

# Fuels and Fire Behavior Advisory

## The Northern Lower Peninsula and the far Southeastern Upper Peninsula of Michigan

*Date Advisory Takes Affect – April 28, 2025*



**Subject:** Northern portions of the Lower Peninsula of Michigan experienced an extreme ice storm event that lasted several days and began on March 28, 2025. This event severely damaged overstory vegetation and resulted in heavy concentrations of hazardous fuel buildup in the understory.

**Discussion:** The area is transitioning into their normal spring season. Wildfire risk in the spring and early summer is significantly elevated due to an environmental influence known as the “spring dip”, during which time foliar moisture content of coniferous tree foliage drops significantly prior to new needles emerging. Resultant fire behavior on new and emerging incidents during this time can be volatile, with extreme fire behavior, rapid spread rates, sustained crown fire runs, and long-range spotting.

On March 28, 2025, an ice storm moved through the advisory area resulting in significant overstory tree damage. The storm primarily affected 11 counties in the northern Lower Peninsula, and one county in the southern Upper Peninsula of Michigan.

**Difference from normal conditions:** Portions of the advisory area are experiencing drought. Fire danger indices from both the Canadian Forest Fire Danger Rating System (CFFDRS) and National Fire Danger Rating System (NFDRS) trend near normal for this time of year. Foliar moisture content in conifer needles started trending lower roughly two weeks ahead of schedule. Wildland fire risk is greatly enhanced with a rearrangement of fuels in both the understory and overstory from ice storm debris.



### Concerns to Firefighters and the Public:

- Heavy concentrations of understory and overstory fuel, primarily comprised of needles, will amplify fire intensity and further promote crown fire initiation and extreme fire behavior potential. This fuels problem will continue to escalate over time as needles and woody vegetation cure.
- Overhead hazards (widow-makers) greatly increase wildfire risk and exposure to personnel and public. Trees are also weakened and further exacerbate risk.
- Poor ingress and egress due to fuel loading adds risk to wildland fire responders and public. A potential delay in response time, as well as significant reductions in line production rates should be expected.
- A rearrangement of fuels has created a significant ladder fuel problem that will result in the increased likelihood of crown fire initiation and extreme fire behavior.

### Mitigation Measures:

- Use of mechanical equipment will be needed as water from the air (aircraft or rainfall) will do little other than slow the forward spread of fires. Mechanical equipment will also be needed to create firebreaks through heavy fuel accumulations.
- Consider indirect and extended attack when making tactical decisions related to line placement and type.
- Discuss options locally, like mineral soil breaks using heavy equipment or indirect attack, to mitigate the amount of effort needed to create high levels of line security. Don't underestimate the potential for holdovers in duff and organic soils.
- Ensure firefighters adequately assess potential fire behavior daily and have trigger points for when to disengage.
- Brief out of state area on current and expected fire behavior and familiarize them on the local fire environment.



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