

ORGANIC SOILS, GROUND FIRE & YOUR SAFETY



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Safety is everyone's responsibility, so if you see
something unsafe, please report to your
Supervisor for immediate attention**

ORGANIC SOILS

There are 27 counties in eastern North Carolina that are considered High Hazard Counties because of the organic (peat) soil. The peat soil in these areas can be 4-8 feet deep, and will burn down that deep if adequate moisture is not present. Ground fires (Peat soil fires) are different from a duff layer fire because of the depth of the peat that can be consumed.

So, with ground fire comes different Safety Hazards, and the equipment and tactics may be different than those to which you are accustomed. We will cover both of these topics with you before you go on the fireline, but you should keep this brochure and refer to it often during your assignment.



SAFETY

Ground fire is a bed of HOT ashes, so if you step in a white spot of ash, you will run the risk of falling into a hole of fire, causing serious burns. DO NOT walk into these areas until they have been cooled by applying water or a combination of water and equipment.



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Touch:

Feel with your hands for heat.

Sight:

Look for smoke, swarming gnats (little bugs), hot spots of white ash.

Smell:

Once you smell ground fire it will have a distinct smell that you won't forget. Remember your dealing with peat soil, i.e. organic matter.

Hearing:

Listen for crackling and hissing sounds when you spray water on an area of hot ash. Fire is burning down below the surface when you hear this sound.

WARNING SIGNS OF ASH PITS

- Areas of white ash with little or no smoke.
- Swarms of gnats hovering over an area (attracted to surface/sub-surface heat).
- Areas of sunken ground or change in elevation over an area.
- After a rain the ground will appear to have a crust (orange tint) due to heating and drying of the surface.
- Extensive lateral tree roots exposed.
- The smell of organic material burning
Burned out stump holes.



When roots are exposed from deep burning peat soil, trees are susceptible to wind throw and can FALL without warning.

This is a HEADS UP situation!



Be aware of the re-burn potential as a result of active ground fire, downed trees due to exposed root system, and pre-heated leaf fall / ladder fuels.



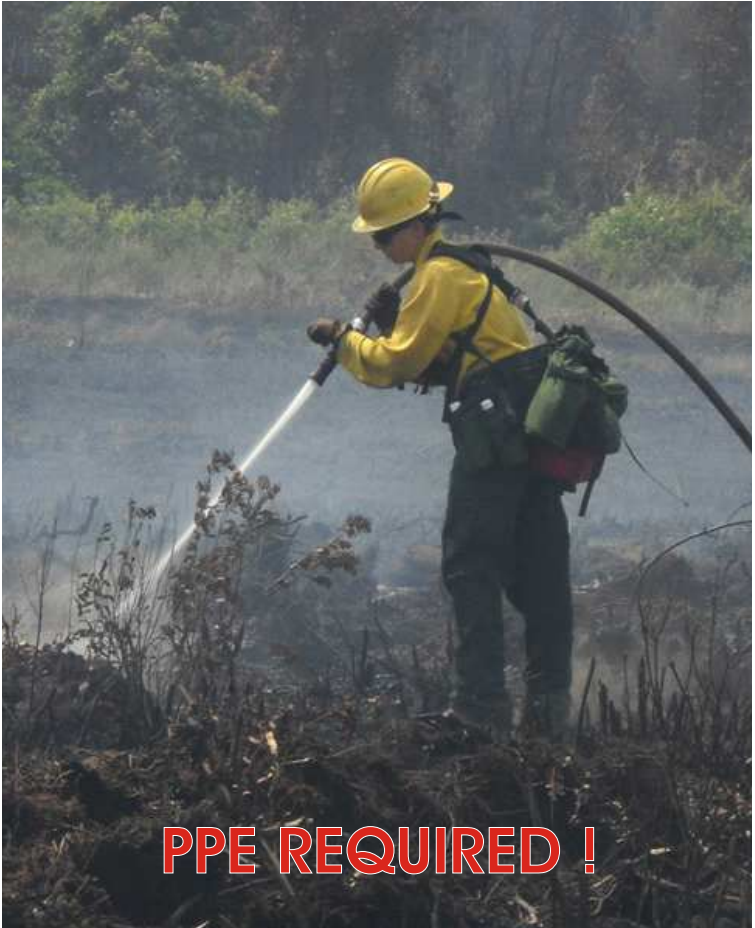
EQUIPMENT USED FOR GROUND FIRE



WATER: Using a regular barrel nozzle will not work when fighting ground fire. A straight stream nozzle or a Forester type nozzle on straight stream are recommended. A straight stream is necessary for water penetration to the depth of the ground fire. An area of ground fire should be saturated to the point of puddling. Once this water has been absorbed, the area may need saturating again. You may spend 5 minutes or better working on one small spot.



Be cautious when spraying ground fire since the hot ash and steam can “blow back” and burn you! Make sure you have eye protection, gloves, your sleeves are rolled down, and your pants legs are secured over your boots.!



PPE REQUIRED !

HAZARD

Ground fire typically produces a heavy concentration of hazardous smoke which can severely affect a firefighter's respiratory system.



- Be sure to wet the ground where hose is being dragged across to avoid burning the hose.
- For hose lays, it's best to use "weeping" hose to avoid hose damage.
- For hose/nozzle operations, be sure to wet the ground ahead of where you are stepping to identify sub-surface hot spots.



Volume lift PTO pumps are used for moving large volumes of water.

- While working around Volume lift pumps and all pumps in general, **HEARING** protection must be worn. Be aware of the footing as this area will be very wet and slippery.



SAFETY

NEVER walk behind a tractor while it is running and the PTO is engaged. Serious injury can occur if you or your clothing comes in contact with the turning drive shaft. ALWAYS shut down the power source and let it cool before servicing this piece of equipment.



- As with drive shafts, avoid contact or loose clothing around belts and pulleys.
- Use caution around mufflers when servicing this equipment.
- Let equipment cool before re-fueling.



- Be careful with your foot placement around excavated sites. The ground can be unstable or contain slip/trip hazards leading to personal injury or falling into water body.



- **NEVER DRIVE ACROSS BUTYLE TUBE WHILE PUMP IS RUNNING.**
- **SHUT DOWN BEFORE CROSSING.**



DRIVING SAFETY

Visually scan the road ahead for signs of degradation. Most of the fill material is derived from organic soil, and is subject to undermining by ground fire.



The 10 Standard Fire Orders

The NWCG Parent Group just approved the revision of the Ten Standard Fire Orders in accordance with their original arrangement. The original arrangement of the Orders are logically organized to be implemented systematically and applied to all fire situations.

Fire Behavior

1. Keep informed on fire weather conditions and forecasts.
2. Know what your fire is doing at all times.
3. Base all actions on current and expected behavior of the fire.

Fireline Safety

4. Identify escape routes and safety zones and make them known.
5. Post lookouts when there is possible danger.
6. Be alert. Keep calm. Think clearly. Act decisively.

Organizational Control

7. Maintain prompt communications with your forces, your supervisor and adjoining forces.
8. Give clear instructions and insure they are understood.
9. Maintain control of your forces at all times.

If 1-9 are considered, then...

10. Fight fire aggressively, having provided for safety first.

The 10 Standard Fire Orders are firm. We don't break them; we don't bend them. All firefighters have the right to a safe assignment.

THINK SAFETY



North Carolina Department of Agriculture and Consumer Services



This publication was made possible with
funding from the US Forest Service.

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