Fire Program Analysis Briefing Paper #2

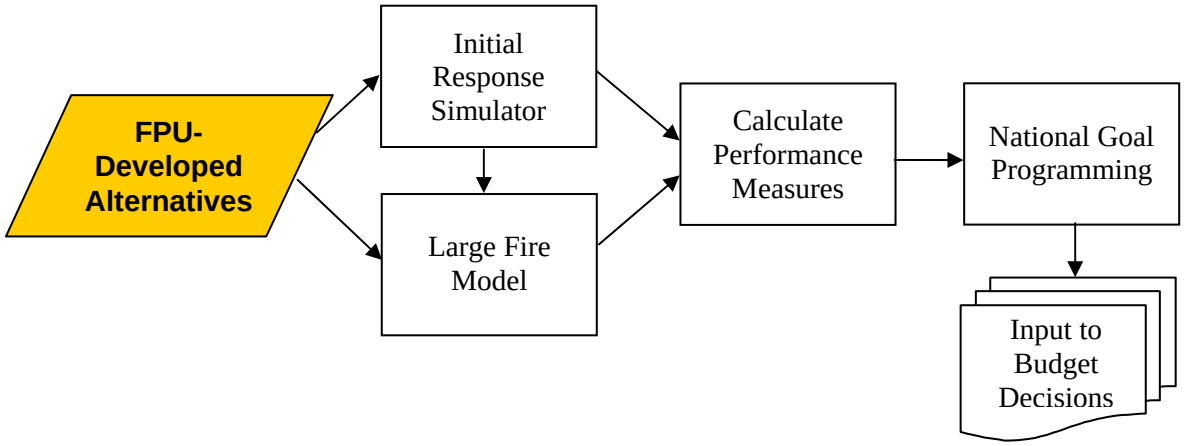
February 2008

Topic: Fire Program Analysis (FPA) System Overview

Purpose: Introducing FPA System
Second in a series of FPA briefings

Background:
The Fire Program Analysis (FPA) system is a common interagency application for wildland fire planning and budgeting. This tool enables the five federal fire management agencies (the USDA Forest Service and the Department of the Interior's Bureau of Indian Affairs, Bureau of Land Management, National Park Service, and US Fish and Wildlife Service) to jointly plan. FPA is also designed to encourage nonfederal wildland fire partners' participation.

Key FPA System Components
The FPA System consists of several modules:



1. The FPA system begins with Investment Alternatives. Investment alternatives describe different strategies for achieving land and fire management goals in a Fire Planning Unit (FPU). Developed collaboratively by FPU planners, the investment alternatives consist of:

- **Preparedness options** comprising:
  - **Initial response organizations and fire resources**. Used to model how initial response organizations and resources affect initial response success.
  - **Prevention programs**. Used to model how increasing or decreasing prevention activities affect the number of human caused fires.
- **Fuel treatment options.** These describe on-the-ground fuel treatment projects and changes in fuel conditions resulting from treatments. Used to model how fuel treatment options affect the success of initial response and large fire growth.

2. The Initial Response Simulator (IRS) is a strategic model that mimics a Fire Planning Unit's initial response to wildland fires. Combinations of the FPU's preparedness and fuel treatment options are modeled to show how they affect initial response success. Fire behavior data and initial response resources are used to simulate fire containment.

The IRS enables fire planners to compare efficiencies and probable costs for alternative initial response organizations, prevention programs and fuel treatments.

3. The Large Fire Module analyzes the impact of fuel treatments and preparedness resources on large fire behavior. The term "large fire" references fires that exceed simulation limits by either size or time or require management action that extends beyond the initial response phase. The Large Fire Module combines fire simulations and statistical analysis based on the Fire Spread Probability (FSPro) model developed at the USDA Forest Service Missoula Fire Sciences Laboratory. Output from the Large Fire Module is used to calculate performance measures. It does not model FPU resources.

4. The Performance Measure Calculator processes output from the Initial Response Simulator and Large Fire Module to quantify how well the different investment alternatives meet the FPA performance measures. A fire cost estimator provides probable costs based on modeled fire size. The modeled performance measures and costs for each alternative can be evaluated locally and nationally to select the investment alternatives that best meet land management plans and national guidance.

These are the FPA performance measures:

- Reducing the probability of occurrence of costly fires
- Reducing the probability of occurrence of costly fires within the Wildland Urban Interface (WUI)
- Increasing the proportion of land meeting or trending toward the attainment of fire and fuels management objectives
- Protecting highly valued resources areas from unwanted fire
- Maintaining a high initial attack success rate

5. National Goal Programming is used by national fire budget planners and agency decision-makers to assess performance and trade-offs between investment alternatives. Investment alternatives submitted by all FPUs are evaluated at different proposed budget levels.

Conclusion:
The FPA system displays trade-offs between two fire program components relative to performance measures. When the functional system is delivered in June 2008, it will support interagency analysis of investment alternatives specific to the preparedness and fuel treatment fire program components.

The third in the series of briefs will address project implementation timeline, workload and management and line officer roles in FPA.