

# Keeping Cool When Things Get Hot

A brief look at fire managers and the actions they take before, during and after fire events.



## Classroom

### Lesson/Activity Goals

The teacher will address:

- The importance of well-organized management teams and well-designed management practices in familiar businesses;
- Some of the management positions charged with making fire-related decisions in the WUI, and in the wildland.
- Some of the major fire management options available to managers and the variables that must be considered in decision-making;
- The hard work that fire managers do and the difficult tasks they encounter as they make critical and sometimes complex fire decisions.

### Lesson/Activity Location

→ Classroom

### Time Requirement

→ 1.5 - 2 hours

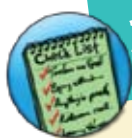
### National Standards Addressed

- ✓ Science Standard
  - ✓ From Table 6.7--History and Nature of Science Standards for Levels 5 - 8:
  - ✓ Students will understand that science is a human endeavor and process used by fire managers, along with social and economic considerations, as they make management decisions.
- ✓ Geography Standard:
  - ✓ NSS-G.K-12.5
  - ✓ As students explore fire management options they will understand how human actions modify the physical environment in desirable as well as undesirable ways.
- ✓ Language Arts Standard:
  - ✓ NL-ENG.K-12.4
  - ✓ Students adjust their use of spoken, written, and visual language to communicate effectively as they develop (and write) specific guidelines for common tasks and various audiences.

This lesson again integrates more than one discipline. National Science Standards are taken from the National Science Education Standards document; pages 105 - 107; 1996/2000, National Geography Standards were developed by the National Geographic Society, and National Language Arts Standards by the National Council of Teachers of English - Each teacher should correlate with their state or district's specific geography, and science standards -

### Materials Resources Needed and Pre-Teaching Tasks

- Fired Up! Large Forest Fire Scenario sheet and slips for each student or team of students.
  - » Cut out slips beforehand or have students do so when they receive their slip sheet.
- A copy of the Fired Up! Incident Planning Sheet for each student or team of students.



## Teacher Background

Making fire management decisions is a little like a parent trying to get their young child to eat their vegetables or a basketball coach pulling their most productive player from the big game. In both cases, the decision by the person in charge is not popular or well understood! Little does the young child realize that those green things may help them be healthier. The basketball fans wouldn't be so quick to judge the coach if they knew their star player had a torn ACL in one knee. Being a decision-maker is not often easy. When those decisions impact life, property, jobs, the environment, and air quality... well then, the stakes are high. That is the world fire managers walk in every day.

This lesson/activity is offered to **introduce students to the people behind the smoky evening newscasts** and to assist them, as they understand the many complex and often competing variables and interests behind each fire management decision. Fire management in wilderness areas will

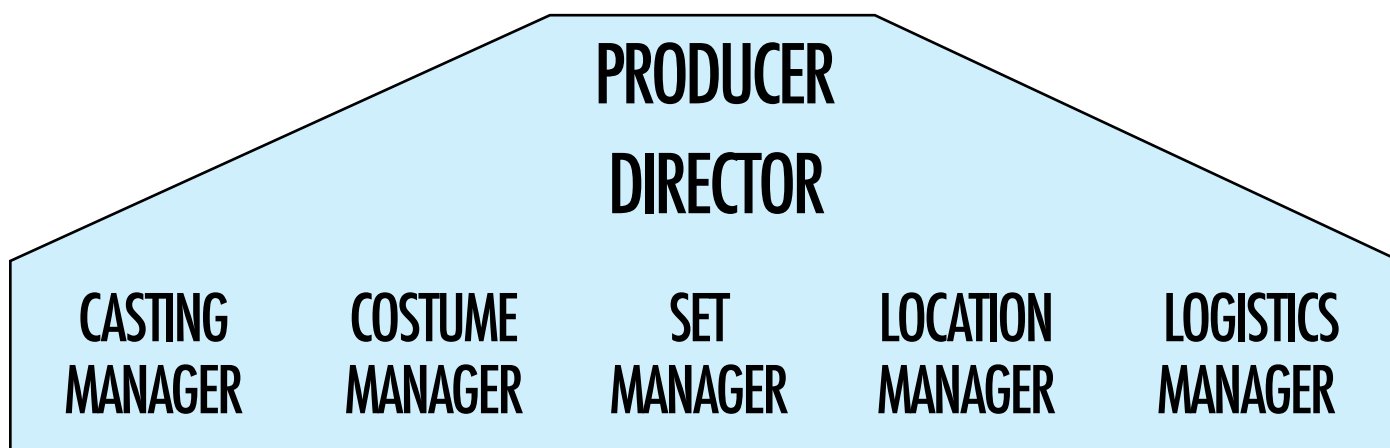
often differ from those within the WUI. But they both create smoky skies and honest questions from the public arise: "Why isn't someone putting out that fire?" "Why does that fire continue to burn week after week?" "Don't we pay taxes earmarked for fire control?"

In addition to learning about some fire decision-makers, students will also get a **glimpse into the decision menu and variables fire managers must deal with**. The goal of this lesson is not that students will become especially well versed in this very technical world, rather that they begin to get a feel, an understanding, for the people who make management decisions, the realities they deal with, and some of the reasons for those decisions.

In the Field Lesson/Activity of Fire Focus #5 students will **meet and interact with some of the people behind the job titles**. For now, learning about the responsibilities of leadership should set them in the right direction.

## Presentation Instructions

**Introduce** the beginning of a simple business management structure/hierarchy for a movie production company:



**Help** students complete or extend the management teams (i.e. Under COSTUME MANAGEMENT: Head Designer, Head Seamstress, Historical Research, etc.).

1. Reasonable responses work fine. The point is to show a hierarchy of decision-makers.

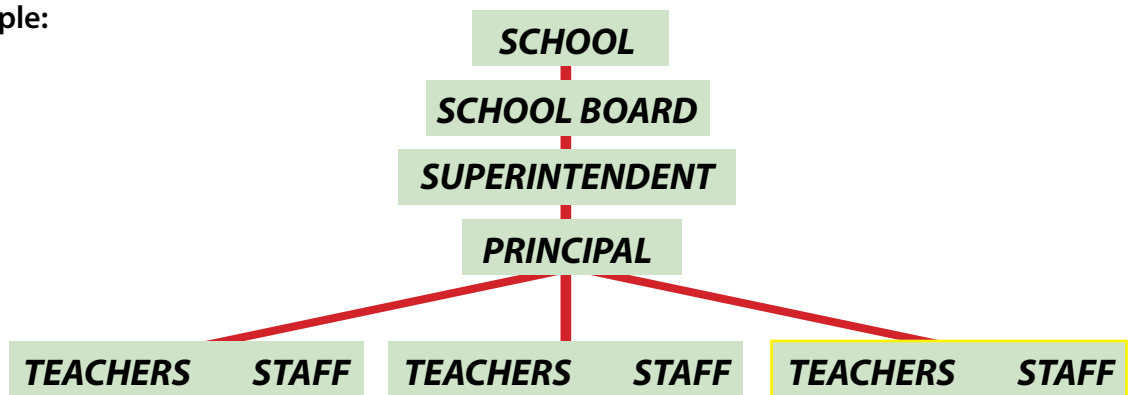
**Ask** If a wall on one of the sets collapses during filming and an actor is slightly injured who is responsible for the failure of that wall?

1. Trace the responsibility from the wall's builder, to the construction boss, to the set designer, to the set manager and up until arriving at the movie producer.
2. Point out that many decisions about the wall (both direct and indirect) took place before the accident.
  - 2.1 Bring out that perhaps it was just an accident that had nothing to do with any of the decisions or that maybe somewhere along the line a decision maker said, "We're over budget. Use less support lumber and get the job done in half the time."
3. Review the points that within organizations there are often many decision makers, there is a management structure so that someone is in charge and that decisions along the line do make a difference.

**Divide** students into management teams of two or three.

1. Randomly or deliberately assign each team a management focus.
  - 1.1 Sports team (women or men/girls or boys), restaurant, ranch or farm, schools, or others that your students would be familiar with.
  - 1.2 Each team is to create a simple management chart for their team, business or organization.

Example:



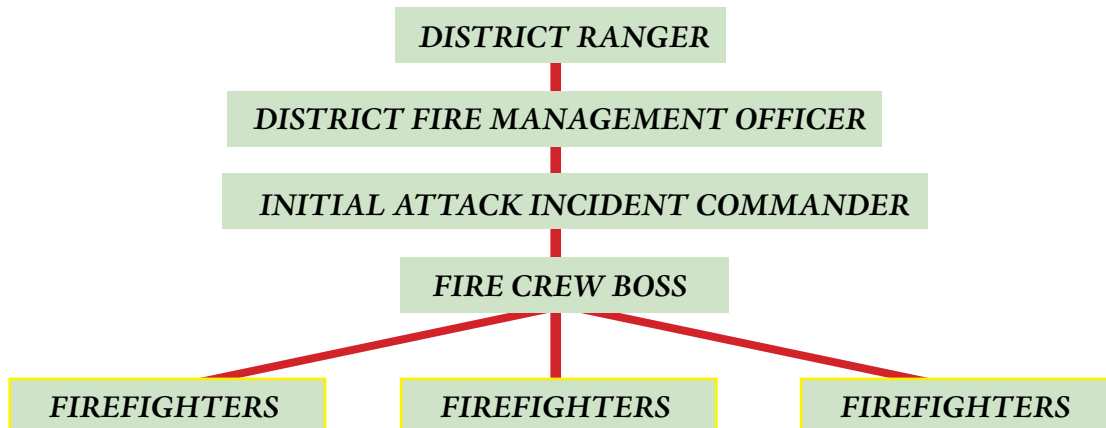
**Share** management charts.

**Review** decision makers along the way; ultimate responsibility.

1. Begin to talk about the value of organizations having policies in place that have been well thought out and based on previous experience, research, etc.
  - 1.1 Example: The principal at a new school knew that having all the buses arrive at the same time would cause too much congestion in front of the school. Working with the transportation manager, they proposed a policy where buses would arrive with two minutes between them. The superintendent took the matter to the school board and they made it a policy. Next, the transportation manager was assigned to develop a new schedule for the bus drivers and the students they would pick up. Policy set--train bus drivers on new policy--problem solved.

**Ask** students if they know who is in charge in the case of a forest fire.

**Outline** the following fire management scenario for a small fire :



Compare to the management charts they created.

**Explain** that:

1. On a small fire it is highly unlikely that all of these managers would be on the scene. Who would you expect to be there?
2. Policies and plans for a fire like this would already be in place (crews numbers needed, equipment needs, etc.) so that response times are not wasted. This is called pre-plan dispatch.
3. Variables are then considered so that changes in the plan can be made, approved and put into action (i.e. steep terrain, windy conditions, drought year, firefighter and public safety, etc.).
4. Action is taken.
5. Dealing with responses to these actions falls on firefighters all the way to the District Ranger.

**Hand out** the Fired Up! Large Forest Fire Scenario Management Team Members sheet to each student or team of students (page 129).

**Explain** that for a large fire the management team grows much larger too!

1. Have them cut and lay out slips creating what they think is the correct order of team members.
  - 1.1 Use word clues to help. Example: CHIEF in the Chief of the Forest Service position probably helps you know that they are in a higher position than SUPERVISOR as in Forest Supervisor.
  - 1.2 Let them get set and then review and correct as needed.
2. Stress the idea that rarely do those at the very top get involved on the ground. They expect those under their direction to follow plans, and procedures already in place.

**Briefly** introduce fire management decisions and variables that impact decision-making (in preparation for the field lesson/activity segment of Fire Focus #5):

**First:** Brainstorm fire fighting options and create an option chart that all can see. Begin the chart until students get the idea:

1. Send all available firefighters
2. Call for air support (helicopters, tanker planes)
3. Bring in firefighters from other areas
4. Let it burn
5. Evacuate nearby homes, businesses
6. Protect structures when possible and allow other areas to burn out
7. Create fire lines around the entire fire

**Second:** Go through scenarios including variables and let students discuss which option(s) they would choose if they were managing the fire.

#### Scenario #1: Small Fire Reported

Incident: A small fire has been reported on or near National Forest land.

Variables:

1. The fire is burning on the edge of a wilderness area and many miles from private property
2. Terrain is not extremely steep and post-fire erosion should not be a problem
3. Many insect-killed trees/snags in the area
4. Wind speeds are low and forecast to remain that way
5. No roads within two miles of fire

#### Scenario #2: Fire Near Community

Incident: A crown-to-crown fire is burning one mile from a small forest community.

Variables:

6. Moderate wind speeds
7. Embers blowing from torching trees directly towards community
8. Tourist town in the middle of tourist season
9. Many cabins in woods around the town on private property
10. Previous beetle-kill years have left acres of dead and dying trees between the town and the fire
11. Weather forecasts predicting dry-lightning storms and high winds the next day

**Hand** out Fired Up! Incident Planning Sheet to each student or team of students (p128).

1. Have them follow instructions as outlined on the sheet
2. Point out the very different audiences and objectives of each written piece they will do

**Share** written plans.

**Review** management structures and management plans.



## Service-Learning Opportunities and Ideas

Research a recent fire incident (forest fire or structure fire) and have students write thank you letters or make thank you cards for those who fought and managed the fires.



## Resources for a More In-depth Topic Exploration

Your students may be ready to hear one of the most tragic, yet fire management changing, stories ever experienced.

- *Young Men and Fire* (or selected portions of it) by Norman Maclean.  
Relates the story of some of the earliest smokejumpers and a fire in Montana.

**MORE IDEAS:**



# *Fired Up! Large Forest Fire Scenario*

## *MANAGEMENT TEAM MEMBERS*

**Incident:** *There is a large fire on National Forest land. Use the slips of paper provided that have various fire management positions listed. Place the slips in order from the highest to the lowest management level.*

operations Section Chief

Regional Forester

Forest Supervisor

District Ranger

crew Boss

firefighter

Division Supervisor

Incident Commander

Chief of Forest Service

Fired Up! Large Forest Fire Scenario Slips  
Instructions: Cut out the slips above for use  
with the Management Chart.

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Field



## Lesson/Activity Goals

The teacher will facilitate the following experiences to reinforce and apply previous classroom learning:

- Meet one or more actual fire managers;
- Tour a fire fighting equipment storage or staging facility;
- Create visual art focused on fire fighting tools and equipment.



## National Standards Addressed

- ✓ Language Arts Standard
  - ✓ NL-ENG.K-12.4
  - ✓ As students prepare plaques for their visual art displays, they will adjust their use of written language to communicate effectively.
- ✓ Visual Arts Standard
  - ✓ NA-VA.5-8.2
  - ✓ Student will take advantage of media, techniques and processes to enhance communication of their experiences as they produce visual images of fire fighting tools and equipment.
- ✓ Technology Standard
  - ✓ NT.K-12.4
  - ✓ After students complete their visual art they will explore ways to use a variety of technological tools to communicate information and ideas effectively to multiple audiences.

From National Language Arts Standards (National Council of Teachers of English), National Standards for Visual Arts (Consortium of National Arts Education Associations) and National Technology Standards (International Society for Technology in Education).  
- Each teacher should correlate with their state or district's specific standards



## Lesson/Activity Location

→ Field



## Time Requirement

→ 1/2 to full day



## Materials Resources Needed and Pre-Teaching Tasks

- Arrange with your local National (or state or local) Forest Service office to meet and discuss a classroom experience with a fire manager and a fire tools and equipment storage or staging area.
- Discuss the visual art component of this field experience with your school art teacher (or a parent volunteer if your school doesn't have a art instructor). Get help preparing students for creating visual art in the field and getting it ready for display back at school. Borrow art supplies as needed.
- Art supplies for Part 3 of the field activity.
- Field journals or notebooks for each student



## Teacher Background

This is the last field lesson/activity in the Fired Up! unit. Because it requires interactions with and leadership from an actual fire manager there is not a great deal of text here. You will work with a local forester/fire fighter to plan the day's activities. Your main goal is to have students interact with a fire manager--to put a face with a job

title. Next, because students have a fair background related to fire planning, they will tour a storage or staging area and learn about the equipment and gear firefighters use when they are executing those plans. Finally, students will create visual art pieces focused on fire fighting tools and equipment for later sharing.



## Safety Heads-Up

Anytime students are around tools and equipment there is an increased level of teacher and student awareness required.

Ask your fire manager guide to help students know responsible behaviors when around tools and equipment.

Arrange for plenty of additional adult supervision for this field trip.

Be prepared to remove students from situations they simply are unable to handle.

## Field Trip Ideas

### Part 1: Meeting a Fire Manager

#### **Travel** to your prearranged meeting place

1. Ideas for who/where to visit: District Ranger Office, Dispatch Office, Smoke Jumper Base, Fire Caches

#### **Introduce** students to the fire manager(s) and have them describe their role(s) during fire events.

2. It may be wise to have students prepare one or two questions for the fire manager before leaving school.
  - 2.1 Prompt them with, "What would you like to know about their job?"
3. If possible, have the fire manager discuss a specific fire event.
  - 3.1 An event that happened within the students' memories would be especially interesting.
  - 3.2 Use maps and other visuals to tell the fire management story.
4. Be sure the fire manager brings out the things that satisfy them in their jobs and a few of the challenges presented in their job.

### Part 2: Learning about Fire Fighting Tools and Equipment

#### **Participate** in a tour of a fire fighting tool and equipment storage facility or staging area.

1. Students enjoy seeing personal gear that firefighters use and love to see one of their own dressed like a firefighter.

**Help** the fire manager describe tool and equipment use in a way that is interesting, informative and memorable.

1. Many fire managers are not student managers or experienced presenters so be sure and help them out while elevating their status with students.
2. Allow students to ask reasonable questions.
  - 2./ As students participate in Part 3 of this experience they will have opportunities to learn even more about various tools and equipment.

### Part 3: Fire fighting Tool and Equipment Art

**Remind** students of their visual art training.

1. Creativity, interpretation, respect for art supplies, best effort, etc.

**Help** students get set-up near their chosen item.

1. Have supplies ready beforehand so that little time is wasted in transition.
2. Station adult helpers so that they can assist and support student artists.

**Facilitate** the creation of visual art pieces.

1. Depending on the art medium and the depth of detail (as well as individual student process), students may be able to create multiple art pieces.
  - 1./ Have plenty of art supplies on hand.
2. It may be wise to have students include some written notes about each item they focus on. Include name of item and a brief description of how it's used.

#### CAUTION:

Provide plenty of time for this art focus. Students should not need to hurry. Prepare students for keeping busy with their art and not to hurry through. Have quiet/calm back-up activities (writing, drawing, etc.) for students as they finish.

**Assist** students in cleanup of materials, tools and their work areas as they finish.

1. Their goal should be to leave the location as clean as they found it.

### Part 4: Preparing for Sharing

Back at school

**Provide** time for students to complete unfinished art pieces or to touch up as needed.

1. Bring the art instructor back into this step if possible.

**Help** students prepare their pieces for display:

1. Create simple mats from card stock or construction paper.
2. Make informational plaques that will be displayed with the art piece that may include:

Artist's Name  
Name of Fire fighting Item  
Short description of its use.

3. Display visual art and plaques.



## *Service-Learning Opportunities and Ideas*

Invite parents, other classes, administrators, etc. to come to your class visual art show. Have students take the role of museum docents as they share and teach about what they have learned and experienced.



## *Resources for a More In-depth Topic Exploration*

*Fire Storm*; Jean Craghead George.

Illustrated by Wendell Minor and has very nice visual images of fire and people responding to fire in the backcountry of Idaho. Students will enjoy the story of a boy about their age and his forest fire experience. Katherine Tegen Books (an imprint of HarperCollins Publishers); 2003.

### **MORE IDEAS:**

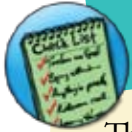
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## Extension Ideas

### Background



This section concludes the Fired Up! unit. Looking back, your students have covered a great deal of the fire-related learning landscape. The extension ideas offered below bring students into the planning process. What more would they like to know? What else would they like to see?

Where can they go for more information? Finally, students may be interested in learning about careers in forest management, fire, forest products, land preservation and so forth. You have nurtured an interest and now may choose to sustain it, jot down notes about your own ideas under *Notes*.

### IDEAS: In the classroom...



- Create a Fired Up! display space (bulletin board, corner table, etc.) where students can post careers or jobs related to their local forest.
  - » Post Fired Up! Forest Careers & Jobs sheets
  - » Students write job titles at the top of a Fired Up! Forest Careers & Jobs sheet.
  - » Encourage students to write things they know or find out about that job or career.
  - » Any training, education, skills needed should be listed as well.
- Choose a fire management policy such as allowing many wilderness fires to burn until they go out on their own.
  - » Explore the reasoning behind the policy.
- Search for books and movies that feature forest fires as a main character.
  - » Look at the way fire and fire management are portrayed in the story.
- Get a hold of Smoky the Bear materials (comic books, public service ads, posters, etc.) and see if the messages being presented seem up-to-date or in need of a face-lift.

NOTES:

## FOREST JOB/CAREER

Things they do:

Training they need:



## *IDEAS:* In the field...

(In this case the field is the school and schoolyard)

- Many Ranger Districts have historic ranger stations, fire lookouts, and/or museums that serve as outstanding examples of Forest Service culture, approaches, tool collections, etc.
  - » Arrange for a tour of a historic forest facility.
  - » Compare old and new approaches and discuss the advantages and disadvantages of each.
- If your school is in or near a university community with a school of forestry a visit there may be worthwhile.
  - » These colleges often have enthusiastic and knowledgeable students and faculty who can tell how they prepare students for forestry careers, the work they do to support forest communities, and research they have going that relates to fire, the wildland/urban interface, and other current forest topics.

## *MORE IDEAS:*

Fired Up! is a project of the National Association of RC&D Councils/USFS;  
developed and provided by the Bitter Root RC&D.

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## *At Home*

### **Brief topic overview:**

Congratulations! Your child has just completed the last section of the Fired Up! unit. They have gone places related to forests, forest communities, and forest fire that are a rare opportunity for young people today. Living in or near the forest offers tremendous opportunities for families and, with those opportunities, come some pretty special responsibilities. Forest communities are typically full of people looking out for one another. As a forest family, look for opportunities to be good stewards

of the land, respectful towards those who work, live and recreate there, and helpful in efforts to make your forest community even better.

In this last Fire Focus, students learned about the challenges and benefits of forest fire management. Read on for a synopsis of what your student did and what you can do together.

### *Your child's school experience related to this topic:*

### *Discussion Ideas*

- Those who are responsible for managing fire have a tough job.
  - "What does a fire manager do?"
  - "Do you think their job is difficult? Why or why not?"
  - "Were there any fire management jobs that appealed to you?"
- I know that fire managers have to make quick decisions and that during a fire things can change quickly.
  - "Can you share some of the fire fighting approaches a fire manager might take?"
  - "What kinds of things can change during a fire and cause a fire manager to rethink their decision?"

## Outdoor Activity Ideas

- Many of us think of forests simply as big playgrounds for humans. While they can be great places to recreate, they are also the foundation of many economic activities.
  - Arrange to tour a lumber mill, log home plant, small diameter log facility, furniture factory using local woods, plywood mill, or bio-fuel energy plant to name a few of the many possibilities.
  - You may know many forest workers. Go out for lunch with one of them and ask them to share their forest working experience.



## Safety Heads-Up

Always make arrangements with places you would like to visit well in advance. Keep control of your children in factories and other work places.

## Project Ideas

- Arrange to visit a local newspaper or library where back issues of newspapers are physically stored or stored electronically.
  - You may be able to access this material online.
  - Look for stories about forest fires in the area.
  - Focus on statements made by fire managers or fire management approaches used during specific events.
  - Make copies of interesting fire articles and create a collage or poster of them for you child's room.

## Resources for a More In-depth Topic Exploration

Our country has many forested areas. Much of that land is private land and large corporations own a lot as well. Still, a big part of our forests lie within the National Forest umbrella with lesser amounts managed by other federal and state agencies.

- Forest Service maps can be purchased from local Forest Service offices or at [www.fs.fed.us/maps](http://www.fs.fed.us/maps).
- Purchase a map of a National Forest that looks interesting to your family.
- Plan a trip to your National Forest choice and explore a new place!