



# Fire Program Analysis Interagency Guidance for *the FY 2010 Analysis*

## **Introduction**

This Interagency Guidance will be used by Fire Planning Units (FPUs) for developing a set of program and budget alternatives, referred to as investment options and alternatives, for Fire Program Analysis' *FY 2010 Analysis* to support the federal agencies' FY 2012 budget development. By design, FPA analyzes both federal and non-federal resources, costs<sup>1</sup> and effectiveness, and supports local and national level fire program analyses.

**Fire Program Analysis is a decision support tool that analyzes initial response capability, impacts of large fires, and effectiveness of fuels treatments. The system includes tools to assist managers in evaluating relative benefits from varying levels of investment.**

Reviews of the initial *FY 2009 Analysis* by the FPA Executive Oversight Group conclude the system and underlying science show potential to assist managers, planners and budget analysts answer planning and budgeting questions, while recognizing some data and model issues need to be corrected or improved. Many recommended model adjustments for the *FY 2010 Analysis* are already in place, and the system will continue to be improved each year based on stakeholder feedback. Attention to data inputs by each FPU is also key to continued improvement.

The FPA web site provides additional information on topics discussed in this document ([http://www.fpa.nifc.gov/Implementation/index\\_fpuguidance.html](http://www.fpa.nifc.gov/Implementation/index_fpuguidance.html)), as well as more technical documents and user guides (<http://www.fpa.nifc.gov/Library/Papers/index.html>).

## **FPA Process Overview**

FPA requires a multi step interagency process. FPUs first develop specific preparedness and hazardous fuels investment strategies, or options. These preparedness and hazardous fuels options are then paired in the FPA modeling system to create alternatives. The alternatives represent possible mixes of preparedness and hazardous fuels program components to address specific performance measures. After review, the FPU submits the alternatives for analysis in the national goal programming process. Outputs from this process will be used by the federal wildland fire management agencies to support program planning and budgeting as described below.

## **Use of the Analysis**

Changes are being implemented through this guidance to increase analysis and data consistency and quality, and thereby confidence, in the *FY 2010 Analysis*' modeled outputs. These outputs will be used in the formulation of the FY 2012 federal wildland fire management preparedness and hazardous fuels programs and budgets. Outputs from the *FY 2010 Analysis* will also be used to evaluate FY 2011 program budget allocations relative to the agencies' potential performance.

As data consistency and quality improve, confidence in outputs is established, and implications of changes are understood and validated, the agencies will collaboratively propose program and budget changes to increase efficiencies and support the agencies' stated goals and objectives.

Implementation of changes to programs and budgets identified, and verified, through the FY10 and future analyses will occur incrementally at the national, agency, and/or field levels. These

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<sup>1</sup> Only federal costs are required.



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changes may begin with the *FY 2010 Analysis*, but implementation of the implied changes will be conditioned upon the degree of confidence in the analysis outputs.

In the coming months FPA's Executive Oversight Group will identify a small, diverse, and representative interagency team that will be assigned to work with the national goal programming process and to advise the Executive Oversight Group on aspects of implementation.

## **Due Date for the *FY 2010 Analysis***

FPU's are required to submit their completed analysis for inclusion in the national goal programming analysis by **April 15, 2010**. The extended due date is to allow units adequate time to respond to adjustments noted in this guidance that are intended to increase consistency, quality, and confidence in the analysis process. FPU and Geographic Area (GA) reviews (discussed below) should be completed prior to submission.

## **Line Officer Responsibility**

Line Officers should recognize that the FPA system will be used to support development of the FY 2012 federal wildland fire management program and its associated budget. Therefore, the *FY 2010 Analysis* is important to you. Line Officer engagement at all levels is essential to ensure that resources are available to complete quality FPU analyses, while ensuring that national guidance is adhered to.

More specifically, an interagency cadre of Line Officers within each FPU should provide expectations for completion of the *FY 2010 Analysis*, establish roles and responsibilities of FPU planners, provide leadership for the development of options and alternatives, and ensure that FPU and GA reviews are completed. They should also review and understand the options analyzed and the alternatives being submitted in their completed analysis. Additional information on Line Officer responsibilities is on the FPA web site.

## **Analysis Guidance**

This Interagency Guidance provides direction that is intended to increase consistency and overall effectiveness among the federal agencies. Line Officers should ensure that these principles are adhered to for each FPU analysis:

1. The focus of the *FY 2010 Analysis* is on the specific preparedness and hazardous fuels components that directly influence the analysis' performance measure outputs:
  - a. Preparedness should focus on production capability, i.e., those resources that result in a direct change to the analysis' performance measures. Preparedness components, should be analyzed as follows:
    - i. Production resources and the prevention program should be entered into the system and their capability increased or decreased at plus and minus options to demonstrate the effects of budget changes.
    - ii. Leadership and support components, and their cost, should be entered into the system, but remain constant with the FY 2009 level. The *FY 2011 Analysis* will include provisions to input differing levels of these components at the plus and minus options based on a set of to be determined business rules.



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- iii. New facilities and vehicle elements, and their cost, should be entered in the analysis based on the anticipated need for each option. These costs will be displayed for consideration after the completion of the national goal programming process.
  - b. Hazardous fuels should focus on treatment capability, or those actions that result in a direct change to the analysis' performance measures. Hazardous fuels components, should be entered as follows:
    - i. Treatment actions, and cost, should be increased or decreased at plus and minus options to demonstrate the effects of budget changes.
    - ii. Program leadership and support components, and costs, should be entered into the system, but remain constant with the FY 2009 level. The *FY 2011 Analysis* will include provisions to input differing levels of these components at the plus and minus options based on a set of to be determined business rules.
    - iii. New vehicle and equipment costs should be entered in the analysis based on the anticipated need for each option. These cost will be displayed and considered after the completion of the national goal programming process.
  - c. As adjustments in preparedness and/or hazardous fuels programs and budgets are implemented, steps will be taken to ensure that adequate leadership and support capability is in place to ensure safe and effective implementation.
2. Develop three preparedness and four hazardous fuels investment options as specified below. The FPA system will combine these seven options into twelve alternatives for submission to the national analysis. See *Investment Options and Alternatives*( page 4) and *Table 1*(page 8).
  - a. Preparedness – develop three investment options. The total FPU preparedness program will be input into the system, however adjustments at the plus and minus options will be limited to program components, production resources and the prevention program, that directly affect performance measures.
    - i. Current - based on the FY 2009 assigned<sup>2</sup> base funding.

Enter all components of the current program. FPU's will need to identify that portion of their funding associated with production resources and the prevention program for the plus and minus options.
    - ii. Plus & minus 20 percent – based on a 20 percent increase and decrease of the assigned<sup>2</sup> “Current” funding associated with production resources and the prevention program.

Enter the total program, retain leadership and support at the current level, and adjust production resources and the prevention program at the plus and minus options.
  - b. Hazardous Fuels - develop four investment options. The total FPU hazardous fuels program will be input into the system, however adjustments at the plus and minus options will be limited to program components, defined as “treatments” in FPA, that directly affect performance measures.

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<sup>2</sup> Agency, or bureau, fire program budget staff will assign each FPU an analysis budget, in collaboration with the FPU.



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- i. Current - based on the FY 2009 assigned<sup>2</sup> base funding.  
Enter all components of the current program. FPU's will need to identify that portion of their funding associated with treatment actions for the plus and minus options.
  - ii. Plus & minus 20 percent of the treatment component of the assigned<sup>2</sup> "Current" funding.  
Enter the total program, retain leadership and support at the current level, and adjust treatment activities at the plus and minus options.
  - iii. Plus 60 percent of the treatment component of the assigned<sup>2</sup> "Current" funding.  
Enter the total program, retain leadership and support at the current level, and adjust treatment activities at the plus option.
3. Develop a strategic long term fuels treatment option that represents the desired landscape after 20 years of fuel treatments at the FY 2009 base level of funding. This will enable incorporation of the future benefits of fuel treatments as performance measures are calculated. Additional information and tools are available on the FPA web site.
  4. FPU and GA reviews are completed before submission. See *Reviews*.
  5. Collaborate with partners to collect fire resource and fuels treatment data, and develop dispatch logic and investment options.
    - a. Non-federal production resources that typically respond to fires on federal lands should be included in the analysis. This includes state, tribal, and local resources, though their associated costs are not required to be included.
    - b. Collaboratively develop investment options for preparedness and fuels as specified in this guidance that support land and fire management plans.
    - c. Federal preparedness and fuels investments should be considered collectively among the participating agencies, and not constrained by the current preparedness or fuels budget distribution for individual agencies within the FPU. See *Investment Options and Alternatives*.
    - d. Effectiveness and efficiencies achieved through the various options and alternatives modeled should be demonstrated. Increases and decreases in investment options should be logical:
      - i. Consider cooperator resources.
      - ii. Consider potential cost and effectiveness of individual resources and fuels treatments when making investment decisions.

### **Investment Options and Alternatives**

Interagency collaboration to develop investment options and alternatives may be the most time consuming and challenging task in the FPA process. FPU's are to develop, analyze, and submit preparedness and fuels options and alternatives as specified in this Interagency Guidance. The Guidance places an emphasis on collaboration at each step of the process. To the extent feasible, and with a commitment to improve the analysis each year, options and alternatives should reflect partners' and cooperators' land and fire management objectives.



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Partner resources used in the FPU's base preparedness and hazardous fuels alternative, referred to as ".current /.current" in FPA, should reflect partner resource use as it existed in FY 2009. Cooperator resources used in the FPU's base preparedness and hazardous fuels alternative should reflect cooperator's resource capability as it presently exists.

Individual agency budgets and their associated resources should be analyzed as alternatives at the FY 2009 base budget level, as well as the plus and minus options. As FPU partners develop plus and minus options, they should not be constrained by the base budget's current distribution by agency. For example, at a plus twenty percent preparedness budget increase, it may be more efficient to place all of the additional preparedness funds with a single agency as opposed to splitting the funds amongst all agencies in the FPU based on their percentage of the base budget. Investments should focus on overall effectiveness for the specified level of investment. Individual preparedness and fuels options will be paired and submitted as discrete alternatives. (See Table 1, page 8).

The base budget that will be used for the *FY 2010 Analysis* will be provided to FPUs by agency and bureau budget staff in a separate document. Accurate inputs and adherence to guidance is critical for national consistency and use of the analysis' outcomes. FPUs should pay particular attention to the total funding in each investment alternative to ensure the alternatives analyzed accurately reflect the current, increased and decreased funding levels (within a 2 percent variance).

To better understand model sensitivity and prepare for potential future analyses, a volunteer subset of FPUs will model additional plus and minus budget options. Details will be issued by the FPA team in Boise.

### **Performance**

National goal programming compares the ratio of the change in performance to the change in cost for every investment alternative within an FPU and on a national scale. It affords the ability to perform trade-off analysis among the performance measures across all FPUs nationwide. Each investment alternative submitted by the FPU will be evaluated against established performance measures in the goal programming process.

The *FY 2010 Analysis* will use the components of the five performance measures that were utilized in the *FY 2009 Analysis*. For additional clarity, one of these measures, "land meeting or trending towards fire and fuels management objectives", will be broken out into the three individual components that comprised the performance measure in the *FY 2009 Analysis*. This measure will be displayed as the number of acres treated for reduction of hazardous fuels, the number of wildfire acres burning at or below a damaging threshold, and the number of wildfire acres burning above a damaging threshold. A total of seven measures will be calculated in the *FY 2010 Analysis*. A more detailed discussion of performance measures is available on the FPA web site.

The *FY 2009 Analysis*' Highly Valued Resources (HVR) performance measure's five "pilot data layers" showed that additional work is needed to determine specific HVR components that should influence fire planning at the FPU and national levels, how best to analyze the information at both levels, and where data gaps exist. The agencies do not plan to use the existing HVR performance measure at the national level until the additional work is completed. As work on this data layer is ongoing, the presence of resources (highly valued or otherwise) at



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the FPU level that influence suppression and fuels treatment operations should be considered in the collaborative process and incorporated into submitted alternatives.

National goal programming is flexible enough to allow the inclusion, or exclusion, of any of the seven measures as deemed appropriate by management at the time of the national analysis.

### Analysis Reviews

The *FY 2010 Analysis* process should include ongoing reviews at both the FPU and GA levels. The FPU reviews should be completed to allow enough time for any recommended changes or updates to individual analysis to be incorporated prior to the GA review.

**Fire Planning Unit Review:** For each FPU, an interagency review team and leader should be assigned by the GA FPA committee, with concurrence by the appropriate governing body (e.g. GA Coordinating Group). The local FPU Line Officers should concur with the composition of the team reviewing their unit. A team may review multiple FPUs. The team should evaluate both technical and management components relative to the key aspects of the analysis described below. The review elements and findings should be documented using a common format for all FPUs. The FPA GA leads will collaboratively identify the common review elements and develop the reporting format. The primary objectives of the review are to promote quality data inputs, and to ensure consistency and that key technical steps, guidance, and procedures were adhered to.

- **Model Validation** - After the FPU planning team has configured their inputs and developed the option that represents historic production capability, a review must be completed to affirm that the inputs are appropriate and the outputs are reasonably representative of historic outcomes and that the model is properly calibrated.
- **Pre-Development of Options and Alternatives** – Before an FPU begins developing options and analyzing alternatives (beyond the alternative developed for calibration), the baseline funding and its resources (including prevention program) and fuels treatments should be reviewed for accuracy.
- **Reviewing Options** – After options have been formulated with associated alternatives, but before they are submitted for the national analysis, they should be reviewed to assess whether:
  - Designated funding at each investment level was utilized within specified ranges.
  - Options were developed appropriately for agency and partner resources, fuel types, and cooperator resources.
  - Cooperator resources are appropriately modeled. These resources should be modeled at existing levels in the current and plus preparedness options. However, at minus preparedness options consideration should be given to reducing cooperator resource availability, and/or numbers, to compensate for the model's potential to utilize the cooperator resources more than they may be available. This situation will vary among FPU's, but given the effects of cooperator resources on analysis outputs, overall use of these resources should be carefully reviewed.
  - National and regional funded resources are appropriately modeled. These resources should generally be modeled at existing levels in all preparedness



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options. However, there may be local situations that warrant some adjustments, these should be evaluated on a case-by-case basis.

The review team should provide feedback and suggested changes on these specific objectives and other findings, as appropriate. Review documentation should be made available to the GA review team. The FPA team continues to develop analysis tools and reports to support the review process.

**Geographical Area Review:** For each GA, an interagency review team and designated team leader should be assigned by the GA's FPA committee, with concurrence by the appropriate governing body (e.g. GA Coordinating Group). The review team should be comprised of a representative/s of the FPU review team leaders, fire planning specialists, Line Officers, and other subject matter specialists, as well as at least one member from outside the GA. Emphasis on interagency participation should be highlighted.

After all FPUs have submitted their completed analysis, the GA review team should document general observations regarding the FPU reviews and their findings, performance measures, participation, and the process. Primary objectives of the review include assessment of the:

- Consistency of application of interagency guidance and budget investment guidance among FPUs.
- Data input and modeling consistency among FPUs.
- Appropriate use of national and regional resources within the GA.

Particular attention should be made to identify outliers relative to analysis inputs and modeled outputs and develop direction to address these findings for subsequent efforts. The review team should provide written feedback on the *FY 2010 Analysis* and, through their leadership chains, may include suggested changes on the specific objectives and other findings, as appropriate.

### **For More Assistance**

The FPA team has developed a paper capturing issues identified in the first year's analysis that were problematic for FPUs, or caused unexpected results. Reviewing this paper, located on the FPA web site may be helpful.

The Fire Application Help Desk is staffed to support FPUs throughout the analysis process. Please call (800) 253-5559, (208) 387-5290, or email at [fire\\_help@fs.fed.us](mailto:fire_help@fs.fed.us).



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**Table 1: Investment Options and Alternatives** - This table portrays how investment options are combined to create investment alternatives for the national analysis.

Budget Level	-20% Fuels Investment Option	Current Fuels Investment Option <sup>1/</sup>	+20% Fuels Investment Option	+60% Fuels Investment Option	Alternatives
-20% Preparedness Investment Option	-20 Prep -20 Fuels	-20 Prep .current Fuels	-20 Prep +20 Fuels	-20 Prep +60 Fuels	
Current Preparedness Investment Option	.current Prep -20 Fuels	.current Prep .current Fuels	.current Prep +20 Fuels	.current Prep +60 Fuels	
+20% Preparedness Investment Option	+20 Prep -20 Fuels	+20 Prep .current Fuels	+20 Prep +20 Fuels	+20 Prep +60 Fuels	
<b>Alternatives</b>					

Note - A long term strategic fuels option is also created at the current funding level – refer to *Analysis Guidance* and the FPA web site for specific guidance.