Fire Program Analysis (FPA) System
Preparedness Module

Fire Planner's
USER GUIDE

September 2004

Revision History

Date	Version	Description	Author
6/18/2004	1.0	Review draft	Dick Chase
7/9/2004	1.0.1	Revised and new graphics and explanatory text added to Getting Started and Logging On sections; formats for references throughout document to tabs, screen pages, user actions, and command buttons revised per core team direction.	Dick Chase
7/14/2004	1.0.2	Revisions incorporating Core Team and ICG comments, for further review during Beta Test in Boulder.	Brian Booher
9/5/2004	1.0.3	Major update of screen captures and program flow.	Dick Chase
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9/12/2004	1.1	Additional Text	Dick Chase
9/13/2004	1.1.1	Implemented some of the suggestions from the Core Team Editor, e.g. numbered lists, better use of active. For Core Team Review.	Brian Booher
9/23/2004	1.2	Information relating to use of GIS added and Core Team final review comments incorporated.	Dick Chase, Matt Brown

Version Notes

Please note that as of the publication date of this version of the User Guide, there are revisions to some FPA screens and functions pending. As these are implemented, you may note occasional discrepancies between the User Guide and the actual FPA-PM functions and computer screens until such time as the User Guide is updated.

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Getting Started

This section explains the basic concepts and information that you need to interact with the FPA-PM system. Topics include:

- Important FPA-PM Concepts
- Introduction to the FPA-PM System
- Navigating the User Interface screens
- General process flow
- Format of this Guide
- Data Entry
- FPU Team member roles

It is important to understand that the purpose and content of this User Guide is to help you navigate through the FPA-PM program User Interface screens in order to perform the functions necessary to manage the data that is the responsibility of the Fire Planner. It does not explain the content, source, or purpose of any item of data or other information, or how it is derived.

Important FPA-PM Concepts

Please refer to FPA-PM Business Documentation for more complete definitions and information. The following is a brief review of important concepts.

FPA-PM

The purpose of the Fire Program Analysis (FPA) System is to provide managers with a common interagency process for fire management planning and budgeting to evaluate the effectiveness of alternative fire management strategies through time, to meet land management goals and objectives. FPA will be driven by quantified fire objectives and performance measures for the full scope of fire management activities.[1]

The initial portion of the FPA Computer System is "PM" – the Preparedness Module. This first module provides an automated system for initial attack planning to replace the systems previously in use by the five federal wildland fire management agencies. The Preparedness Module evaluates the cost effectiveness of alternative initial attack organizations in meeting multiple fire management objectives.[1]

[1] From http://fpa.nifc.gov

FPU

A Fire Planning Unit (FPU) consists of Fire Management Units. Fire Planning Units are the geographic scope of the landscape defined for the fire management analysis. Fire Planning Units may relate to a single administrative unit, or any combination of units and sub-units. Fire Planning Units are scalable, and may be contiguous or non-contiguous. Fire Planning Units are not predefined by Agency administrative unit boundaries, and may relate to one or more agencies. The may be described spatially.

FPU Team

A Fire Planning Unit Team is the group of individuals (fire managers and resource specialists) who will participate in an FPU analysis. You and other "FPU Team Members" will be working on (or viewing) information for your FPU. Examples might include Fire Planners from the participating Administrative Units and Line Officers.

Roles

FPA-PM users have certain "roles":

FPU Team Member Roles

- FPU Team Reader: has read-only access to all planning activities and reports. All User accounts have this access right.
- FPU Team Editor: in addition to Reader permissions, has access authority to edit (create, update, delete, etc.) FPU information. (A fire planner.)
- FPU Team Administrator: in addition to Editor permissions, has authority to manage the Team membership by adding and removing users to and from these three Team groups.

Non-FPU Team System Roles

- System Data Administrator: maintains the standard Lookup Data used by the FPU Team Fire Planners.
- System User Administrator: creates user accounts and FPU Team groups.
- System Administrator: manages the FPA-PM system software and hardware.

FPU Analysis

You will create one or more FPU Analyses for your FPU. An FPU Analysis is created to represent any unique combination of purpose or cost limits.

For example, if you are going to work on your 2008 budget submission, you will create an FPU Analysis.

Further, if you want to use different total Initial Cost limits, or change the way Fire Resources are selected, you would create additional FPU Analyses – even though they are still for the 2008 Budget.

Runs

When you tell FPA-PM to "Perform the Analysis", it creates and completes a series of "Runs" through the Optimizer. Each Run uses the same Fire Resources, Weights, and other attributes.

The only difference between one Run and another Run in the same FPU Analysis is the limit on the amount of money the Optimizer can spend.

Your FPU Analysis might specify cost limits starting at $10,000,000 and going through $20,000,000, with increments of $1,000,000. In this example, 11 Runs will be made.

Planning Data Set

You will be collecting and entering various kinds of information into FPA-PM, including Fire Resources, Dispatch Locations, Weights, etc. You might want to keep some previously entered information, but change certain other information, in order to examine the resulting outputs from FPA-PM.

A Planning Data Set is a collection of specific data for your FPU. After you complete your work with one Planning Data Set, you can copy it to start a new Planning Data Set, make some changes, and examine the results.

At any given time, you and others in your FPU Team will only be able to make changes or additions to a single Planning Data Set. That "editable" Planning Data Set is called the "Working" Planning Data Set. This feature assures that your FPU Team members are all working with the same set of information at the same time.

FMU

A Fire Management Unit ("FMU") is an area ("polygon") for which you will be describing specific information (e.g. Weights) in FPA-PM.

The aggregation of all of your FMUs is your FPU.

Introduction to FPA-PM Application

The FPA PM is a fire planning application. Analysis inputs include weighted attributes based on objectives, fire event scenarios based on historic occurrence, fire resource definitions, dispatch locations, and other information. Analysis outputs include differing budget levels with the associated Initial Response organization, as well as the organization's effectiveness (measured in weighted acres managed.

The application is web browser based, supporting multiple, concurrent, possibly distributed and interagency users. All input and output data are stored on a central server.

System requirements:

- Internet Explorer v 6 or higher
- an internet connection
- a workstation capable of supporting the previous requirements

Navigating the User Interface Screens

The system uses tabbed interface screens to access the various data entries and displays. You may be familiar with tabs from other applications. If you click on any of them, you will either be presented with a new set of "Sub-Tabs", or will be taken to the appropriate screen.

The graphic below illustrates a typical layout:

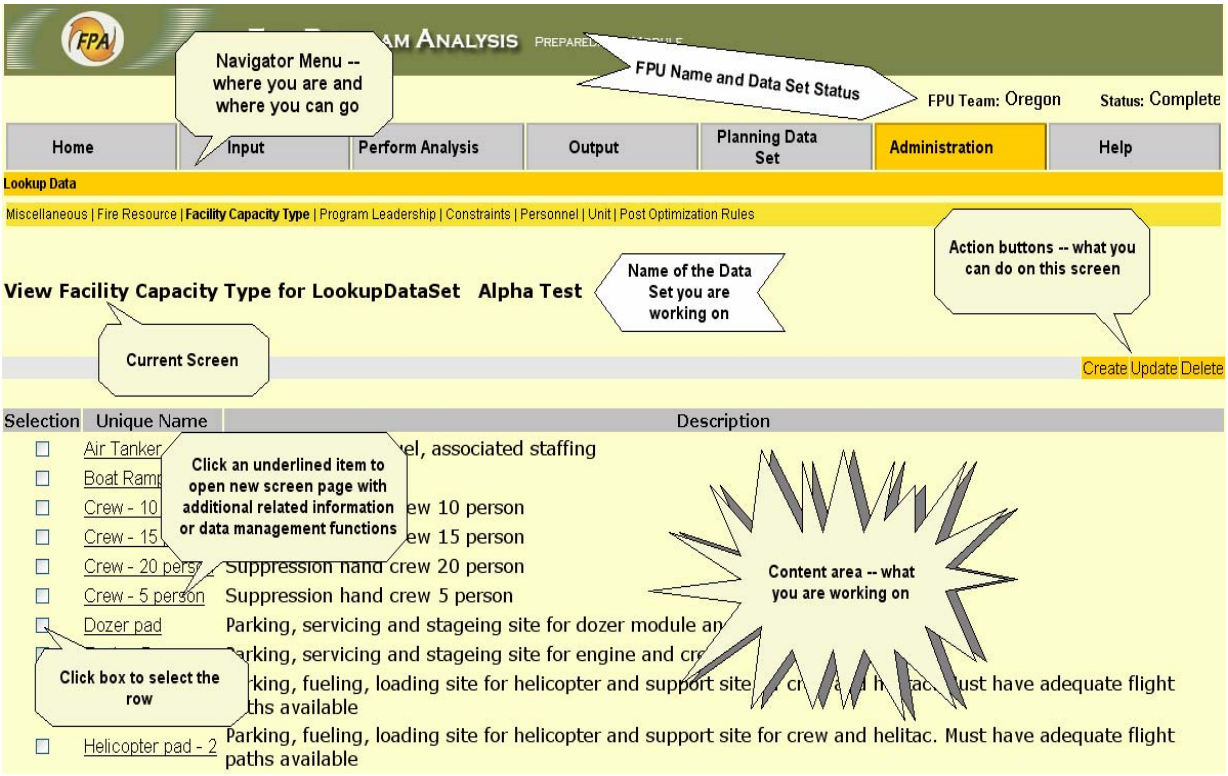
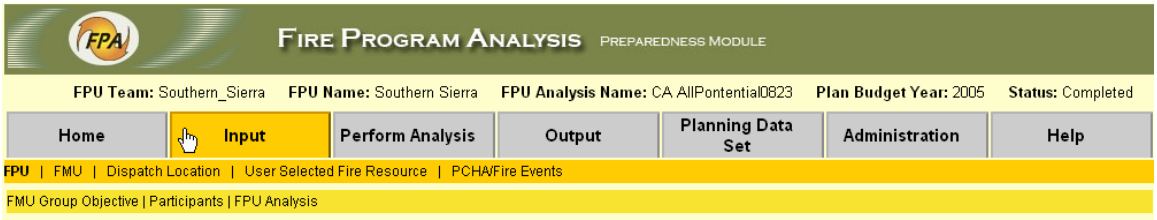


Figure 1. Organization of a typical User Screen

Occasionally the text on one or more of the buttons or tabs on a screen may be grayed out. This will occur either when that link is not applicable for the selected current activity, or access to that particular area is restricted to users logged on as System or Data Administrators.

Navigator and Sub-Menu Contents

The following graphic shows an example of the menu portion of the FPA-PM user interface screens:



The main section tabs in the top tier open an associated set of second tier menu tabs when clicked. Each of these in turn will generally open a set of associated third tier tabs that will each

open the main user interface screen page for that particular subject.

Look for the tab(s) with **BOLD** print – they show your present location ("**Input -- FPU**" in the example shown above.)

Tabs for other pages that are associated with the current subject matter or activity that you can immediately go to from the current page are in color.

There are seven main "tabs" in the main navigation bar. Each of these has Sub Tabs that lead you to screens where you will do your work.

Navigation Menu Tab List

1. **Home -** FPA-PM Starting Point.
2. **Input -** Perform most data entry here.
    - **FPU** - Manage your Fire Planning Unit.
        - **FMU Group Objectives -** in terms of Acres Burned limitations.
        - **Participants -** Who are your participating Agency Units?
        - **FPU Analysis -** How to make Runs.
    - **FMU -** Manage your Fire Management Units.
        - **Owner Units -** Who owns the land?
        - **Units Responsible for Fire Protection -** Who is responsible?
        - **Land Management Direction -** for each FMU
        - **FMU Weights -** How important is the FMU?
        - **Fire Management Objectives -** Target limits on Acres Burned
        - **Constraints -** Limitations on Fire Tactics.
        - **Fuel Models** – and associated specific conditions for each FMU.
    - **Dispatch Locations -** in your FPU.
        - **Facility Capacity** – What resources does or can it accommodate?
        - **Associate Dispatch Location and FMU -** and manage the FMU characteristics.
    - **User Selected Fire Resources -** Define current and potential resources
    - **PCHA / Fire Events -** Import fire occurrence and behavior from PCHA.
3. **Perform Analysis -** Submit your data to the optimizer.
4. **Output -** Reports and graphs for your analyses.
5. **Planning Data Set -** View and manage your FPU data sets.

6. **Administration**
    - **Lookup Data -** View the information, maintained in the lookup data base by the System Data Administrator, that you will use in creating your planning data sets. Some of these data are automatically assigned; you select others from the appropriate alternatives on drop-down lists on the applicable screen page.
        - **Miscellaneous** – Data for FILs, fuel models, slope classes, inflation factors, optimizer intervals, fire management strategies, and fire size classes.
        - **Fire Resource** – Production rates by fuel model, and resource cost and performance characteristics by type.
        - **Facility Capacity Type** – Standard facility type descriptions.
        - **Program Leadership** – Group characteristics and costs.
        - **Constraints** – Descriptions of standard FMU fire suppression constraints.
        - **Personnel** – Special pay areas and percents, fire resource and personnel staffing and cost data.
        - **Unit** –Agency and other organizational standard names and codes.
        - **Post Optimization Rules** – Rules by which indirect dollar costs will be added to those that are identified for an analysis in the optimization process.
7. **Help**

General Process Flow

Figure 2. shows a general process flow of the Fire Planner's interaction with FPA-PM.

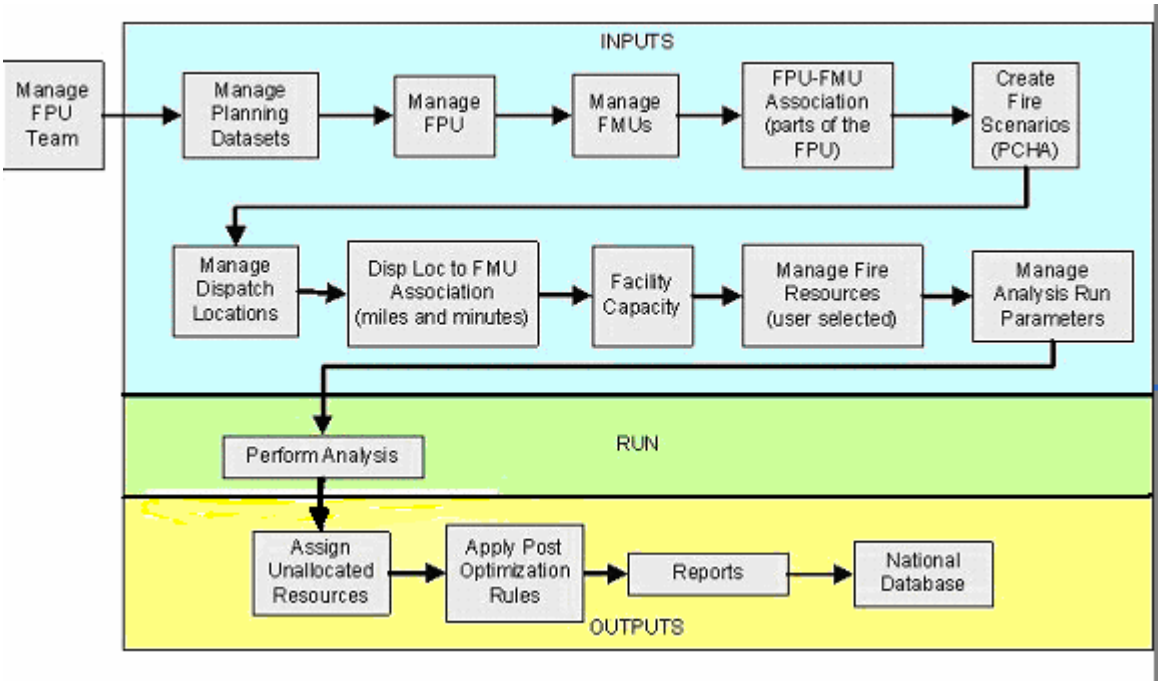


Figure 2. Suggested Linear Flow Through the Process

Another perspective on how the process flows, and how the various input data relate to each other, is displayed in Figure 3. This diagram shows the hierarchy of data dependencies—that is, the order in which some entities must be created. This occurs when an entity requires the existence of one preceding it in the diagram in order to be created.

Both this User Guide and the Navigator menu for the computer data entry screen pages are organized to generally conform to the order in which the main categories of tasks as depicted in Figure 2 are performed as you proceed through the process of creating a Planning Data Set. Within each main section (such as Manage FPU) you will find all the actions that relate to the management of the data for that function, such as View, Create, Add, Update, Submit (save), Delete, and others as appropriate for the particular category.

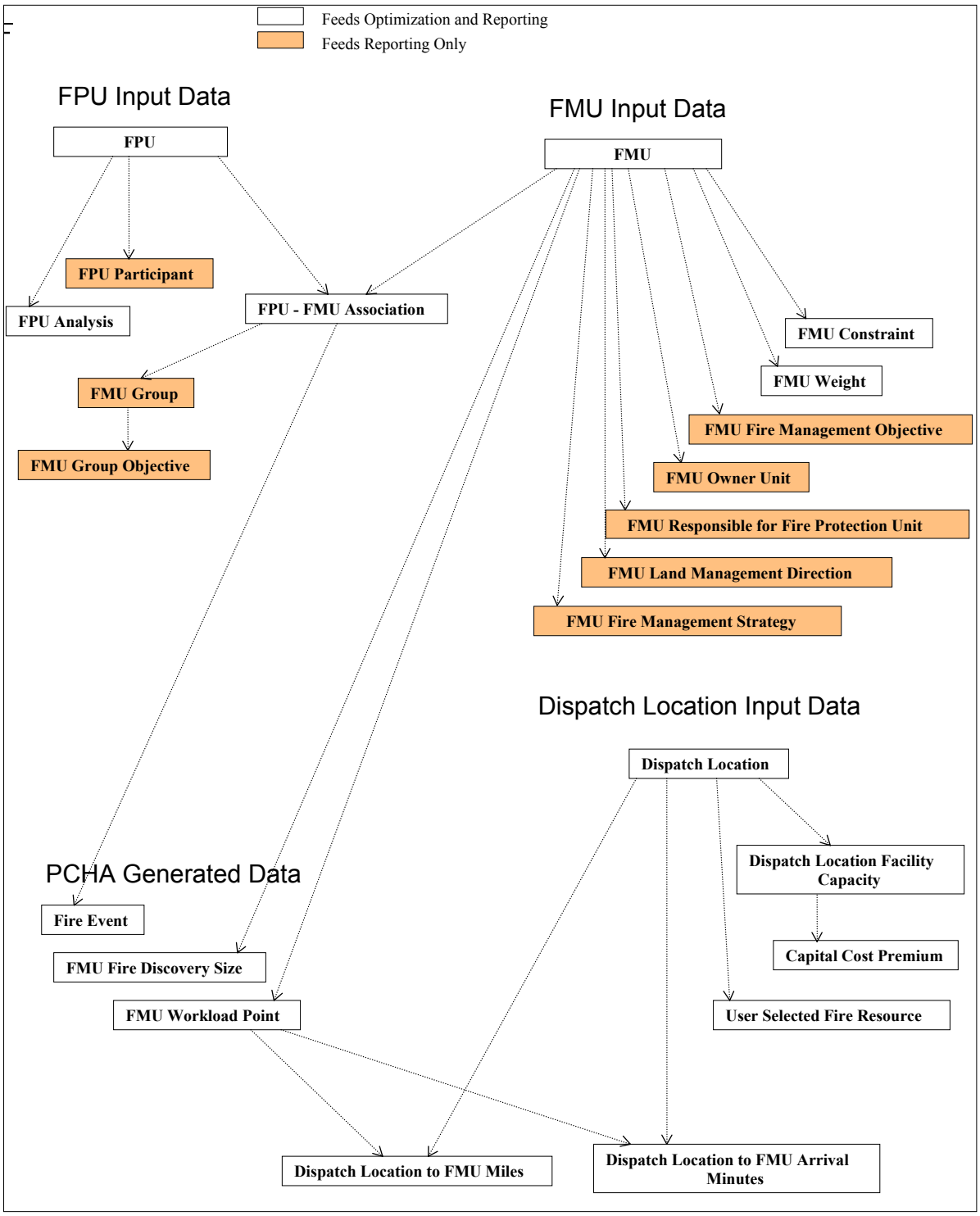
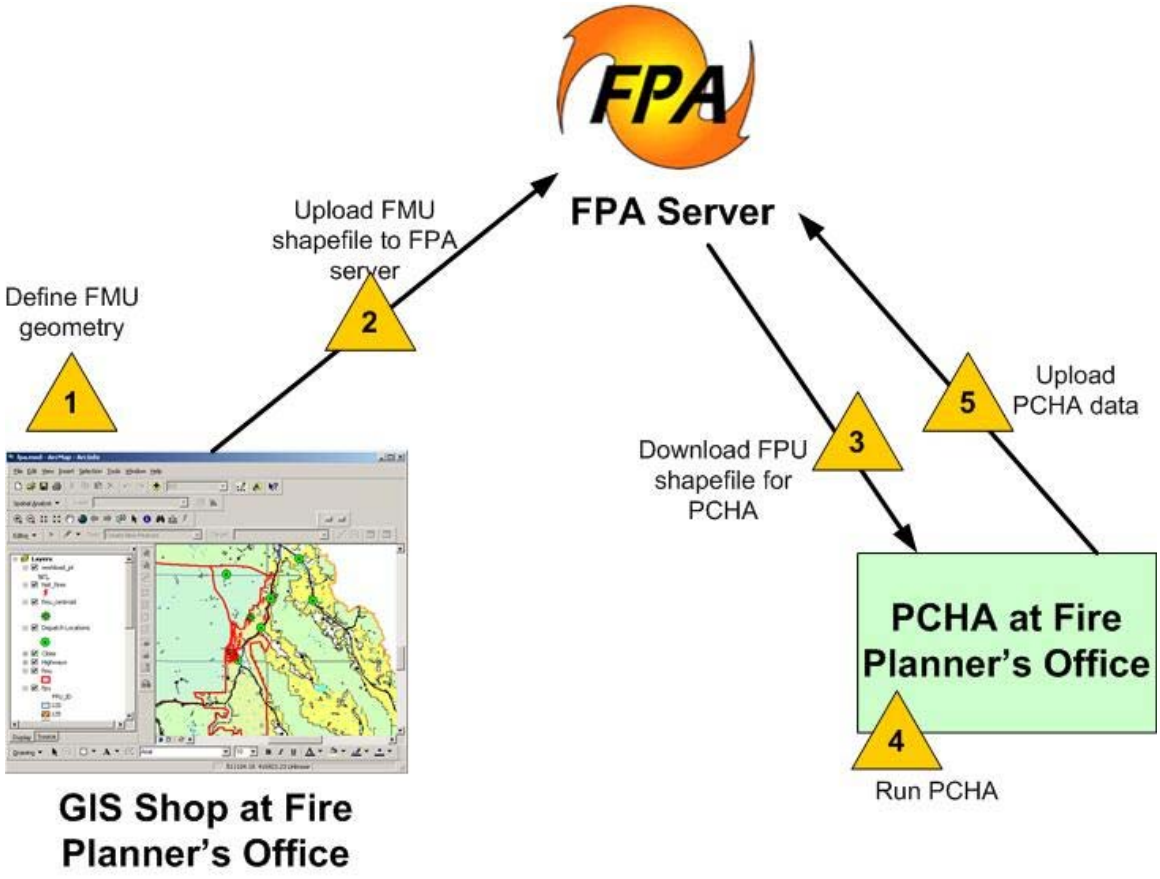


Figure 3. Hierarchy of Data Dependencies

GIS Data Flow

This section describes the data flow between the local GIS data creation, FPA server and PCHA. The data transfer process is characterized in 5 "steps" in order to more clearly define data upload to FPA PM and data download from FPA PM. The diagram below depicts the five steps. A description of each step follows.



1. Define FMU Shapefile using local GIS and local data sets
2. Upload FMU shapefile to FPA Server. (fmu.shp, fmu.dbf, fmu.shx)
3. Download FPU shapefile from FPA Server to run PCHA. (fpu.shp, fpu.dbf, fpu.shx)
4. Run PCHA to define Fire Events, Scenario Data, and FMU workload point
5. Upload PCHA Data (attribute data only, NO shapefiles) to FPA Server.

1. **Define FMU Shapefile Using Local GIS and Local Data Sets**.
   GIS Layers will be created by the Fire Planning Unit Team by referencing local GIS data layers. The FMU shapefile will be created using a desktop GIS such as ArcView 3.x or ArcGIS (Figure 4.).

   The file naming convention of the shapefile imported from the Fire Planner may vary, in this example they will be called "fmu". A shapefile imported to the FPA system must include the following four files extensions:
   fmu.shp - the file that stores the feature geometry. ***Required***.
   fmu.shx - the file that stores the index of the feature geometry. ***Required***.
   fmu.dbf - the dBASE file that stores the attribute information of features. ***Required***.
   fmu.prj - the file that stores the coordinate system information. ***Required***.

   Please see the ***shapefile requirements*** section for details and requirements for creating FMU spatial data.

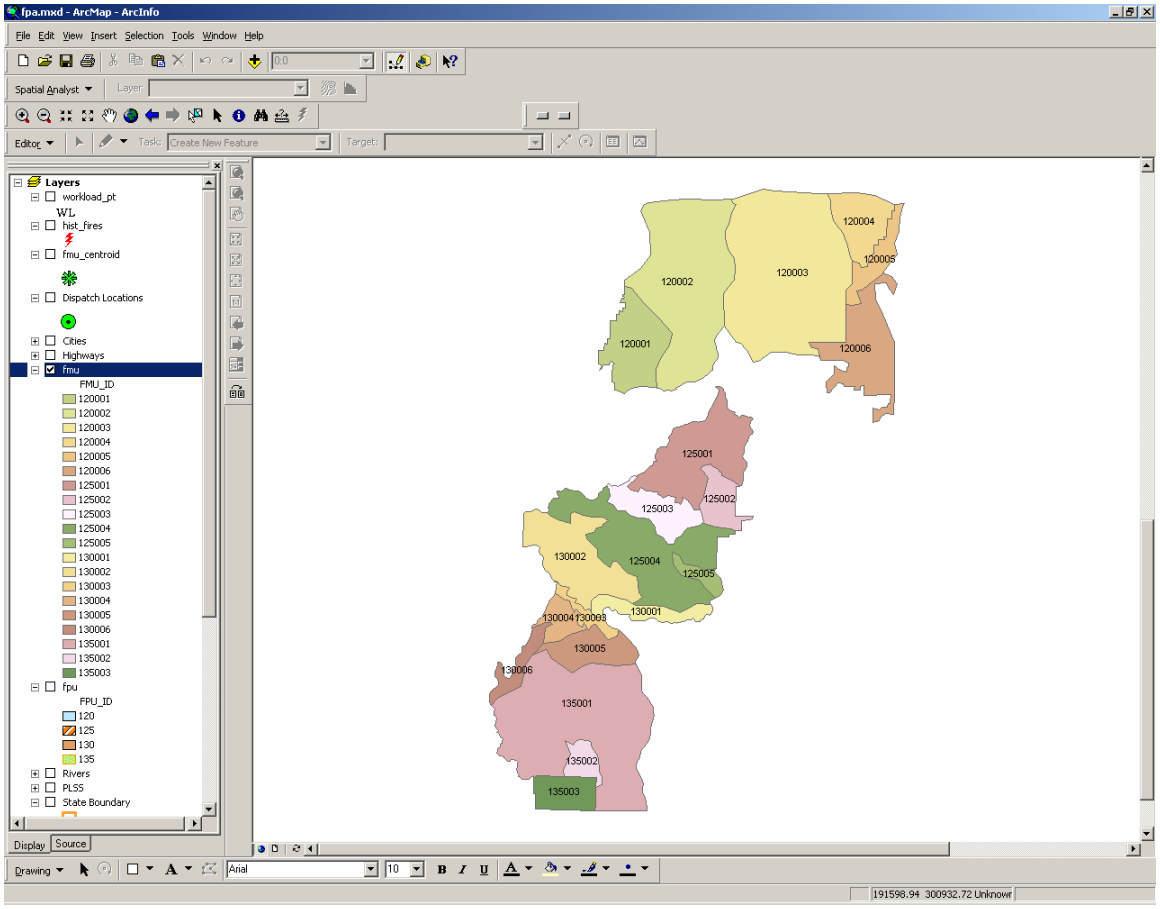


Figure 4. Fire Management Polygons in ArcGIS - local workstation

2. **Upload FMU shapefile to FPA Server**
   The FMU layer will be uploaded from a local machine as an ESRI shapefile to FPA PM in the Create FMU section of the process. The shapefile and all attributes will be loaded into the FPA Oracle/SDE database. Please see the ***FMU Create*** section for details on uploading FMU spatial data.

3. **Download FPU Shapefile from FPA Server to run PCHA**
   An FPU shapefile will be downloaded in geographic projection with units in decimal degrees from the FPA Oracle SDE server to a local workstation to use with PCHA. The action will be called from the GIS map within FPA PM. All associated FMUs will be downloaded in one shapefile. Please see section ***Export FPU Spatial Data*** for details on downloading FMU spatial data for use with PCHA.

4. **Run PCHA**
   PCHA is run on the local workstation using the FMU polygons that are downloaded from the FPA Server. As stated above, the planners with local knowledge will collect and edit ignition and weather data, and a PCHA "lead" will collect this data and run the program for the entire FPU. Please use PCHA Training for more details on running PCHA.

5. **Upload PCHA Data to FPA Server**
   Only tabular data is uploaded to the FPA server from the local desktop after PCHA is run. No spatial data is uploaded. If the geometry of the fire management units needs to be modified (no fires occur in that FMU for example) than a new shapefile will be created by the local GIS shop (Step 1), uploaded to FPA (Step 2) and downloaded again (Step 3) to re-run PCHA (Step 4). The transfer of data from PCHA to FPA PM will be accomplished from a browse button within FPA PM that searches for an XML file that is output from PCHA. Please see section ***Manage PCHA / Fire Events*** for details on uploading PCHA data to FPA PM.

Format of this Guide

There is a graphic of each screen in the application. (The programs screen color scheme has changed since the images used in this guide were captured.) Immediately below the screen image is a brief explanation of how you access that screen (what Navigator menu tabs or command buttons on what page to click to bring you to the one displayed), and what its purpose is.

- A description of how to do specific actions that you can perform on the page, such as *view, create, update***,** or *delete***,** follow the description as a series of bullets such as this.

References to *actions* that you can do (*view, save*) are in *italics.*
References to specific **action buttons** (Click **Submit**) are in **bold text**.
References to ***Menu tabs*** or ***Screen Pages*** are in ***bold italics***.
References to specific Data Items are underlined.

Data Entry

Most of the data entries are self explanatory; that is, the kind, content and format of an entry are those of the particular data specified by the item's label.

- Name, Local ID, and Other ID fields may be up to 50 characters (alpha-numeric) in length.
- Comment length is limited to 250 characters.
- Enter dollar values without a **$** or commas.
- Enter decimal values with a decimal. (0.12 or 2.45)
- Enter percents as a whole number (60% entered as 60).
- Instructions to "click **[Action]"** refer to an action **Button** or ***Menu Tab***.
- Instructions to *Select* refer to either checking the selection box for an item or row, clicking on one or more data items displayed in a drop-down list, or clicking on a highlighted or underlined (linked) data item ID or Name.
- Individual data fields on a screen page in which an entry is required before you can *Submit* (save) the information on that screen are indicated by a red asterisk (*) by the item's data entry window. These fields must not be left blank. If the field is a numeric entry, and the appropriate value to be entered is 'none', enter 0.

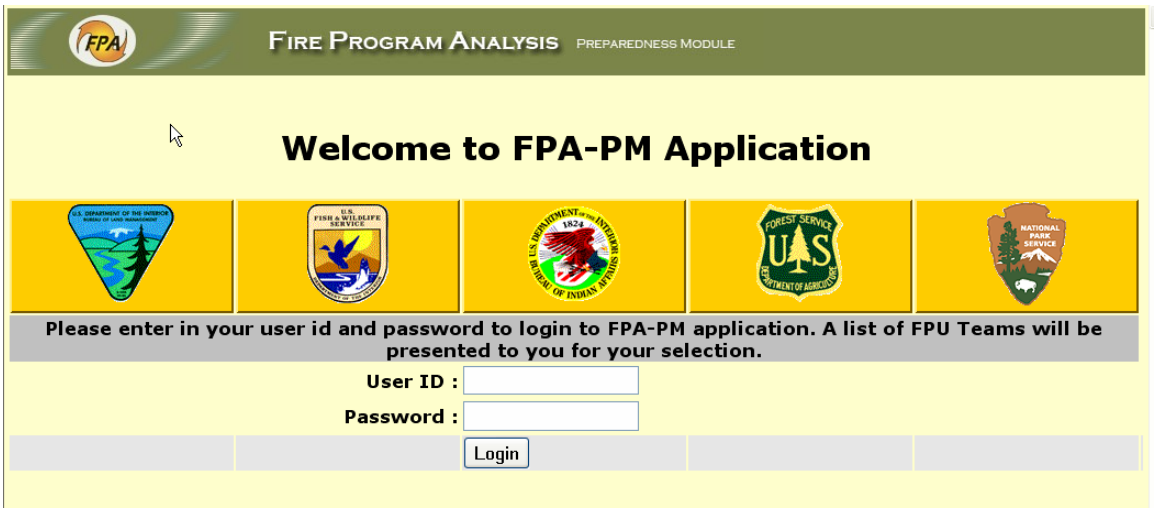
  Data may be entered in the other, non-mandatory fields on upon initial creation or later by using **Update**.

  All fields in an FPU Data Set must be completed before you submit the Data Set for validation prior to being analyzed. If you submit a Data Set for validation with missing data, a system-generated data validation report will provide a list of the missing entries

Logging On to the System

You use the screens in this section to log on to the FPA-PM program and select the Fire Planning Unit Team and planning data set that you want to associate with for this session.

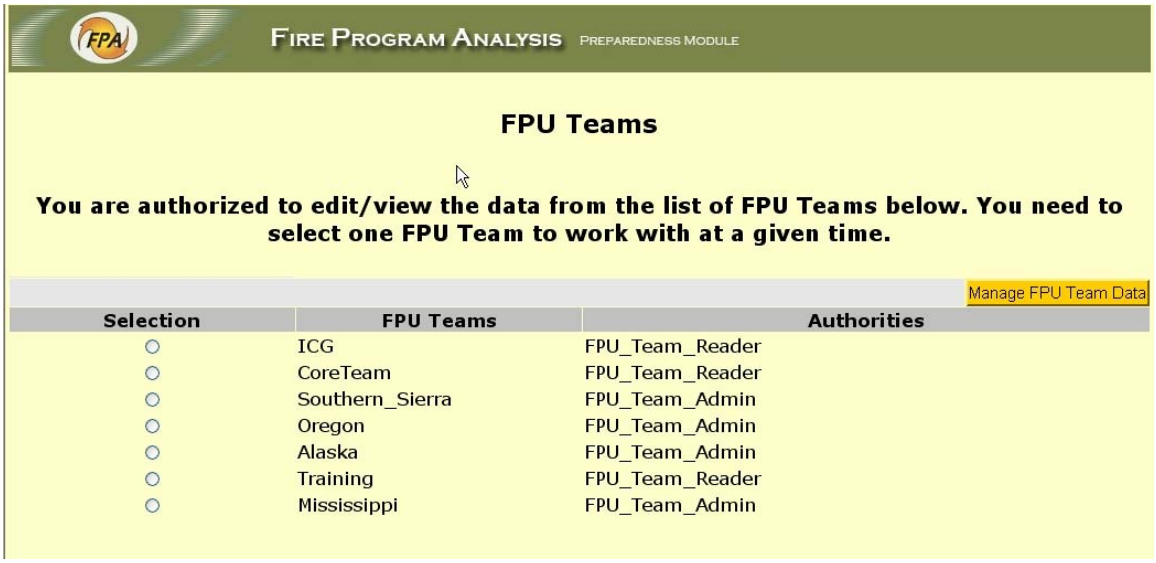
Log On Page



You must have a FPA-PM User Account to log on to the system.

1. *Enter* your User ID and Password and click **Logon.**
2. If ID and Password are valid, the ***FPU Teams Page*** will open.

FPU Team Selection Page



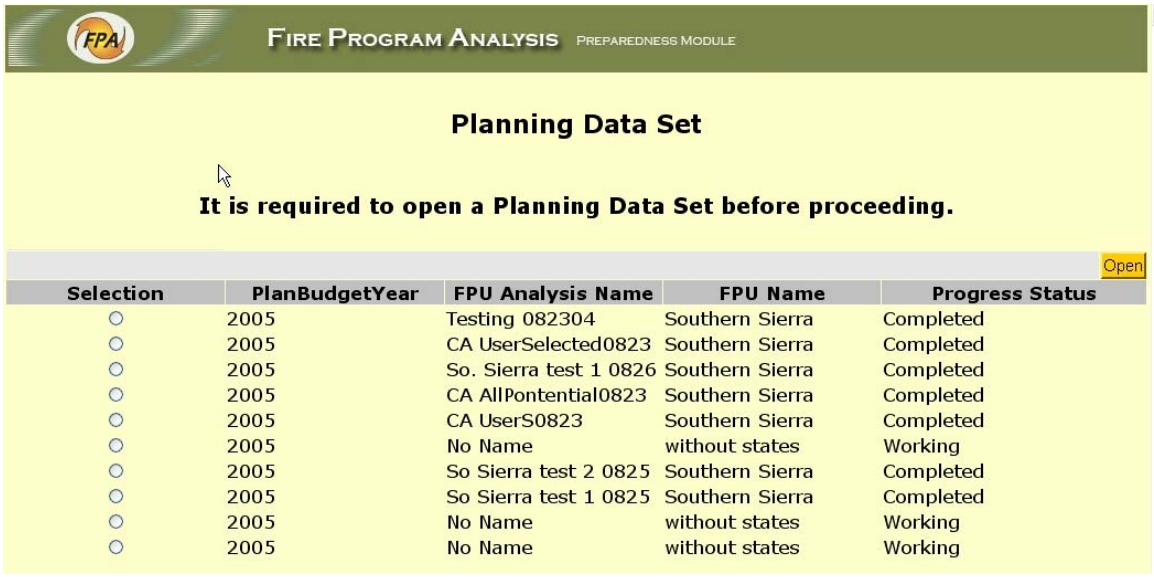
This page displays the list of current FPU Teams to which the User's account belongs. The Role you are currently assigned for each Team (Reader, Editor, or Administrator) is shown.

1. *Select* the FPU Team that you want to work with.
2. Click **Submit**. The ***Planning Data Set*** selection page opens.

Notes:

- Even if you haven't been assigned an FPU Team, you can still view Planning Data Sets as a Reader.
- The first time that you log in as an FPU Editor or Administrator, your assigned teams will appear first in the list so that you can select a planning data set. However, the teams and planning data sets may not actually contain any information. For example:
  - The system assigns the Team a unique identifier, but you may need to add the Name and Description.
  - The Planning Data Set, which may not have content, is assigned "Working" Data Set status.

Open Planning Data Set (Log In)



Selection	PlanBudgetYear	FPU Analysis Name	FPU Name	Progress Status
○	2005	Testing 082304	Southern Sierra	Completed
○	2005	CA UserSelected0823	Southern Sierra	Completed
○	2005	So. Sierra test 1 0826	Southern Sierra	Completed
○	2005	CA AllPontential0823	Southern Sierra	Completed
○	2005	CA UserS0823	Southern Sierra	Completed
○	2005	No Name	without states	Working
○	2005	So Sierra test 2 0825	Southern Sierra	Completed
○	2005	So Sierra test 1 0825	Southern Sierra	Completed
○	2005	No Name	without states	Working
○	2005	No Name	without states	Working

This page is accessed in the course of your initial log in (when no Data Set is yet open), or when you click **Submit** on the FPU Team Selection Page. It displays all the FPU Data Sets, and their current status, that are available for the FPU Team that you selected.

You must *open* a Data Set in order to proceed.

- To *open* a Data Set, *select* it and click **Open** in the upper right. The selected Data Set opens and the ***FPA-PM Home Page*** displays with the Navigator menu bar.

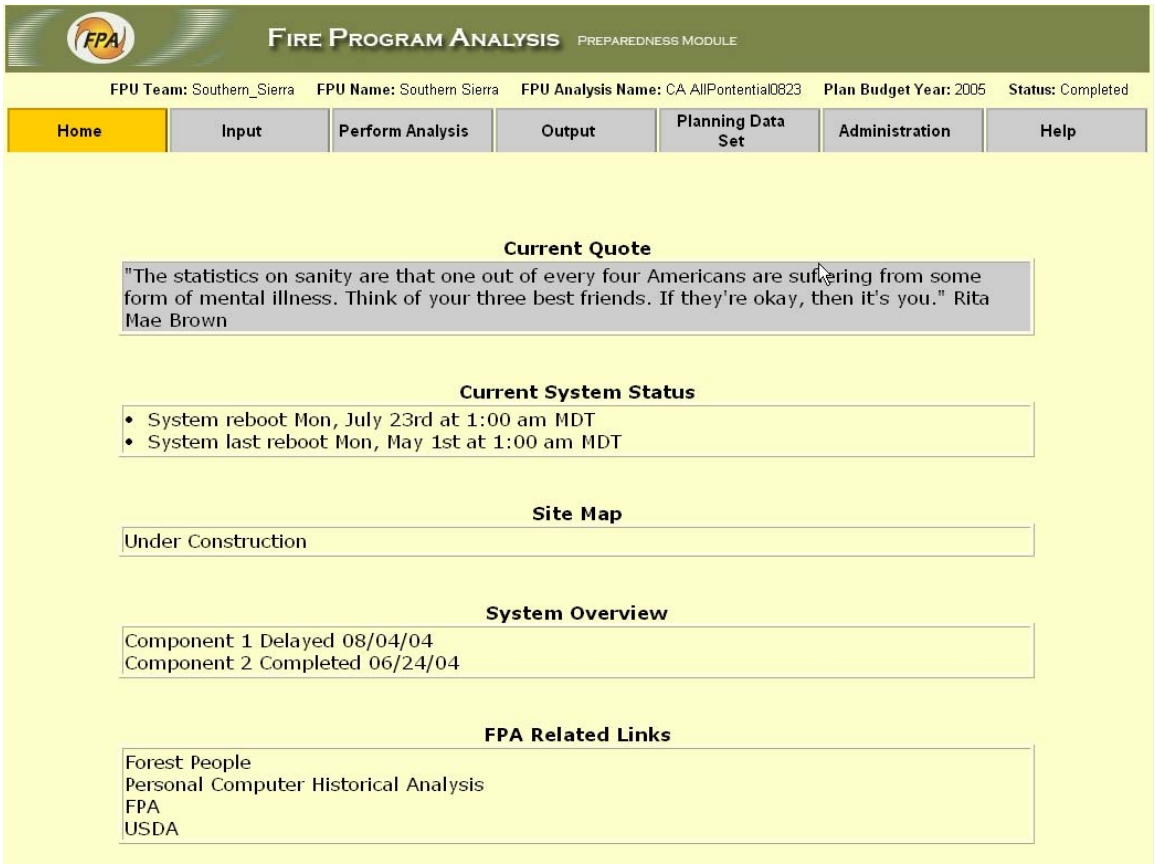
FPU Data Set Status Definitions

FPU Data Sets have one of three statuses:

- "**Working**" The Working Data Set is the one in which you and your Team Members are working. It is "read/write" and can be both viewed and updated or otherwise edited. There can only be one version of the FPU Data Set at a time that is designated "Working".
- "**Being Analyzed**": This status is automatically assigned to the Working Data Set when it is submitted to the optimizer for an analysis run. It remains in a "being analyzed" status until the last run of the optimizer and results interpreter, or a failure occurs, at which time its status is changed to "completed". An FPU Team may have more than one "being analyzed" version of an FPU Data Set.
- "**Completed**": This status is automatically assigned to a Data Set with the status "being analyzed" when the analysis either is completed, fails, or canceled by the user. A "completed" Data Set is "read only" and may not be edited. It may, however, be copied to become the "working" Data Set; exported and saved to a locally stored folder; or deleted. An FPU Team may have multiple "completed" versions of the FPU Data Set on the system.

Now that you are logged into FPA-PM, the balance of this User Guide will guide you from left to right, top to bottom, across the various Tabs at the top of your screen.

FPA – PM Home Page



Once you have:

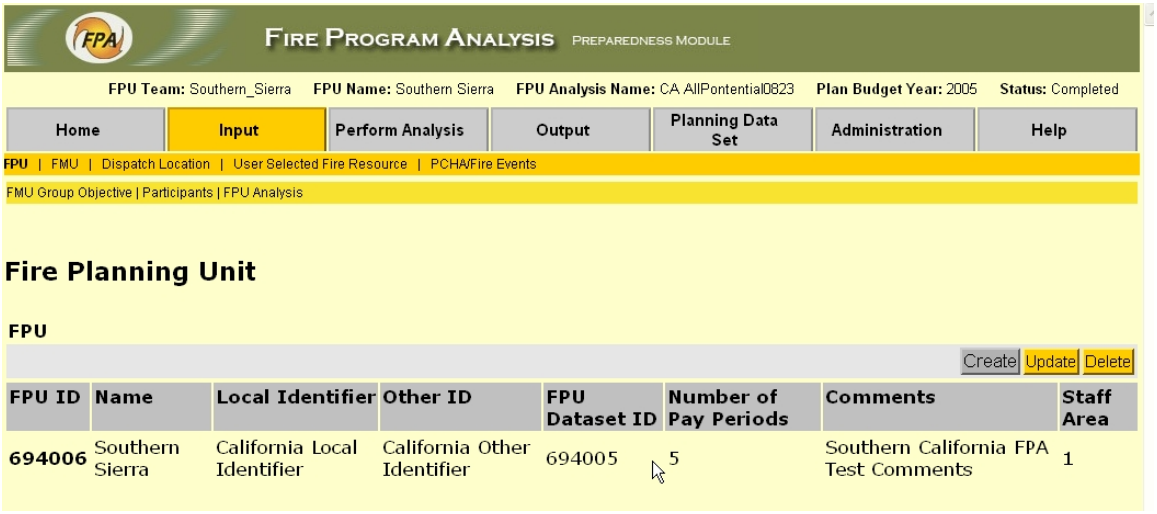
1. logged in,
2. selected the FPU Team in which you want to work, and
3. chosen a Data Set in that FPU Team

the Home Page will appear. The Home Page displays the main Navigator menu bar, with all tabs active for those program areas for which the User is authorized access. It also displays in its heading the currently open Data Set FPU Name, FPU Analysis Name, FPU Plan Budget Year, and Planning Data Set Status.

Fire Planning Units (FPU)

The screens in this section allow you to manage establish individual Fire Planning Units by entering and editing data for the selected FPU and planning data set.

Fire Planning Unit Home Page



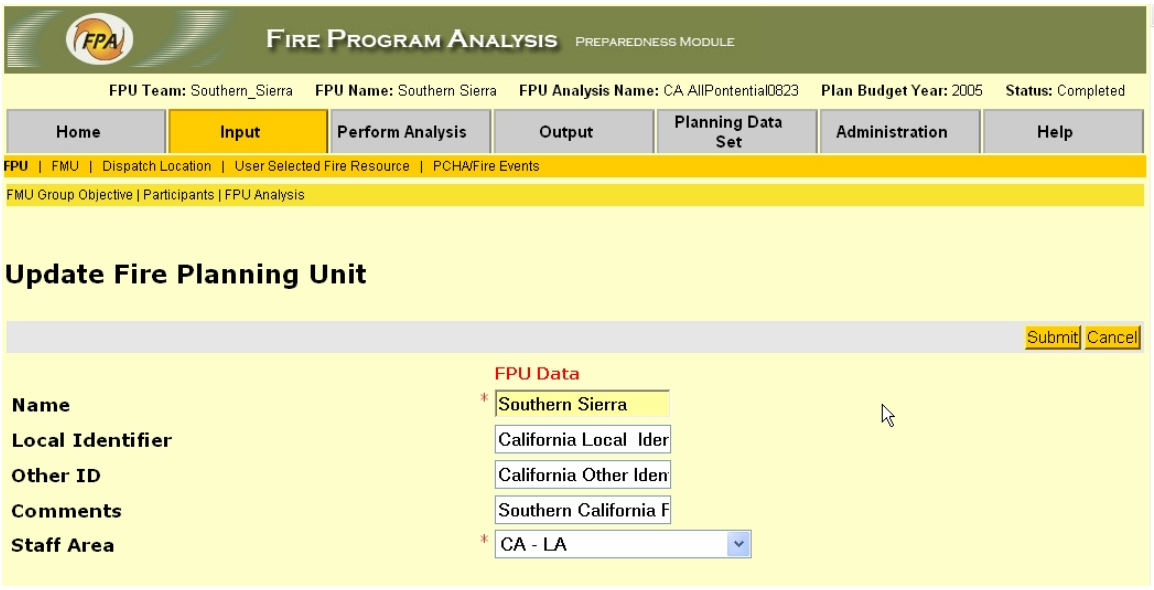
The main FPU page is accessed from the **Input / FPU** link on the main Navigator menu bar. It displays the currently selected FPU. From this page you can *Update* and *Delete* an FPU.

Note that none of the "Sub Tabs" under "FPU" is selected when you are managing the basic FPU information.

Instead, you use the items displayed on the right of your screen:

- To *update* an existing FPU, click **Update** to open the ***Update FPU Page***.
- To *delete* the FPU, click **Delete**. This will prompt you to confirm or cancel the deletion. If you confirm it, the FPU page will be refreshed showing an empty table. If an analysis is in progress it will be terminated.
- (Once a Planning Data Set has been created and associated with an FPU, you cannot create another FPU, so that button is inactive.)

Update FPU Page



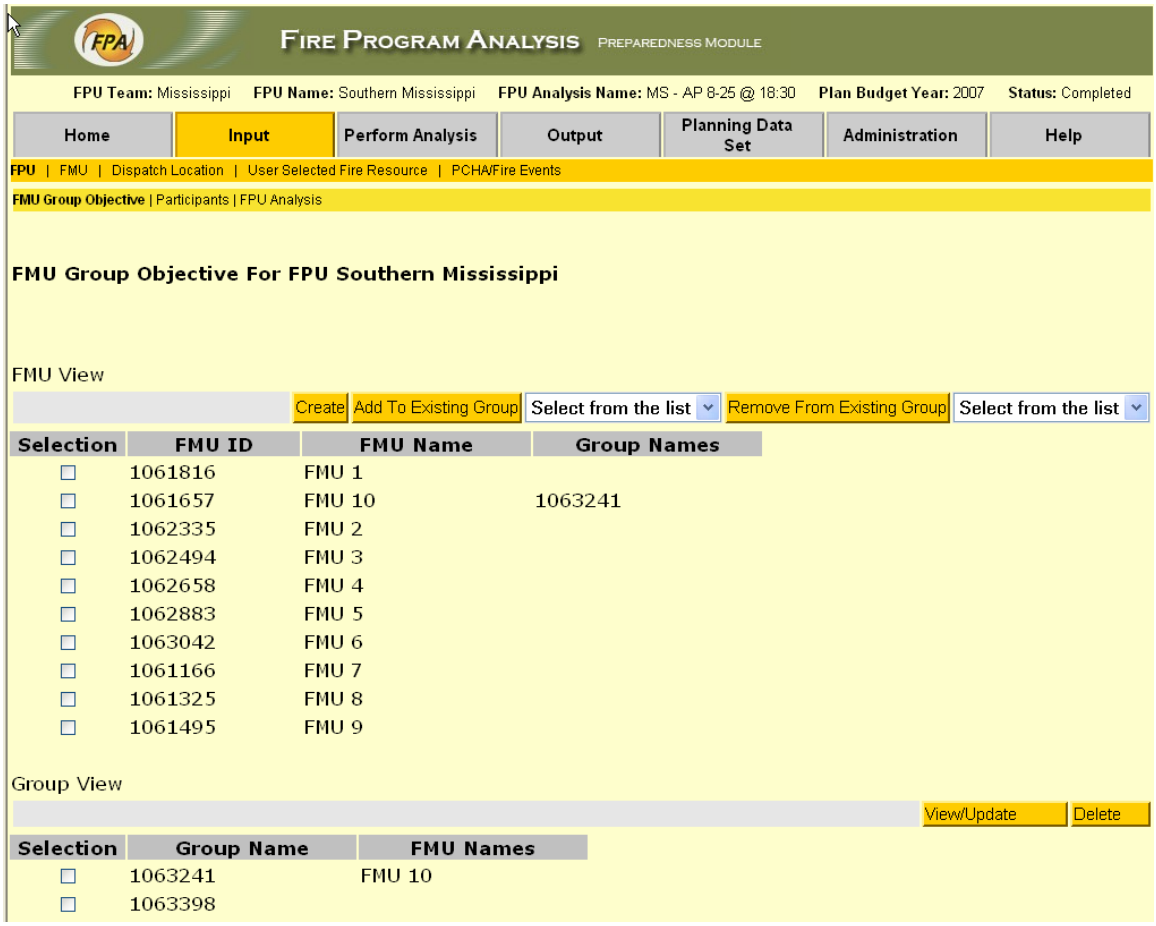
Access this page from the ***FPU Page*** to add or revise entries for the currently selected FPU.

- To *update*, either enter new information, or select the correct information from the dropdown list in the appropriate window(s).

- Clicking **Submit** will *save* the changes, *updating* the FPU and return you to the **FPU Page. Cancel** will return to the ***FPU Page*** without making any changes.

- If you click **Submit** without having made any changes, a pop-up notice will inform you that you need to make changes before submitting them.

FMU Group Objective Page



Note: you must create two or more FMUs before you can create a group.

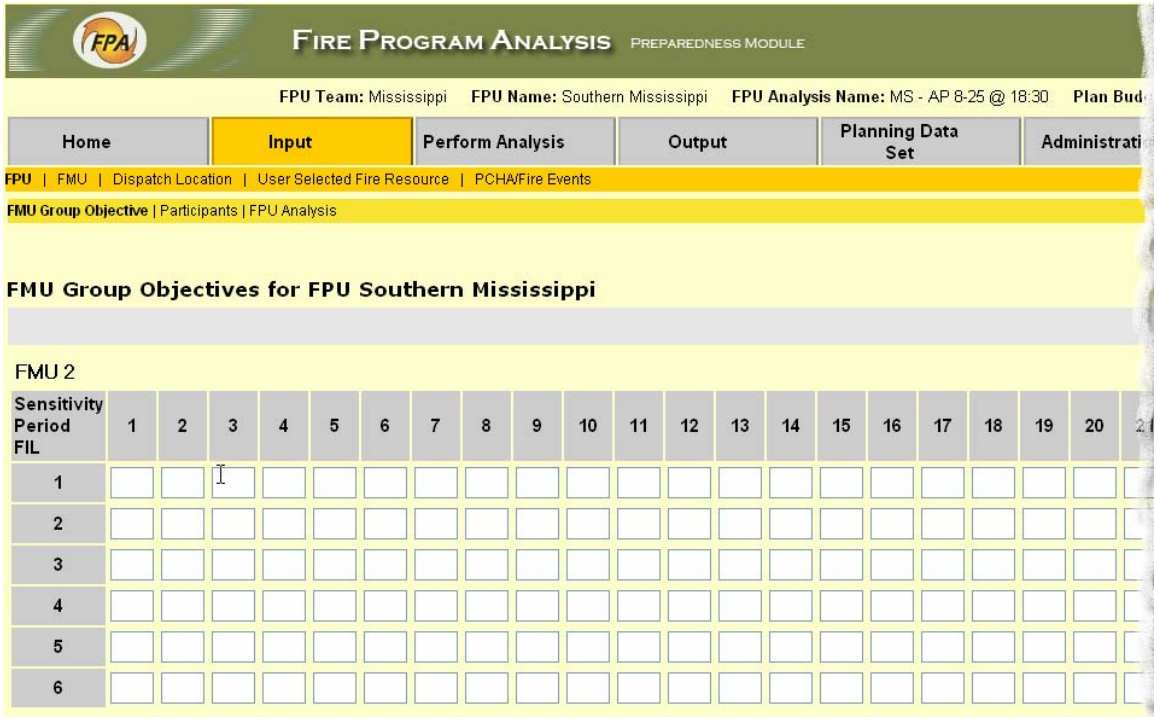
FMU Group: two or more designated FMUs for which common burned acreage threshold objectives can be defined and applied.

Access this page from the ***FMU Group Objective*** link under the ***FPU*** sub-category in the Main Navigator menu bar. The page displays the list of existing FMUs, the Group (if any) with which each has been associated, and a list of the Groups that have been previously created. You have the option to:

- *Create* a new FMU Group.
  1. *Select* one or more FMUs to which the Objectives will apply.
  2. Click **Create**.
  3. The ***FMU Group Objectives Page*** displays so you can enter acre objectives by FIL and Sensitivity Period to apply to the individual FMUs you associate with it.

- *Add* unassociated FMU(s) to an existing Group.
  1. *Select* one or more FMUs that you wish to Add, *select* the desired existing Group Name from the drop-down list.
  2. Click **Add to Existing Group.**
  3. The Group Name will now be displayed after the selected FMUs, and the FMUs will now be shown with that Group in the Group View portion of the page.
- *Remove* FMU(s) from an existing Group.
  1. *Select* the FMU(s) to be removed from a Group, and the Group to which they belong from the drop-down list.
  2. Click **Remove from Existing Group.**
  3. The Group Name will no longer be displayed after the selected FMU(s), and the FMU(s) will not be shown with that Group in the Group View portion of the page.
- *View, update,* or *delete* existing FMU Group Objectives.
  1. To *view or update, select* the appropriate Group and *click* **View/Update** in the Group View portion of the page to open the ***FMU Group Objectives Page*** for that Group**.**
  2. To *delete* a Group Objective, *select* the Group and click **Delete** in the Group View portion of the page. Any associated FMU(s) will no longer have a group objective.

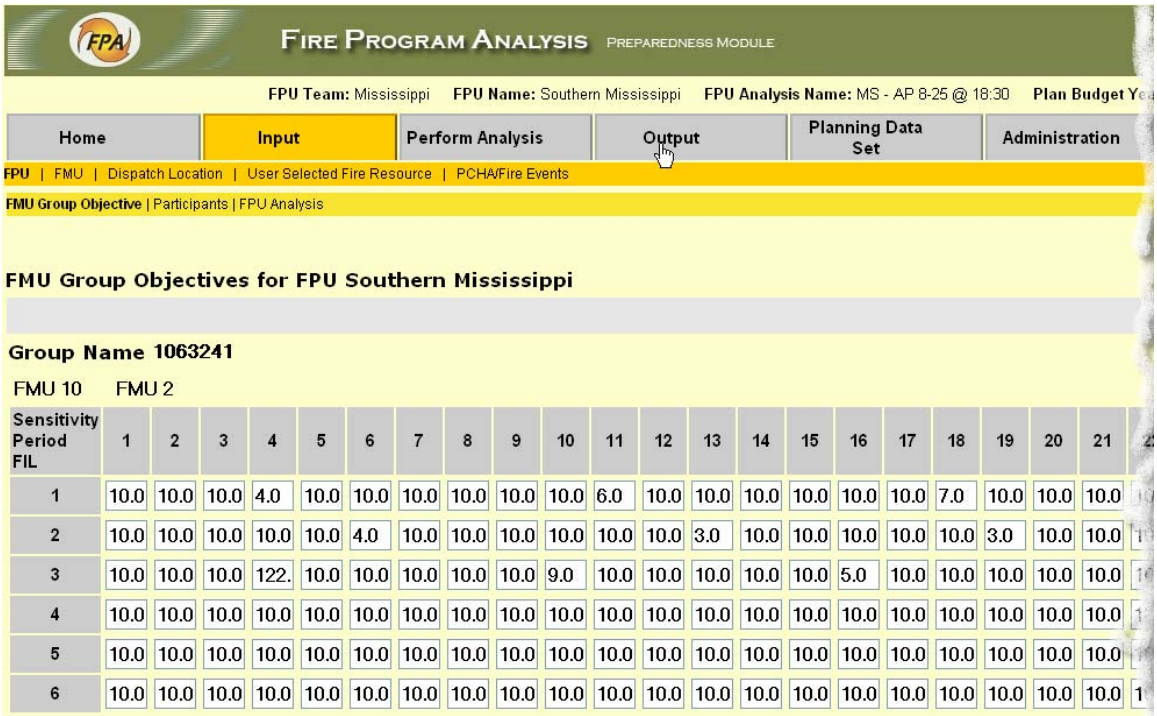
Create FMU Group Objective



Access this page from the ***FMU Group Objective Page*** when the **Create** button is clicked. The FMU(s) that you selected to which the Objectives will apply are displayed immediately above the table.

1. Click on the appropriate cell to *enter* the individual acreage objectives (burned acreage thresholds) for each Sensitivity Period and FIL.
2. Click **Submit** to save the changes, or **Cancel** to make no changes**.** (Due to the width of the actual screen, the above image could not capture and display the right portion on which these buttons reside.)

View/Update FMU Group Objectives for FPU



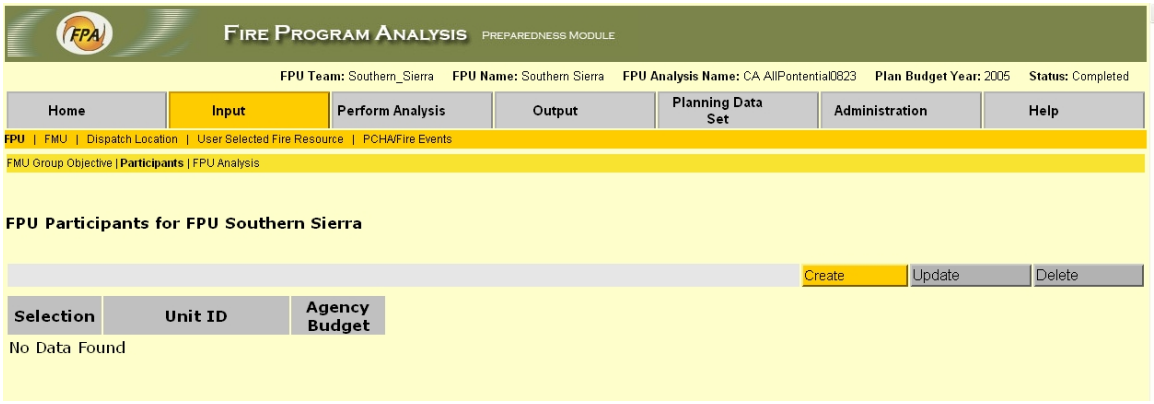
Sensitivity Period FIL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	10.0	10.0	10.0	4.0	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0	10.0	10.0
2	10.0	10.0	10.0	10.0	10.0	4.0	10.0	10.0	10.0	10.0	10.0	10.0	3.0	10.0	10.0	10.0	10.0	10.0	3.0	10.0	10.0
3	10.0	10.0	10.0	122.	10.0	10.0	10.0	10.0	10.0	9.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
6	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Access this page from the ***FMU Group Objective page*** when the **View/Update** button is clicked. It displays the current acreage objectives (burned acreage thresholds) for the FMU Group for each sensitivity period and FIL. The Group Name, and any FMU(s) that have been associated with it are shown just above the table.

1. To *update* an acreage entry, *click* on the cell and type in the new value.

2. When you are done, click **Submit** to save the objectives with the updated entries, or **Cancel** to make no changes, and return to the ***FMU Group Objective Page.*** (Due to the width of the actual screen, the above image could not capture and display the right portion on which these buttons reside.)

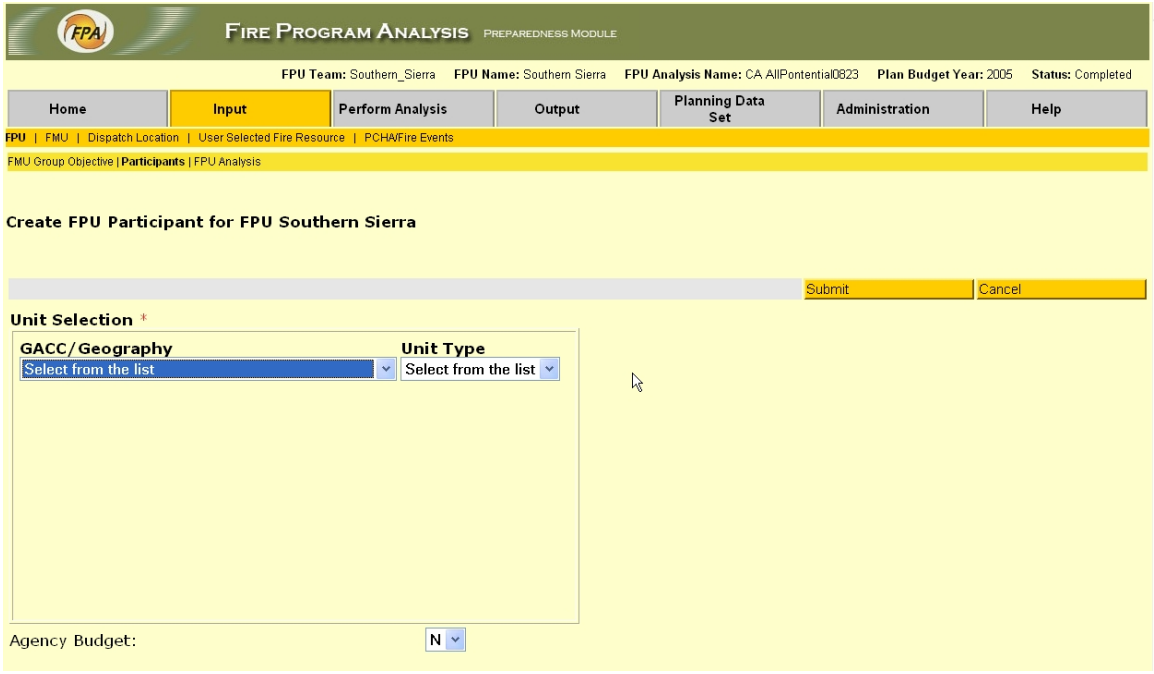
View FPU Participants Page



This page displays the Participant Units (Agencies) that are currently assigned to the selected FPU, and whether their budget is being determined by FPA-PM. It is accessed from the ***Participants*** link under the ***FPU*** sub-category in the Main Navigator menu bar. From this page you can *View, Create, Update***,** and *Delete* the Participant Units of the FPU.

- To *Add* a new participant to the FPU, click **Create**.
- To *Update* one or more participants, select by checking the appropriate box(es) and click **Update** to open the ***Update Participants Page.***
- To *Delete* one or more participants, *select* by checking the appropriate box(es) and click **Delete.**

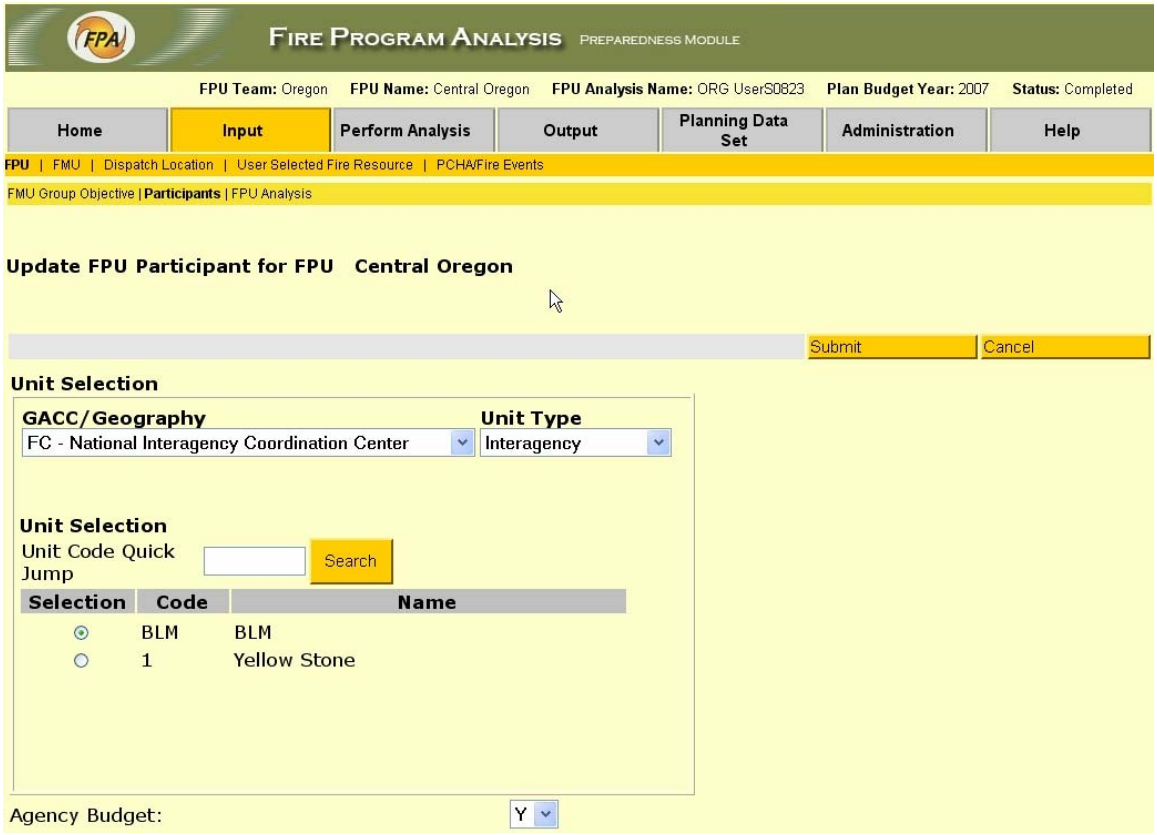
Create FPU Participant Units Page



This page allows you to create and add a Participant Unit to the FPU, and specify if it has a budget. It is accessed from the ***FPU Participant Units Page***. To *create* a Unit:

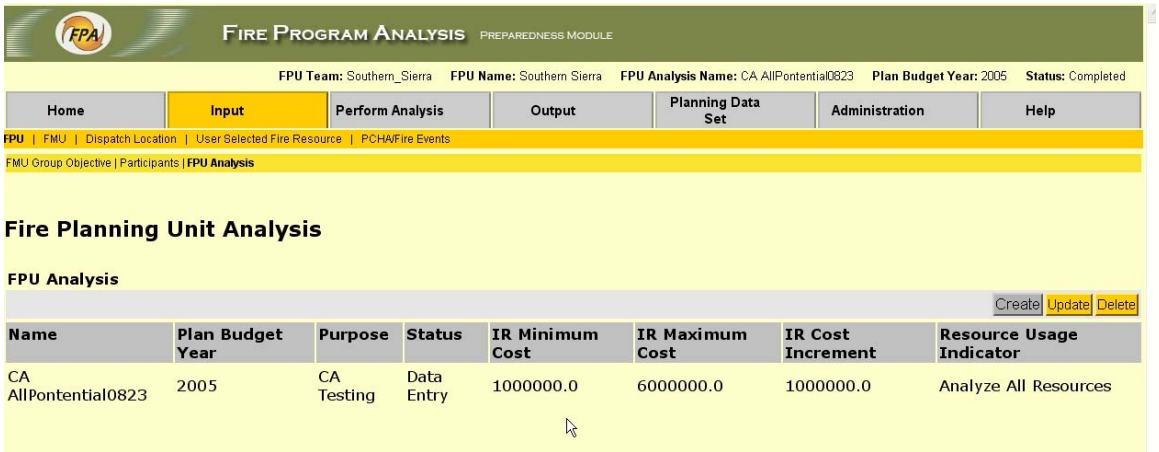
1. *Select* a Unit ID and Unit Type from the drop-down lists.
2. For Budget *select* **Y** (yes) or **N** (no) from the drop-down list.
3. Click **Submit** to *create* the Unit for the FPU, or **Cancel** to take no action**,** and return to the ***FPU Participant Page***.

Update FPU Participant Units Page



This page allows you to *assign* or *un-assign* Participant Units, and/or update their budget status. It is accessed by selecting **Update** from the ***FPU Participant Units Page***.

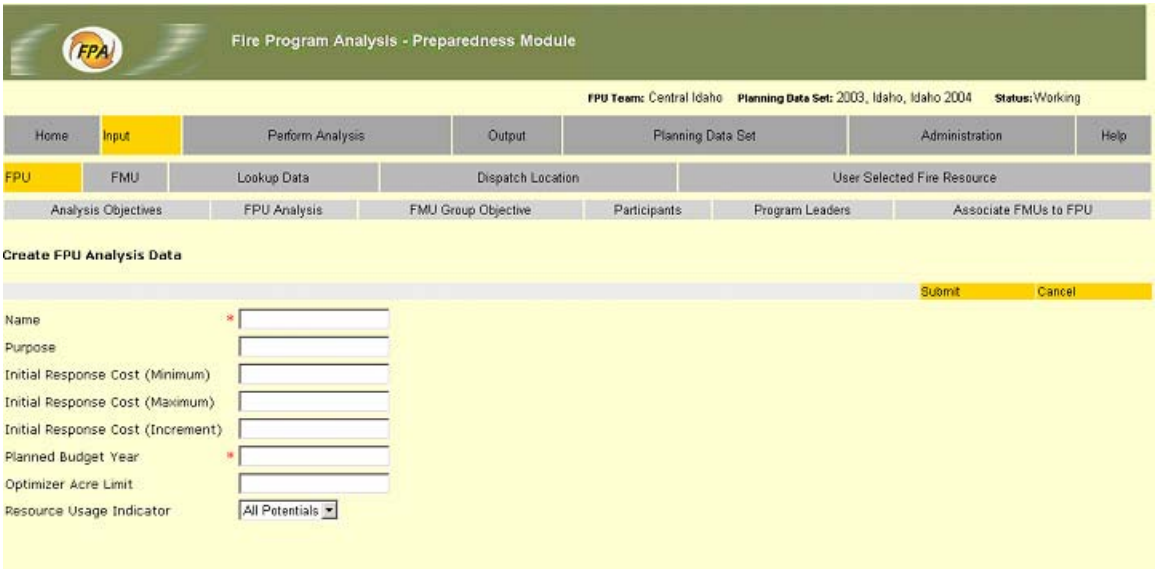
FPU Analysis



Access this page from the ***FPU Analysis*** link in the third tier of the FPU Navigator menu bar. This page is used to *Create, Update, or Delete,* on the displayed FPU.

- To *Create* an FPU Analysis, click **Create** to open the ***Create FPU Analysis Page***. Note: you can create and run only one analysis at a time for each planning data set.
- To *Update* an FPU Analysis, *Select* the analysis and then click **Update** to open the ***Update FPU Analysis Page***.
- To *Delete* an FPU Analysis, click **Delete**. You will be prompted to confirm the deletion, and the page will then refresh with the selected analysis deleted. Click **Cancel** to take no action.

Create FPU Analysis Page

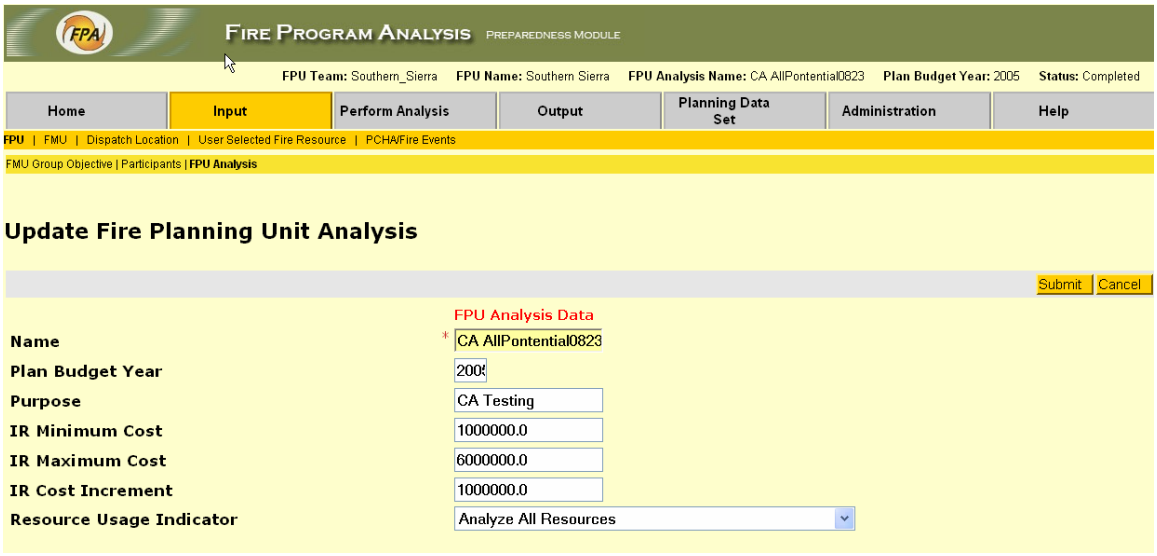


Access this page from the View FPU Analysis Page by clicking Create.

- To *Create* a new FPU Analysis, the Name and Planned Budget Year must be filled in. The other information fields may be completed now, or later through the ***FPU Analysis Update Page***. The fields and examples are:
- Name – Initial Plan Budget 2007
- Purpose – Budget Plan 2007
- Initial Response Cost (Minimum) – 10000000. This is the starting point used by FPA-PM as it submits runs to the Optimizer.
- Initial Response Cost (Maximum) – 20000000. This is the upper limit used by FPA-PM as it submits runs to the Optimizer.

- Initial Response Cost (Increment) – 1000000. This is the increment between runs submitted to the Optimizer.
- Planned Budget Year - 2007
- Optimizer Acre Limit – 999999999. This is a number higher than the possible number of Weighted Acres Burned.
- Click **Submit** to *save* the information and return to the ***FPU Analysis Page*** where you will see it displayed in the FPU Analysis Table.
- Click **Cancel** to take no action and return to the ***FPU Analysis Page***.

Update FPU Analysis Page



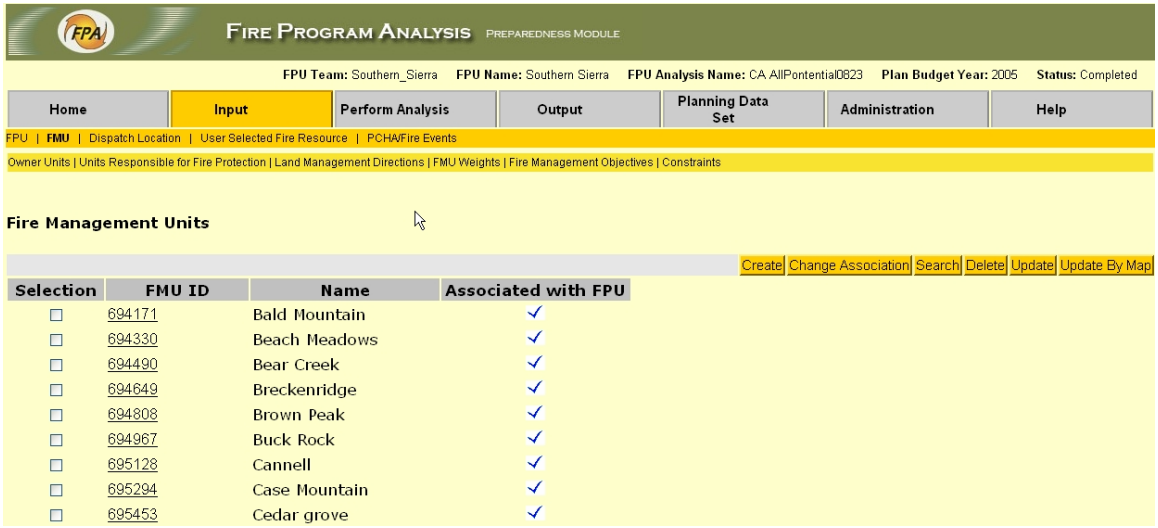
Access this page from the ***View FPU Analysis*** Page by *Selecting* an FPU Analysis and clicking **Update**. It is used to add or edit information for an existing FPU Analysis.

- Add or update entries as appropriate, and click **Submit** to *save* the information, or **Cancel** to take no action. You will be returned to the ***View FPU Analysis Page*** where any update information will be reflected in the display.

Fire Management Units (FMU)

The screens in this section allow you to create or modify FMU attributes. The FMU may be updated to include Land Management Objectives, FMU Constraints, Land Management Direction, Owner Unit(s), Units Responsible for Fire Protection, and other FMU attributes. You may also delete FMUs.

Fire Management Units Page



Access this page from the Input / ***FMU*** link in the Main Navigator menu bar. It displays a list of the FMUs that have been created, with their respective Names and system FMU IDs**,** and indicates if they have been associated with the current FPU.

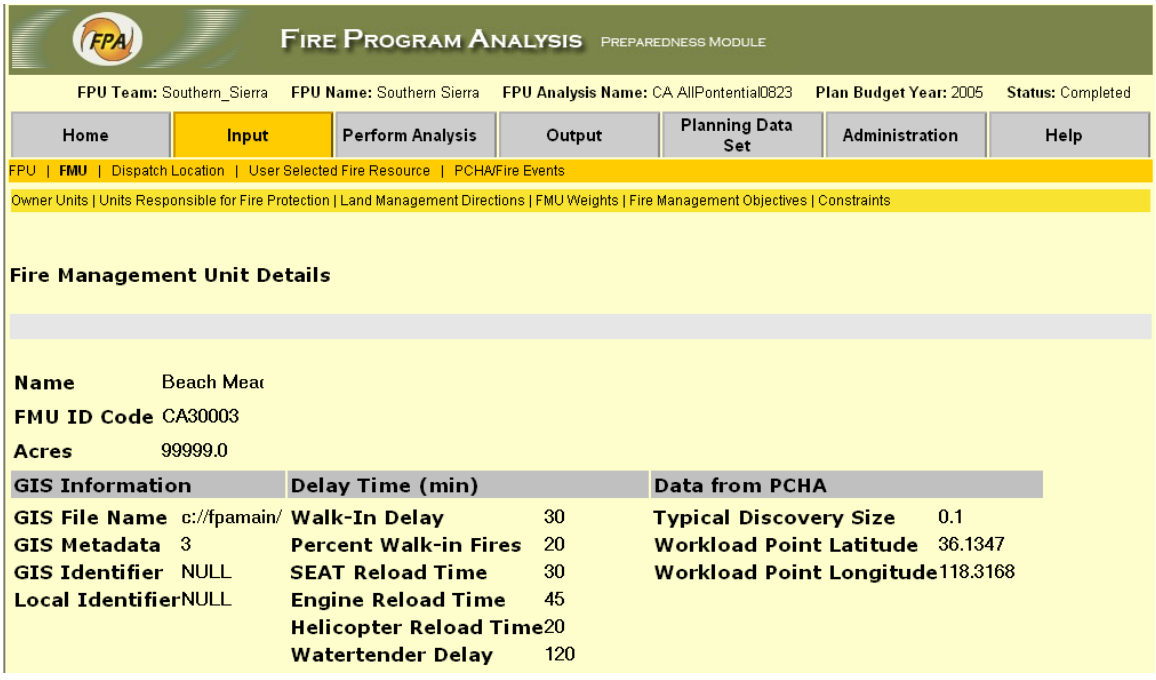
You can perform the following actions:

- To *Create* a new FMU, click **Create** to open the ***Create FMU Page.***
- To *Associate* one or more FMUs with the current FPU, *select* the FMU(s) by checking the appropriate box(es) to the left, and click **Change Association**. A check mark shows for the selected FMU(s).
- To *Disassociate* an FMU from the current FPU, *select* the FMU and click **Change Association**. The association is removed.

Caution: If you disassociate and FMU from an FPU, you MUST verify that the FMU is included somewhere in the final analysis before submitting your budget.

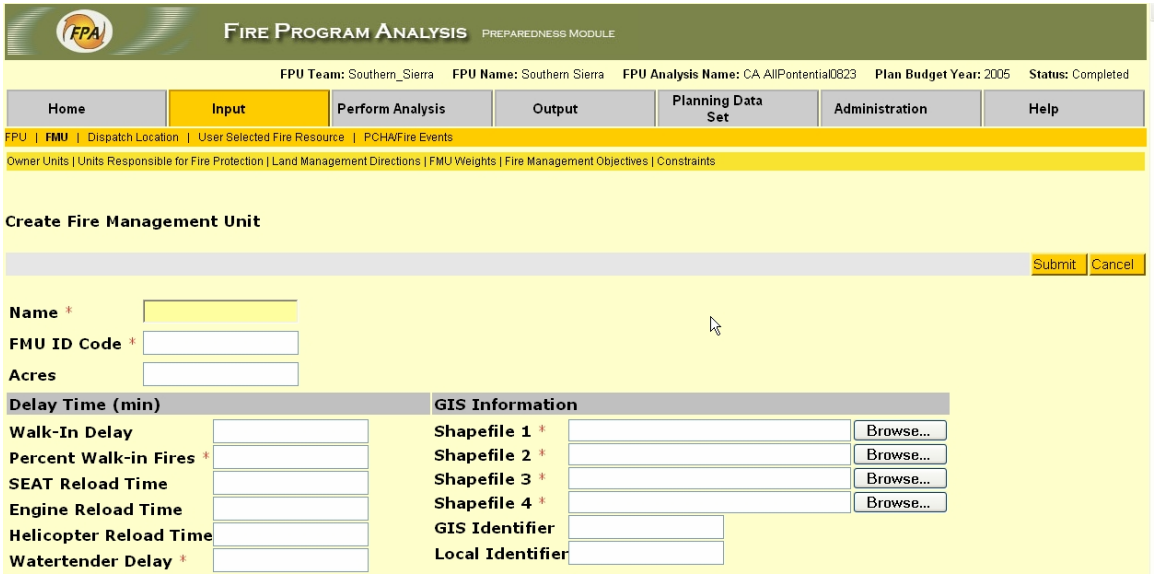
- To *Search* for a particular FMU, click **Search** and you are taken to the ***Search FMU Page.***
- To *Delete* one or more FMUs, *select* it/them and click **Delete**. You are prompted to confirm the planned deletion. Click **OK** to delete, and the page refreshes with the deleted FMU(s) not shown, or **Cancel** to take no action.
- To *Update* an FMU by manually entering the data, *select* the FMU and click **Update** to open the ***Update Management Unit Page.***
- To *Update* an FMU by Map, click **Update by Map**. This opens a new page which interfaces with the GIS application. There you are able to select by map the FMUs which you wish to update, after which you will be able to update them sequentially on the ***Update FMU Page.***
- To *View* the details of a particular FMU, click on the FMU ID link to open the ***View FMU Details Page.***

View FMU Details Page



The ***Fire Management Unit Details Page*** is accessed by clicking a FMU ID link on the ***View FMUs Page.*** It displays the basic attributes of the selected FMU, and no actions can be initiated from it.

Create Fire Management Unit Page



NOTE: A revised version of this screen was under development at the time this version of the User Guide was prepared, and the screen in the current FPA-PM program may therefore look different. Among planned changes was that the four GIS shapefiles would be contained in a single zip file.

Access this page by clicking **Create** on the ***Fire Management Units Page***. It is used to browse for a GIS Shapefile accessible from your local workstation, which is the way you create a new FMU in FPA-PM.

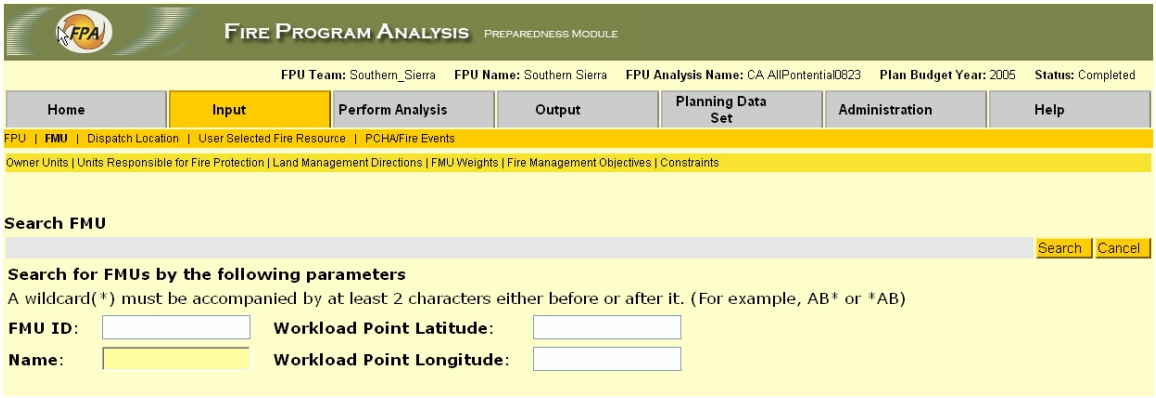
Entries required by the system for the new Fire Management Unit to be saved are:

- Name. What do you call the FMU?
- Unique Identifier. A "short name", which is unique to this FMU.
- Acreage. How many acres in the FMU?
- Walk-In-Delay: Number of minutes.
- Percent Walk-in Fires**:** 0 to 100. Do not leave blank.
- SEAT Reload Time: Turn around time in minutes.
- Engine Reload Delay: in minutes.
- Helicopter Reload Time: in minutes.
- Water Tender Delay: in minutes. Do not leave blank.
- GIS Shapefile**:** Click **Browse** to bring up a dialog to locate the GIS Shape file for the FMU. If unable to locate, **Cancel** the FMU creation and return to the ***FMU Page.***

Note: See Appendix II for the requirements for creating an FMU Shapefile.

- Click **Submit** to create the FMU. The system will save the Shapefile and the other information, along with the creator's User ID and creation timestamp, and make this FMU the currently selected FMU.

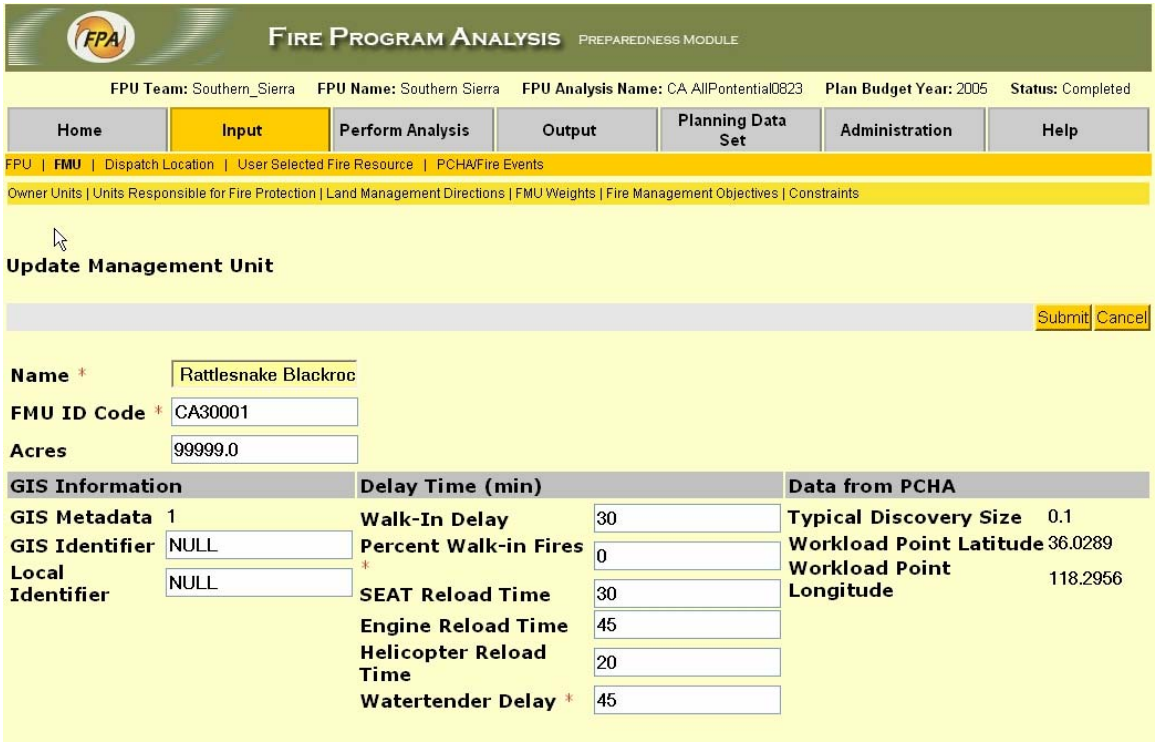
Search for Fire Management Unit Page



The ***Search FMU Page*** provides a way for you to search the database for FMUs based on any one or more of the four search parameters shown. Access it by clicking **Search** on the main ***Fire Management Unit Page.***

1. Enter the appropriate value for one or more of the FMU attributes listed:
   - FMU ID
   - FMU Name
   - Latitude
   - Longitude
2. Click **Search**. If a matching FMU is found, you will be returned to the ***Fire Management Units Page*** where the matching FMU(s) will be listed. If no match is found, as message will inform you of that fact.

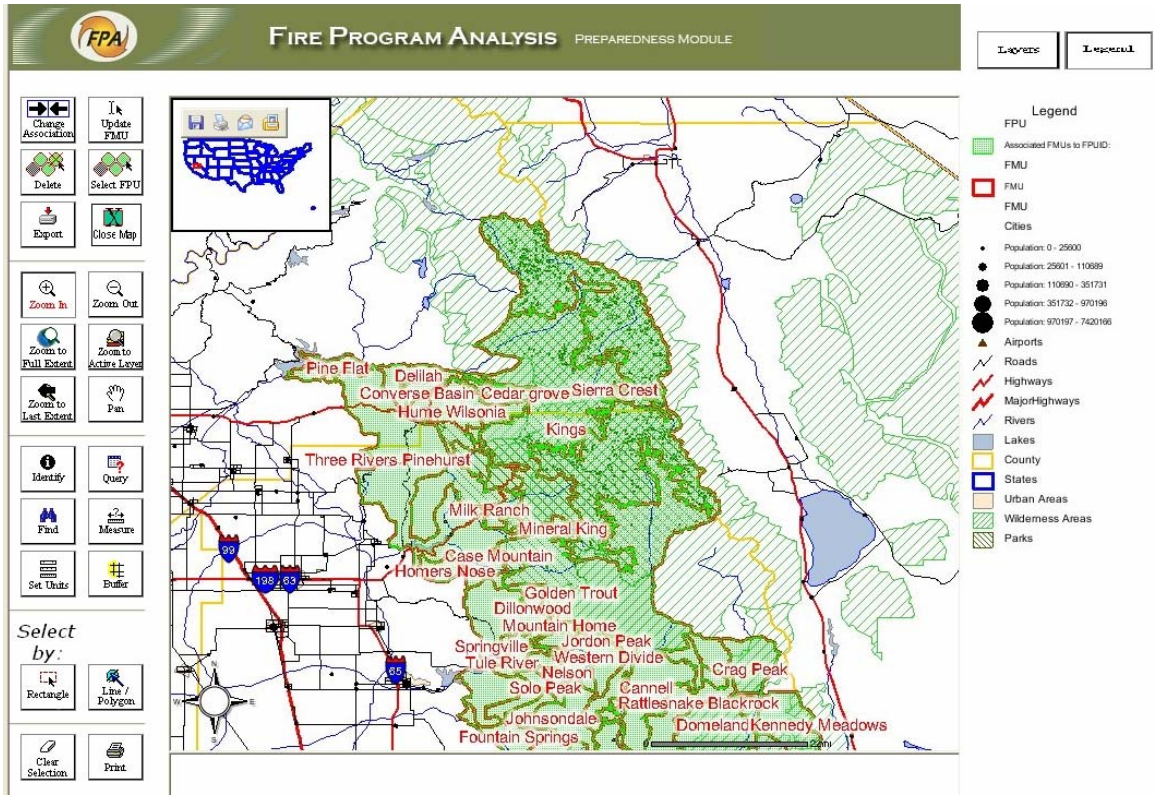
Update Fire Management Unit Page



Access this page by clicking **Update** on the ***Fire Management Unit Page.*** It is used to update the editable attributes of the FMU.

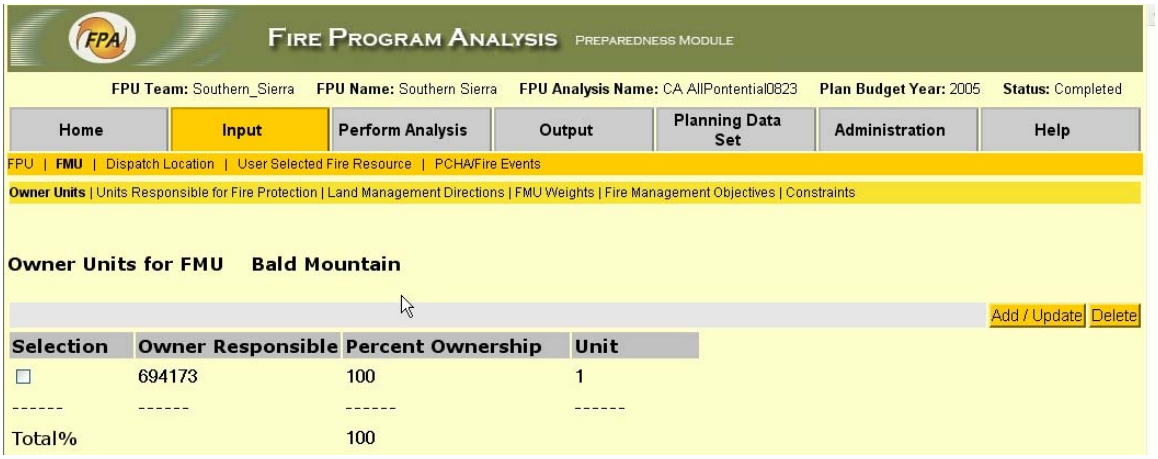
- You may enter or change the value for any of the editable parameters by clicking in the applicable window and typing the entry. Time entries are in minutes. Parameters shown with a red asterisk must not be left blank. Other fields may be completed later, but must be done before validation.
- If you change the geographic extent of an FMU, you must delete the FMU and recreate it using the new data by re-importing the appropriate shapefiles from PCHA.
- When done, click **Submit** to save the changes, or **Cancel** to take no action, and return to the ***FMU Page.***

Update by Map Page



You use this screen to perform a variety of actions to manage your FPU and FMUs using GIS. Complete instructions for using the map functions are found in Appendix I of this Guide.

Owner Units Page



Access this page from the ***Fire Management Units Page*** by:

1. *selecting* an FMU on that page, and
2. *clicking* the ***Owner Units*** tab under ***FMUs*** in the Main Navigator menu bar.

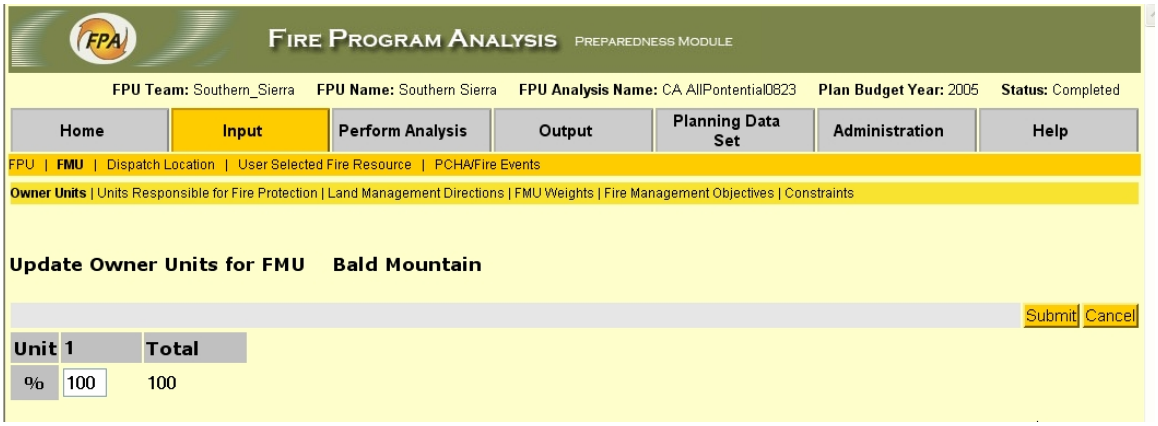
You can *Add, Update***,** or *Delete* an Owner Unit here.

Owner Units define the composition of the "ownership" for the FMU. The sum of all Owner Units identified for each FMU must equal 100%, or the system won't allow you to *save*.

- Click **Add/Update** to open the ***Add Owner Unit Page*** to *add* an Owner Unit, or to *update* previous entries, for the currently selected FMU.
- To *remove* one or more of the currently identified Owner Units, *Select* the Owner(s) to be removed and click **Delete**. You will then be prompted to confirm the planned deletion. If you click **OK**, the page refreshes showing a new table reflecting the deletion.

Deletion of an Owner will cause the total ownership percentage to fall below 100%. You will be prompted to correct the ownership by adding or updating ownership so that the total equal 100%.

Add/Update Owner Units Page



Access this page by clicking **Add/Update** on the ***Owner Unit Page*.** When an FMU is created, there are no land management Owner Units defined, and you use this page to add the appropriate Owners and ownership percentages.

The total of all Ownership Units in the FMU must equal 100%

- The page displays the system-generated list of potential Owner Units for the FMU. (This is created using the System Data lookup table for Units.)

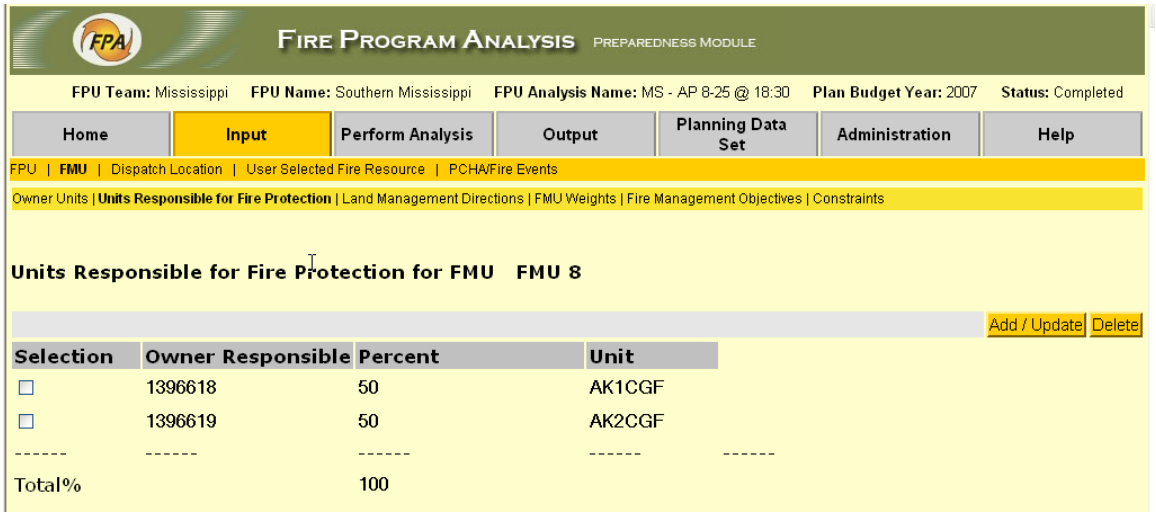
1. To *Add* an ownership, select it and enter the appropriate percentage that Owner Unit is of the total FMU area.
2. Do this for each Ownership Unit in the FMU.
3. Click **Submit** to save the entries when you are through, or **Cancel** to exit with no action taken.

Access this page by clicking **Update** on the ***Owner Unit Page.*** It is used to update the Owner Unit percentages after the owner Units have been initially defined on the ***Add Owner Unit Page.***

Owner Unit percentages for the FMU must equal 100%

1. The page displays the Owner Units that have been previously identified for the FMU, with their respective percentage of total FMU ownership.
2. *Select* the Owner Unit percentage that you wish to change, and enter the new percent.
3. Adjust the percentage of the other Unit(s) as appropriate to bring the total percentage for the FMU equal to 100%.
4. Click **Submit** to save the changes, or **Cancel** to take no action.

Units Responsible for Fire Protection Page



Access this page from the ***Fire Management Units Page*** by *selecting* an FMU on that page and then clicking the ***Units Responsible for Fire Protection*** tab under ***FMU*** on the Main Navigator menu bar. From this page you can *Add, Update* or

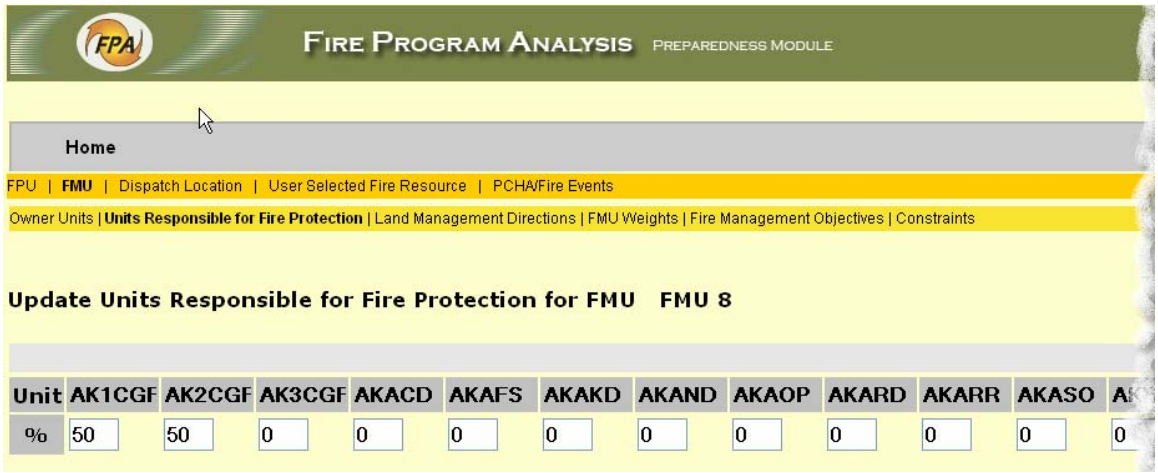
Delete a Unit Responsible for Fire Protection for the selected FMU.

The total of the percentages for all Units Responsible for Fire Protection in an FMU must equal 100%.

- To *Add* one or more Units Responsible for Fire Protection in the selected FMU, or *Update* previous entries, click **Add/Update** to open the ***Add Units Responsible for Fire Protection Page.***
- To *Delete* a Unit, *Select* the Unit(s) that you wish to delete, and click **Delete**. You will then be prompted to confirm the planned deletion. If you confirm the deletion, the page will be refreshed to display the new table. Click **Cancel** if you do not want to take any action.

The *deletion* will cause the total percentage for the remaining Units to be less than 100%. Therefore, you will have to *Add to* or *Update* the existing Units to bring the percentage total to 100%.

Add/Update Unit Responsible for Fire Protection Page

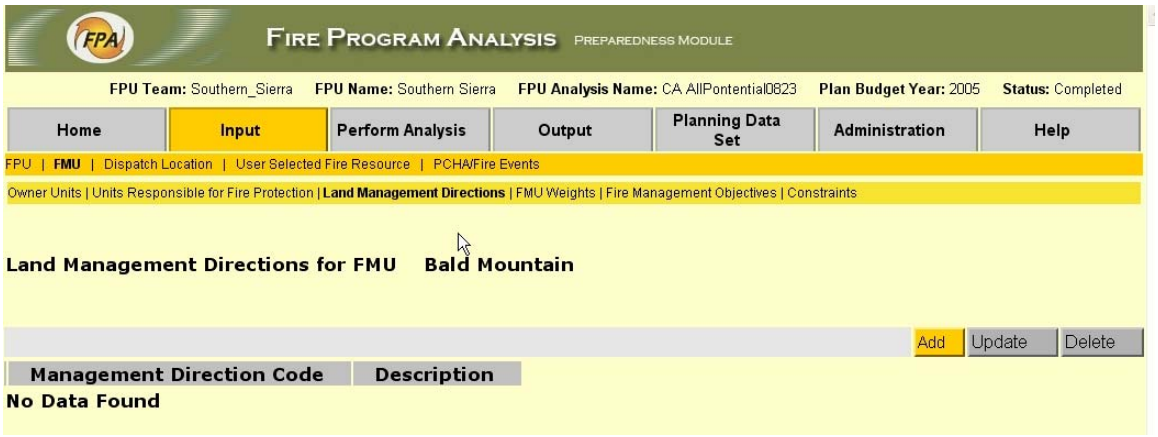


Access this page by clicking **Add/Update** on the ***Unit Responsible for Fire Protection Page.*** When the FMU is first created, there are no Units Responsible for Fire Protection defined for it. Use the page to initially identify the applicable Units (or to add additional Units later) by entering the percentage of the FMU area for which each Unit is responsible in the appropriate Unit ID box.

The total of the percentages entered for all Units Responsible must equal100%

- The list of available Units Responsible from the system Lookup Tables is displayed across the screen (scroll as necessary to bring into view).
- To *Add* a Unit, *enter* in the window under the ID the % of the total FMU area for which it is responsible for fire protection.
- To *Update* a Unit's percentage, click on the box and enter the new % value.
- When you have accounted for 100% of the area, and wish to save the data, click **Submit**. You will be returned to the ***Units Responsible for Fire Protection Page***.
- Click **Cancel** to exit without making any changes.

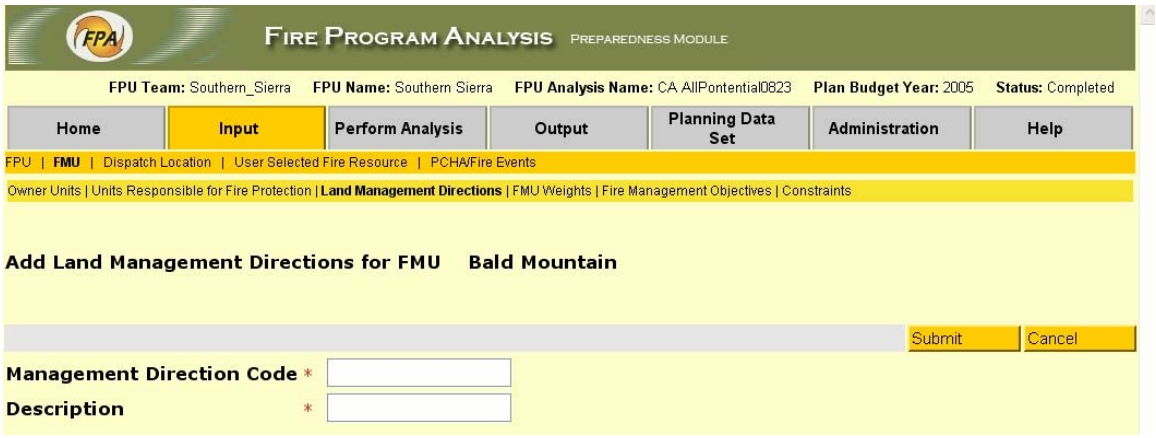
Land Management Directions for FMU Page



Access this page from the ***Land Management Directions*** link under the ***FMU*** tab on the Main Navigator menu bar. It displays a list of the Land Management Directions that have been created for this FMU. It is used to *Add, Update* or *Delete* land management directions.

- To *Add* a Land Management Direction, click **Add** to open the ***Add Land Management Direction Page***.
- To *Update* an existing Direction, *Select* the Direction to be updated, and then click **Update** to open the ***Update Land Management Direction Page***.
- To *Delete* an existing Land Management Direction, *Select* the Direction by clicking the left box, and click **Delete**. You will be prompted to confirm the deletion. If you click **OK** the page will be refreshed with that Direction deleted. To take no action click **Cancel**.

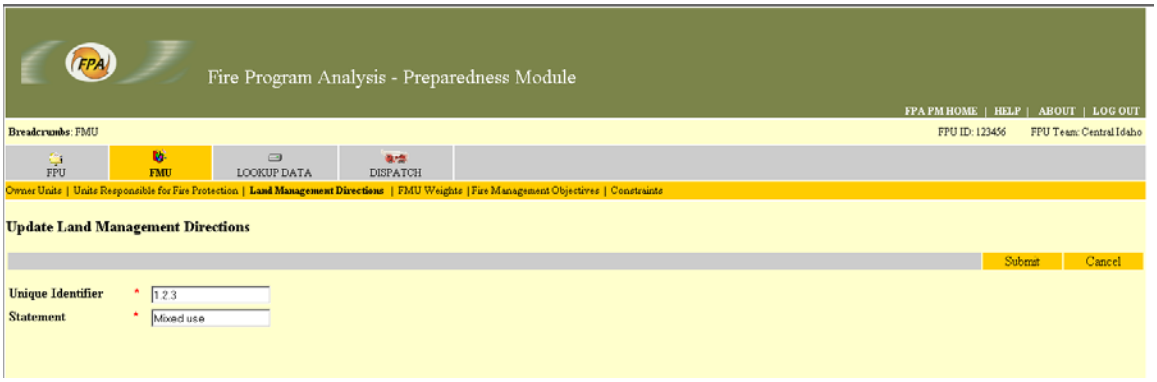
Add Land Management Directions Page



Access this page by clicking **Add** on the ***Land Management Direction Page.*** It is used to define additional Land Management Directions for a given FMU type.

1. Enter a unique Code identifier (50 characters maximum) for the new Land Management Direction.
2. Enter a Description of the new Direction (500 characters maximum)
3. Click **Submit** to save the new Direction, or **Cancel** to take no action, and return to the Land Management Direction Page.

Update Land Management Directions Page

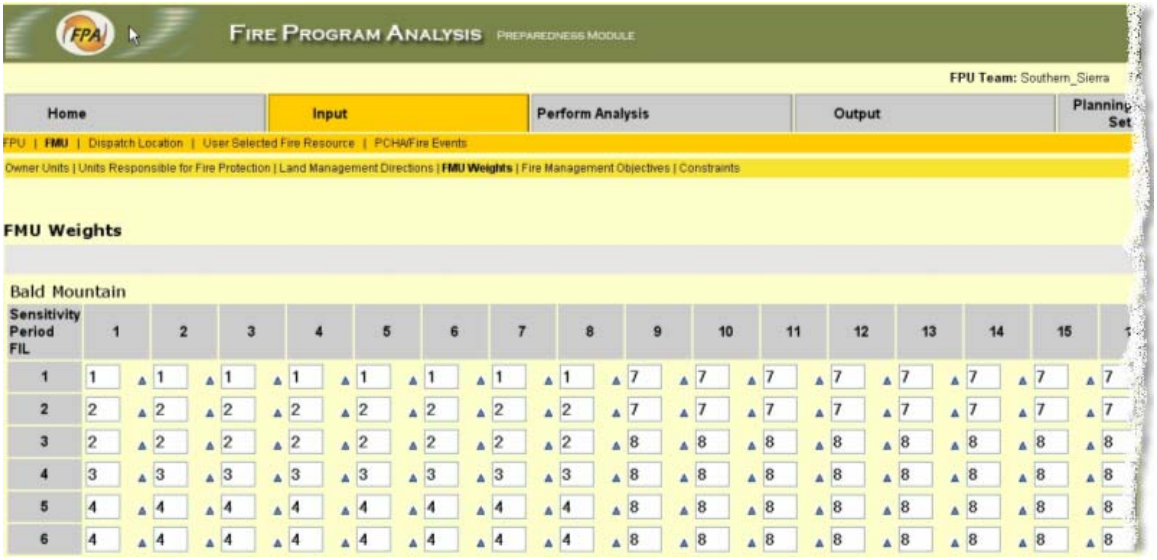


Access this page by clicking **Update** on the ***Land Management Direction Page.*** You use it to revise a specific Land Management Direction that was previously defined.

1. The selected Land Management Direction is displayed.
2. Revise the direction by updating the Statement as appropriate.

3. To *save* the updated Direction, click **Submit**, or click **Cancel** to take no action, and return to the ***Land Management Direction Page***.

FMU Weights Page



Access this page from the ***FMU Weights*** link under the ***FMU*** tab in the main Navigator Menu bar. It is used to *View, Create*, or *Update* the FMU Weights by FIL and Sensitivity Period. The table displays a cell for each combination of Sensitivity Period and FIL that previously has been defined for the FMU. (Note: actual screen is too wide to capture and display an image of it in its entirety.)

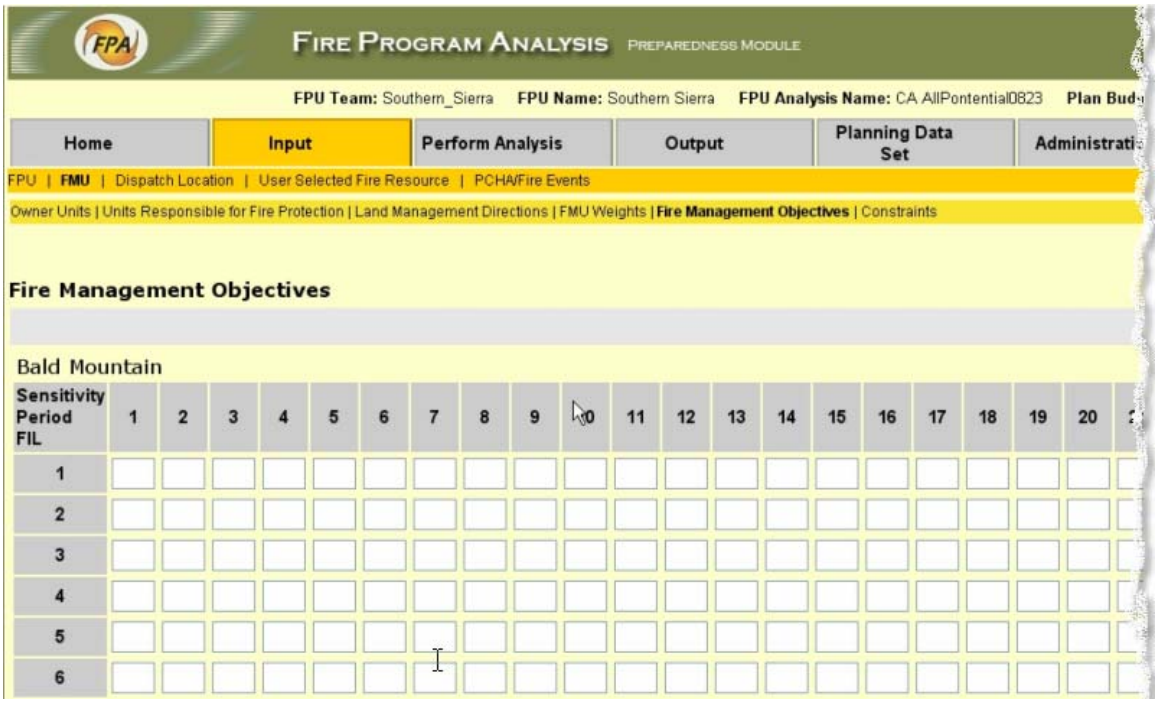
An FMU Weight entry is required for each FIL/Sensitivity Period cell before the FMU can be validated. If you click **Submit** without filling in all the cells, you will receive an error message and the data will not be saved.

To enter data:

1. Click on the cell for which you wish to create or update data.
2. Enter an appropriate Weight value in the cell, update an existing one, or make no change.
3. Click on the next cell of interest.

When you are done, click **Submit** to save the Weight table and comments, or click **Cancel** to exit without making any changes.

Fire Management Objectives



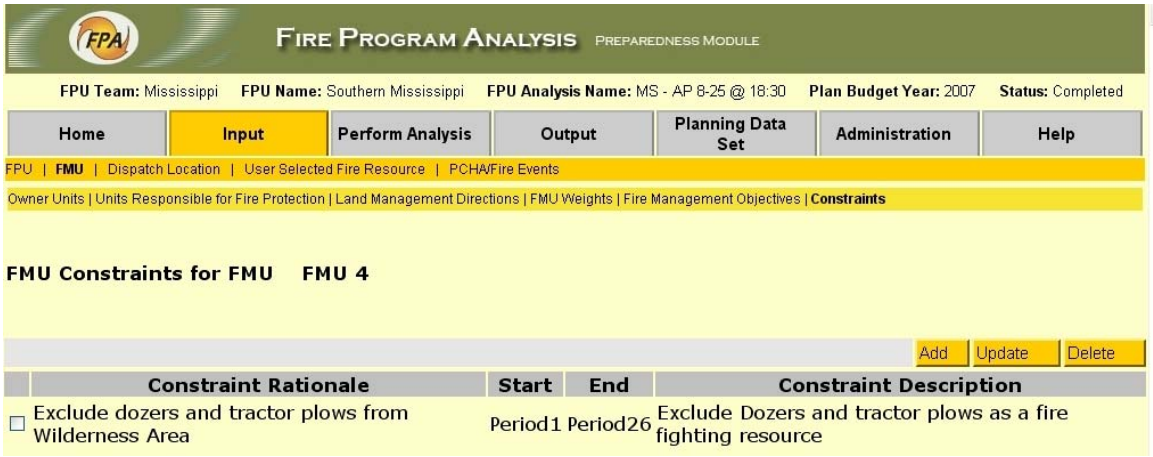
Access this page from the ***Fire Management Objectives*** link under the ***FMU*** tab on the main Navigator menu bar. Once an FMU has been created you use this page to *Create, View*, and *Update* the Fire Management Objectives for it. (Note: the actual screen is too wide to capture and display an image of it in its entirety.)

The Objectives are expressed as cumulative acres burned in the FMU by FIL for each Sensitivity Period.

A Fire Management Object entry is ***required*** for each FIL / Sensitivity Period before the FMU can be validated**.** If you don't fill in every cell you will receive an error message and the data will not be saved.

- The table displays the current Fire Management Objectives for the FMU by FIL/Sensitivity Period combinations as defined by the System Data.
- To *Create* or *Update* the Fire Management Objectives for the FMU, *Select* a cell (FIL row and Sensitivity Period column) and enter the Cumulative Acres Burned Objective. Repeat for additional cells as appropriate.
- To save the data, click **Submit**, or **Cancel** to make no changes, and return to the main ***View Fire Management Units Page***.

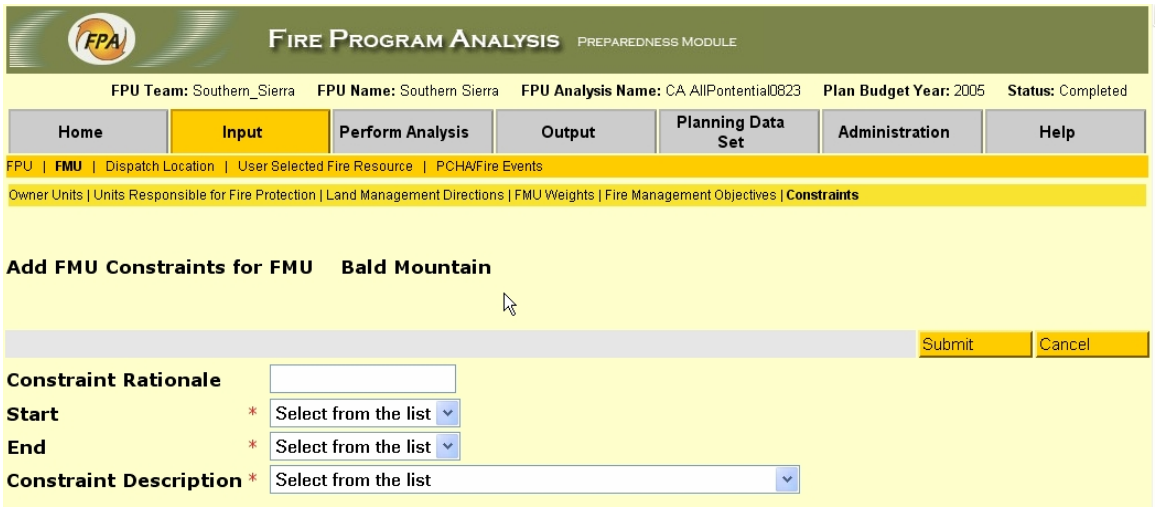
FMU Constraints Page



Access this page from the ***Constraints*** link under the ***FMU*** tab on the main Navigator menu bar. It is used to *Add, Update***,** or *Delete* FMU Constraints. Initially the display will be blank, but once Constraints are created for the FMU, they are shown here.

- Click **Add** to open the ***Add FMU Constraints Page*** and enter the new information for the FMU.
- To *Update* an existing Constraint, *Select* the Constraint you wish to change, and click **Update** to open the ***Update FMU Constraints Page***.
- To *Delete* a Constraint from this FMU, *Select* it and click **Delete**. You will be prompted to confirm the planned deletion. Click **Ok** to delete or **Cancel** to take no action.

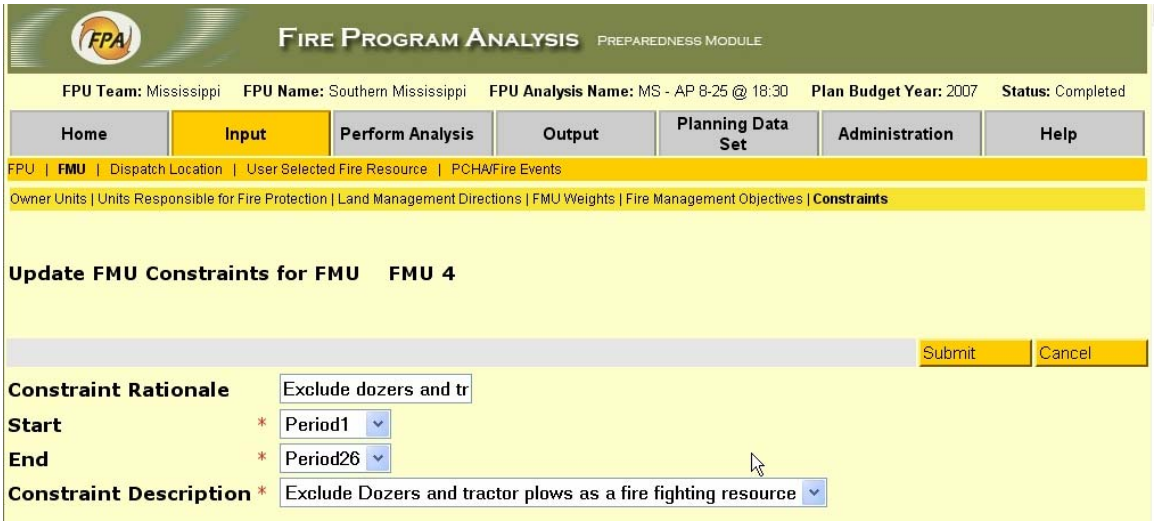
Add FMU Constraints Page



Access this page by clicking **Add** on the ***FMU Constraints Page***. It is used to *Add* Constraints to the currently selected FMU.

1. *Enter* a brief Comment (500 characters maximum) to provide appropriate specific details about the constraint.
2. *Select* the Constraint's Start and End Sensitivity Periods from the drop-down lists**.** (26 periods are available; default Start Period is 1, default End Period is 26.)
3. *Select* the appropriate Constraint Description from the system generated drop-down list.
4. Click **Submit** to enter and save the FMU Constraint, or **Cancel** to take no action, and return to the ***View FMU Constraints Page***.

Update FMU Constraints Page

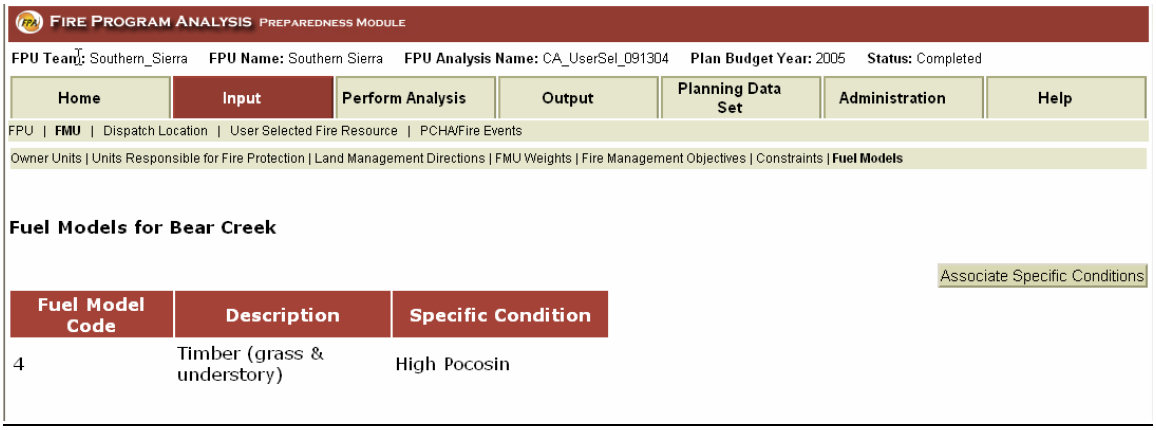


Access this page by clicking **Update** on the ***FMU Constraints Page.*** It is used to *Update* any of the information in an existing FMU Constraint.

The current information for the selected constraint is displayed.

- To *Update*, click on the window(s) that you wish to change and make the appropriate text revision for Constraint Description, or *select* the new data item(s) from the drop-down lists.
- To *Save* the updated Constraint, click **Submit**, to make no changes click **Cancel.** You will then be returned to the ***View FMU Constraints Page***.

FMU Fuel Models Page



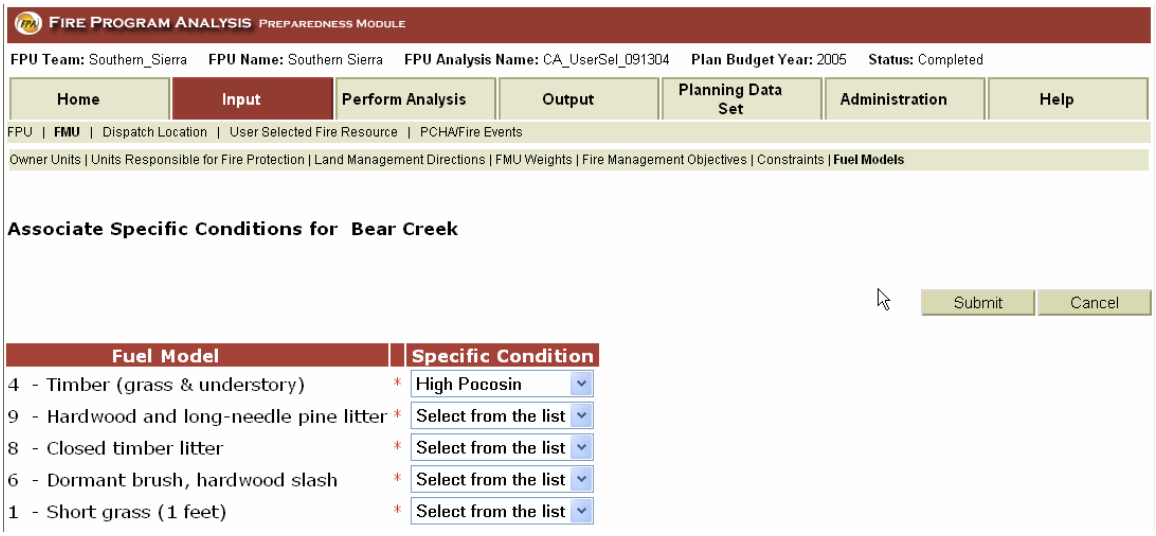
Access this page by selecting an FMU on the ***Fire Management*** Units page and clicking the ***Fuel Models*** link under the ***FMU*** tab on the main menu. The page displays the

Fuel Model(s) that are associated with selected FMU in the fire event information imported from PCHA.

Note: the Fuels Models function and this and the next screen were added to FPA-PM just prior to the publication of the User Guide, and after the screen captures were made of the other screen images in it. The ***Fuel Models*** menu tab shown on these images, therefore, does not appear in the navigation menu of any of the Guide's other screen images.

- If a Specific Condition is not shown for one or more of the fuel models ("Select from the list" will be displayed instead), click **Associate Specific Conditions** to open the ***Associate Specific Conditions*** page to select the appropriate condition from the available alternatives. (Fuel models for which there is only one associated specific condition have that condition assigned and displayed automatically.)

Associate Specific Conditions Page



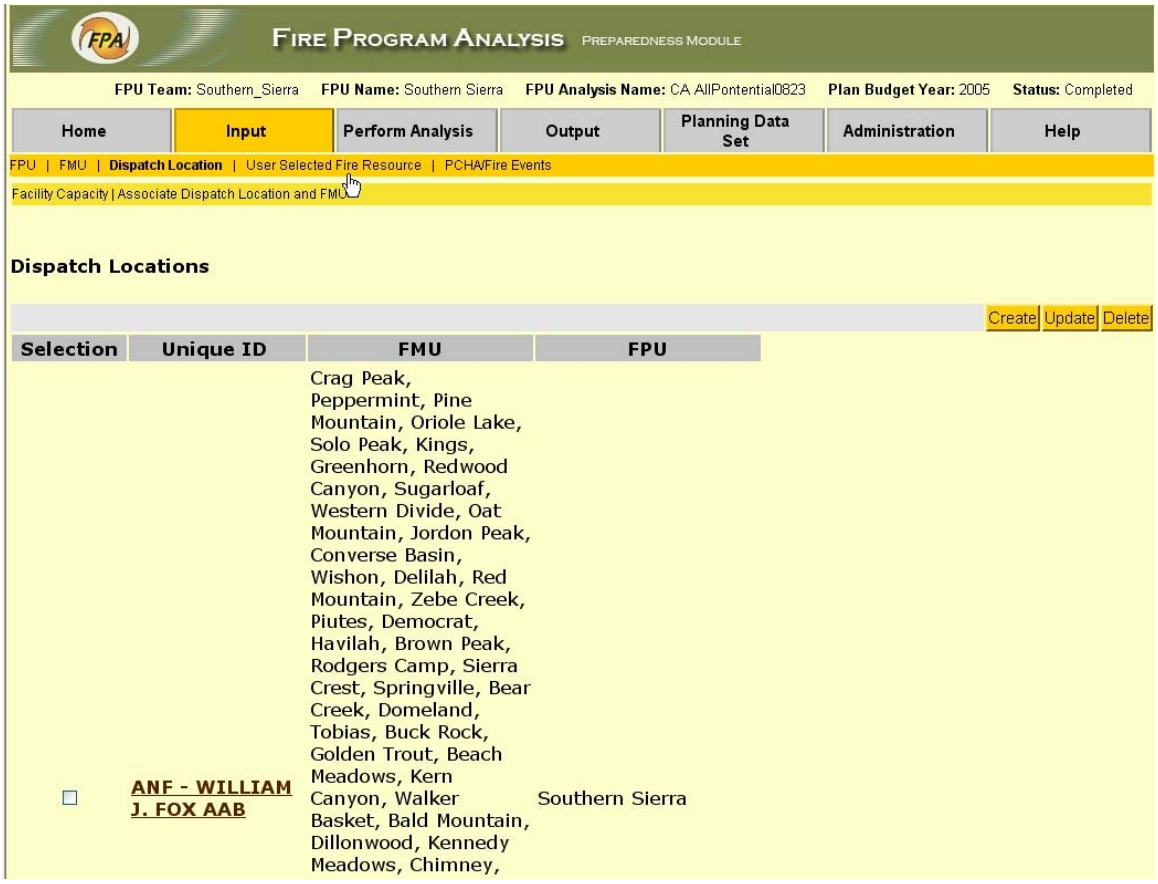
Access this page by clicking ***Associate Specific Conditions*** on the FMU ***Fuel Models*** page when you need to associate a specific condition with one or more of the FMU's fuel models.

- To associate a specific condition with an FMU fuel model, *select* the appropriate condition from the alternatives displayed in the drop-down list for that fuel model, and click **Submit** to save the selection, or **Cancel** to take no action.

Dispatch Locations

Dispatch Locations represent the existing or potential physical locations from which all Fire Resources which will be modeled. Fire Planners create, update, and delete Dispatch Locations as needed for the individual Fire Planning Unit analyses.

Dispatch Locations Page

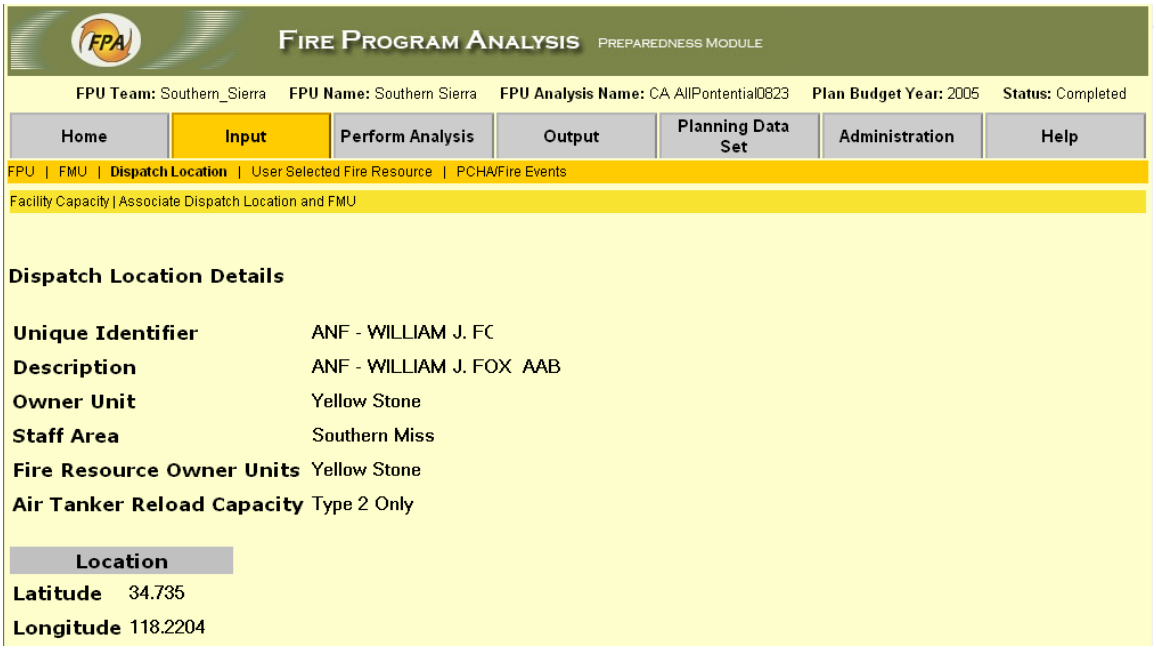


Access this page from the **Dispatch Locations** tab under **Input** on the Navigator menu bar. From this page you can *Create, Update,* or *Delete* Dispatch Locations.

- Click **Create** to open the ***Create Dispatch Location Page*** and *create* a new Dispatch Location.
- To *View* details about a Location, click its Unique Identifier**.**

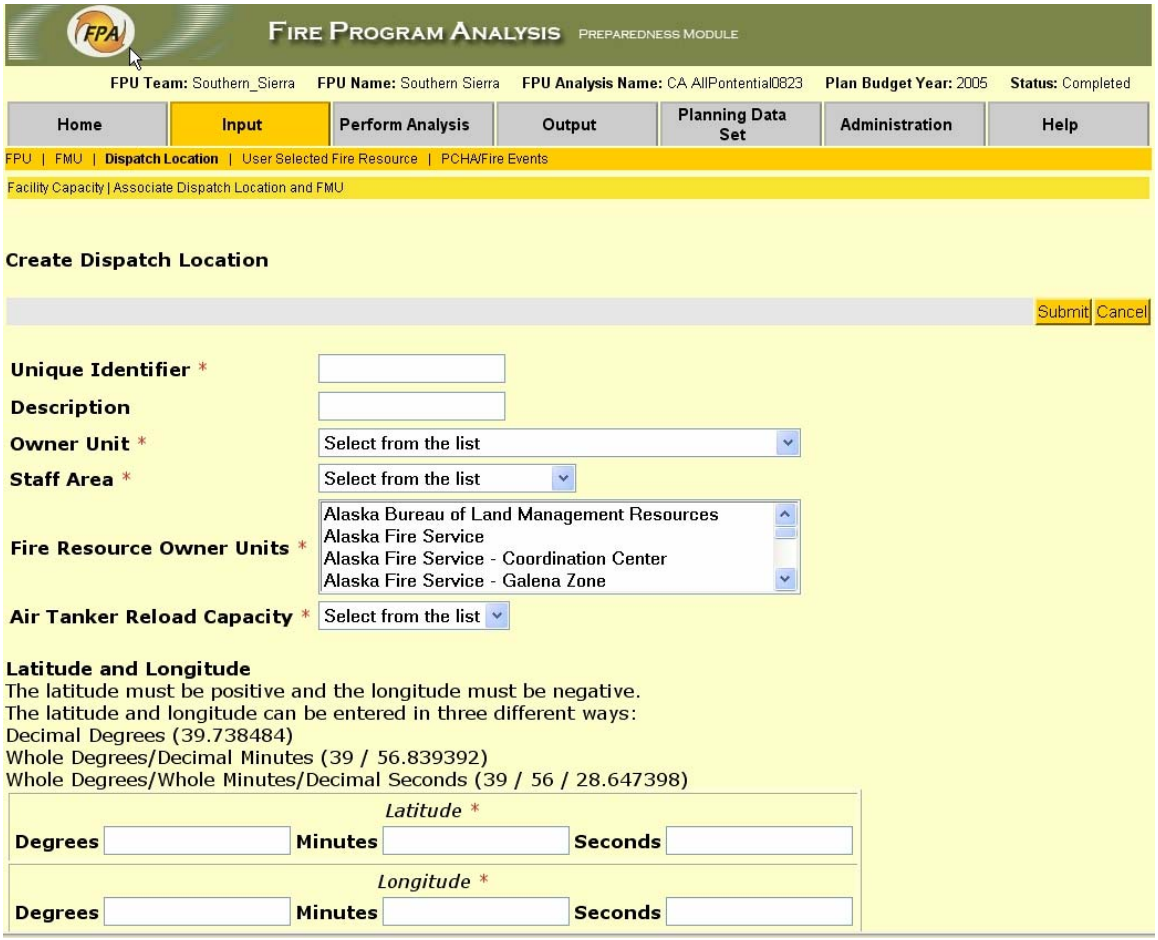
- To *Update* the information for an existing Dispatch Location, *Select* it from the Table and click **Update** to open the ***Update Dispatch Locations Page***.
- To *Delete* one or more Locations, *Select* the row(s) from the Table and click **Delete**. You will be prompted to confirm or cancel the deletion(s). If you click **OK** the page will refresh with the deleted Locations no longer shown.

View Dispatch Location Details



Access this page by clicking the Unique Identifier of a Dispatch Location in the Table on the ***Dispatch Locations Page***. It displays the details in the data base about the selected individual Dispatch Location.

Create Dispatch Location Page

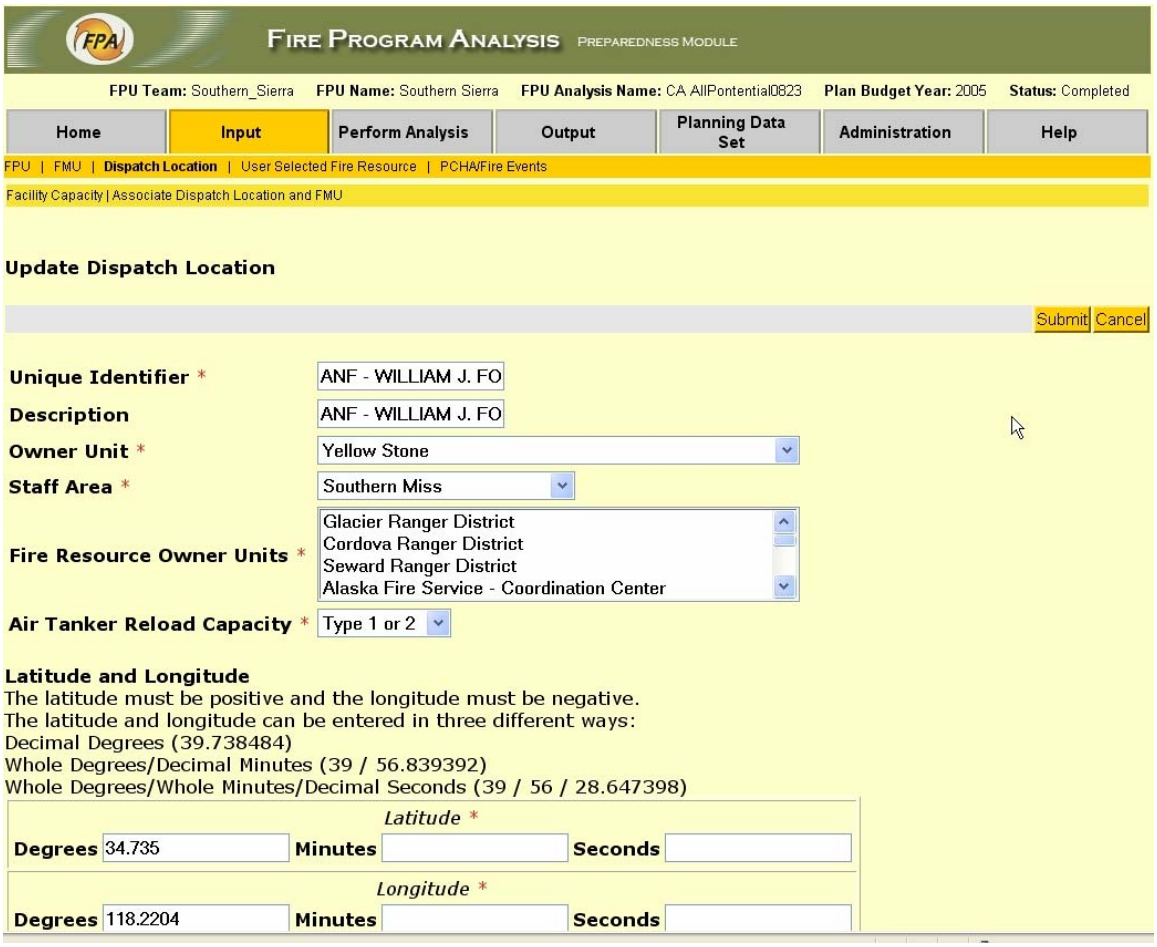


Access this page by clicking **Create** on the ***Dispatch Locations Page*** when creating a new Location,

- To **Create** a new Dispatch Location, fill in all the fields (*mandatory*).

- *Select* the appropriate Owner Unit**,** Staff Area, and Air Tanker Reload Capacity from the respective drop-down lists.
- *Select* one or more Fire Resource Owner Units from the drop-down list.
- The Latitude and Longitude fields must have an entry in at least the Degrees field. (Up to 8 decimal place value accepted.) However, if a Minutes value is entered, Degree entry must be a whole number (integer), and if a Seconds value is entered both Degrees and Minutes entries must then be whole numbers.

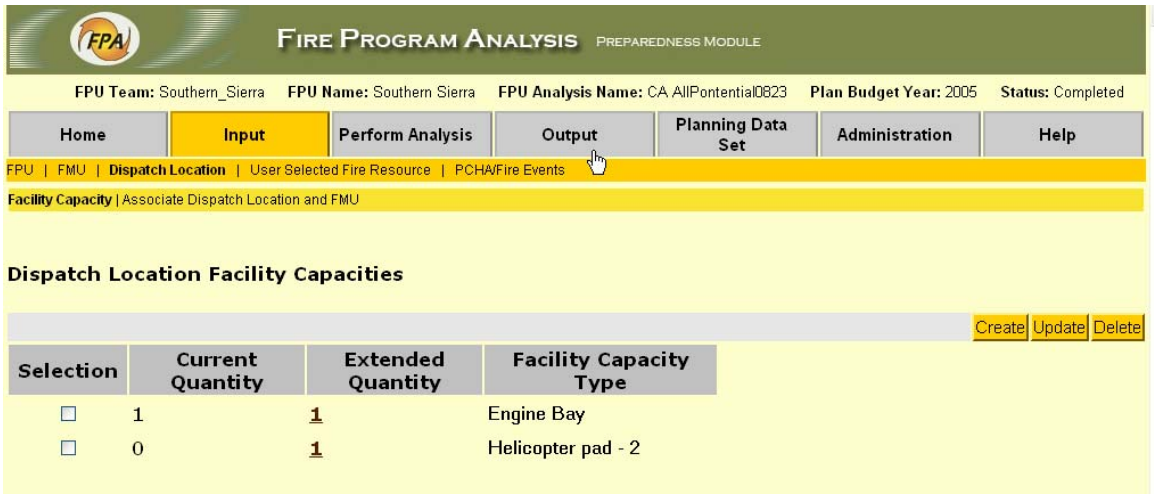
Update Dispatch Location Page



Access this page by clicking **Update** from the ***Dispatch Locations Page***. Current data for the Dispatch Location selected is displayed.

- To ***Update*** a field, simply fill in new data or select a different item from the drop-down list.
- For any changes to Latitude or Longitude, follow the same rules as for the ***Create Dispatch Location Page*** and as explained on the screen.
- Click **Submit** to save the updated information, or **Cancel** to take no action. In either case you will be returned to the ***Dispatch Locations Page.***

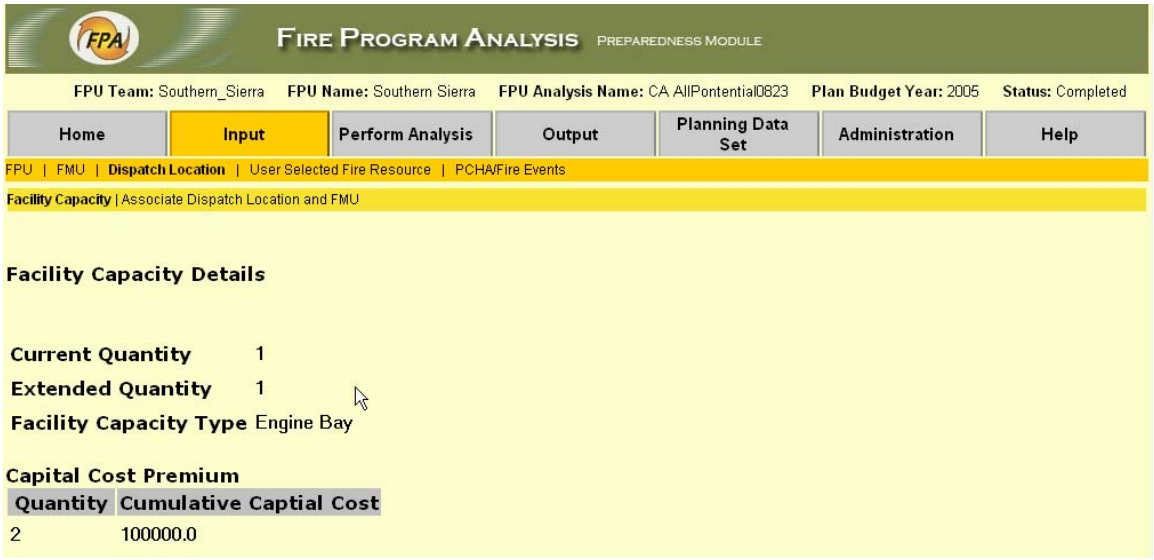
Dispatch Location Facility Capacity Page



Access this page from the ***Dispatch Location Facility Capacity*** tab under ***Dispatch Location*** on the Navigator menu bar on the ***Dispatch Location Page*** for the selected Location. From this page you can *Create, Update*, or *Delete* Capacities for the Dispatch Location Facility you previously selected.

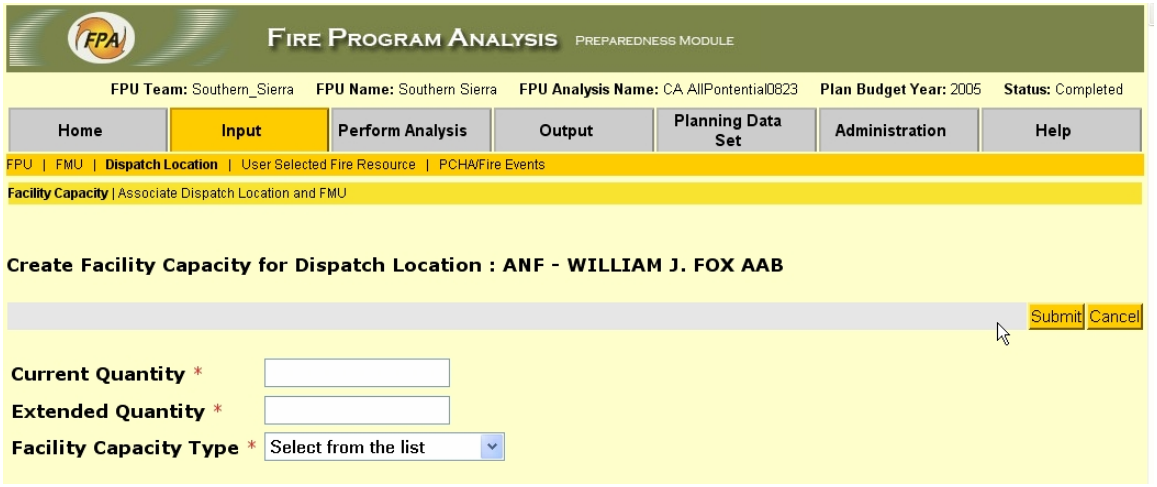
- Click **Create** to create new capacities. This will open the ***Create Dispatch Location Facility Capacity Page***.
- To ***Update*** facility capacity information, *Select* the particular Capacity you wish to update, and click **Update** to open the ***Update Dispatch Location Facility Capacities Page.***
- To *Delete* one or more facility capacities, *Select* the row(s) and click **Delete**. You will be prompted to confirm the deletion. Click **OK**, and the table will refresh with the selection(s) deleted, or **Cancel** to take no action.
- If the Extended Quantity for any Capacity Type is greater than zero (0), clicking on the number will open the ***Dispatch Location Facility Capacity Page*** where you can view details about it.

View Dispatch Location Facility Capacity Details



Access this page from the ***Dispatch Facility Capacities Page*** by clicking an Extended Quantity value in the Table that is greater than zero. The page displays capacity information for the currently selected Dispatch Location Facility.

Create Dispatch Location Facility Capacity



Access this page from the ***Dispatch Location Facility Capacities Page*** when you click **Create**.

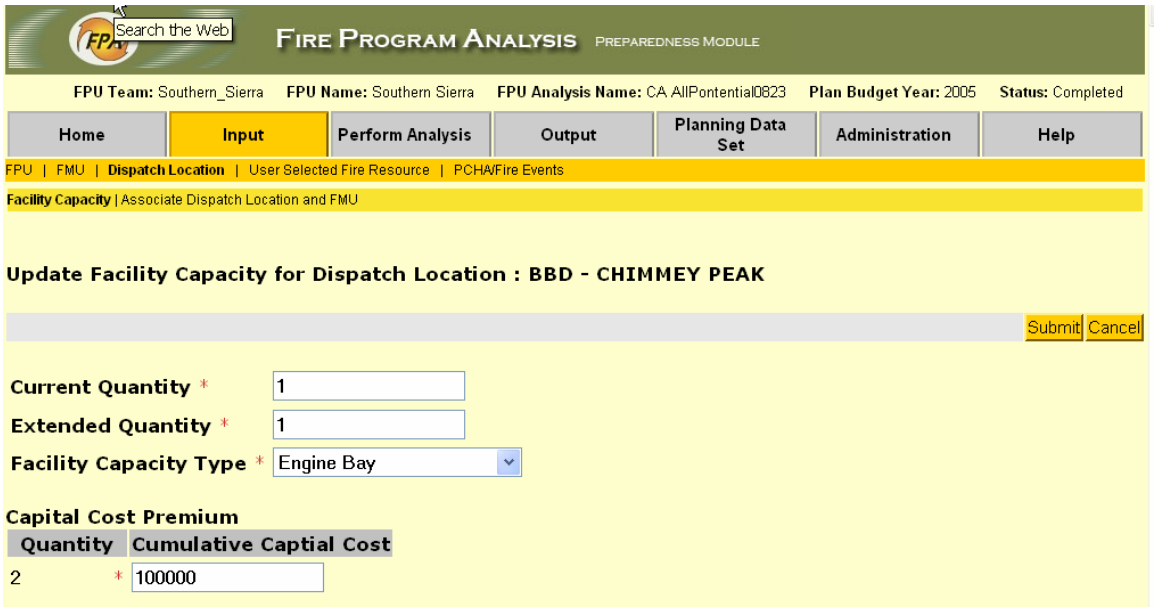
- To *Create* a new Location Capacity, fill in the Current Quantity and Extended Quantity, and *select* the Facility Capacity Type from the drop-down list.
- If Extended Quantity is greater than zero, the Capital Premium Cost table will be displayed; *fill in* the

Cumulative Capital Cost values for each of the Extended Quantity fields.

Note: All data item fields on this page require an entry.

- Click **Submit** to *save* the new Dispatch Location Facility Capacity, or **Cancel** to take no action. You will be returned to the ***Dispatch Location Facility Capacities Page***.

Update Dispatch Location Facility Capacity

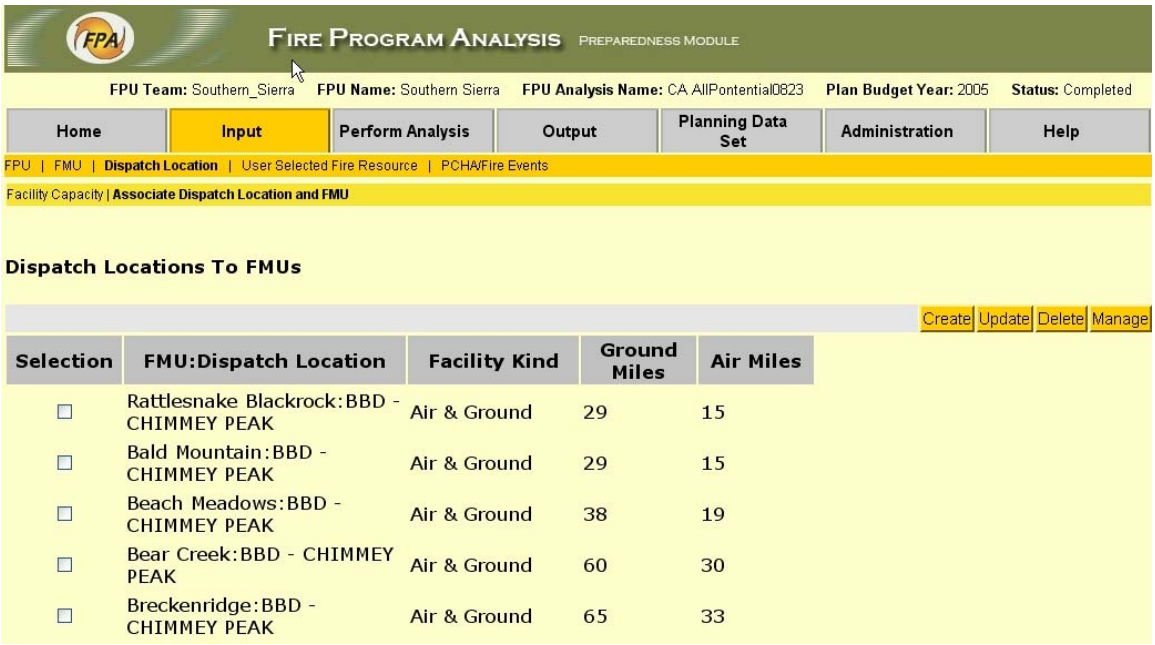


Access this page from the ***Dispatch Location Facility Capacities Page*** when you *select* a Capacity and click **Update**.

- To *Update* the Location Capacity information, *type in* (or *Select*, for the Capacity Type field) the new information and click **Submit** to *save* the update, or **Cancel** to take no action. You will be returned to the ***Dispatch Location Facility Capacities Page.***

Dispatch Locations to FMU Deployment

Display Dispatch Location to FMUs



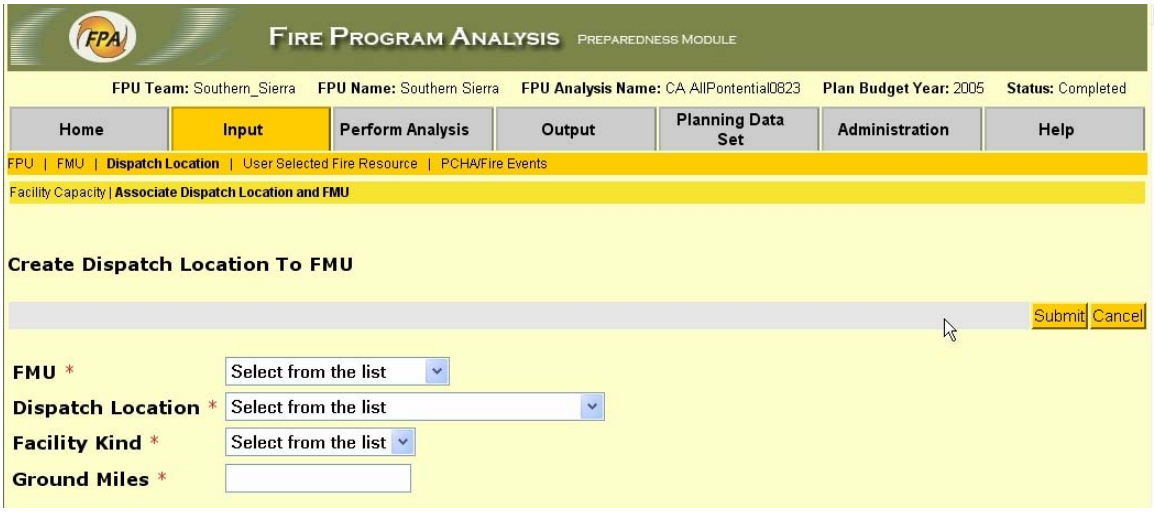
Access this page from the ***Dispatch Location*** tab under ***FMU*** on the Navigator menu bar. It displays each of the stored FMU / Dispatch Location associations and their respective distances.

If the facility "kind" is Ground, no air miles are displayed, and if "kind" is Air, no ground miles are shown.

You can *Create, Update, Delete*, or *View* information on the individual Dispatch Location/FMU associations.

- To *Create* a new Dispatch Location to FMU association, click **Create** to open the ***Create Dispatch Location to FMU Page.***
- To *Update* an existing association, *Select* it by clicking the appropriate box and then click **Update** to open the ***Update Dispatch Location to FMU Page.***
- To *Delete* an association, *Select* it click **Delete**. You will be prompted to confirm the deletion.
- To *View* the system default Arrival Time of individual Resources for this Dispatch Location /FMU association, and override if appropriate, click **Manage DL to FMU** to open the ***View Dispatch Location to FMU Page***.

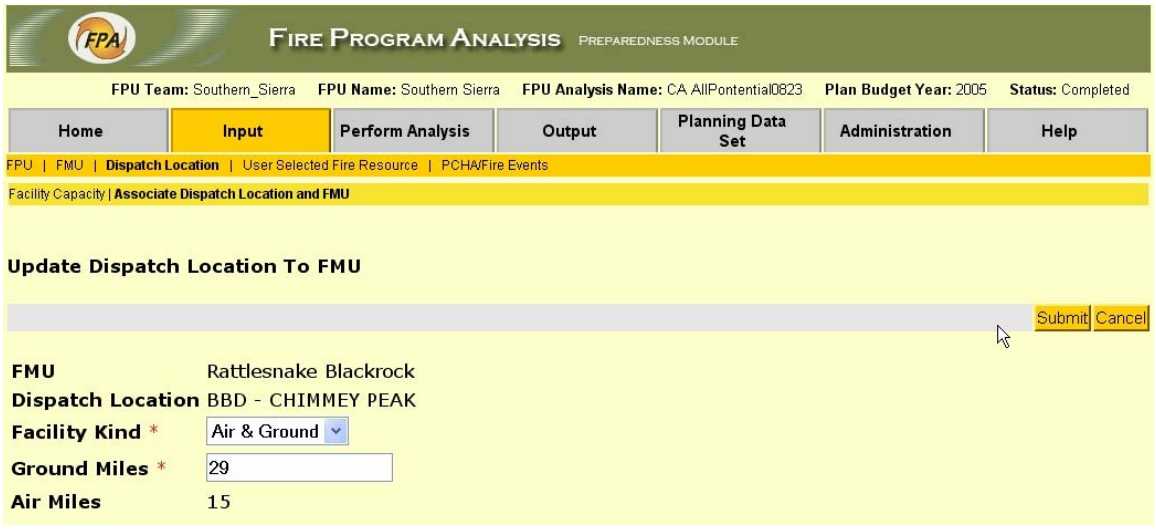
Create Dispatch Location to FMU



Access this page from the ***Dispatch Location to FMU Page*** by clicking **Create**.

- To *Create* a new Dispatch Location to FMU association, *select* the appropriate entry from each of the three drop-down lists which contain the available alternatives that are stored in the system database for each respective item, and *type in* the Dispatch Location to FMU ground miles.
- Click **Submit** to *create* the association, and return to the ***Display Dispatch Location to FMU Page***.

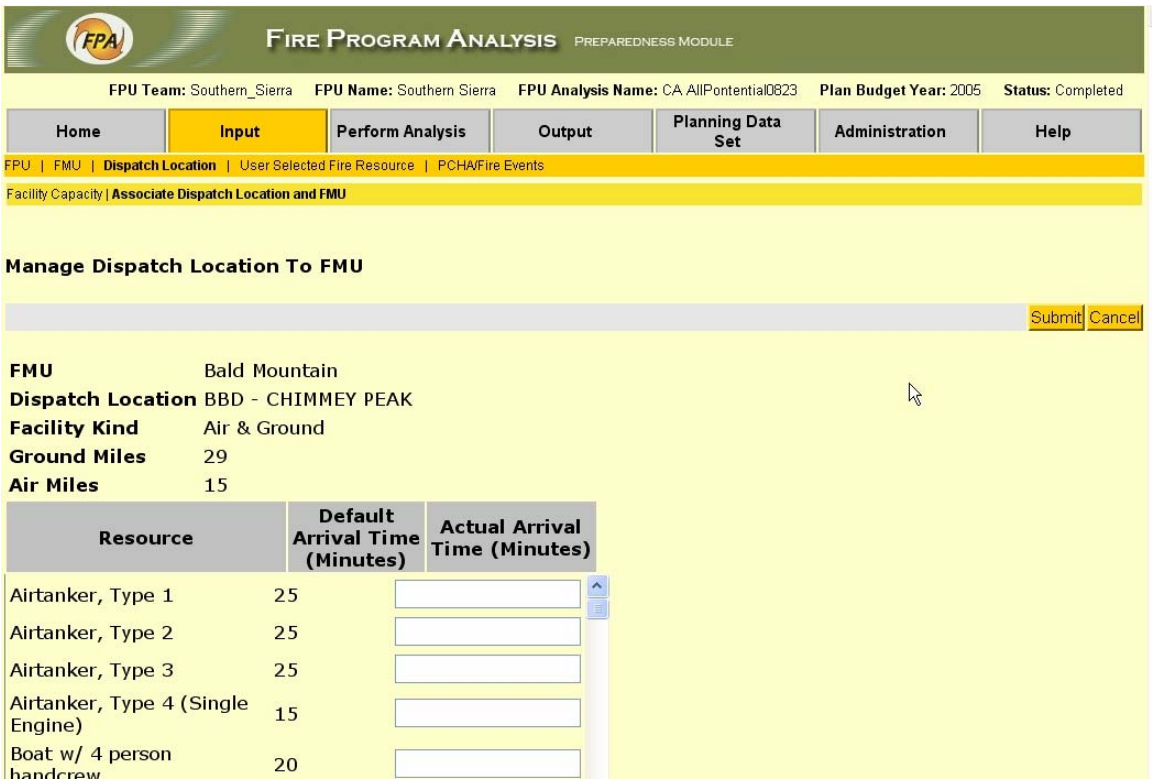
Update Dispatch Location to FMU



Access this page from the ***Display Dispatch Location to FMU Page*** by clicking **Update**. It may be used to *edit* the Facility Kind or Ground Miles information.

- To *Update* Facility Kind, *select* the appropriate category from the drop-down list. To *edit* the Ground Miles from the Dispatch Location to the FMU, type in the appropriate new value.
- Click **Submit** to make the changes, or **Cancel** to take no action. You will be returned to the ***Display Dispatch Location to FMU Page.***

Manage Dispatch Location to FMU Page



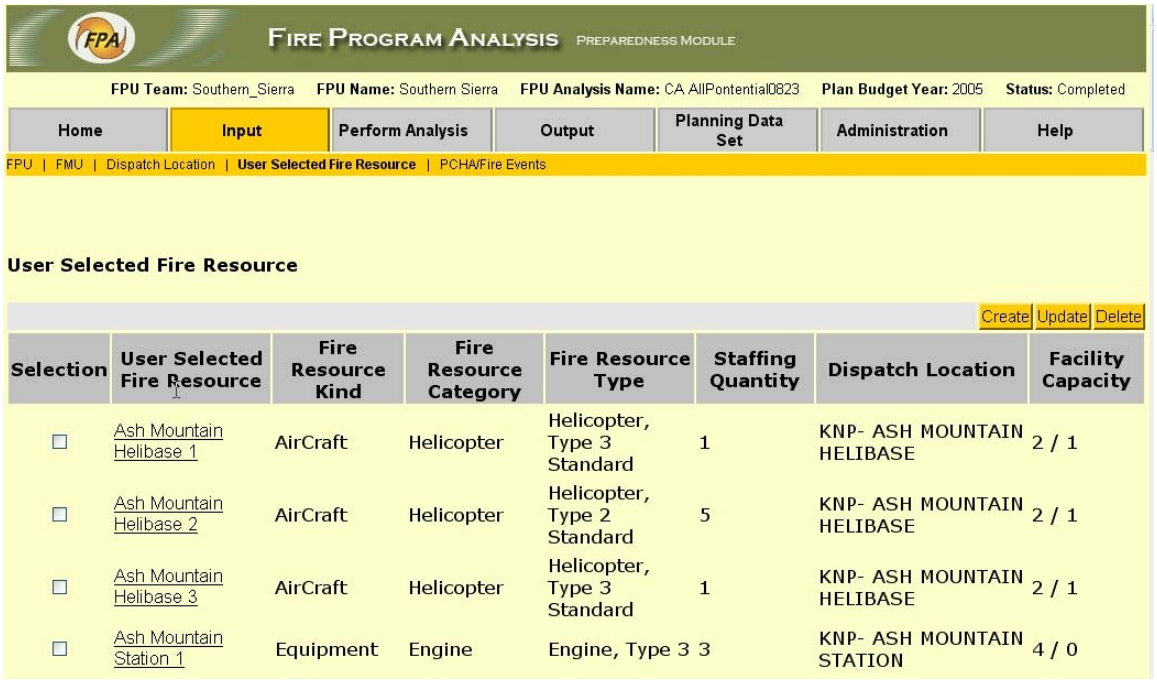
Access this page from the ***Display Dispatch Location to FMU Page*** when you *select* a Dispatch Location and click **Manage** DL to FMU. The page displays the selected FMU and Dispatch Location; Facility Type; the ground or/and air miles (air miles are not displayed for a Ground Facility; ground miles are not shown for an Air Facility); all the Resources in the data base associated with this location; the default (calculated) arrival time for the Dispatch Location / FMU; and any over-rides to the arrival time of individual ground resources that have been made previously.

- To *override* the default arrival time, or *update* a previous override value for an individual resource, *type* the override value in the Actual Arrival Time window. Click **Submit** to *save* the update.
- To *Delete* the association of a Resource with this Dispatch Location to FMU, *Select* the Resource and click **Delete** to remove the entry from the data base.

User Selected Fire Resources

Use the screens in this section to select and manage the resources that the FPA-PM system will use to model the Fire Planning Unit's fire organization.

View / Manage User Selected Fire Resources



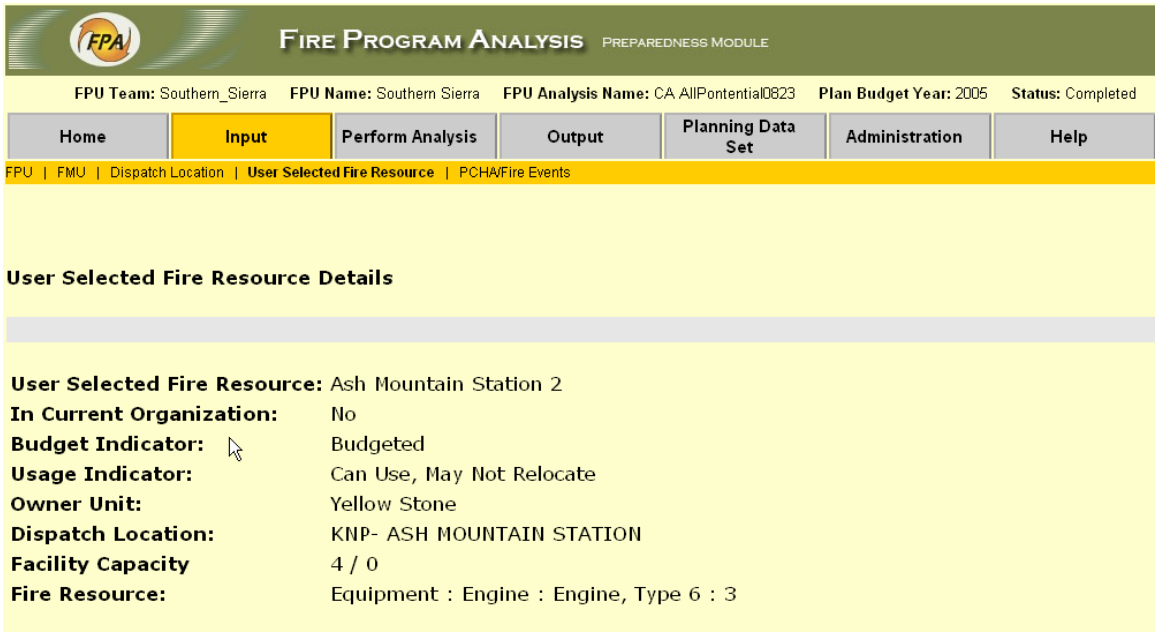
Selection	User Selected Fire Resource	Fire Resource Kind	Fire Resource Category	Fire Resource Type	Staffing Quantity	Dispatch Location	Facility Capacity
☐	Ash Mountain Helibase 1	AirCraft	Helicopter	Helicopter, Type 3 Standard	1	KNP- ASH MOUNTAIN HELIBASE	2 / 1
☐	Ash Mountain Helibase 2	AirCraft	Helicopter	Helicopter, Type 2 Standard	5	KNP- ASH MOUNTAIN HELIBASE	2 / 1
☐	Ash Mountain Helibase 3	AirCraft	Helicopter	Helicopter, Type 3 Standard	1	KNP- ASH MOUNTAIN HELIBASE	2 / 1
☐	Ash Mountain Station 1	Equipment	Engine	Engine, Type 3	3	KNP- ASH MOUNTAIN STATION	4 / 0

Access this page by the ***User Selected Fire Resources*** tab under Input on the Navigator menu. The page is used to *Create, Update*, or *Delete* User Selected Fire Resources. It displays the list of User Selected Fire Resources in the data base sorted by Fire Resource by default.

- To *View Details* for a single User Selected Fire Resources, click on the underlined link.
- To *Create* a new User Selected Fire Resources, click **Create** to open the ***Create User Selected Fire Resources Page***.
- To *Update* an existing User Selected Fire Resources, *Select* the row in the Table by clicking the left box and click **Update** to open the ***Update User Selected Fire Resources Page***.

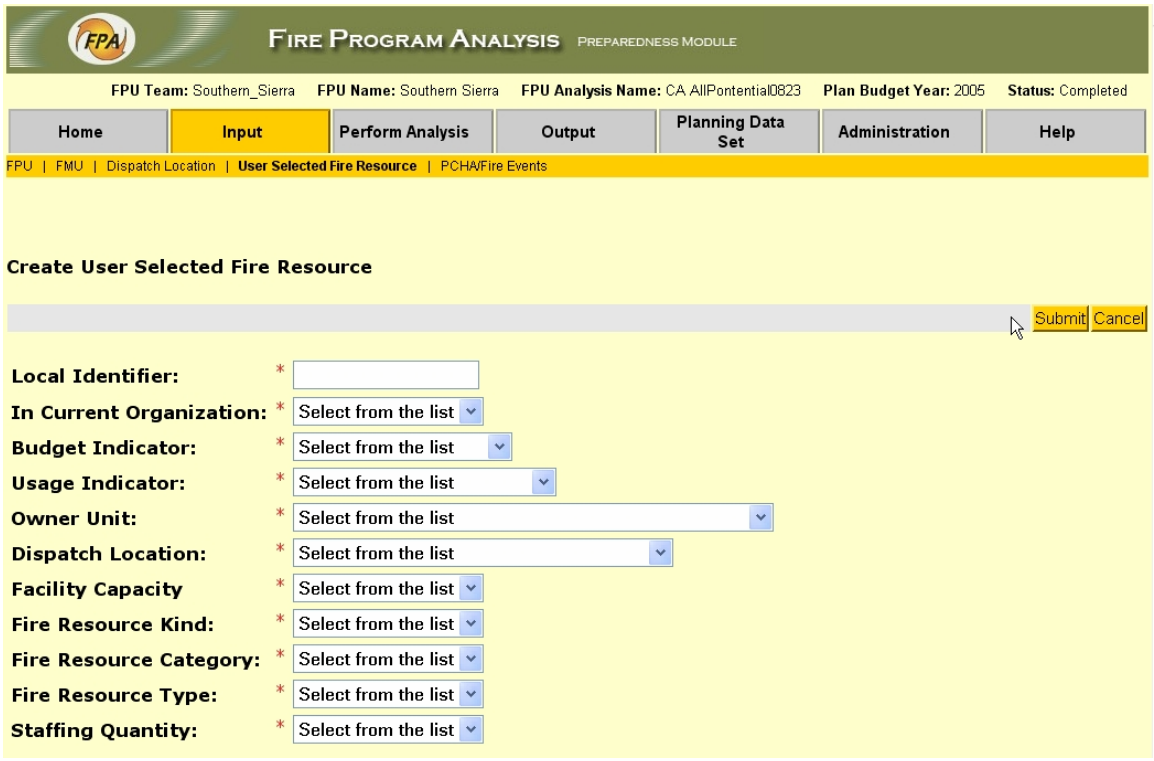
- To *Delete* Resources, *Select* the row or rows of the User Selected Fire Resources that you wish to delete, and click **Delete**. You will be prompted to click **OK** to confirm the deletion or **Cancel** to take no action. If you confirm the delete, the Table will refresh with the selected Resources no longer showing.

View User Selected Fire Resources Details Page



Access this page from the ***View User Selected Fire Resources Page*** by clicking on the underlined User Selected Fire Resource name for which you wish to view details.

Create User Selected Fire Resources Page



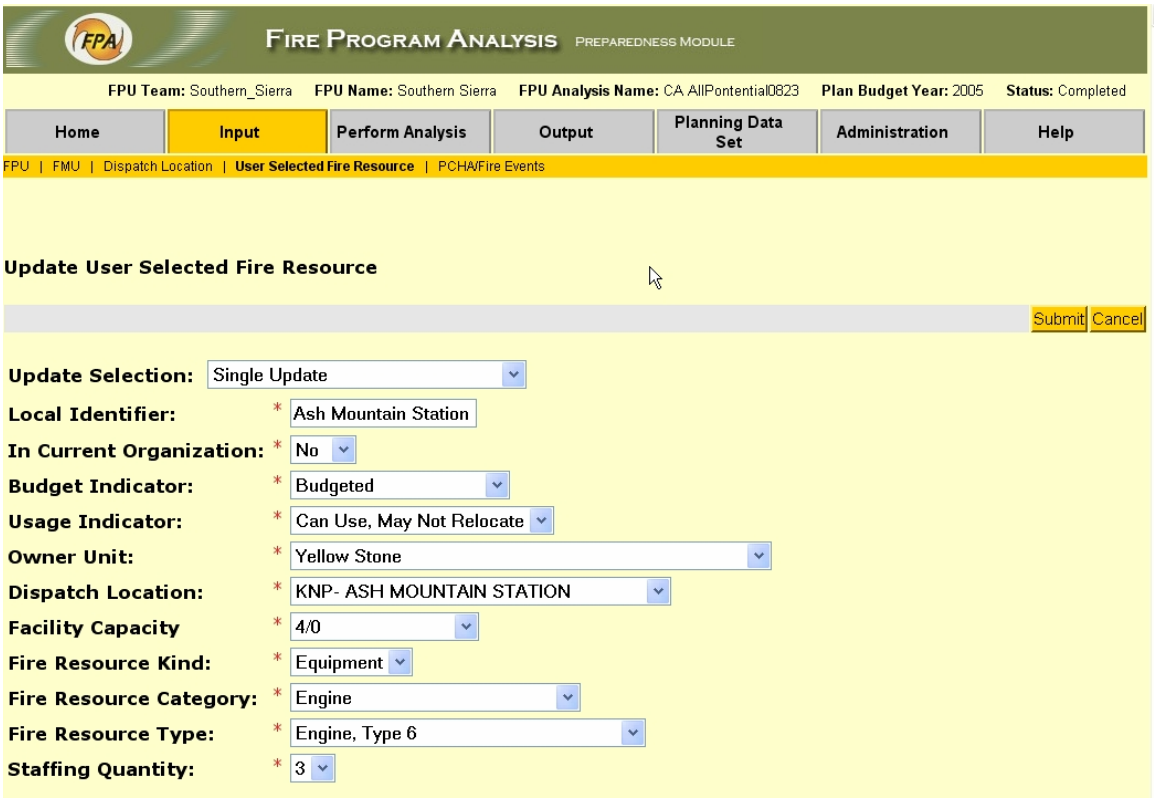
Access this page from the ***User Selected Fire Resources Page*** when you click **Create** to *create* a new User Selected Fire Resource.

- To *Create* a new User Selected Fire Resource, *fill in* a Local Identifier, and then *select* an appropriate entry from the drop-down list for each of the other fields. (Required)
- The **Fire Resource** has multiple fields with successive lists from which you make a selection, the succeeding drop-down list being updated after the previous selection to display the appropriate selection alternatives*:*

- Fire Resource Kind
- Fire Resource Category
- Fire Resource Type
- Staffing Quantity

- Click **Submit** to *save* the new User Selected Fire Resource, or **Cancel** to take no action. You will then be returned to the ***User Selected Fire Resources Page***.

Update User Selected Fire Resources Page



Access this page from the ***User Selected Fire Resources Page*** by *selecting* a User Selected Fire Resource and clicking **Update**.

- To *Update* the User Selected Fire Resources, *select* the appropriate new entry from the drop-down list in the field(s) to be changed, and click **Submit** to make the change or **Cancel** to take no action. You will then be returned to the ***User Selected Fire Resources Page***.

You may use this page to simultaneously *Update* all records that match either a selected Dispatch Location or a Kind/Category/Type criteria.

- *Select* either Dispatch Location or Kind/Category/Type in the Group Updates window. The page will refresh to a Multiple Updates Page.
- If you select Dispatch Location:

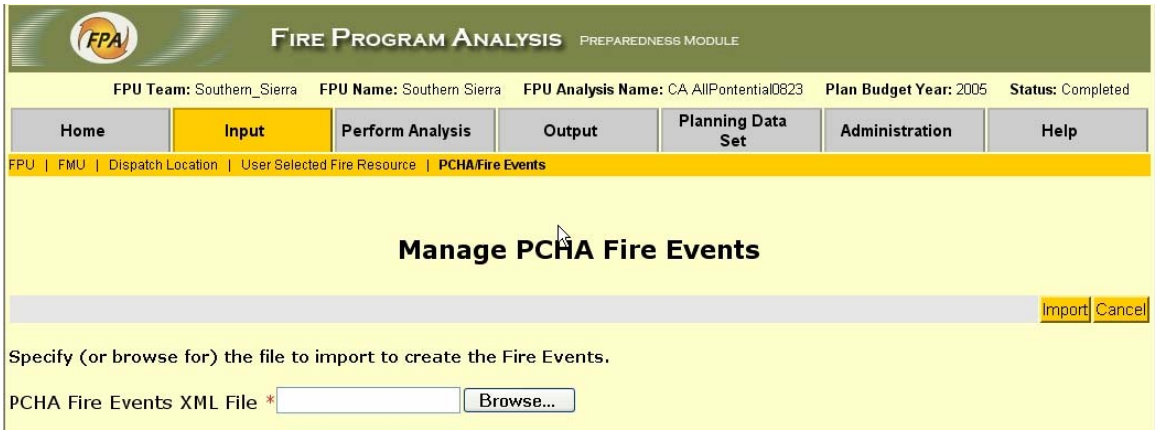
- *Select* the appropriate Locations from the Dispatch Location(s) drop-down list to which the updates to the User Selected Fire Resources will apply.
- *Select* the new entry from the drop-down list(s) for the field(s) you wish to change, and click **Submit.**

- All User Selected Fire Resources for that Dispatch Location will be updated

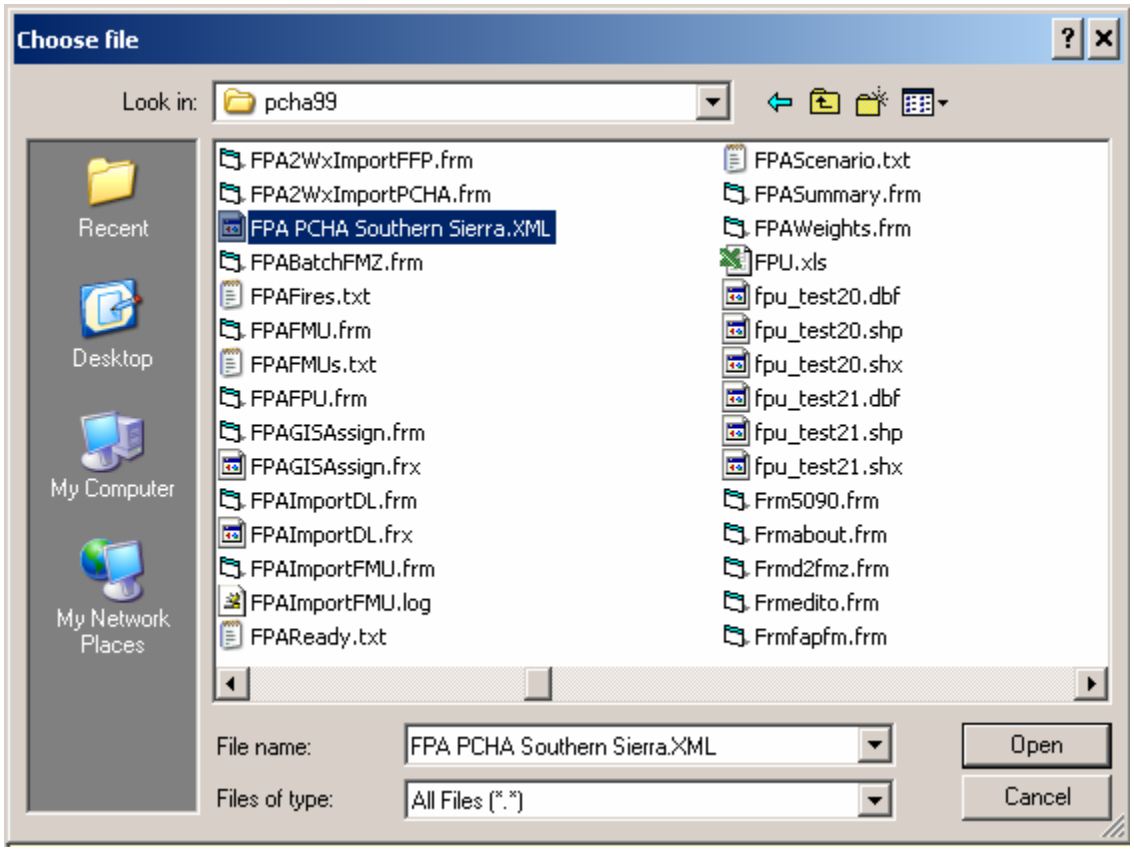
- If you select Kind/Category/Type, you have the option of applying the changes to (1) all User Selected Fire Resources of a selected Kind, or (2) narrowing the affected Resources to a Kind/Category, or (3) narrowing further to just those of a particular selected Kind/Category/Type.
- *Select* the appropriate options from the Kind; Kind/Category; or Kind/Category/Type dropdown lists.
- *Select* the new entry from the drop-down list(s) for the field(s) you wish to change and click **Submit**.
- All User Selected Fire Resources of the selected Kind/Category/Type will be updated.

PCHA / Fire Events

Manage PCHA / Fire Events



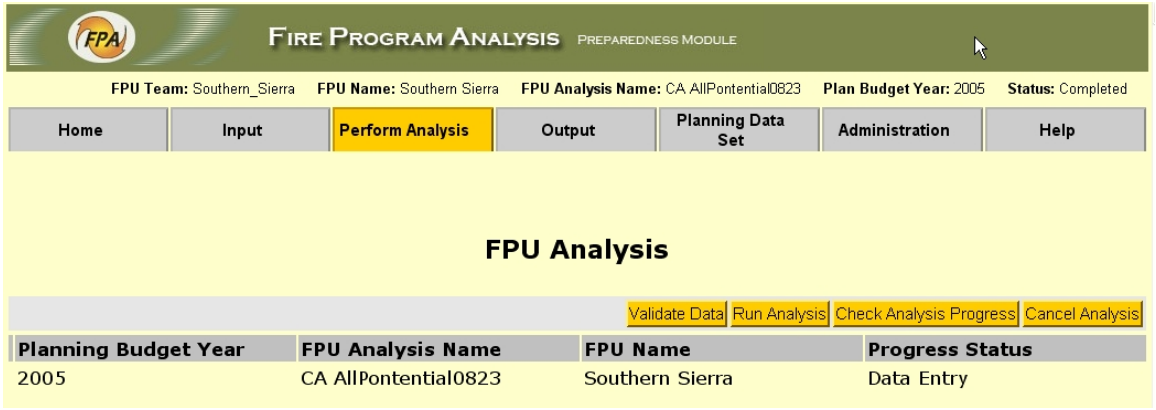
1. Access this page from the ***Input Menu*** by *selecting* ***PCHA/Fire Events***.
2. Click "browse" and navigate to the XML file prepared by PCHA by using the standard file navigation dialog:



3. In the browse window *Select* your file and *click* **Open**.
4. Finally, click **Import** to import the XML file into FPA-PM. The entire fire event scenario will be imported into FPA.

Perform Analysis

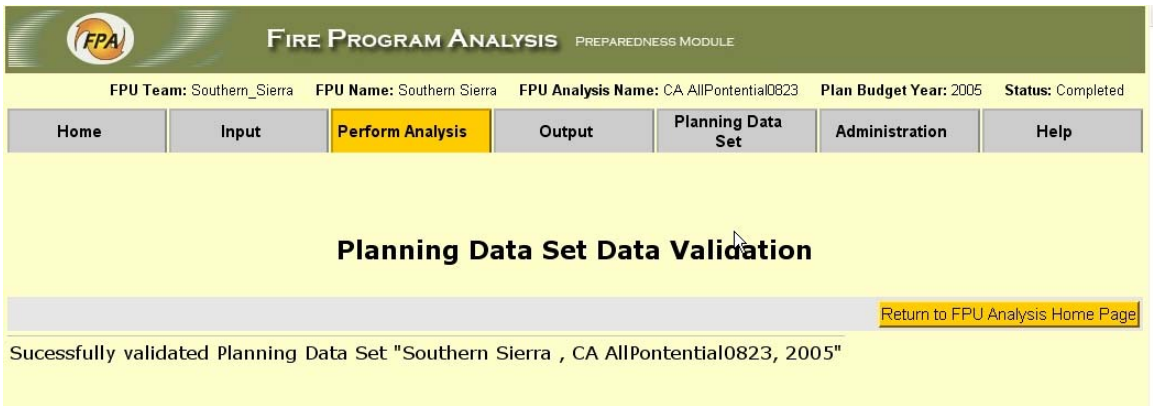
Perform Analysis Page



Access this page from the ***Perform Analysis*** tab of the main Navigator menu bar. It displays the Working Planning Data Set. The page is used to *validate data*, *run an analysis*, *check the progress of an analysis*, or *cancel* the analysis in progress.

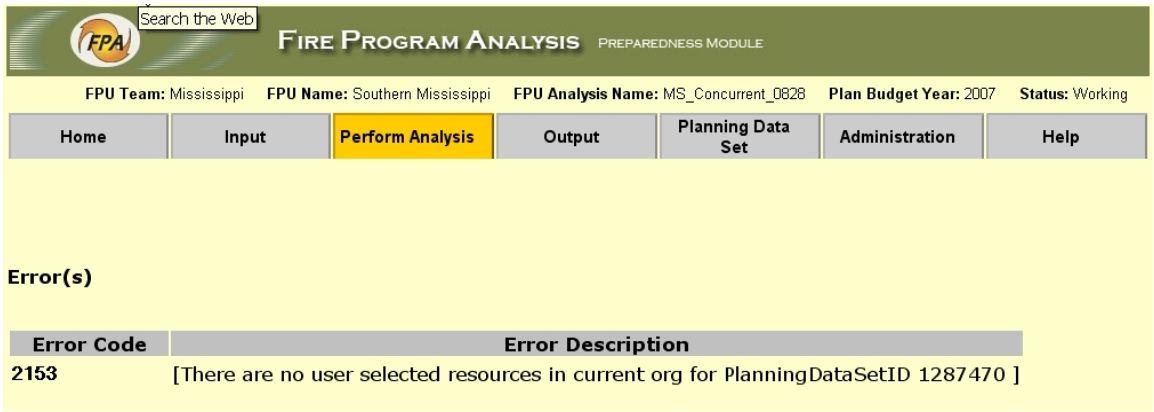
- Click **Validate Data** to have the system check the data entries in the Working Planning Data Set for completeness**.**
- Click **Run Analysis** to run the optimization for the Working Planning Data Set**.**
- Click **Check Analysis Progress** to open the Status Page and display the status of the analysis in progress.
- Click **Cancel Analysis** to cancel the analysis in progress.

Validate Data Page



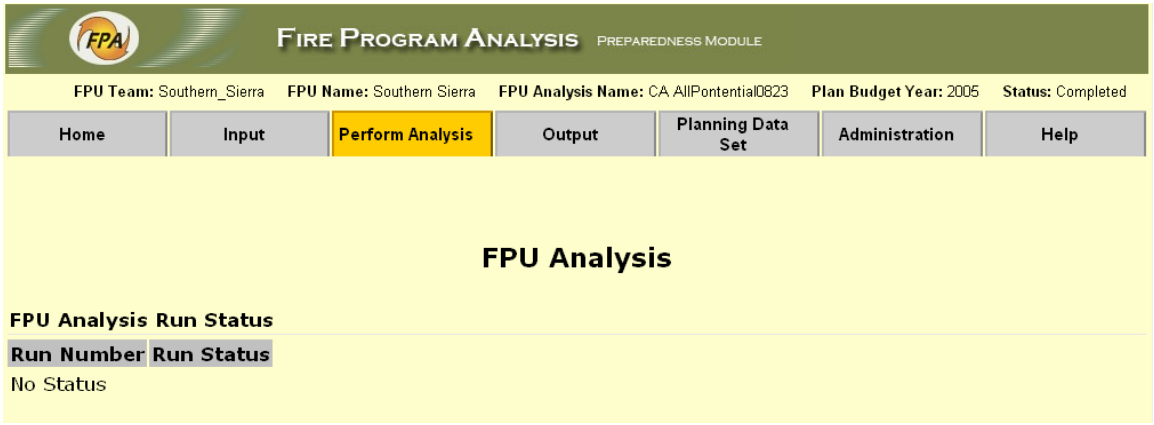
This page is displayed in response to the **Validate Data** button when the dataset has no errors.

Error(s) Page



The ***Errors Page*** is displayed in response to the **Validate Data** button when there are errors in the data set. It shows the error code and description.

Analysis Progress Page



Access this page from the ***Perform Analysis Page*** when you click **Check Analysis Progress**. It displays the status of optimization runs for the Working Planning Data Set.

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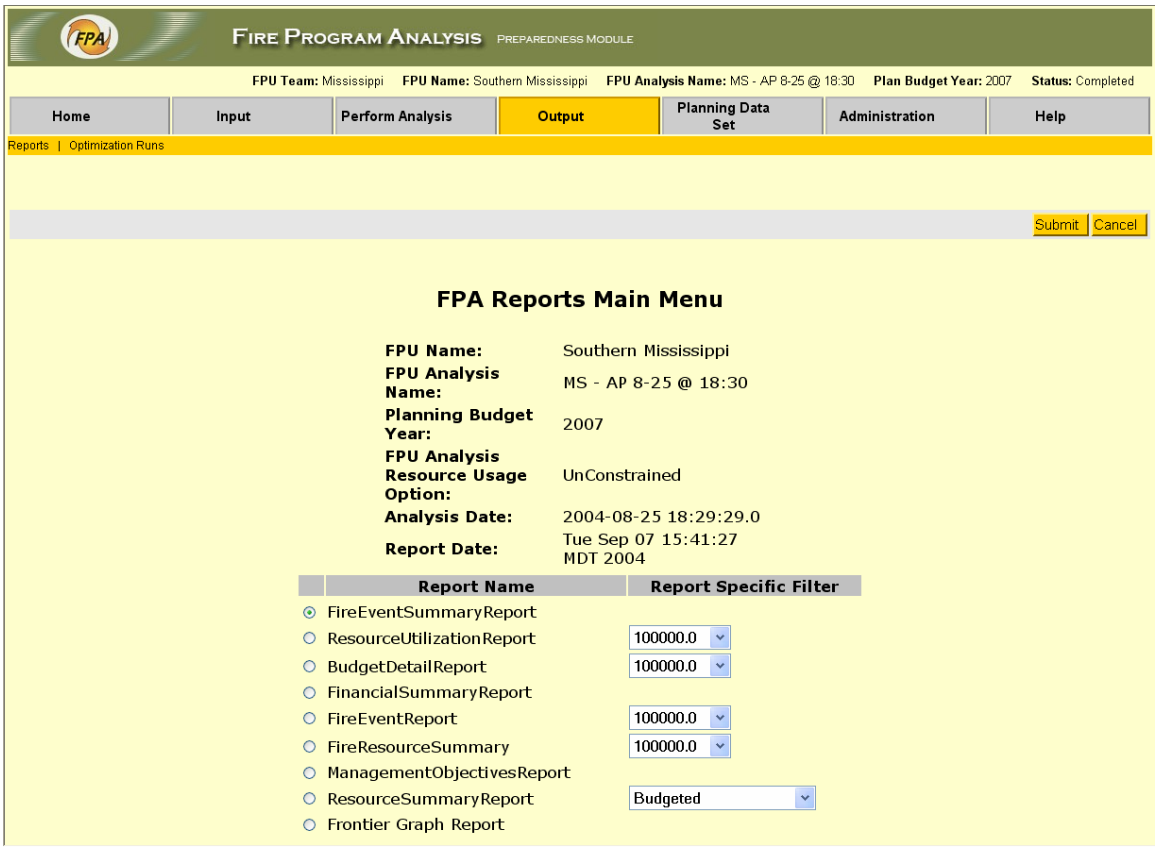
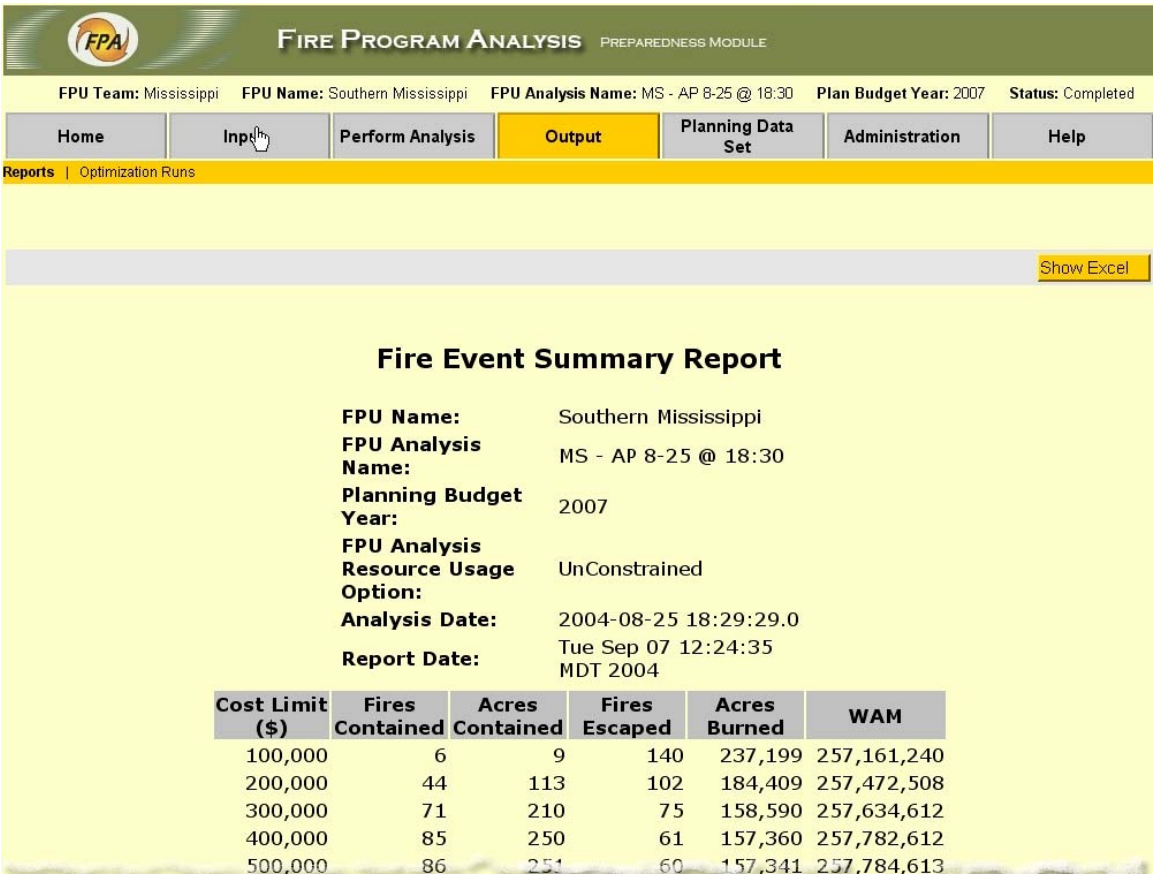
Output

You can access nine reports here that summarize the results of your analysis.

FPA Reports Page

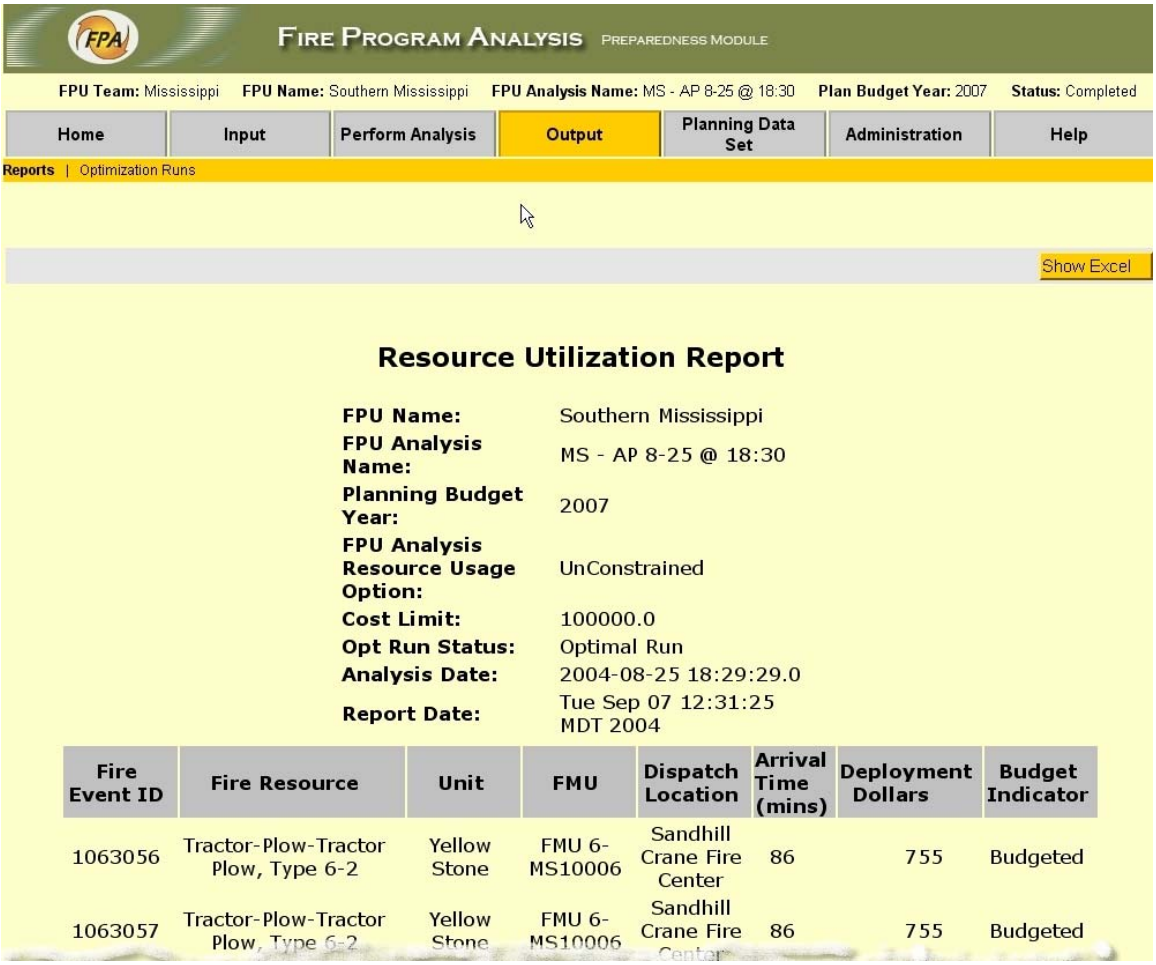


Fire Events Summary Report



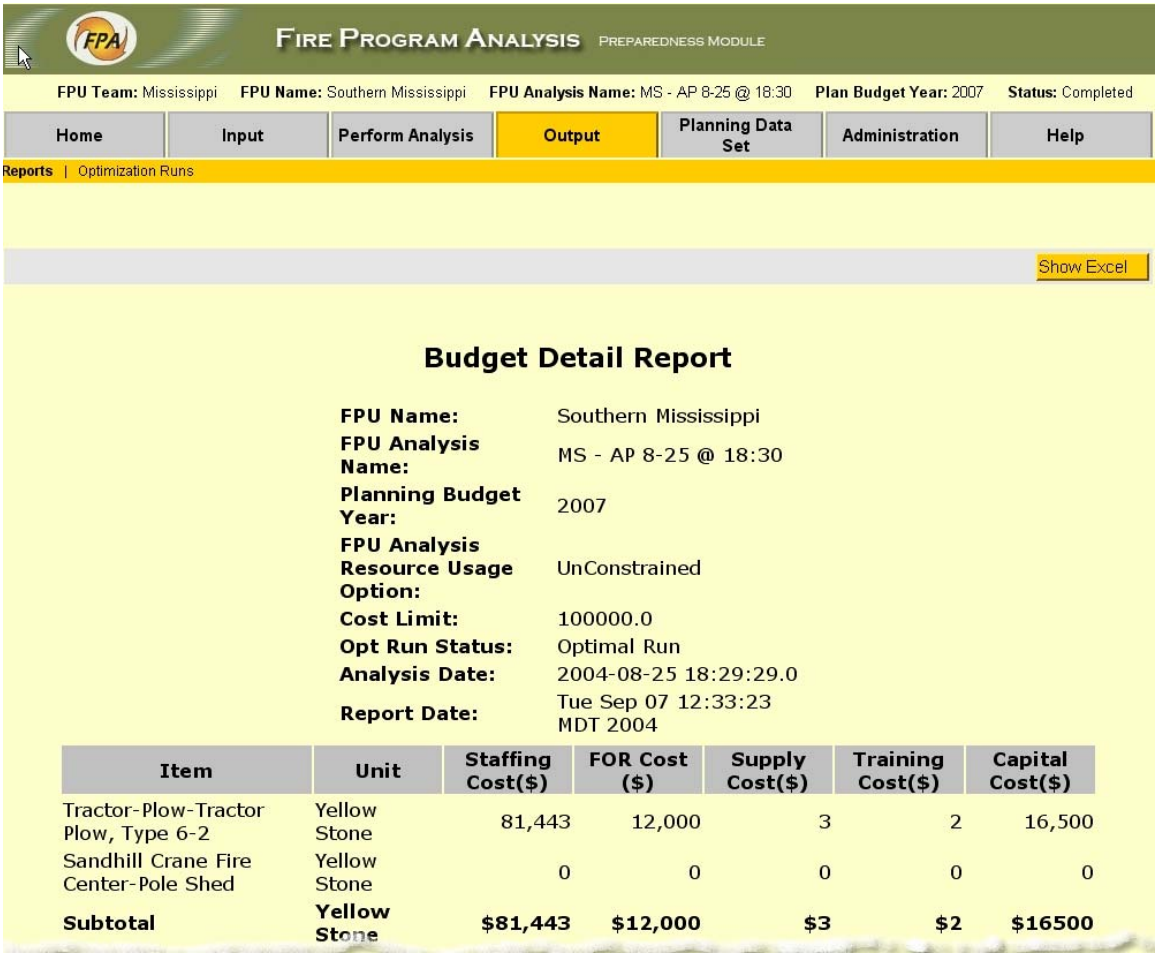
Cost Limit ($)	Fires Contained	Acres Contained	Fires Escaped	Acres Burned	WAM
100,000	6	9	140	237,199	257,161,240
200,000	44	113	102	184,409	257,472,508
300,000	71	210	75	158,590	257,634,612
400,000	85	250	61	157,360	257,782,612
500,000	86	251	60	157,341	257,784,613

Resource Utilization Report



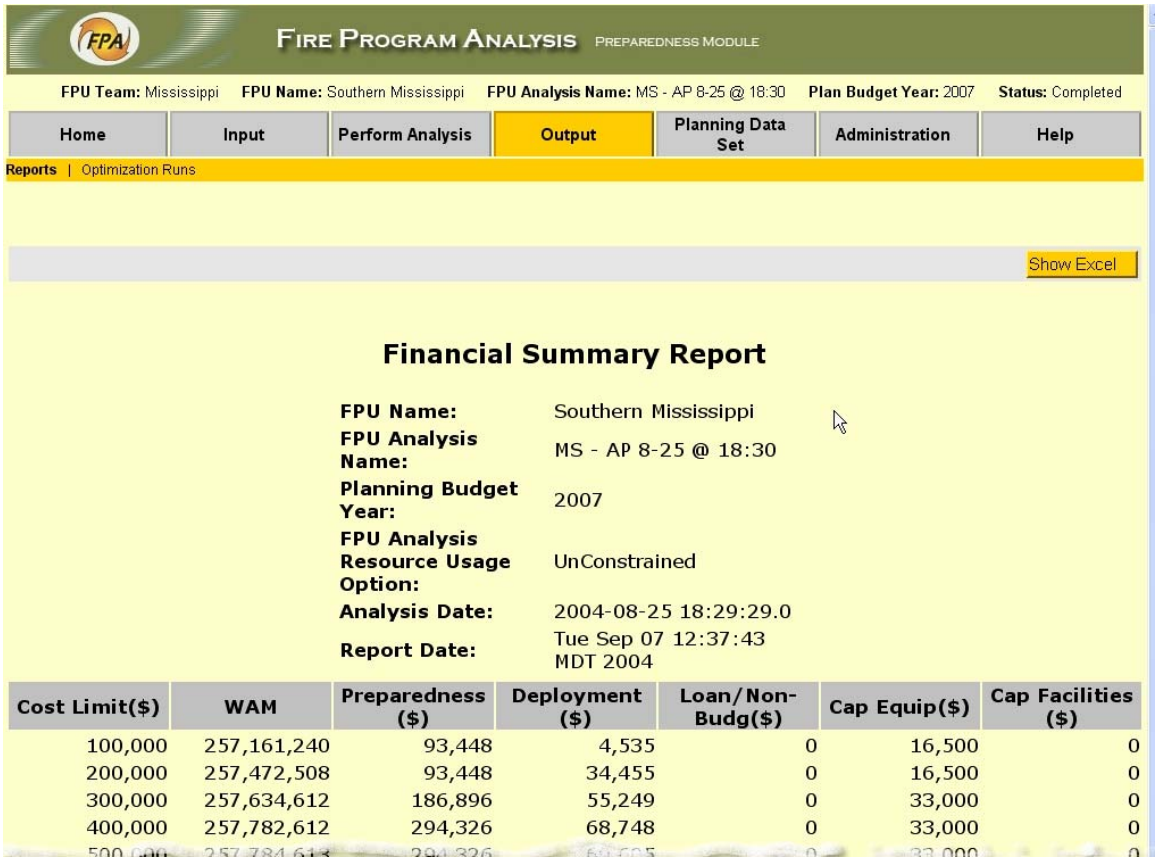
Fire Event ID	Fire Resource	Unit	FMU	Dispatch Location	Arrival Time (mins)	Deployment Dollars	Budget Indicator
1063056	Tractor-Plow-Tractor Plow, Type 6-2	Yellow Stone	FMU 6-MS10006	Sandhill Crane Fire Center	86	755	Budgeted
1063057	Tractor-Plow-Tractor Plow, Type 6-2	Yellow Stone	FMU 6-MS10006	Sandhill Crane Fire Center	86	755	Budgeted

Budget Detail Report



Item	Unit	Staffing Cost($)	FOR Cost ($)	Supply Cost($)	Training Cost($)	Capital Cost($)
Tractor-Plow-Tractor Plow, Type 6-2	Yellow Stone	81,443	12,000	3	2	16,500
Sandhill Crane Fire Center-Pole Shed	Yellow Stone	0	0	0	0	0
Subtotal	**Yellow Stone**	**$81,443**	**$12,000**	**$3**	**$2**	**$16500**

Financial Summary Report



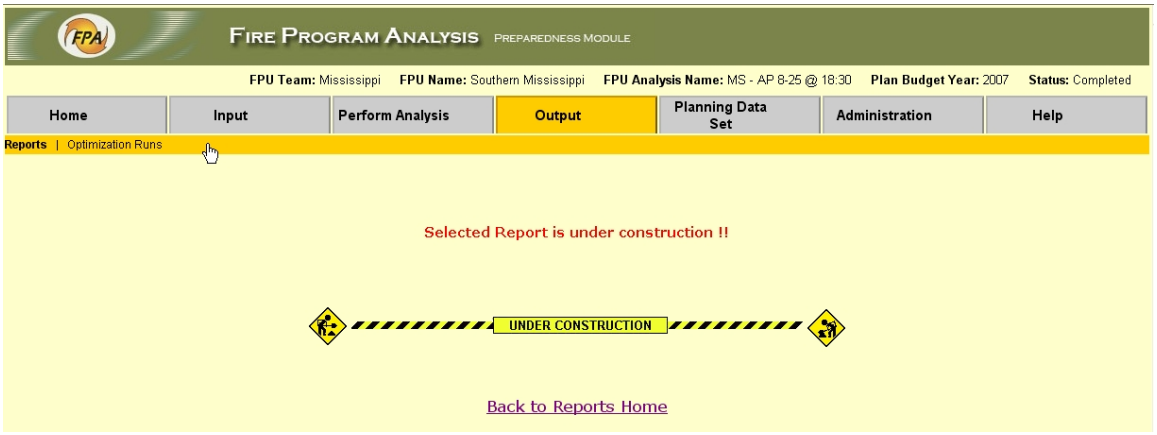
Cost Limit($)	WAM	Preparedness ($)	Deployment ($)	Loan/Non-Budg($)	Cap Equip($)	Cap Facilities ($)
100,000	257,161,240	93,448	4,535	0	16,500	0
200,000	257,472,508	93,448	34,455	0	16,500	0
300,000	257,634,612	186,896	55,249	0	33,000	0
400,000	257,782,612	294,326	68,748	0	33,000	0

Fire Event Report

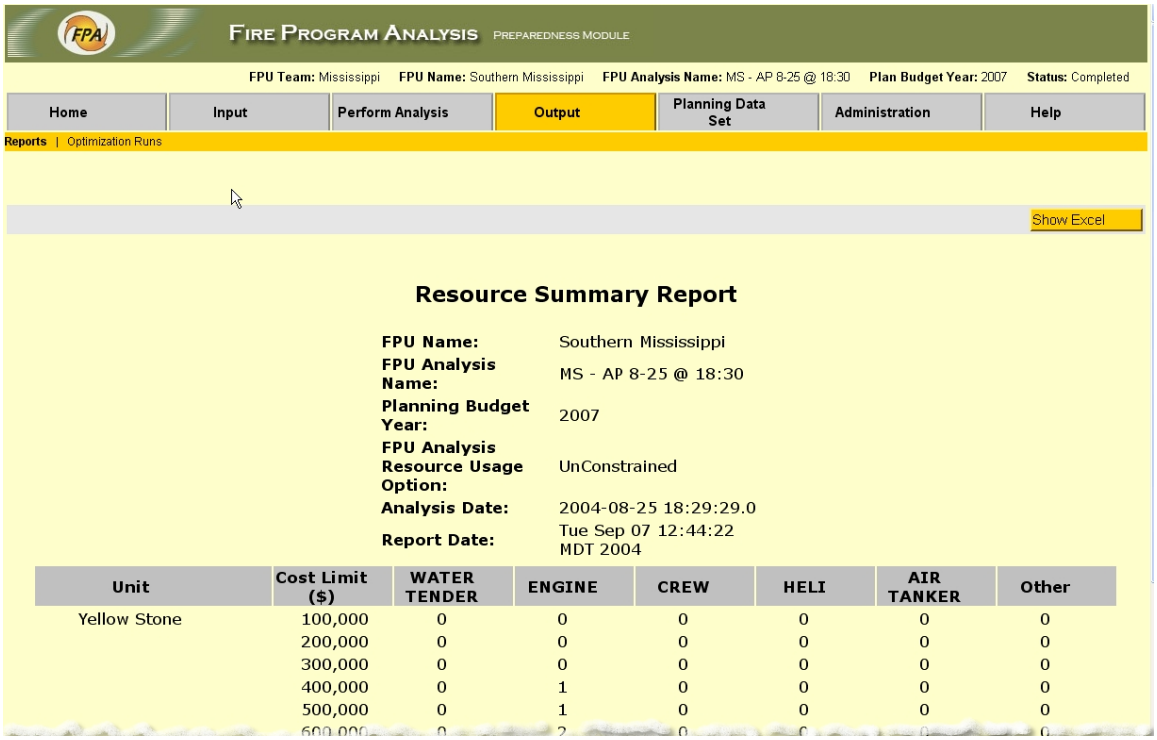
Fire ID	FMU	Rate Of Spread	Final Size	Contained (True/False)	Sensitivity Period	FIL	Julian Day Number	Duration (mins)	Fuel Model	Weight	Total Deployment Cost($)
1061167	FMU 7-MS10007	3.53	2,032.34	false	9	2	122	Escaped	Southern rough	4	0
1061326	FMU 8-MS10008	1.21	1,004.68	false	4	1	47	Escaped	Southern rough	5	0
1061327	FMU 8-MS10008	3.96	2,040.44	false	8	2	108	Escaped	Southern rough	5	0

Fire Resource Summary Report

Management Objectives Report

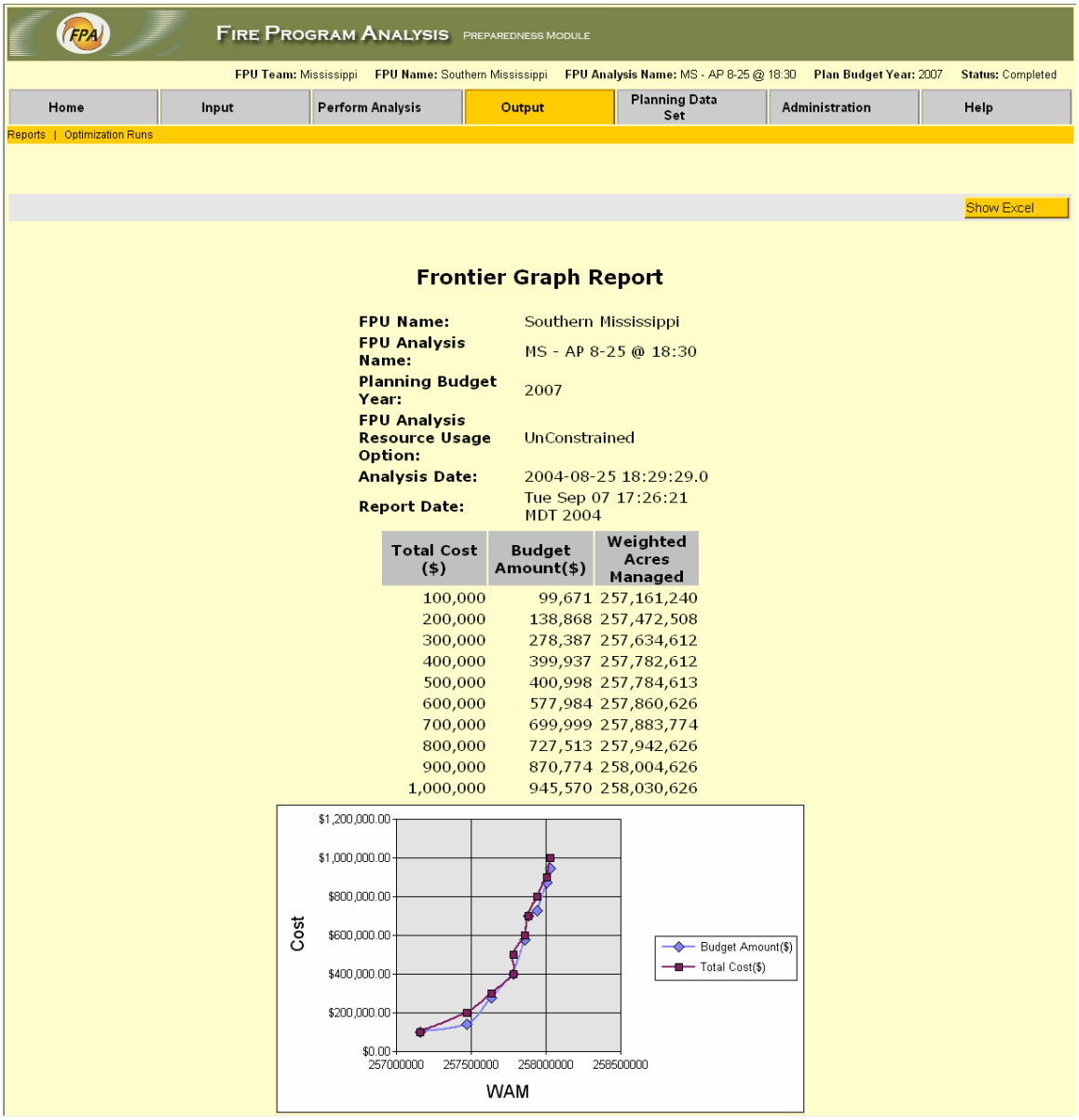


Resource Summary Report

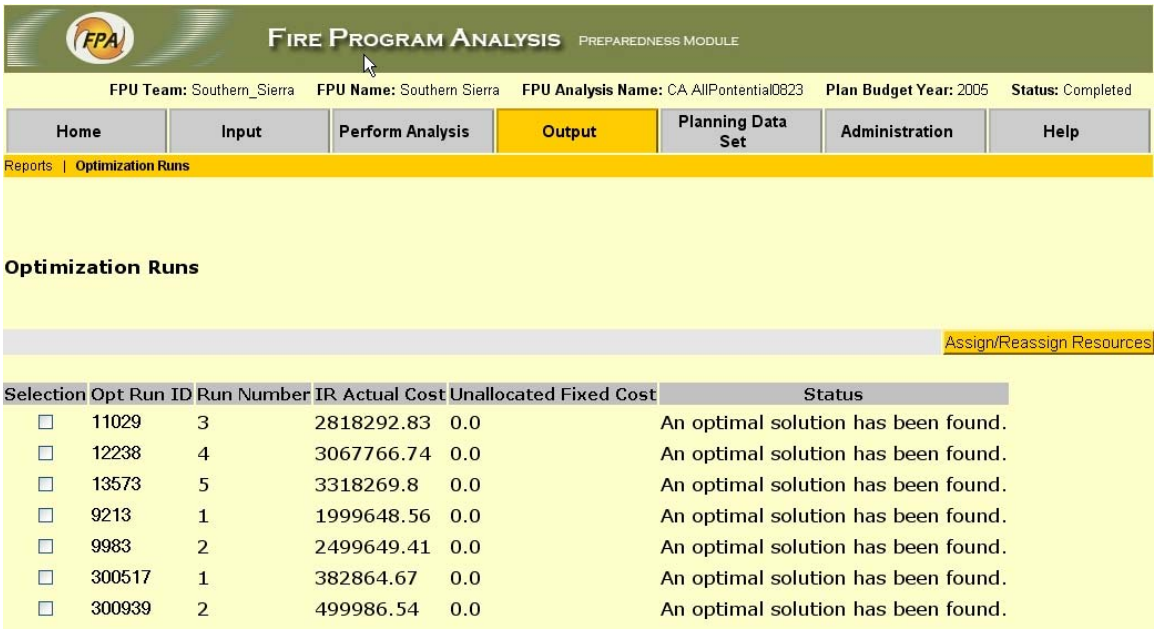


Unit	Cost Limit ($)	WATER TENDER	ENGINE	CREW	HELI	AIR TANKER	Other
Yellow Stone	100,000	0	0	0	0	0	0
	200,000	0	0	0	0	0	0
	300,000	0	0	0	0	0	0
	400,000	0	1	0	0	0	0
	500,000	0	1	0	0	0	0
	600,000	0	2	0	0	0	0

Frontier Graph Report



Optimization Runs Page



You access this page from the ***Output*** / ***Optimization Runs*** tab on the main menu. It displays the results of the Optimization Runs that have been completed for the data set.

- To *change* the fire suppression resources that are available for assignment in an Optimization Run, *select* the Run and click **Assign/Reassign Resources** to open the ***Assign Unallocated Resources Page.***

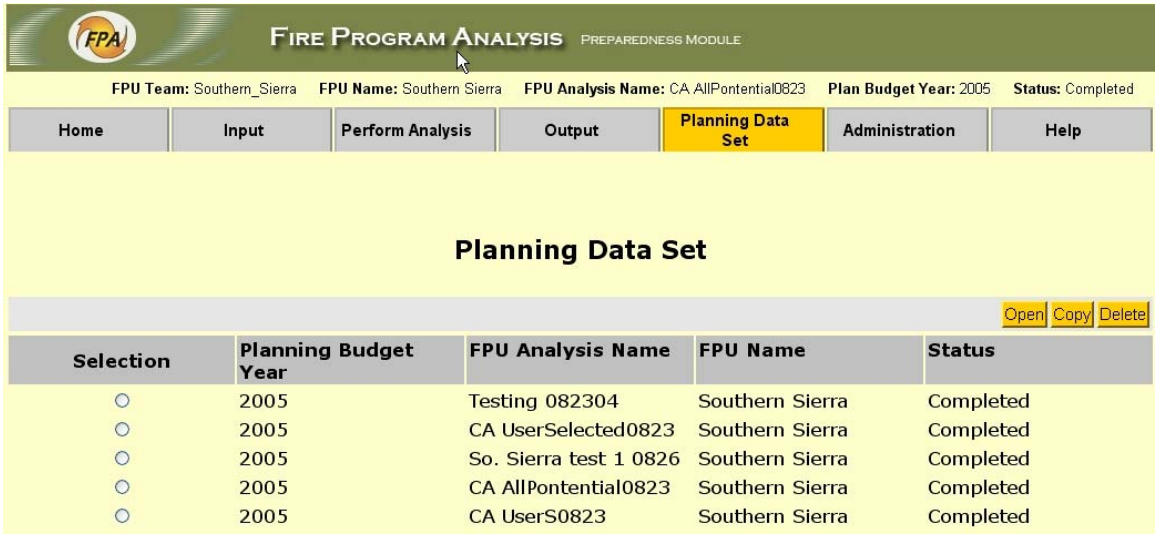
Assign Unallocated Resources Page

Access this page from the Optimization Runs page.

[This Page is currently non-functional]

Planning Data Sets

Planning Data Set Page



The ***Planning Data Set Page*** is opened from the ***Planning Data Set*** tab on the main Navigator menu bar. The page displays a list of the FPU Team's Planning Data Sets sorted by the most recent FPU Plan budget year, FPU Name, and then FPU Analysis Name, with the "working" version displayed first.

There can only be one "working" version of the FPU Planning Data Set at a time.

The currently **Open** Data Set and its status are displayed near the top of the page.

From this page you can *Open, Copy, Export*, or *Delete* a *Selected* Data Set. The action buttons that are active depend upon the status of the selected Planning Data Set:

- If the Data Set is not open, **Open** is enabled**.**
- If the Data Set status is "being analyzed" or "completed", **Copy (**to working**)** is enabled**.**
- If the Data Set status is "completed", **Export** and **Delete** are enabled. (If multiple completed Data Sets are selected, only **Delete** is enabled.)
- If the Data Set status is "working", **Change Lookup Data Set** is enabled.

To perform an action:

- First *Select* the Data Set by checking the appropriate box for the row. Available actions are indicated above.
- Click **Open** to *open* the selected Data Set. Any previously open Data Set is automatically closed.
- Click **Copy** to *delete* the existing "working" version of the Data Set and replace it with the selected one.

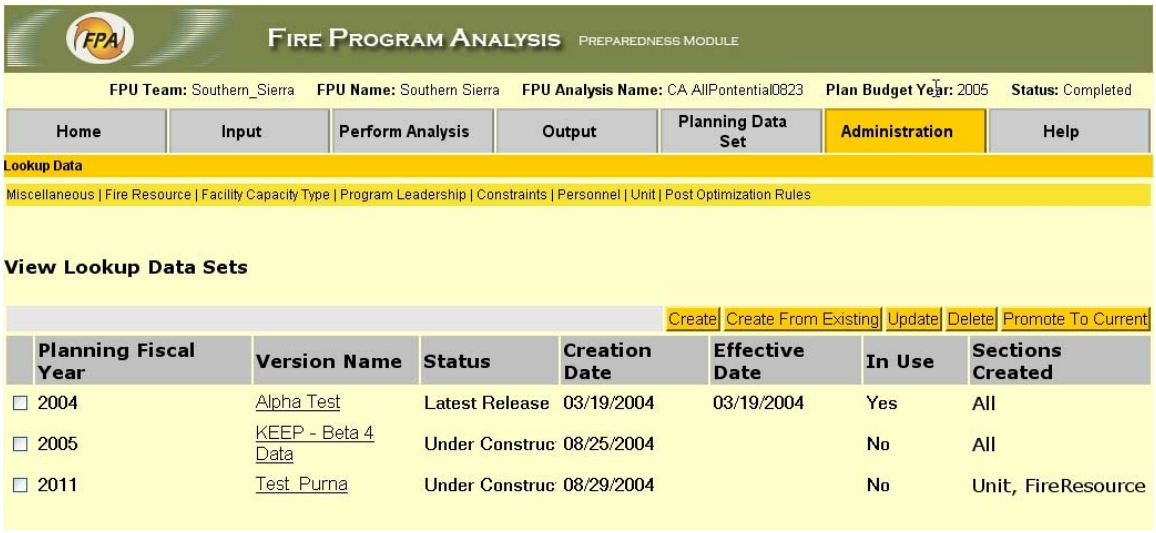
  Caution! this will delete all data in the current working version, and replace it with the information in the selected version. You will be prompted to confirm the deletion before the action is completed by the system.
- Click **Export** to save the selected Data Set, with all the information it currently contains, as a local file. You will be prompted to select a local directory where the file will be saved.
- Click **Delete** to *delete* the selected Data Set(s) and all associated data including FPU, FMUs, Dispatch Locations, Fire Events, User Selected Resources, Analysis Options, and Outputs. You will be prompted to confirm the deletion before the action is completed by the system. (You may select multiple completed Data Sets for deletion.

Lookup Data

Lookup data are created, updated, deleted, or otherwise manipulated only by a Data Administrator; that is, someone who has logged on to the system with a User ID that indicates that he or she has Data Administrator authority. Displays of all Lookup Data screens and instructions for management of Lookup Data Sets are available in the ***Data Administrator User Guide***.

As a Fire Planner, you do have read-only access privileges for lookup data. With read-only privileges you may open any of the Lookup Data pages by clicking on the appropriate third tier menu tabs after selecting a Lookup Data Set and view the information display, but you cannot make any changes to it.

View Lookup Data Sets Page



To view the contents of a Lookup Data Set, click on the Version Name link and then the desired third tier menu subject tab.

None of the screen buttons will be active unless you have signed on with an ID with Data Administrator authorization.

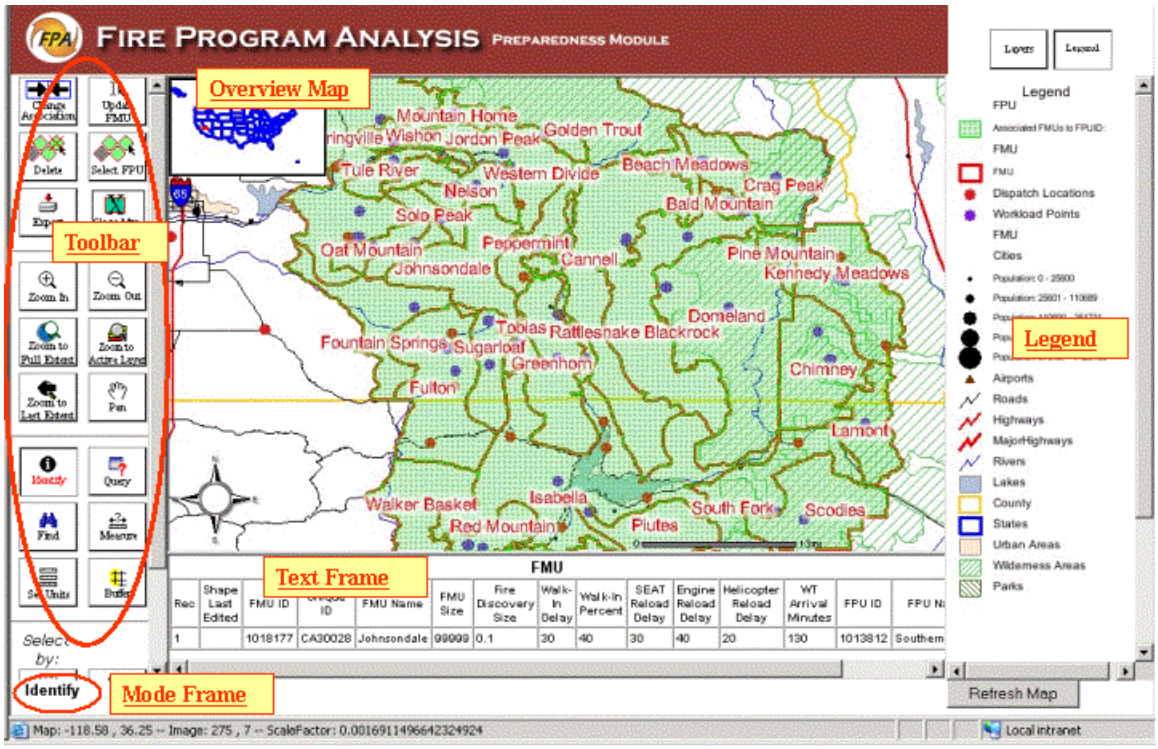
The individual screen displays of all the various Lookup Data are available in the FPA-PM Data Administrator Guide.

Appendix I: GIS Tools and Functions

Objective

This appendix provides information about the GIS functionality, data flow, and the ***Update by Map*** screen user interface for FPA-PM.

Finding Your Way Around the Map

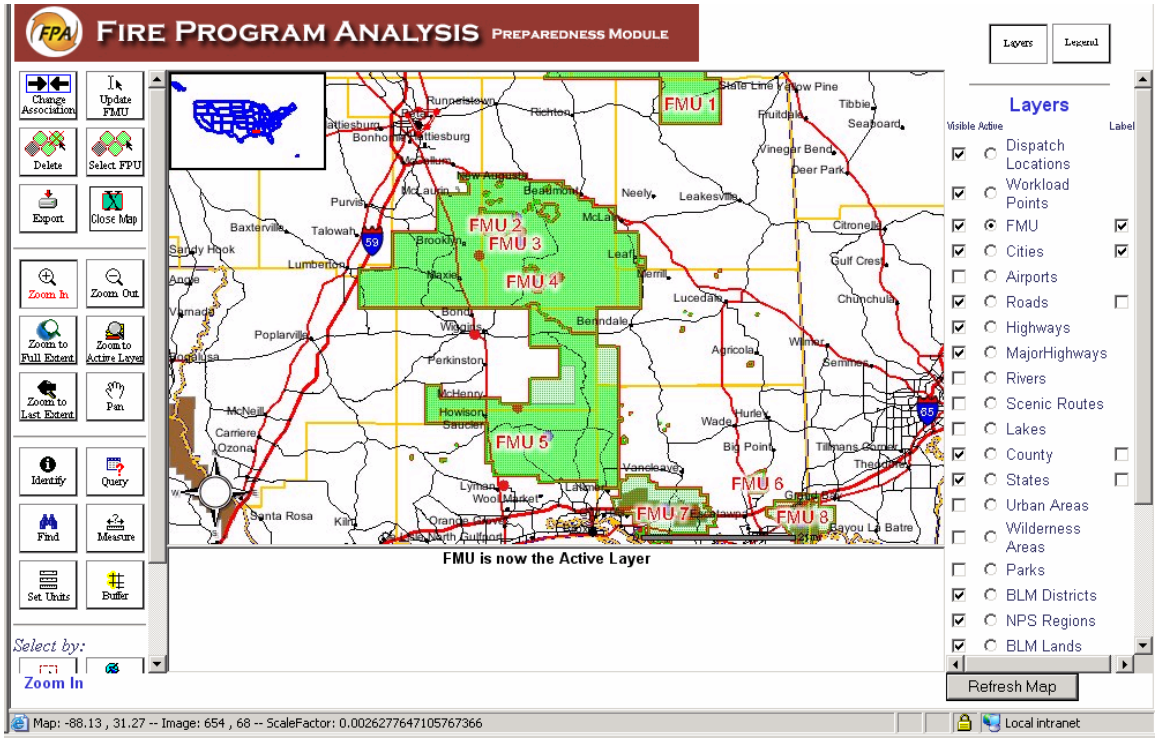


General Map Information

The layers of the map are turned on and off by selecting the Layers Tab in the upper right corner of the map. There are two tabs: Legend and Layer. The Legend tab toggles on the legend for the layers currently being displayed in the map frame. The Layers Tab toggles on the layer control menu where the user can turn layers on / off, label layers and select layers as the active layer. An active layer is the layer that is currently being queried by the Info Tool and the selection tools.

Layer Frame

Clicking on the Layer button above the legend in the upper right of the map toggles on the list of map layers and allows the user to turn layers on / off, label certain layers, and set one layer as the active (selectable) layer.

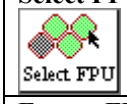


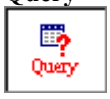
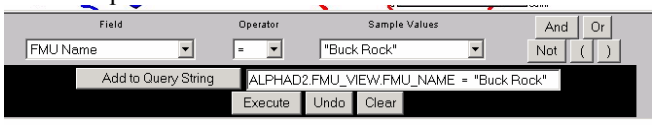
The column of check boxes on the far left of the layer name has the title "Visible". By clicking on the visible check box the layer is turned on/off. A check mark indicates that the layer will be displayed. The column of radio buttons is titled "Active". There can only be one active layer on the map, and so clicking the active radio button next a layer will deselect the previous layer's active status. Active status means that this is the layer for all feature and attribute selections. The column of check boxes to the right of the layer name is titled "Label". Clicking on the label check box will automatically label the map features the next time the map is refreshed. Not all layers have this capability.

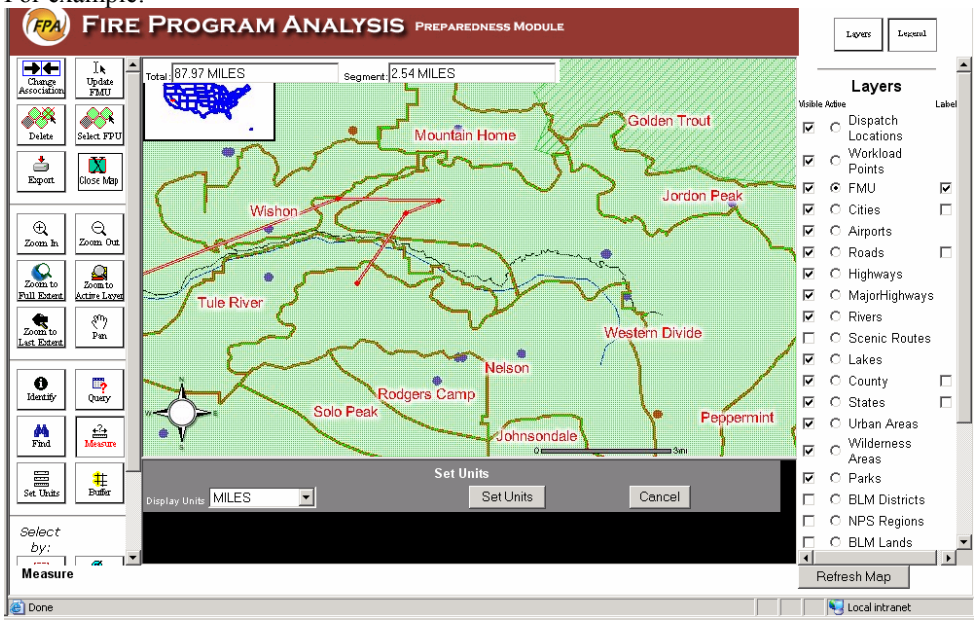
To visualize any of these changes, the Refresh Map button at the bottom right of the map must be clicked. With a click of the refresh map button, a new map is rendered on the server and sent to the web browser.
As you zoom in to any area on the map more layers will become available in the layer list. This is called scale dependent rendering and it happens because certain data layers only make sense when you are zoomed into a small scale (small area on the ground). For example, the cities layer is added to the layer list if you zoom in, and as you zoom in even farther the rivers, scenic routes, and land ownership layers become available.

Map Tool Descriptions

For most of the map navigation tools and feature selection tools when you click on the button the tool text will turn red and the name of the tool will appear in the Mode frame in the lower left corner of the map. In the screen shot above for example, the identify tool was selected in the tool bar frame, the text turns red on the button and the name of the tool ("identify") appears in the mode frame. Below is a functional description of each of the map tools on the FPA map interface.

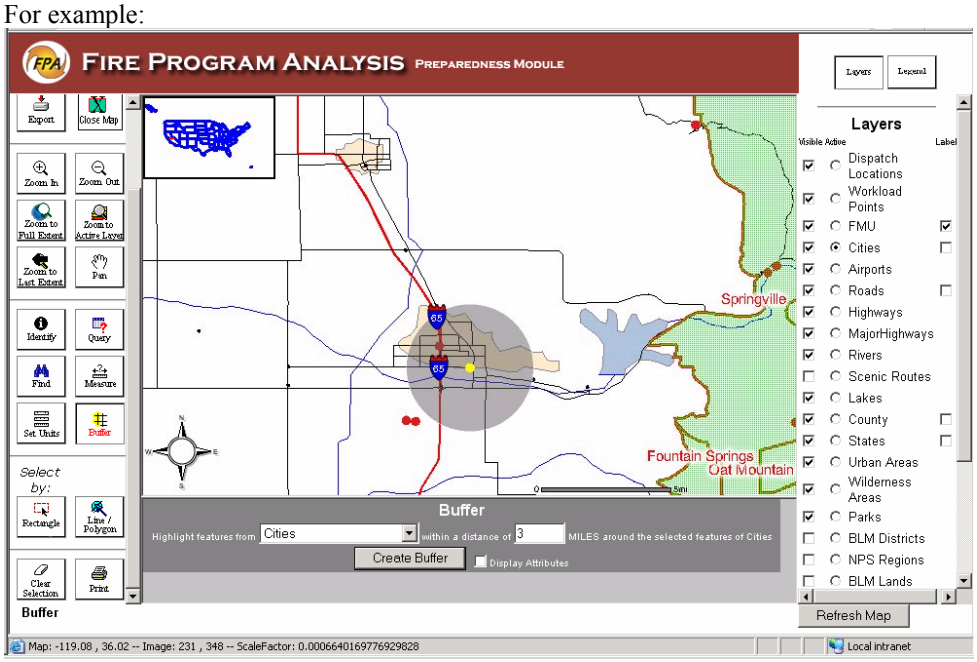
Tool Name	Description
Change \Association	The Change Association Tool enables the user to change the grouping of FMUs to the current FPU from the map interface. This process may be done on the FMU home page as well, however, the map provides the functionality to view and select the FMUs with contextual data. To use this tool you must first select an FMU polygon using the Select by Rectangle button (described below). After one or many FMU polygons are selected, click on the Change Association Tool. The map will close and you will return to the FMU home page. You will see the check boxes for the FMUs you selected have been toggled on/off depending on their previous situation.
Update FMU	The Update FMU Tool enables the user to spatially select an FMU from the map and then update that FMUs parameters. This process may be done on the FMU home page as well, however, the map provides the functionality to view and select the FMUs with contextual data. Click on the Update Map Tool and then click on the FMU polygon that you wish you to update. The map will close and the browser will go to the FMU attribute update page.
Delete FMU	The Delete FMU Tool deletes the selected FMU polygon from the Planning Data Set. This process may be done on the FMU home page as well, however, the map provides the functionality to view and select an FMU(s) with contextual data. After an FMU(s) polygon has been selected with the Select by Rectangle Tool, click the Delete Tool. A message box will appear asking if you really wish to delete the FMU. No will cancel the process, Yes will delete the FMU and all associated data from the current planning data set.
Select FPU 	The Select FPU tool selects all the FMUs that are currently associated to the FMU. The selected FMU polygons are displayed with a yellow color to indicate they are selected.
Export FPU	The Export Tool prepares the FPU layer for use with PCHA. Click the Export Tool located on the map toolbar. An extract button appears in the text frame. Click on the Extract button to zip the GIS layer. A message appears in the text frame that states "Zip file now available for downloading…**download**". Click the download hyperlink and either save the zip file locally or open it from the browser.

Close Map	The Close Map Tool closes the map browser and returns the browser session to the FMU Home page.
Zoom In	Clicking on "Zoom In" Button located on the map toolbar will turn the text red and text "Zoom In" appears in the mode frame. Zoom in is now the active mode of the map. A single click anywhere on the map interface will cause the map to zoom in and center on the point clicked. By holding the left mouse button down and dragging a box on the map interface the map will zoom to the rectangle selected.
Zoom Out	Clicking on "Zoom Out" Button located on the map toolbar will turn the text red and text "Zoom Out" appears in the mode frame. A single click anywhere on the map interface will cause the map to zoom out and center on the point clicked. By holding the left mouse button down and draging a box on the map interface the map will zoom to the rectangle selected.
Zoom to Full Extent	Clicking on "Zoom to Full Extent" Button on the map toolbar will zoom to the United States – which is the full extent of the data sources included in this web map.
Zoom to Active Layer	Make the FMU layer the active layer: click on the active radio button next to FMU Layer in the map table of contents frame. The radio button next to FMU Layer will be selected. Then click on the "Zoom to Active Layer" Button on the map toolbar and the map will zoom to the extent of the FMU layer.
Zoom to Last Extent	Clicking on the "Zoom to Last Extent" button located on the map toolbar will zoom back out to the full extent of the United States.
Pan	Clicking on the "Pan" Button located on the map toolbar will turn the text red and display "Pan" in the mode frame. Hold down the left mouse button and drag the mouse from left to right across the map. The map will shift right displaying a new area of data to the west or left of the previously displayed map.
Identify	Make the FMU layer the active layer: click on the active radio button next to FMU Layer in the map table of contents frame. Click on any FMU polygon to display attribute information on the selected FMU record. A table appears in the text frame below the map with attribute information for the selected FMU record.
Query 	With the FMU layer still the active layer, clicking the Query button will open an SQL syntax interface. Create a query using the GUI provided and execute a query on the FMU layer. The query will select an FMU record(s). Polygon(s) are highlighted in yellow and the attributes are displayed in the text frame below the map. For Example: 

Find	The find button searches for a text string in any of the attribute fields of the map active map layer. With the FMU layer still the active layer, clicking the Find button will open a query form in the text frame below the map. For example, if you enter "1", the application returns all records that have "1" in any of the fields of the spatial database. Selected records are highlighted in yellow and the attributes are displayed in the text frame below the map. For Example:
Measure	The Measure tool is used to determine linear distances on the map. To use the tool, click once on the Measure Tool, then click once on the map, move the cursor in any direction and click a second time to create a start and stop point to be measured. Continue clicking to add additional segments. A red line will be drawn in red and the distance of that segment and the total distance of all segments in miles will be displayed in the boxes in the upper left of the map frame. For example: 
Set Units	The Set Units Tool allows the user to change the measure distance units that are being returned from the map window. Optional units include: Feet, Miles, Meters, Kilometers. Clicking on the Set Units Tool opens the following interface:
Select By Rectangle	The Select by Rectangle button allows the user to select any feature in any map layer by dragging a box around the desired features. Click the Select by Rectangle Tool and then draw a box on the map by holding down the left mouse button. Selected features of the active layer will be displayed in yellow and attributes of those record(s) will be displayed in the text frame below the map.

Buffer

The Buffer tool allows the user to draw a measured distance around a selected feature on the map. For example, make the Cities layer the active layer by clicking the radio button next to cities in the layer list. Use the Select by Rectangle Tool to select a single city in the map display. Click on the Buffer Tool and choose "cities" as the layer to highlight features from the pull down box. Set distance as 3 miles. Click on the Create Buffer button. A 3 mile gray circle now buffers the selected city, displayed in yellow.
For example:



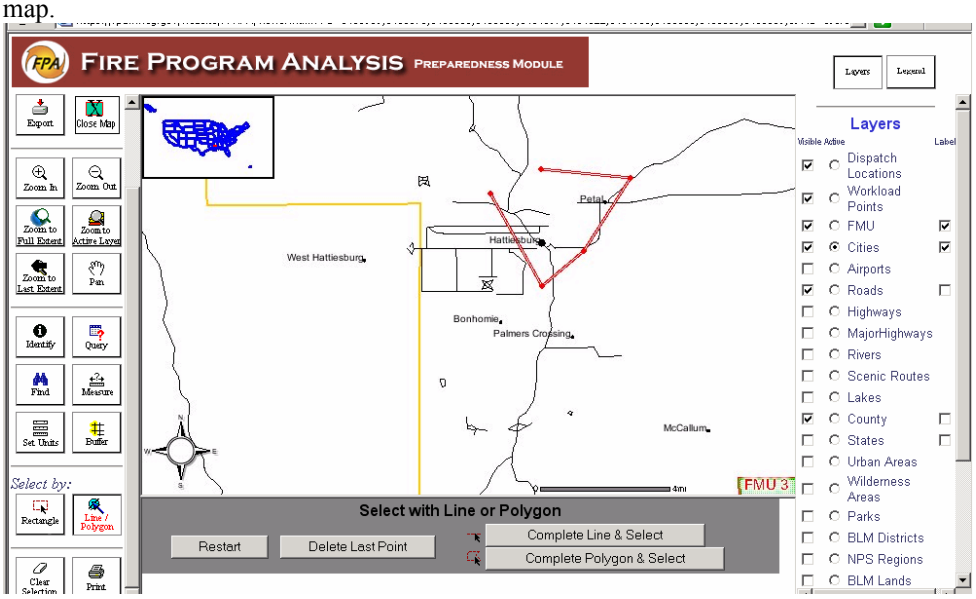
Select By Line/ Polygon

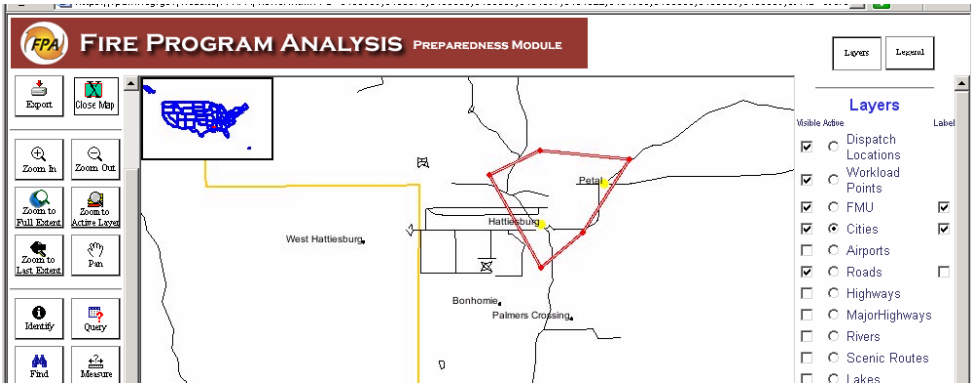
The Select by Line / Polygon Tool allows the user to select features of a layer by drawing a box around the features or by intersecting with a line drawn on the screen. To use this tool the layer you wish to select must be the active layer in the layer list. For example, make the Cities layer the active layer by turning on the radio button to the left of Cities layer in the Layer list.

Click on the Select by Line/Polygon Tool and an interface appears titled "Select with Line or Polygon" in the text frame below the map. By clicking points (vertices) on the map, draw a 3-sided box around a few cities. Then click the button "Complete Polygon & Select" from the Line/Polygon Interface.

A box will be drawn with red borders and the cities inside the box are now selected and therefore displayed as yellow points. The interface disappears and the attribute information for the selected records is displayed in the text frame below the map.

In another example, make FMU the active layer and draw a straight line across one or more FMUs by clicking on both ends of the line. Click on the button "Complete Line & Select" from the Line/Polygon Interface. A red line will be drawn and the FMUs that intersect the line will be selected and displayed in yellow. The interface disappears and the attribute information for the selected records is displayed in the text frame below the map.





Clear Selection	Clicking this tool unselects any selected records on the map interface.
Print	Clicking this tool generates an new html window with a printable version of the map with a scale bar, legend, overview map, and custom title. Use the web browser built in print function to actually sent the file to the printer.

Appendix II: FMU GIS Shapefile Requirements

This Appendix describes the requirements for the GIS FMU shapefile that is uploaded to FPA PM. If you do not have the technical knowledge to create shapefiles, you should seek assistance from your Agency GIS staff.

Layer: Fire Management Unit

Layer Short Name: FMU

Layer Description:	[A polygon representing] Any land management area defined by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, major fuel regime groups, and so on that set it apart from the management characteristics of an adjacent unit.
References:	FPA Glossary Version 2.4
Spatial Data Source Scale:	Best available source with a target scale of 1:24,000 for Continental U.S., Puerto Rico, and Hawaii and 1:63,360 for Alaska.
Horizontal Accuracy:	Targeted to National Map Accuracy Standards (NMAS).
Horizontal Coordinate System:	Geographic
Horizontal Coordinate System Parameter File	FMU.PRJ
Horizontal Datum:	North American Datum 1983
Geographic Coordinate Units:	Decimal Degrees
Feature Type:	Polygon
File Type:	ArcView shapefile

DBF Attribute Table

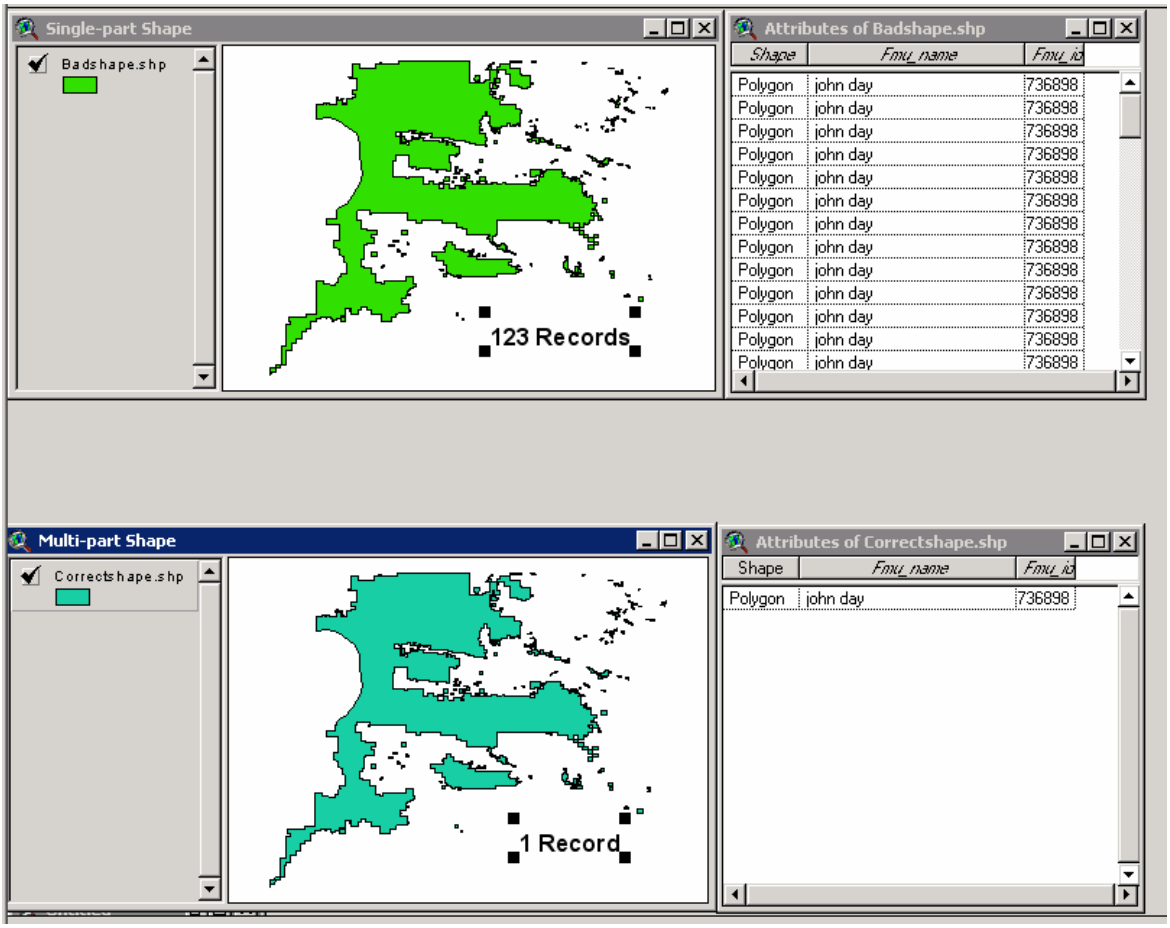
FMU.dbf

Item Name	Description	Required	Type	Length	Example	Comments
FMU_Name	FMU Name, unique within the FPU	Yes	String	50	Clear Creek	User Generated Name of FMU – must be unique within the FPU
Walkin_per	Percent of fires that need to be walked to.	Yes	Integer	3	12.0	The percent of fires within the FMU that are walk-in, i.e. engines cannot drive to the fire. Used to derive whether a Fire Event is walk-in. Entered by the user.
WTmin	Water Tender Arrival Minutes	Yes	Integer	10	35	The time (in minutes) for a Watertender to arrive at the FMU. Used to determine when a watertender starts to contribute to the continuation of an engine's production.
DiscovSize	Fire Discovery Size in Acres	Yes	Number	4, 2	0.01 acres	Domain of values = {0.01, 0.1, 0.25, 1.0, 10.0, 100.0}
Date_Cur	Date FMU geometry was last modified	No	Date	8	YYYYMMDD	Currency of Polygon Geometry
Local_id	Reference field for local gis databases	No	String	50	8736233	User Generated maps to Local GIS database
GIS_Other	Local field if desired	No	String	50	Rosebud EIS FMU23	User Generated maps to local GIS database
Walkin_del	Walkin Delay	No	Integer	10	35	Time in minutes for ground forces to walk to the FMU Workload Point from a vehicle.
Seat_rld	SEAT Reload Delay	No	Integer	10	35	The time (in minutes) for a Single Engine Air Tanker to travel to the reload point for the FMU, to reload and then to travel back to the FMU workload point.
Eng_rld	Engine Reload Delay	No	Integer	10	35	The time (in minutes) for an engine travel to the reload point for the FMU, to reload and then to travel back to the FMU workload point. (An engine could reload at a lake near the fire.)
Heli_rld	Helicopter Reload Delay	No	Integer	10	35	The time (in minutes) for a helicopter to travel to the reload point for the FMU, to reload and then to travel back to the FMU workload point. (A helicopter could reload at a pond near the fire.)

Layer Discussion

1. The FMU layer must have clean topology. If edits are conducted in ArcView 3.x it is essential that using ArcMap or ArcINFO, topology is created and checked with the clean / build process. Shapes with node errors (dangles, overshoots etc) will not load into the FPA PM SDE database. Error messages will get returned to the user on the web interface when trying to create FMUs that tell you that there are topology errors. Ensuring that your FMUs layers adhere to standard GIS data integrity rules will save time by avoiding loading errors in FPA PM.
2. There must be the same number of records in the shapefile as number of FMUs. Multi-Part shapes are perfectly ok. This is also referred to as non-contiguous FMU polygons. If a Planning Unit has an FMU with multi-part shapes then you must dissolve the shapefile on the FMU name field to have the same number of records and unique FMUs. For example, Central Oregon FPU has 41 FMUs. The shapefile that gets loaded into FPA PM must have 41 records only. One way to accomplish this is to use ArcView 3.x geoprocessing wizard and dissolve on the FMU name field.

   A screen shot is provided on the next page as an example. This fictitious FPU has only one multi-part (non-contiguous) FMU called "John Day". The bad shapefile in the top view has one record for each polygon. However each polygon has the same FMU_Id because this in actually a multi-part shape FMU. The lower view has a good shapefile where a dissolve has been run on the field FMU_Id. Please note, all other required fields were removed from this shapefile for simplification – you will need to use the required fields describe above.


Single-part Shape
Badshape.shp
123 Records
Attributes of Badshape.shp
Shape
Fmu_name
Fmu_id
Polygon john day 736898
Multi-part Shape
Correctshape.shp
1 Record
Attributes of Correctshape.shp
Shape
Fmu_name
Fmu_id
Polygon john day 736898