



## Flagging for Firefighting Escape Routes and Safety Zones

*Bob Beckley, Project Leader*

The Missoula Technology and Development Center (MTDC) conducted field evaluations of flagging colors and styles during the 2000 field season. The purpose of these evaluations was to standardize escape route flagging nationwide. All firefighting personnel would have one color and style of flagging to follow if they needed to retreat to a safety zone (figure 1).



Figure 1—Flagging colors and styles tested.

The 16 most widely used colors and styles of flagging ribbon available were evaluated in deciduous and conifer forests in low light and bright light. Participants in the evaluations included individuals who were able to see the full color spectrum as well as individuals who were severely colorblind. Color blindness affects about 10 percent of the population.

Our field evaluations indicated that hot-pink flagging was the easiest color to see and was visible at the greatest distance. Lime-green flagging showed up poorly to participants with normal color vision, but colorblind participants saw the lime-green flagging best.

The other colors most visible to participants with normal color vision were oranges, blues, and candy striped, in that order.

Based on the field evaluations, we recommend that hot-pink flagging marked ESCAPE ROUTE be used to identify escape routes and safety zones (figure 2). Crews with



Figure 2—Hot-pink flagging marked ESCAPE ROUTE was rated highly visible during MTDC's field evaluations.



colorblind members may wish to carry both hot-pink ESCAPE ROUTE and lime-green flagging to identify their escape routes.

Hot-pink flagging with ESCAPE ROUTE printed on it is available from:

National Interagency Fire Center, Great Basin Cache  
3833 South Development Ave.  
Boise, ID 83705-5354  
Phone: 208-387-5547

The Mallory Co., Inc.  
Phone: 800-426-6830  
Web site: <http://www.malloryco.com>

MTDC has also recommended to the National Fire Equipment System that hot-pink ESCAPE ROUTE flagging be available through the General Services Administration.

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### About the Author

**Bob Beckley** received a bachelor's degree in political science from the University of Montana in 1982. He began his Forest Service career as a timber technician on the Nez Perce National Forest. Bob was a smokejumper when he came to the Missoula Technology and Development Center in 1990 to work as a videographer, photographer, and project leader.

### Library Card

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Describes field evaluations of flagging ribbon to mark escape routes and safety zones for wildland firefighters. Hot-pink flagging was the easiest to see and was visible at the greatest distance. Lime-green flagging showed up poorly to participants with normal color vision, but colorblind participants saw the lime-green flagging the best. The Missoula Technology and Development Center recommends that hot-pink flagging marked ESCAPE ROUTE be used to identify escape routes and safety zones.

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