the user clicks  the screen returns to the FWA and Fire Attributes box. No database updates occur.

- If a user entered fire attributes at the FWA level, the system updates the changes and returns users to the FWA and Fire Attributes box.