

UP THE ANTE

A HAZARD TREE SAFETY INITIATIVE

Sponsored by the Northern Rockies Coordinating Group

Contents:

Program Synopsis Page 1

Facilitator Instructions Page 2

Hazard Tree Initiative Worksheet Page 3

Summaries of Reference Material Page 4

Reference Material (This separate document will be included soon, and will be updated as additional agencies and materials become available in digitized format)

National Snag Hazard Report

Reserve Tree Guide

Long Range Planning for Developed Sites, R6

Tree Hazards: Recognition and Reduction in Recreation Sites, R2

Tree Strikes You're Out

Hardhat Inspection and Maintenance

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HAZARD TREE INITIATIVE

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SYNOPSIS

Forest health issues, past fires, draught, and high fire occurrence have combined to escalate snag and green tree hazards to unprecedented levels. Fatalities and lifetime injuries continue to occur. Close calls are frequent. Mitigation measures identified in manuals such as the Fireline Handbook need new focus and improvement.

Reviews of the 2001 tragedies reveal that standard operating procedures were being followed, and well-qualified, experienced supervisors and firefighters were on scene.

This initiative is designed to up the ante, to bump risk assessment and mitigations to the next level. We will seek wisdom and buy-in from employees, **and direct facilitation by line officers**. The employee involvement approach has been successfully demonstrated in previous safety programs, and we have been charged to better integrate line officers in fire, and safety and health programs. This design combines all these values.

Employees will create and commit to their own models the first year. Even when people come up with different solutions, the initial challenge and engagement has important pay-offs.

Follow-up will include merging products from individual units into universal guidelines. Ideally, a compact and comprehensive format (equivalent to LCES in entrapment avoidance) will emerge.

- **Success is achieved when wise, concise, and achievable concepts become part of the culture.**
- **Success is achieved when these concepts become regular briefing elements and are found, in common language, in manuals and guidebooks.**
- **Success is achieved when conscious and deliberate procedures and behaviors end tragic hazard tree accidents.**

Facilitator Instructions

Review the current material, then chart new ground. It's that simple. Use the attached worksheet to guide your employees through a two-hour workshop.

Well before you lead a session, take a good look at the accompanying material. Each reference document is briefly described in "Summaries of Reference Material". Assigning an individual or group to better digest the material, and prepare brief discussions is appropriate. Not all the referred material is included with this package, such as a video, and the USFS Health and Safety Code Handbook.

During the session, achieve an honest self-appraisal by your workforce about their awareness of the hazards, and practice of the mitigations. On a normal field day an employee will be in the shadow of literally hundreds of trees. Just what are we doing to protect our people? How does that compare to the existing recommendations? And, recognizing that even when people practice proper procedures, we are still having accidents, what is the next step?

After achieving a consensus for this next step, look everyone in the eye, and remind them this is not a paper exercise, but a reasonable and important change in behavior and work procedures.

Compile, or have compiled, the products of your session and e-mail them to r1_hazard_tree@fs.fed.us (with underscores). Your work, along with input from far and wide, will be compiled, gleaned, and searched for the common threads, as well as real break throughs.

In addition to an immediate heightened awareness and employee buy-in, this initiative may well lead, in the next phase, to improved tools and training for effective and efficient hazard tree assessment and mitigation.

We must find an LCES type of condensed, yet inclusive, method. With this type of concise system, safe practices may be ingrained, and become automatic. Do you notice how glaring the absence of a hardhat is when a working firefighter's picture appears in the newspaper? It was not always that way. That is the standard of awareness we need to achieve.

Finally, assign a committee to create a briefing element to be used for incoming crews. Provide the specifics of species and forest health issues in your area. Use this outline for your own safety briefings, as well as when briefing incoming resources. Again, e-mail your product to r1_hazard_tree@fs.fed.us (with underscores).

Up The Ante

Hazard Tree Initiative Worksheet

I. Current Status

1. Review existing hazard tree precautions and mitigations. See “Summaries of Reference Material” (included), and “Reference Material”, (separate document)
2. Ask your people:
 - "How well have we practiced these guidelines?"
 - How adequate are the existing guidelines?
 - Is it realistic to expect people to be mindful and in compliance of these at all times?

II. New Directions

4. Generate new ideas to prevent hazard tree tragedies.
5. How can the existing and your new guidelines be combined and simplified into an achievable format? (LCES is an example of simplifying entrapment avoidance rules)
6. What additional programs, publications or research will help achieve hazard tree safety?
7. Assign an individual or committee to develop a hazard tree briefing paper suitable for briefing incoming crews about hazard tree issues in your area. This should be concise, but address specific species problems.

III. Follow-up

8. Submit results from #s 2,3,4, 5, & 6 to r1_hazard_tree@fs.fed us soon after the session, and the briefing paper, #7, ASAP.

The briefing paper should be a part of all briefings for incoming crews, and a periodic topic for local crews.

Up The Ante **Summaries of Reference Material**

Additional Materials will be added as we can convert them to electronic format, and agencies join this initiative.

1) Incident Response Pocket Guide

PMS# 461, NFES# 1077, March 1999

Page 39

Snag Safety

Environmental conditions that increase snag hazards:

- Strong winds
- Night operations
- Steep slopes
- Diseased or bug-kill areas

Hazard tree indicators

- Trees have been burning for an extended period
- High risk tree species (rot and shallow root system)
- Numerous down trees
- Dead or broken tops and limbs overhead
- Accumulation of down limbs
- Absence of needles, bark or limbs
- Leaning or hung-up trees

2) NWCG Fireline Handbook

PMS 410-1, NFES 0065, January 1998

Snags are mentioned along with power lines as examples of hazards (page 5), but did not make the Initial Attack Safety Checklist (page 7). The fireline handbook discusses snag felling (page 48), but very little general snag safety. Snag felling, and saw skills are a related topic, and sawyers may have some of the best “snag intelligence” currently available; however, this program seeks a much broader audience.

3) USFS Health and Safety Code Handbook

FSH 6709.11 December 1999

The Health and Safety Code lacks detailed guidelines or defect information related to snags. Mentioned briefly in falling operations, hazard trees are not mentioned in terms of facilities, campgrounds, roads, or people working in the forest. Indicators, identification and management of tree hazards are absent.

4) If A Tree Falls (video)

PMS 408, NFES 1847, 1995

16 Minutes

This is an excellent production, and an outcome of the National Snag Hazard Report.

5) National Snag Hazard Report

National Wildfire Coordinating Group, Safety and Health Working Team, 1993

The National Tree Hazard Report is a thorough and detailed document included in its entirety with the “Reference Material”. Not all the recommendations from this report were completed. We are not including crew cohesion findings at this time.

Findings:

- Lack of snag hazard awareness at all levels in fire management.
- Detailed “Snag Intelligence” is needed, such as species and size, burn through time, etc.
- Management policies and economic / safety tradeoffs must be communicated and understood.
- Fatigue, boredom, and familiarity can result in lack of attention.
- Many basic rules covered in training are not being applied.

Proposals:

1. Strengthen awareness.
2. Additional training.
3. Awareness flyer / brochure.
4. Increased research.
5. Produce a video (listed above).

See “Reference Materials” for the complete report.

6) Reserve Tree Guide

USDA Forest Service, Northern Region, 1995

The Reserve tree guide is a 14 page USFS Northern Region document intended to provide technical framework for interdisciplinary teams to make informed decisions for resource objectives and safe working practices during harvesting activities. The 4 type Identification Criteria divides defective or deformed trees from (Type 1) sound, and not considered a danger tree, to (Type 4) the most dangerous live or dead trees with unstable trunk, roots, etc.

See “Reference Materials” for the complete report.

7) Long-Range Planning for Developed Sites

The Context of Hazard Tree Management

Robert Harvey and Paul Hessburg, 1992

The Long Range Planning / Hazard Tree Management is a superb 120 page USFS Pacific Northwest Region publication detailing a comprehensive program to analyze, assess hazards and risk values, document, and manage trees in the vicinity of campgrounds and other facilities. It has excellent photos and descriptions of indicators indicating structural defects in conifer and hardwood species common in the Pacific Northwest.

The text has been edited to remove portions related to ongoing management and documentation, but retaining information related to identifying and assessing hazard trees.

The entire text will be added to the “Reference Materials” A. S. A. P.

8) Tree Hazards: Recognition and Reduction in Recreation Sites

USFS, David Johnson and Robert James, 1978

The Tree Hazards: Recognition and Reduction in Recreation Sites, a 20+ page document produced in the Rocky Mountain Region, also helps manage tree hazards in campgrounds and other facilities. It also provides a number of photos and descriptions of common structural defects and their indicators.

The entire text will be added to the “Reference Materials” A. S. A. P.

9) Tree Strikes You’re Out

Plumas National Forest, 1998

Jeanie Grabowski, Rocco Charlie, Dan Smith, and Steve Myers

This pamphlet, an outgrowth of the National Snag Hazard Task Force of 1993 (listed above), is an excellent example of a local initiative that involved committees, surveys, etc.

See “Reference Materials” for the complete report.

10) Industrial Head Protection: Hardhats- The Maintenance, Inspection, Precautions, and Replacement

Jerry Jeffries, Safety and Health Specialist

July 1997

This is an excellent and detailed 2+ page discussion about the management of hardhats. Upon inspection, some hardhats worn by snag victims reveal cracks and aging that lower the hardhat’s ability to protect the wearer.

See “Reference Materials” for the complete report.