LOOKOUT STANDARD OPERATING PROCEDURE 8610
(1987)

The following standard operating procedures are appropriate for all lookouts. These standards are minimum requirements. Additional duties may be required by lookout supervisors. Performance evaluations will be based on the demonstrated ability of the lookout to effectively perform the following functions.

STANDARD OPERATING PROCEDURE COMPONENTS

- Detection
- Location
- Communication
- Weather Observation
- Records and Reports
- Maintenance
- Property Management
- Safety
- Public Relations
- Personal Fitness

DETECTION 8610
(1987)

Smoke detection is the primary reason for the existence of lookouts. Lookouts must keep a constant watch. This entails scanning for smoke when visibility permits from daylight until dark, and occasionally at night.

METHODS OF SEARCH 8610.1
(1987)

GENERAL OBSERVATION 8610.1.1
(1987)

The rule-of-thumb is that "smoke only appears when you are not looking"; therefore it is important that general observation be kept up even when the lookout is performing the other tasks.

SYSTEMATIC OBSERVATION 8610.1.2
(1987)

In addition to constant general observation, the lookout should make a systematic and concentrated inspection of his/her area by sector at frequent intervals, depending on the time of day and weather conditions. There may be times when small fires or those cut off by intervening topography can be detected only by an occasional puff of smoke. The lookout can divide his/her area into a number of sectors with definite landmarks as guides. These sectors must be searched one at a time right around the complete field of vision.

One method is to mark a clock in 7-1/2 minute intervals. Each time the minute hand hits these marks, make a 360-degree search of the terrain out to 15 miles, followed by a second 360-degree search with the binoculars from 15 miles out to the horizon. Together, the searches take from three to four minutes. Then the lookout can then relax until the next search. This procedure allows eight systematic searches per hour, and after a while it becomes automatic.

The importance of intensive inspections is illustrated by the fact that after a fire has been reported in a certain locality, other lookouts are usually able to pick it up promptly through concentration. In all probability, they would not have discovered the smoke by general observation until it became more prominent. These intensive inspections supplement general observations by a degree of concentration which would be impossible to maintain for long.

RECOMMENDED SEARCH PROCEDURE 8610.1.3

(1987)

The lookout should make a systematic search of his/her area the first thing in the morning. General and systematic searching should then be continued throughout the day, with a final systematic search prior to shutting down.

Special watch must be kept during periods of lightning activity. Lookouts should always notify the ECC as soon as a lightning storm is sighted. The lookout should take readings on all ground strikes even though they do not show any smoke immediately. He/she must record the location of these strikes and keep watch on these areas for several days. This is especially important in timber areas since heavy fuels may hold fire in a "sleeper" condition.

DETECTION AIDS 8610.2

(1987)

As a general rule, smoke will be detected most quickly with the naked eye. Regular eyesight gives the greatest field of vision and excellent color contrast.

After something which looks like smoke is sighted, binoculars or telescopes can help determine whether it is smoke, dust, or something else. Binoculars and telescopes reduce delays in reporting real fires and reduce the danger of reporting false smokes. These instruments also help to identify landmarks or topography details so that a more accurate location can be made. A good clear set of binoculars and a spotting-type telescope should be on hand at each lookout facility. They are relatively inexpensive and can enhance the lookout's efficiency.

Binoculars

It is recommended that 10x or 7-15x variable power lenses are used. Lenses must be clear and cleaned with the proper materials regularly.

Telescopes

A spotting-type telescope of between 20X and 60X power is recommended. It should have a steady mount, such as a tripod. Many can be purchased with short tripods which can be set directly on the fire finder.

Overly powerful binoculars and scopes should be avoided because at certain magnifications, the field of vision becomes too small, and the ambient haze or rising hot air will distort the sight picture.

Sunglasses or Window Sunshades

At certain times of the day a glare shield may be required. These aids not only help to protect the lookout from eyestrain but also may actually be necessary to remove window glare so the lookout can see better. A variety of clear shades are currently available. The lookout should be able to raise and lower the shades as necessary.

FIXED OR KNOWN SOURCE SMOKES 8610.3

(1987)

It is important for the lookout to identify fixed or known source smokes so that they are not repeatedly turned in as wildfires.

INDUSTRIAL 8610.3.1

(1987)

Fixed or known sources may include steam generation plants, cement plants, gravel plants, construction projects, sawmills, control burns, railroad engines, water sprays, diesel engine smoke, and industrial incinerators. These sources should either be marked on the lookout map or listed in a sight record.

CONTROL BURNS 8610.3.2

(1987)

Coordinating with the ECC will enhance identification and location of control burns. For these smoke sources, the lookout should determine the location, duration, start and finish time, and material burned. Control burns may range in size from dooryard incinerators to very large areas of brush, logging slash, or stubble fields.

DEBRIS BURNING 8610.3.3

(1987)

In some areas people are permitted to burn their trash during specified time periods without notifying CDF. The lookout should become familiar with such areas and work out a reporting policy with the ECC for procedures.

CHANGES IN SMOKE 8610.3.4

(1987)

When the lookout has identified the fixed or known source smokes in an area. They should be checked periodically for possible changes. An increase in smoke or change in smoke characteristics should be monitored closely and reported, if appropriate. In addition, smokes that are visible outside their normal hours, even if they are in known locations, may be reported.

FALSE SMOKES 8610.4

(1987)

There are many phenomena visible to lookouts which resemble smoke and can be confusing:

Fog or Clouds

May be the same color as smoke and drift in the same way. Knowing where fog commonly occurs may help identify it.

Rock Surfaces or Water Reflections

Can look like smoke, especially if there are trees sticking up in front of them. These reflections tend to appear consistently each day at times when the sun is in a specific part of the sky.

Dust Devils or Whirlwinds

Will usually appear briefly and disappear quickly. Although they can send columns hundreds of feet into the air, they usually do not continue to rise as does smoke. These whirlwinds are sometimes caused by the movement of vehicles, tractors or herds of animals.

Others

Odd-shaped spaces between trees on a ridgeline or distant, hazy grassy openings can also be confusing.

In general, the base of wildfire smokes stays in one place or moves slowly while the tops of the columns move around quite a bit. Sometimes it helps if you close your eyes or look at something else for a few minutes. If the thing is the same shape as it was when you last looked, it is probably not smoke.

It is important to note, however, that anytime a lookout is in doubt about whether a smoke is real or not, it should be reported to the ECC so a smoke check can be made. Other lookouts may also be able to see into the area and help identify it.

UNIDENTIFIED SMOKES 8610.5

(1987)

It takes experience and study on the part of a lookout to become well acquainted with smoke and the type of fire it represents. The best way to become relatively sure of what type of smoke and fire go together is to listen carefully to how people at the scene describe the fire, its behavior and size. Learn how the smoke from a rapidly building fire differs from a slow moving one, and how smoke from a small spot compares in size to smoke from several acres of burning brush.

Keep perspective in mind when determining size. A closer smoke seems larger than the same smoke would if it was further away. Compare the size of smokes to nearby objects, such as houses, barns, or fields of known size.

GENERAL SMOKE CHARACTERISTICS 8610.6

(1987)

Grass fires make a light smoke that is often not great in quantity. In thin grass, it may be difficult to readily detect the smoke, especially when you are looking into the west on a hazy afternoon.

Standing unheaded grain will make a darker smoke than grass, due to the oil in the grain heads.

Stubble and grain fires will be associated with farming lands. Grass fires may be on farming land and also at higher elevations in areas used for grazing.

Brush burns very hot and makes a black or dark smoke due to the oil content. When a clump of brush burns, it will give off a towering column of black smoke for a few minutes.

A fire making a run in solid brush will make a very high column and is easily identified.

Many fires will be in a combination of grass and brush. If a lookout is not close enough to actually identify the fuel, he/she will be able to identify these types of fires because of alternating boiling up of a black smoke over the white smoke of the grass. Grass does not usually burn as hot as brush, and therefore the smoke does not boil up as high.

Timber fires burning on the ground will make a gray smoke.

When a fire crowns in timber and makes a run, a large volume of smoke will be put up and it will generally be somewhat darker than smoke from a ground fire. Brush mixed with the timber will tend to darken the smoke as well.

Structure and vehicle fires usually give off a black smoke whose base never moves. These fires can be transmitted to the wildland, however.

Lightning hits may result in a distinct puff of smoke, steam or dust. This does not necessarily mean that a fire has been started, but if it continues to show for more than two minutes, the lookout should assume that a fire has been established and report it.

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