

# Guide to Wildland Fire Origin and Cause Determination

## 2016 Edition Changes

The 2016 edition of this guide includes a number of new recommendations, procedures, practices and techniques not included in the 2005 version.

- The Introduction section of the guide includes changes in language to reinforce that this guide is a consensus document and serves as a *Guideline* with recommendations and does not preclude application, as appropriate, of other procedures, practices or techniques to fit each unique fire scene. It is ultimately up to the wildland fire investigator to select the appropriate methods to apply to the investigation and to explain why those methods were adequate.
- Chapters 1A and 1B
  - Changes include a reduction from 14 to 11 fire pattern indicators. The fire pattern indicators that were dropped are; 1) die out, 2) depth of char, and 3) degree of damage.
  - A change in the use of the term *burn indicator* to *fire pattern indicator*.
  - A change in the use of the term *degree of damage* from indicator category to a term used to describe general fire intensity patterns consistent with advancing, lateral, or backing fire areas and transition zones.
- Chapter 2
  - Methodology reflects an expanded section on conducting a systematic wildland fire investigation, including the scientific method for problem solving and recommended wildland fire specific methods for application within the framework of the scientific method.
    - A new term, *Ignition Area*, has been added, defined as: The smallest location which a fire investigator can define, within the Specific Origin Area, in which a heat source and fuel interacted with each other and a fire began. It is recommended that the historical use of the term Point of Origin or P.O. to represent an area be discontinued and the term Point of Origin or P.O. be used only as defined as the exact point where a heat source came into contact with the fuels first ignited. The addition of Ignition Area reflects the reality of fire dynamics which makes it uncommon that an exact point where a heat source and first fuel ignited came together be identified to a reasonable degree of certainty. The term Ignition Area representing the smallest area which should be defined using fire pattern indicators in order to determine the cause of a wildland fire.
    - An emphasis on the use of white flags as designating only the location of evidence, and not the Point of Origin. This includes the recommended addition of a lime green colored pin flag for use as designating items or points of interest other than evidence. This may include the use of lime green flags to mark the corners or perimeter of the Ignition Area.
  - The addition of two recommended search patterns, the *parallel lane* technique and the *grid* technique along with the retention of the *lateral lane* technique.
- Chapter 5
  - Reflects the addition of a new Documentation Unit. The use of GPS to document fire spread and reference points is discussed in Chapter 5, recognizing this tool for use in wildland fire investigation, its various applications and its varying degrees of accuracy and limitations.
- Chapter 7
  - Arson Investigation, no longer includes mention of an arson profile due to the lack of pertinent supporting data, the use of the study being cited, and its lack of specific application to wildland arson incidents.
- An emphasis on the consistent use of the recommended terminology.