



a tiny bit about wildland fire

Barbara Dougan- N1NS, LOFR, READ, PIO, RADO, COMT

Inherently dangerous

A large wildfire is burning in a canyon, with bright orange and yellow flames rising high into the air. In the foreground, several firefighters in full gear are seen running away from the fire, carrying equipment. The ground is dry and covered with sparse vegetation. The sky is filled with thick, dark smoke.

Hand crews from the U.S. Forest Service retreat from flames Tuesday before the arrival of a water-dropping helicopter in a canyon north of Castaic and west of the 5 Freeway. The Ranch fire in that area has consumed more than 58,000 acres.

(Al Seib / Los Angeles Times)

October 23, 2007

A photograph showing a group of firefighters on a ridge during a wildfire. They are wearing aluminum fire shelters, which are highly reflective and appear as bright, crinkled surfaces. The background is filled with thick, dark smoke and intense orange and red flames rising from the brush. The scene is dramatic and dangerous, capturing a moment of crisis during a training exercise.

Training-Training-Training

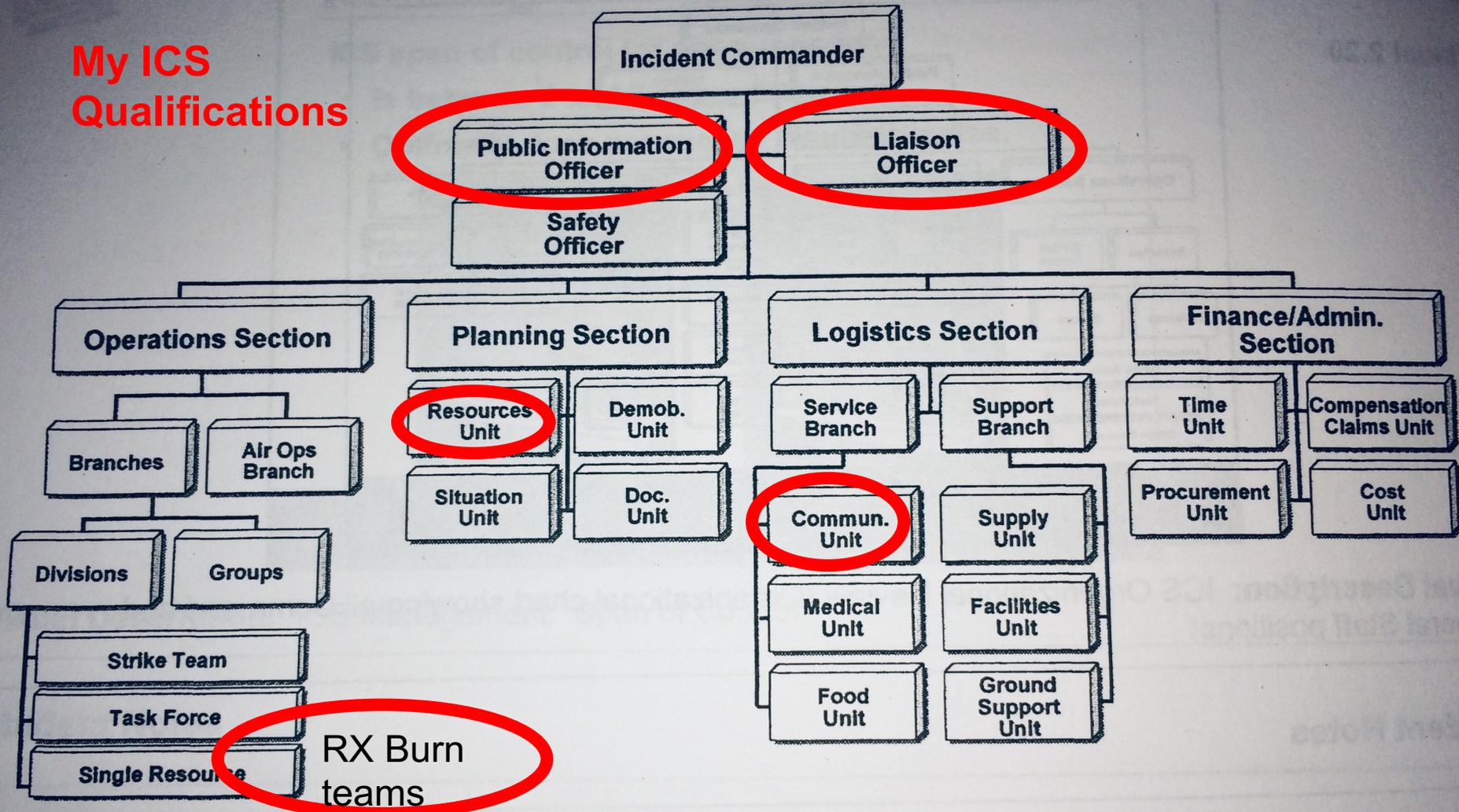
Twelve firefighters trapped by flames atop a ridge off Santiago Canyon Road in Orange County on Monday scramble into aluminum fire shelters. The two crews of six men each were on a slope putting out hot spots when flames roared up the hillside, surrounding them with hot, burning brush and leaving them no escape route. The firefighters were examined at the scene by paramedics and refused to go to the hospital.

(Karen Tapia / Los Angeles Times)

October 22, 2007

Organizational Structure

My ICS Qualifications



■ **Command Staff:** The Command Staff consists of the Public Information Officer, Safety Officer, and Liaison Officer. They report directly to the Incident Commander.

ICS Emergency Responders –
Disasters and More: fire, oil spills,
endangered species, hurricanes,
tornadoes, special events, other
emergency response needs.

Gulf Oil Spill 2010
Type 1 Incident, Lead PIO (Public
Information Officer) assigned to the Gulf
Islands National Seashore



Who is qualified to go?

National Response Plan

FEMA, ICS, Your Agency (may be layers to agencies)

Fire qualified - **National Wildland Fire Coordination Group** sets quals and required training standards. Task Books. **ANNUAL REFRESHER TRAINING REQUIRED**

Certified by your local agency, They enter you into a national database by your qualifications, enter name , contact info etc.

Wait for a **resource order** with financial code, and location info. FIRES ARE A BUSINESS- MANY PEOPLE AND EQUIP TO TRACK . Bring Red Card with quals listed.

Incidents try to fill positions within their own geographic area first, then move to next, then next until a qualified person/resource is found.

NIFC National Interagency Fire Center-Boise, Idaho

9 partner agencies: Bureau of Land Management, Bureau of Indian Affairs, US Fish Wildlife Service, National Park Service , US Forest Service, NOAA, Association of State Foresters, Dept of Defense, US Fire Administration

National Geographic Area Coordination Centers

<https://gacc.nifc.gov/>





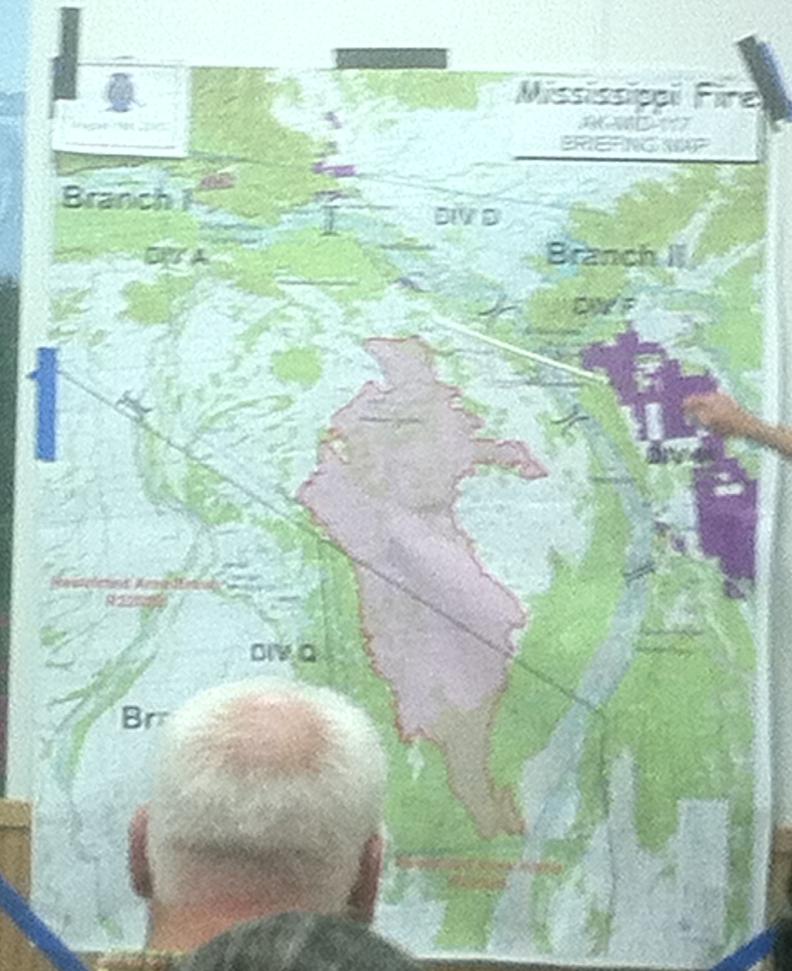
Tiller Fire Complex

Umpqua National Forest

Tiller, OR



Night burn out
operation



Mississippi Fire, Alaska.
(near Delta Junction,
AK). Type 1 Incident,
PIO assignment

Under the Alaska Oil Pipeline , Mississippi Fire, Alaska Crews were transported by small boats to the fire. Large heavy equipment drove across shallow spots n the river to get to the fire.

An dozer operator driving across the river told me he only got worried after his lunch floated away.

Mississippi Fire, AK Public Information Officer, Type 1 Incident





Rogue Fire, Sierra National Forest.
Resource Advisor (READ)



Cascade Crest Fire Complex,
Waylaid from PIO duties to serve as
a Radio operator (RADO) - human
repeater until incident
communications were linked by
repeaters.

Northwest, Nebraska

Assigned as a COMM
Tech- but -Will you stay to
be our LOFR (Liaison
Officer)?





Severity assignment- North Cascades National Park, WA. Assisted local unit with PIO, fire surveillance and more as only a few outside resources (people) managed this fire



Be flexible, do what you are told if safe. Always take extra food, water, and sometime layers of clothes cause you never know when you will return to the ICP, especially at wilderness assignments.

During routine flight missions, if emergencies came up I was left on mountain top and my PPE often taken for someone else to wear.

While driving- rock slides, mud slides and more can happen- you may not get back to the ICP for 24 or more hours. Just hope the helicopter will be back before dark before a hungry grizzly bear comes along. Other hazards include fire, smoke, wildlife, domestic animals especially cows in the road, and flooding.



Prescribed Fires





Habitat
Restoration



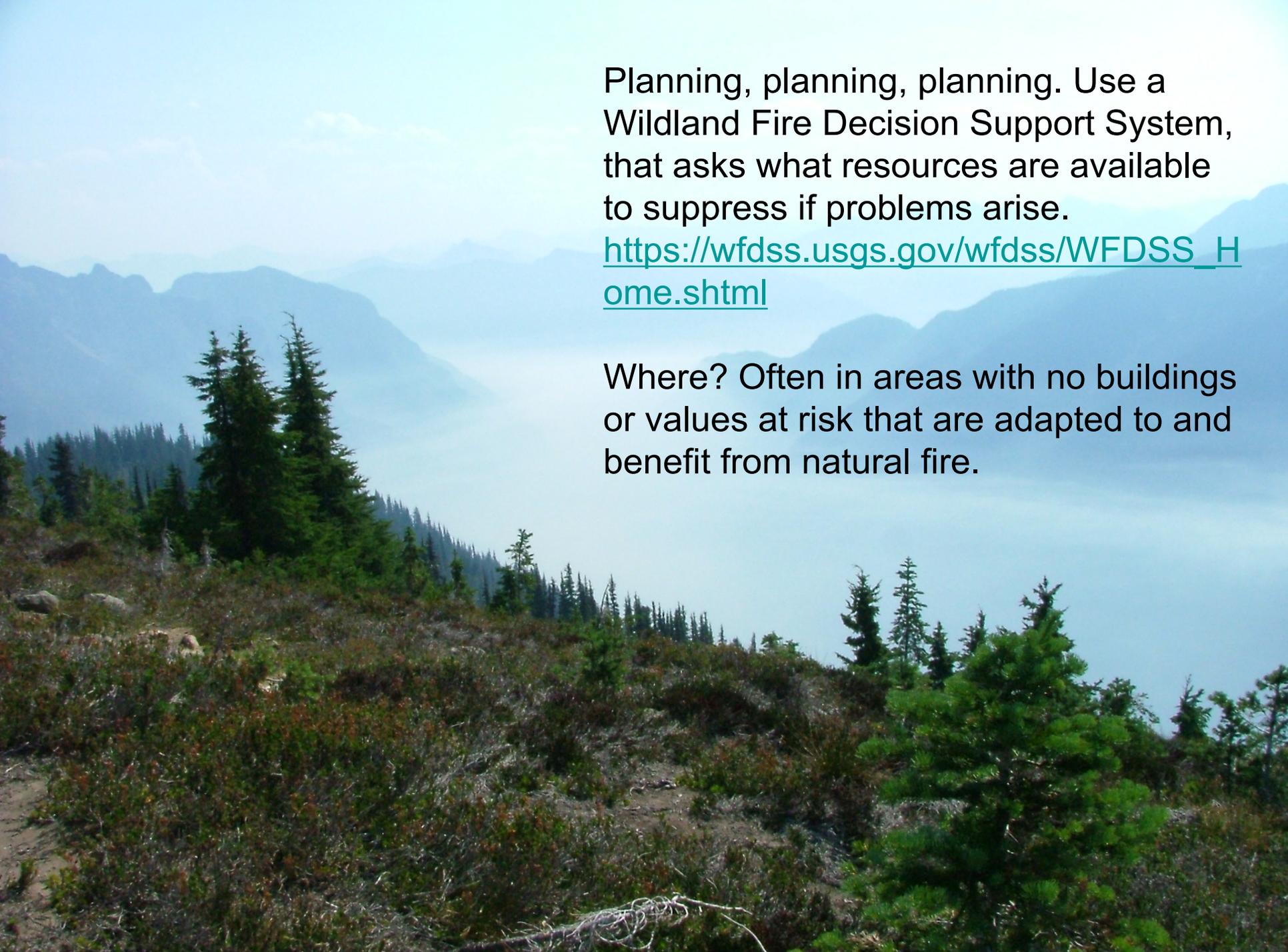
Cultural Landscape Preservation

Cut, pile, burn for
fuel reduction near
buildings and/or
vista maintenance.



~~WFU Wildland Fire Use~~ (a term not used since around 2008)

- A strategy to use naturally ignited fires to benefit the health of an ecosystem, protect from future catastrophic fires and more.
- These fires are managed. One side might be suppressed and another side left to move into wilderness.
- Provides opportunities to increase understanding of fire behavior and effects.

A scenic view of a mountain range with evergreen trees in the foreground and a valley in the distance. The foreground shows a hillside with low-lying vegetation and several tall evergreen trees. The middle ground features a valley with more trees, and the background shows a range of mountains under a clear sky.

Planning, planning, planning. Use a Wildland Fire Decision Support System, that asks what resources are available to suppress if problems arise.

https://wfdss.usgs.gov/wfdss/WFDSS_Home.shtml

Where? Often in areas with no buildings or values at risk that are adapted to and benefit from natural fire.



Management includes monitoring: air attack, air resources, and on the ground monitors.

Wilderness areas can request permission to have mechanical equipment, like a helicopter assist with managing the fire. Fuels, fire behavior, fire perimeters, natural barriers like rivers, avalanche slides, rock outcroppings are all considered in managing the fire.



Fires can jump from one side of a canyon to the other.



If manning fire towers become
endangered from fire, they can be
moved to safety. Otherwise they
burn and out.

Same goes for fire observers stationed across drainages from fires that need emergency assistance.



Suppression Fires

For more information on large fires:
nifc.gov and inciweb.nwcg.gov

Large Timber Fires are over 100 acres

Large fires in grassland are over 300 acres

Considerations for ICS response: What type of team is needed?

Wildland Fire Decision Making: Predicted time length to suppress, location-near built structures, in wilderness, values at risk, growth potential-fuel types, topography, weather forecast, what other fires are ongoing- what fire fighting resources are available locally, regionally, nationally?

Wildland Fire Urban Interface- more and more people building in the forest

Historic- Cultural Significance

Natural resource significance, endangered species , recreation significance

Other

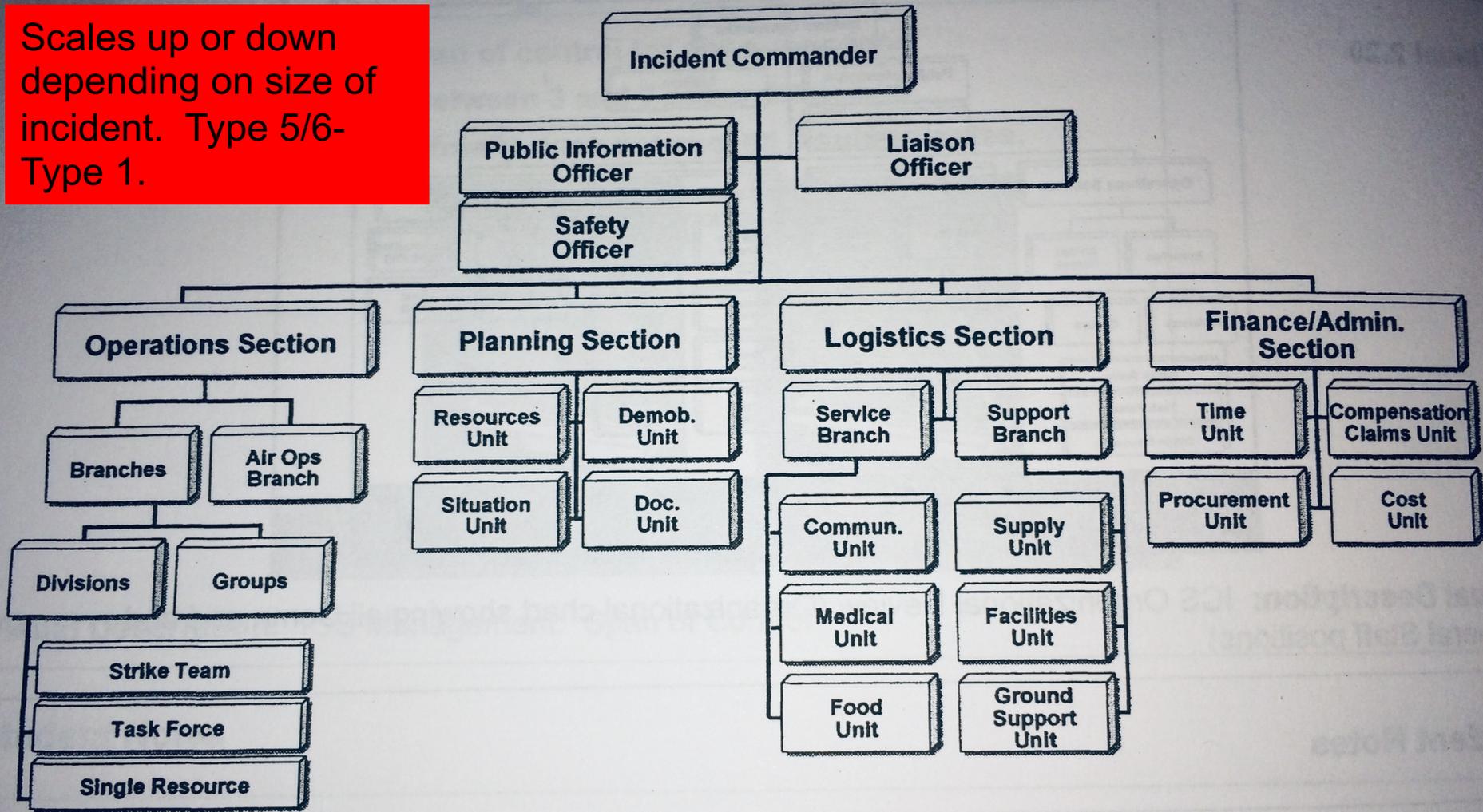
Objectives: always include

Safety first- firefighters and the public

Protection of property

Organizational Structure

Scales up or down depending on size of incident. Type 5/6-Type 1.



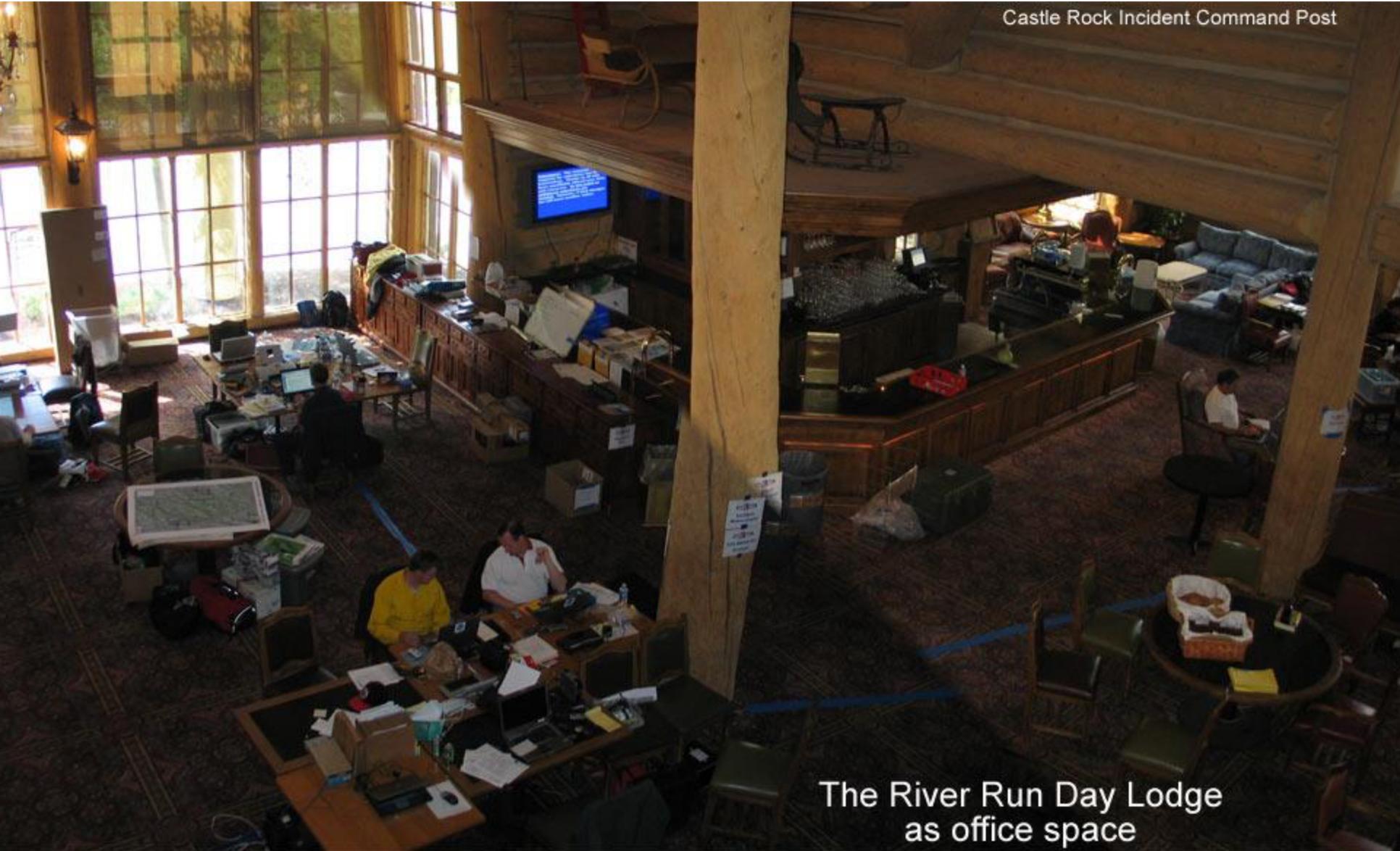
▪ **Command Staff:** The Command Staff consists of the Public Information Officer, Safety Officer, and Liaison Officer. They report directly to the Incident Commander.

If available, the ICP might use a nice heated building with electricity and flush toilets. Or we are in tents, trailers or in the open.

Castle Rock Fire, Sun Valley-Ketchem, Idaho.



Castle Rock Incident Command Post



The River Run Day Lodge
as office space

The FBAN Fire behavior analyst works with the IMET Incident Meteorologist to brief operations on expected fire behavior. Smoke specialists are sometimes on site too, or they work remotely using a variety of prediction sources.





Use of large buildings at ski lodges never last too long, we end up in the usual tents or trailers.

Office Trailers on the bridge leading to the River Run Day Lodge

IAP-Daily Incident Action Plan

Daily operational briefings can be one crew at a small incident to a thousand people at a large one. Nowadays, briefings are streamed to spike camps or other locations. If not, the supervisors listen by phone then hold group briefings with others. If necessary, it is done by radio.





Its hard work, dedicated people willing to give their all.



Type 2 hand crews bust their butts, they use chain saws, cutters, axes, and heavy tools to dig line, remove fuels in hazardous conditions. They may set backfires as requested by operations. Post fire they might install water bars, brush fire lines dug into mineral soil, and so much more

Hot shot crews have advanced training and experience with firing operations and techniques. They can work in extremely difficult terrain. They perform the more difficult ground tasks.





Heavy Equipment Right equipment , sized for the job. Problems include getting it to remote locations along narrow roads in steep terrain. Hired equipment comes with an operator and usually a repair mechanic.

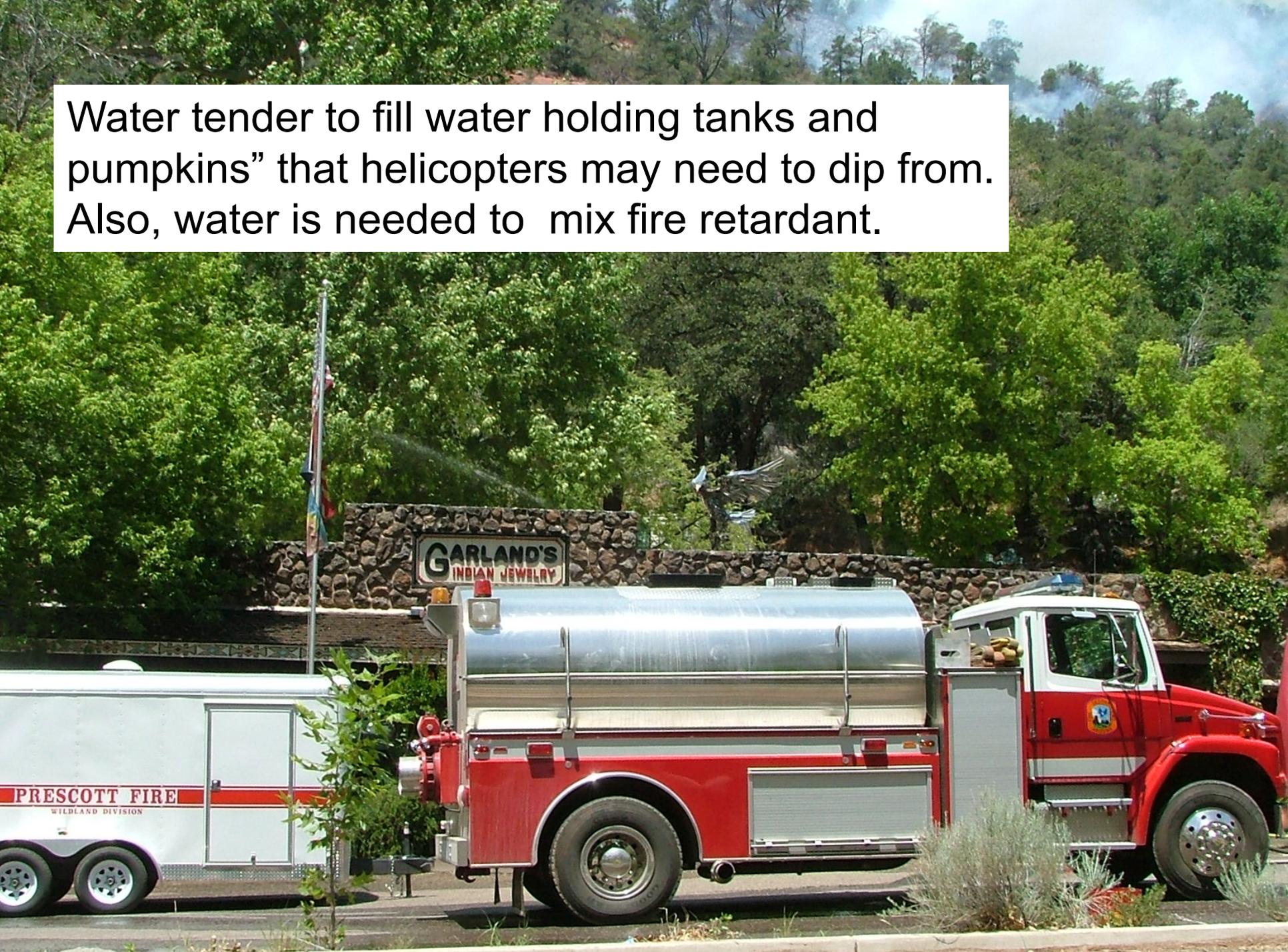
Dozer line into mineral soil to act as an on the ground fuel barrier. While this is easy terrain for a dozer-building dozer line along mountain ridges is very hazardous.





Hundreds of fire trucks may be at large incidents with hundreds of structures within the fire area.

Water tender to fill water holding tanks and pumpkins” that helicopters may need to dip from. Also, water is needed to mix fire retardant.





Portable
water
holding
tanks



Structural protection- sprinkler systems. Hose lay may run for miles form water source to structure/s. Sometimes structures are “foamed” to protect them.



Laminated foil wrap to protect buildings/structures of value.

Aircraft support the
firefighters on the ground.



Photo credit-Carrie Greir



Photo credit-Carrie Greir



SEAT Single engine aircraft tanker



Ships- helicopters of various sizes can drop water or retardant. Also utilized to transport supplies, and crews into remote areas. Smoke, weather conditions can severely limit their use.

Logistics-Communications Unit

- Comm Unit Leader
Task book
<https://www.nwcg.gov/sites/default/files/products/training-products/pms-311-34.pdf>
- Comm Unit Manager
- Communications Technicians:
Task Book
<https://www.nwcg.gov/sites/default/files/products/training-products/pms-311-96.pdf>
- Radio Operators
Task Book
<https://www.nwcg.gov/sites/default/files/products/training-products/pms311-97.pdf>

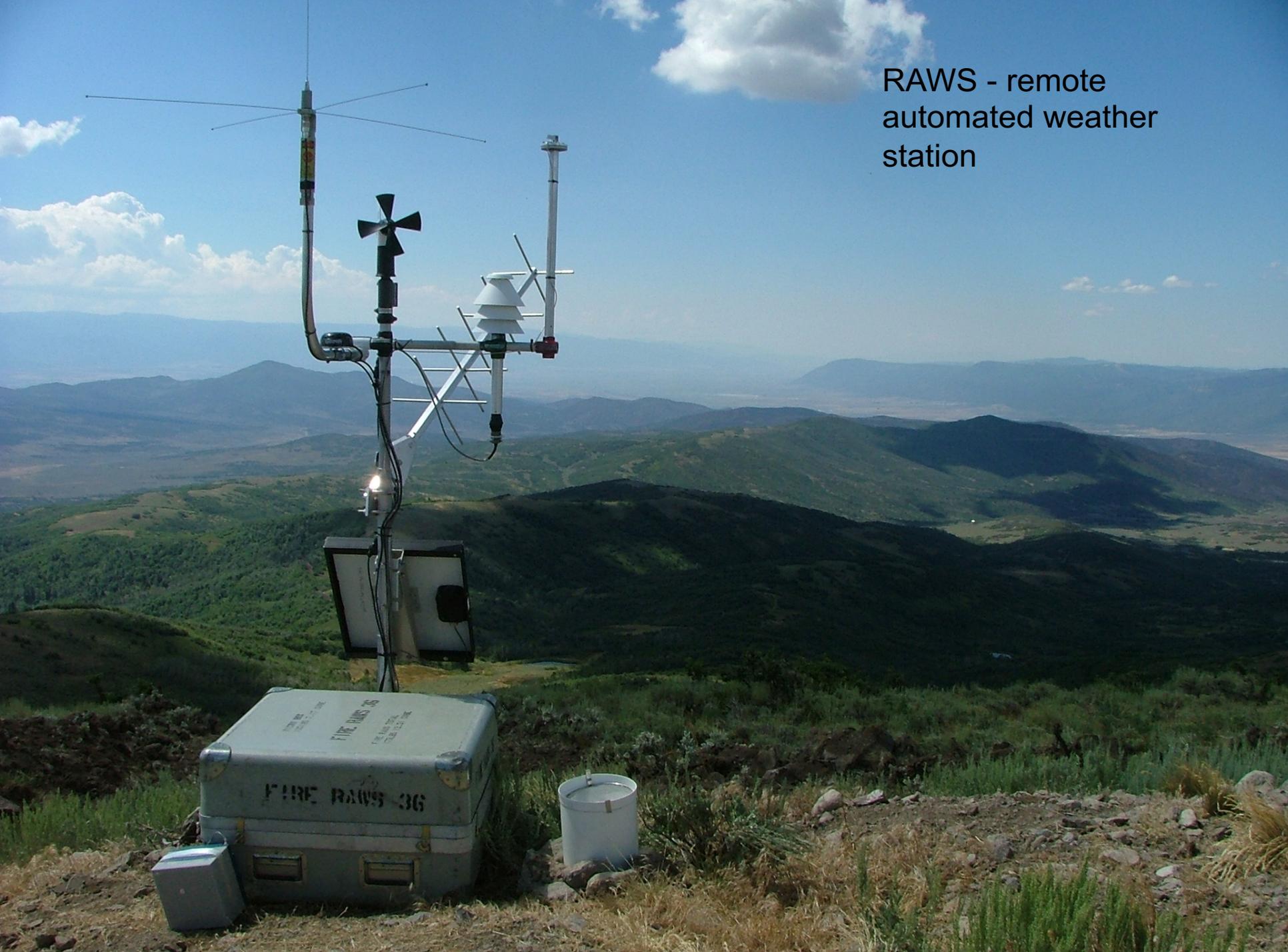


Comm Unit Trailer-crates of radios and repeaters



Repeater set up

RAWS - remote
automated weather
station





Comm Unit supported by air ops to set up, maintain, and take down repeaters

Repeater site





Repeaters on mountain tops so comms can take place in different drainages on opposite mountain sides



Helibase – monitors air to air, air to ground, , local repeaters, incident linked repeaters, more

Other technology

- GPS
- Infrared
- Drones- assigned to the incident. Drones contribute to perimeter mapping, infrared, terrain conditions and more. Some specialized drones drop PNG fire ignition devices. Most drones on large incidents are operated by the military or contractors.
 - No civilian drones or others allowed with the TFR (temporary flight restriction area) or near the fire.
- Weather data stations IRAWS (incident remote automated weather station)
- Computers- software for tracking everyone assigned to incident, and a lot more

After the fire





2007 Grass Valley Fire , Near
Arrowhead Lake-San
Bernadino NF area



Moderate Burn Severity

Moderate –
16,488 acres
(50%)



Impacts of Unwanted Wildland Fire

Post fire intensity/severity assessments done by BAER Teams- Burned Area Emergency Response (Apple Fire, CA, Oct 2020 image)



Mud slides along with miles of rivers of mud. (Piute Fire, CA)

07/13/2008

More about Fire Incident Life

Castle Rock Incident Command Post

Tent Offices



Castle Rock Incident Command Post



Castle Rock Incident Command Post

Supply Unit





Food Service

Castle Rock
Incident Command Post



Hand Washing Station
next to the Kitchen



Shower Trailer



Laundry



Castle Rock
Incident Command Post



“Tent City” -
Where everybody sleeps

Deschutes NF, OR
Wilderness Area

Spike camps
Coyote living

Helispots



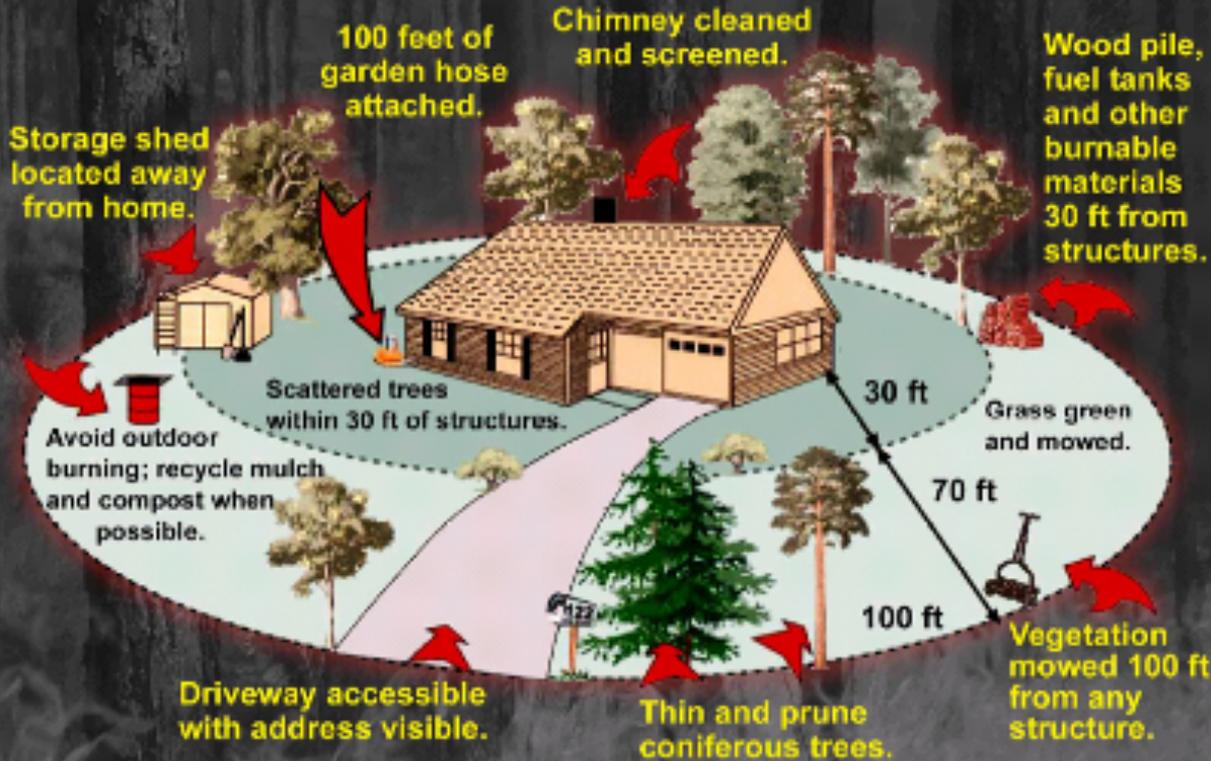


Future
Better planning for
living with wildfire

Including your home in
Massachusetts .

2020 Plumas NF, CA North Complex Fire - Now 95% contained.
Firing Operations near penstocks and PGE Power House. All structures remain sound.
Forest Service photo by Stuart Palley

Are you Firewise?



How to Prepare your property for wildfire your property

Fire wise

<https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire>

Wildland Fire in MA
<https://www.mass.gov/service-details/forest-fire-control-suppression-and-detection-programs>