



Fire Program Analysis – Preparedness Module Wildland Fire Detection

Date: March 18, 2004

Topic: Wildland Fire Detection

Issue: Where within the FPA system should the fire detection function be modeled?

Background: The detection (discovery) and reporting of wildland fires has historically been an element of the fire management program funded from the preparedness activity, just like fire prevention, pre-suppression or readiness, dispatch and coordination, and aviation.

Each local organizational unit has many sources for fire discovery, and can include agency personnel funded for the detection function, cooperators and contractors, other agency personal, and the public at large.

There are two basic methods of fire detection, which have recurring fire program costs; 1) Fixed detection, which are mostly fire lookouts and, 2) Aerial detection, which is mostly light fixed-wing aircraft. There have been suggestions that fire detection could be analyzed as a module of FPA-Phase II, since no uniform, consistent, scientifically credible analysis of fire detection is currently available.

Key Points: The FPA-PM development team has established numerous business rules which have been documented in the Business Use Cases. Specifically, the Use Case for Fire Planning Units states, “Ignition detection will be included in the Program Leadership and Support portion of FPA-PM.” Associating detection workload with preparedness is consistent with how the detection function was displayed in the legacy system IIAA.

Fire detection does not have a known and quantifiable production function. Fire detection doesn't directly produce fireline that contains wildland fires being modeled within the analysis system. Therefore the costs associated with fire detection are not directly optimized within the optimization routine being developed. The fire detection portion of the fire management program can not be optimally determined within the system being developed.

Short term recommendation: It is appropriate that fire detection be included with other non-producers in preparedness module. There would be no change from the current methods used to determine fire detection resources. Fire planners often determine the appropriate quantity and cost of detection resources following the cost efficiency principles established in agency policy. The local organizational unit will remain responsible to establish their local needs for fire detection funded from the preparedness activity. The fire planner will be responsible to document assumptions and rationale for the selected fire detection resources and their preparedness costs.

Long term recommendation: If there is sufficient interest from the field in a uniform, scientifically credible analysis tool consistent with the FPA system vision then a group of subject matter experts could be assembled to develop a problem statement, describe the need for FPA system enhancement, and develop alternatives.