Managing Fire Attributes

The information in this chapter describes how to enter fire attributes for a Fire Planning Unit (FPU), Fire Management Unit (FMU), and/or Fire Workload Area (FWA).

Data Requirements for Managing Fire Attributes

Enter the following information into FPA before managing fire attributes:

- FPU/FMU/FWAs as entered in **Set Up FPA >FPU Attributes**, **Set Up FPA > FPU Agencies**, **Set Up FPA > Define Team**, and **Set Up FPA > Large Fire** screens.

In This Chapter

This chapter discusses adding or modifying fire attributes.

Use this screen to set fire attributes for a Fire Planning Unit (FPU), Fire Management Unit (FMU), and/or Fire Workload Area (FWA). FPA reduces data entry time by allowing Planners to enter values for an FPU and have those identical values automatically entered for their associated FWAs. For example, when Fire Planners enter fire attribute information at the FPU level, the same information automatically populates values for all FWAs associated with the FPU.

Adding or Modifying Fire Attributes

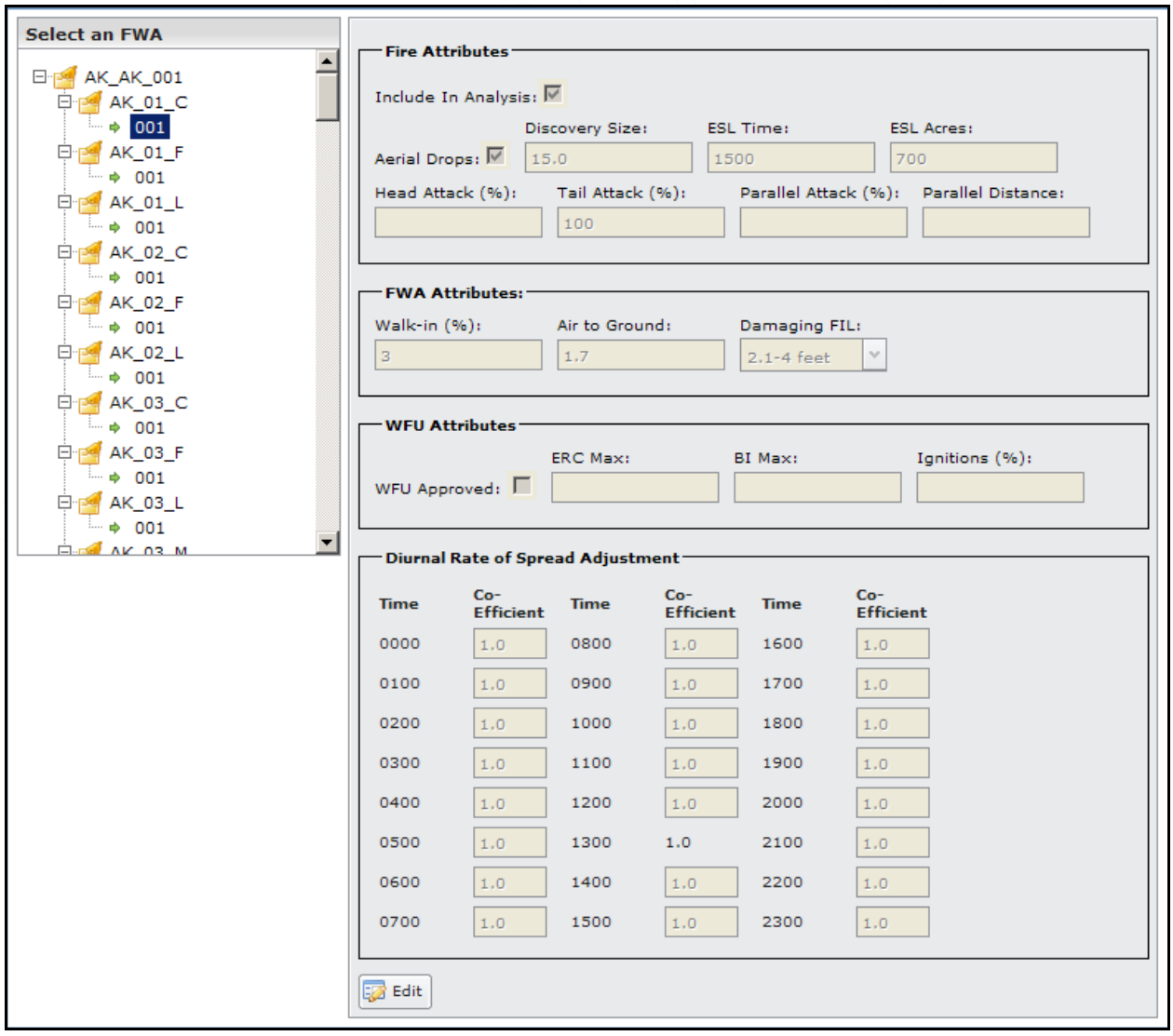
Considerations

- Delay values display only at the FPU and FWA levels.

1. Select **FWAs > Fire Attributes**.

   Displays the default view for the Fire Attributes box.

   All checkboxes, textboxes, and buttons are disabled.



This box contains four sections.

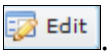
- **Fire Attributes**: Users enter values related to the time and size of the fire at first discovery, and whether or not the FPU, FMU, or FWA allows water and/or aerial drops.
- **FWA Attributes**: Users enter values for walk-in response, air to ground coefficient, and Fire Intensity Level (FIL).
- **WFU Attributes:** When the area allows WFU, users enter values for the Burn Index (BI) and Ignitions percentage.
- **Diurnal Rate of Spread Adjustment**: A user-specified coefficient that adjusts the calculated rate of spread for the hour specified.

The

button moves the entire table into edit mode, and produces a subset of action buttons.

Click the cross next to the FPU name,

to expand the folder and display FMUs and FWAs for that FPU.

2. In the Select an FWA box, click to highlight the appropriate FPU, FMU, or FWA you want to edit.
3. Click 

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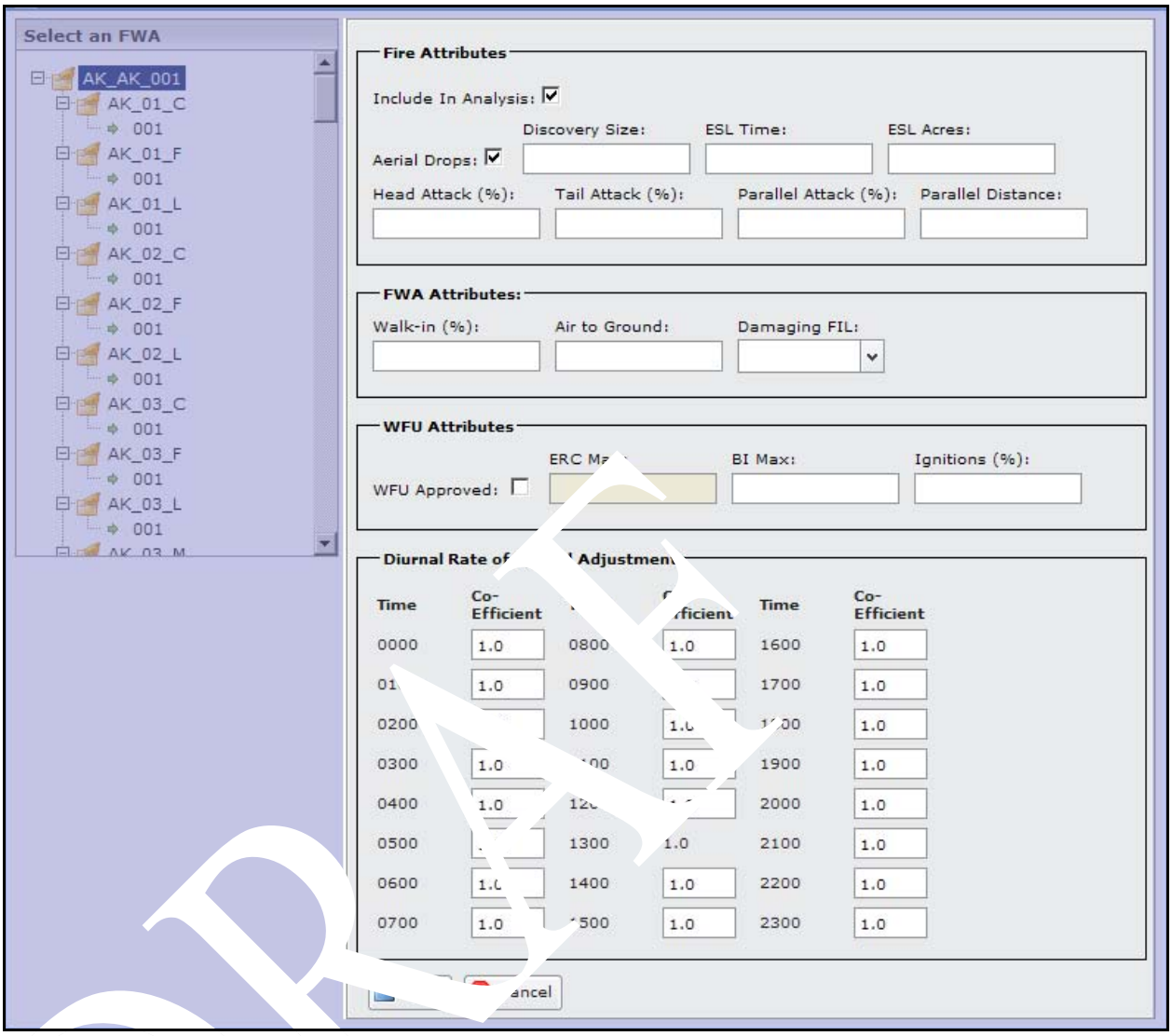
   The Fire Attributes screen refreshes and enables all textboxes, checkboxes, and buttons.



Save allows you to save any additions and modifications. This action saves modifications to the database.

Cancel allows you to exit the Edit view without saving changes to the database.

FPA grays out all other tables or navigational tools until user adds or modifies fire attribute information.

4. Accept the displayed values, or enter new values.

   - **Aerial Drops OK**: Click the checkbox when the FWA allows aerially delivered water or retardant. Checking this box does not mean that IRS will ensure the Helicopter, SEAT or Airtanker that you have included in the Analysis, Options will deliver water or retardant to the FWA. Ensure that the Dispatch Logic Table assigned to each FWA also includes Helicopters, SEAT's or Airtankers. If one or more FWAs has a restriction for dropping retardant you could still check the box and reflect the

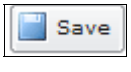
restriction by excluding Airtankers in your Dispatch Logic Table for the specific FWA.

- **Discovery Size**: Enter the fire Discovery Size (from 0.1 to whole acres) for the highlighted FPU, FMU, or FWA. This is the initiating size of the fire (ellipse) from which the calculated Rate of Spread will be used to increase the fire size. If you are having difficulty in validating your Validation IRS Option 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 per FWA. If you enter insufficient time, the IRS model does not have time to respond to fires prior to reaching this time limit. This results in these fires not being contained.
- **ESL Acres:** Enter the ESL Acres in acres per FWA. Entering a size in acres that is small compared to the rate of spread, fire resource arrival time and production rate could result in IRS not having enough acreage to grow to prior to being contained.
- **Head Attack (%)**: Percent of fires in the model where initial response fire resources attack a fire at the head rather than the tail. Many FWA's can model a large percentage of their ignitions as a Head attack. If the IRS model fails to contain the fire using a Head Attack, the system automatically retries 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 a head attack. 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 in a parallel mode to the fires perimeter. If you identify any percent of your fires as Parallel Attack then you must define the distance that attack will be from the fire perimeter.
- **Parallel Distance:** 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 will have an effect on the arrival time; it will be longer in most cases than fires that are driven to. Fireline production rate for engines will be the "dry" rate rather than the "wet" rate, in other words when considering the percent of walk-in fires consider if you are using the "wet" engine production rate to stop the fire spread.
    - **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). Fire Intensity Levels are the binning of flame lengths into 7 bins or Fire Intensity Levels those being 0 through 6. Define the FIL **above** which damages to natural and cultural resources will occur. If you want to define the results of fire in an FWA as causing no

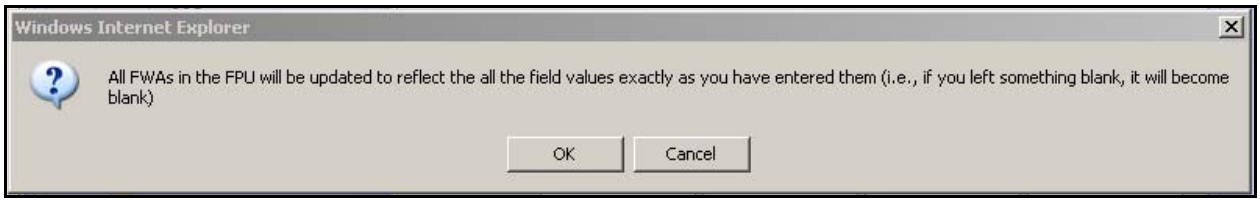
damage, then enter a FIL 6. This results in all fires being calculated as causing no damage because FIL is never greater than 6. When you have an FWA where all fire is damaging regardless of the FIL, enter a zero (0). FPA models all FIL's above zero as damaging.

- **WFU**: Click the **WFU** checkbox when WFU is approved in the FWA. Review your FPU Land, Resource, and/or Fire Management Plans to determine if there is approval for Wildland Fire Use (WFU).
- **FIL Max:** Value used to accept or reject a fire event as a potential WFU candidate fire. The FIL breakpoint maximum is not available for the June 2008 release. Consider fire events with a calculated FIL that exceeds this FIL Max value no longer as a potential WFU.
- **ROS Max:** Value used to accept or reject a fire event as a potential WFU candidate fire. The Rate of Spread (ROS) breakpoint maximum is not available for the June 2008 release. Fire events that have a calculated ROS that exceeds the ROS Max value are not considered potential WFU.
- **BI Max:** Value used to accept or reject a fire event as a potential WFU candidate fire. Fire events with a calculated Burn Index (BI) that exceeds this BI Max value are not considered potential WFU.
- **FL Max:** Value used to accept or reject a fire event as a potential WFU candidate fire. The Flame Length (FL) breakpoint maximum is not available for the June 2008 release. Consider fire events with a calculated FL that exceeds this FL Max value no longer as a potential WFU.
- Enter the percent of **Ignitions (%**) FPA should model as WFU. Following the filter you applied by using BI Max, FIL Max., ROS Max, or FL Max you need to define the percent of fire events that have calculated values below the Max that will be modeled as WFU. For example, when 10 fire events are below the defined max value, and you have entered a 50 %, then 5 of the 10 fire events will be modeled as WFU.

- **Diurnal Rate of Spread Adjustment:** Coefficient used to adjust the calculated rate of spread for the hour specified based upon user input. FPA calculates the Rate of Spread (ROS) for each fire event using a one time of day weather observation. The time of day is 1300 hours local standard time. If you or your Fire Managers know that in your FPU in a specific FWA when fires are discovered or started at 0600 hours that they have a quarter of the ROS as compared to starting at 1300 then you should enter a value of .25. If the 1300 calculated ROS is 10ch/hr then fires starting between 0600 and 0659 hours would have an adjusted ROS 10 * .25 = 2.5 ch/hr.

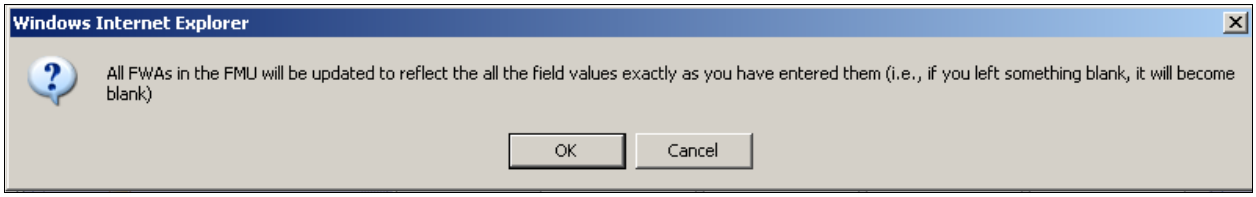
5. After entering the required fire attributes, click 

to save the information and update the database.
   - When a user enters fire attributes for an FPU, the global update dialog box displays.



Click OK to continue the global update, or click Cancel and return to the FWA Delays box. After clicking OK, users can select a single FMU or FWA and edit values specific to those areas.

- When a user enters fire attributes for an FMU, the global update dialog box displays.



Click OK to continue the global update, or click Cancel and return to the FWA Delays box. After clicking OK, users can select a single FMU or FWA and edit values specific to those areas.

Displays the processing icon, .

Users return to Fire Attributes box.

Click Cancel to return to the Fire Attributes box. No database updates occur.