

Risk Management in Action

*Bridging the gap between safety and operations
in fire and aviation.*

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Heli-mopping: A dirty word

Heli-mopping is a controversial term that conjures up images of poor risk management and inappropriate use of high-cost assets. While no one sets out to “build dumb fireline,” an honest appraisal of interagency operations might uncover a few occasions where helicopters were utilized in this manner. This issue of *Risk Management in Action* seeks to provide some common sense guidance and solid tools for effective management of valuable aviation resources. Let’s cut to the heart of the matter.

Aviation exists to support the ground firefighter. But this support means more than rotors, retardant and wings – more than water, information, and troop transport. To fully support the ground effort, aviation must also include the critical judgment piece that comes from aviation managers and operators, be they agency personnel or contractors.



Decisions for safe and effective use should only be made after careful consideration and weighing all risk factors.

Recently, a joint effort between helicopter operations specialists, safety managers and operational personnel identified several factors that should be considered prior to helicopter use. Let’s begin with a simple definition.

Heli-mopping: Use of a helicopter for water or retardant application beyond an initial attack in recently burned areas where there is minimal danger of the fire escaping.

Examples of possible heli-mopping include:

1. Aerial application without ground support or supervision on the interior of a fire.
2. Aerial application on an incident lacking reasonable certainty that the application will aid suppression efforts or gain tactical advantage.
3. Aerial application to increase helicopter utilization to justify retention of the helicopter on the incident.
4. Social or political pressure to maintain appearance of suppression activity when no tactical advantage is gained.
5. Contractor pressure to be utilized for income production.

Inappropriate factors that may motivate heli-mopping include:

1. Lack of aviation risk assessment knowledge and procedure.
2. Political, social, and/or media pressures and perceptions.
3. Increased utilization for purposes of justification and retention of aviation assets.
4. Lack of other resources to conduct mop-up operations.
5. Perceived moral support to fire personnel.
6. Reduce length of assignment.

Legitimate reasons for use of helicopter application assets inside the black:

1. Difficult terrain access that pose significant risk to ground firefighters.
2. Other serious ground fire personnel safety issues (heat stress, unburned islands, falling snags, etc.) where failure to use aviation assets would put ground firefighters at risk.

Decision tools

Two tools that are effective in resisting external pressures are the *Two-Challenge Rule* and the *More Conservative Response Rule*. These tools were originally designed by human factors experts to help Airline Captains prevent disasters due to a single momentary lapse of judgment by otherwise excellent decision makers. In its simplest form it works like this:

When a decision maker is challenged twice on a proposed course of action, he defaults to the more conservative of the options available, unless extreme circumstances are present.

This is only a suggested decision-making tool, and of course, is dependent on the situation at hand. It does provide a very good defense against ego-related decisions and protects the decision maker from him/herself if they are not functioning at full capacity due to fatigue, distraction or other factors.

Factors to consider when making the “appropriate use” decision include mission, time of day, environmental hazards (visibility and ceiling), terrain, pilot duty limitations, and why the mission is necessary (initial attack, direct attack, indirect attack, fire suppression support, perceived pressures). Armed with good information and participatory management tools, we can make the call on the acceptability of the action. Whenever an unacceptable risk is attained, and cannot be mitigated to a lower level, the mission will not be performed.

Heli-mopping is a dirty word. Lets eliminate it from our vocabulary by eliminating it from our operations.

(Note: Thanks to the Helicopter Operations Specialists (HOS) Group and Type 1 Incident Commander Joe Stutler for their inputs on this edition.)