

# 11 - Wildland/Urban Firefighting

## Wildland/Urban Interface

The wildland/urban interface is more than a geographic area or zone where structures meet or intermingle with wildland fuels. It is a set of conditions where flammable structures exist within the reach of ignition sources, primarily firebrands, from burning wildland and structural fuels. The potential exists in areas of wildland/urban interface for extremely dangerous and complex fire burning conditions which pose a tremendous threat to public and firefighter safety.

## Structural & Vehicle Firefighting

### Policy

The operational roles of the Department of Interior in the Wildland Urban Interface are wildland firefighting, hazard fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, state, or local governments. Federal agencies may assist with exterior structural protection activities under formal Fire Protection Agreements that specify the mutual responsibilities of the partners, including funding. **(FWS, USFS)**

For additional fire service and homeowner information regarding wildland/urban fire refer to [FIREWISE.ORG](http://FIREWISE.ORG) on the Internet.

### Clarification for BLM Resources

- Bureau of Land Management (BLM) resources will not be planned, nor dispatched as a normal response for structure or vehicle fires, except in those cases where these fires pose a significant threat to BLM-administered lands. In these situations, resources should only be used in wildland protection. Actions will be limited to the exterior of the structure or vehicle unless there is an immediate threat to human life.
- No BLM employee will respond to a structure or vehicle fire prior to receiving specialized training in hazard awareness and unique safety considerations associated with structure and vehicle protection. A local fire department with responsibility for structure and vehicle fire protection may provide this training.
- BLM employees, in interagency dispatch centers, should not provide dispatch service for cooperating agencies with structure fire, vehicle fire, or emergency medical responsibility, unless (1) a current interagency agreement is in effect, (2) BLM personnel have been trained in local emergency dispatch procedures, and (3) the BLM employee has a delegation of authority for those activities outside the normal scope of the BLM. In these instances, BLM employees will be acting as agents of that

agency and will only communicate information contained in that agency's dispatch plan or as directed by an official from that agency.

## Protection Agreements and Planning

Managers must incorporate wildland/urban interface considerations into all agreements, operating plans, and land and fire management plans, to ensure that all interface areas are covered and state and local responsibilities are apportioned appropriately.

## Self-Contained Breathing Apparatus (SCBA)

Only BLM employees trained and qualified to use SCBAs and permanently assigned to states with an approved SCBA Program are authorized to use SCBAs. When these employees are operating outside their state, the use of SCBAs must be authorized by the host State Director.(usfs)

## Sizeup

The following checklists provide for safe and efficient responses and operations. The primary considerations are firefighter safety, public safety, potential fire behavior, access, egress, nature of the threat, hazardous materials, and water supplies.

### Wildland/Urban Interface Watch Outs

- Wooden construction and wood shake roofs.
- Poor access and narrow one-way canyons.
- Observe bridge weight and size limits when using heavy equipment.
- Inadequate water supply.
- Natural fuels 30 feet or closer to structure.
- Evacuations of public, livestock, pets, animals are planned or occurring.
- Power lines and poles—watch for both overhead and fallen lines.
- Propane and above ground fuel tanks with nearby vegetation or wooden improvements are present.
- Local citizens are attempting suppression actions.
- Coordination with multiple agencies.

### Structure Triage

There are three categories of structures:

- Those that are not threatened.
- Those that are threatened.
- Those that are lost or too dangerous to protect.

Factors that may make a structure unfeasible or too dangerous to protect:

- Fire is making a sustained run and there is little or no clearance.

- Fire behavior is extreme; spot fires are numerous and out pacing control.
- Water supply will not last as long as the threat.
- Fire's intensity dictates leaving the area immediately.
- The roof is more than one-quarter involved.
- There is fire inside the structure or windows are broken.

If a structure becomes well involved, leave it and proceed to one you can save.

### Structure Protection Checklist

Don't enter a burning structure unless you are trained, equipped, and authorized. Firefighter safety and survival are the number one priority.

- Check roads before the fire arrives. Know turnouts, and bridge limits.
- Check each home for an adequate defensible space.
- Stay mobile; keep vehicle engine running, and red lights on.
- Back in equipment for a quick escape.
- Brief resources on strategies, tactics, hazards, and LCES.
- Coil a short 1½ " charged line with a fog nozzle on your engine for safety and quick response.
- Use short hose-lays with an adequate number of laterals.
- Keep at least 100 gallons of water in your tank for reserve.
- Determine if residents are home. Advise residents of escape routes, safety zones, evacuation plans and centers. Ask residents to evacuate threatened livestock or pets. Leave home lights on inside and out, day and night.
- If the resident owns a ladder, place it at the corner of the structure least threatened by the fire.
- Coil and charge garden hoses.
- Turn on sprinklers.
- Identify hazards around the site. HazMat, gas lines, power lines, etc.
- If a home becomes well involved, Leave it and move to one you can save.
- Firefighter safety and survival are the priority.

### Structure Assessment Checklist

The following checklist is designed for incidents that BLM normally does not respond to unless specifically trained. Distribute these checklists only to those who are trained and qualified to perform these tasks and assessments.

#### Address/Property Name

- Numerical street address, ranch name, etc.
- Residents on site?

#### Road Access

- Paved, gravel, dirt?
- Number of lanes, vegetation clearance, defensible space, safety zones?
- Undercarriage problems, 4x4 only?
- Turnouts, turnarounds?

- Bridges—adequate support structure?
- Water Crossings—approach angle, crossing surface?
- Terrain—road slope, position on slope, near chimneys, saddles, canyon bottom?
- Grade—greater or less than 15 percent?

### Structure/Building

- Single residence, multiple occupancy, barn, fuel storage, unknown storage?
- What materials is the structure made of? Roof (wood shake, asphalt, etc.) Exterior walls (stucco, wood shake, or other combustibles).
- Eaves—covered and little overhang; exposed with large overhang exposure?
- Other—exposed wooden structural elements, overhangs slope, attached wood deck, firewood piles, wooden patio furniture, wooden fences attached to house.

### Clearances/Exposures/Defensible Space

- 100' vegetation clearance, max. 18" high, 15 percent or less slope, good ground clearance, vegetation is low combustible type, or is clearance less than described?
- Is the predominant fuel bed in area surrounding structure is light, medium, heavy, continuous, non-continuous?
- What types of hazards and fuels are adjacent to the structure?
- Are there high voltage lines or transformers near apparatus placement areas?
- Is the structure located on narrow ridge, knoll, narrow canyon, chimney, mid-slope; defensible space less than 200 feet?
- Are there propane and above ground fuel tanks with nearby vegetation?

### *Hazardous Materials*

- Pesticides, herbicides, DOT/NFPA/UN symbols, propane, oil, fuels, paints?

### *Available Water*

- Is there a water source such as hydrants or standpipes, water storage tanks with valve, swimming pools or natural bodies of water with access?

### *Evacuation Needs*

- Coordination with local law enforcement and emergency services personnel? Evacuation plans, staging areas, resources needed, and communication.

### *Estimated Resources for Protection*

- Number and types of engines, water tenders, crews, dozers, heavy equipment, and aviation resources.

## Hazardous Materials

All individuals responding to wildland fire incidents should be familiar with the Department of Transportation's *Emergency Response Guidebook* DOT P 5800.7 (2001).

It is required that all employees receive hazardous materials awareness training (BLM H-1112-2). This training is available either through BLM HazMat coordinators or local fire departments.(USFS)

### First Responder HazMat Checklist

<b>Approach cautiously</b>	Resist the urge to rush in; you cannot help others until you know what you are facing. Stay upwind and uphill.
<b>Identify the Hazards</b>	Placards, container labels, shipping papers and/or knowledgeable persons on the scene are valuable information sources. Evaluate all of them and then consult the recommended guide page before you place yourself or others at risk.
<b>Secure the Scene</b>	Without entering the immediate hazard area, do what you can to isolate the area and assure the safety of individuals and the environment. Move and keep individuals away from the scene and the perimeter. Allow room enough to move and remove your own equipment.
<b>Obtain Help</b>	Advise dispatch to notify responsible agencies and call for assistance from trained experts through CHEMTREC and the National CHEMTREC (Chemical Transportation Emergency Center) – for immediate information about a chemical or to seek assistance from a manufacturer.
1-800-424-9300	
1-800-424-8802	<b>National Response Center</b> – To report spills of oil and hazardous materials
<b>Decide on Site Entry</b>	Any efforts you make to rescue persons, protect property or the environment must be weighed against the possibility that you could become part of the problem.

Above All - Do not walk into or touch spilled material. Avoid inhalation of fumes, smoke and vapors, even if no hazardous materials are known to be involved. Do

not assume that gasses or vapors are harmless because of lack of smell—odorless gasses or vapors may be harmful.

### HazMat Checklist

- Assume role of IC until relieved by responsible agency.
- Establish chain of command.
- Develop action plan for area security and evacuation. Advise dispatcher.
- Advise all on scene and responding resources of changes in situation.
- Document all actions, contacts, and employee exposures.

### Think Safety

- Safe approach, upwind/upgrade/upstream.
- Identify, isolate and deny entry.
- Notify agency dispatcher.
- Request needed assistance via safe route.

### Scene Management

- Goal is to protect life, environment and property.
- Attempt to identify substance using DOT Emergency Response Guide, occupancy/location, placards/labels, container shapes/colors, Material Safety Data Sheets (MSDS), shipping papers.
- Assess situation—exact location, identity and quantity of material involved, exposures and hazards.

### Rules for Isolation Distances

- Minor event (1 drum, 1 bag, etc.) = 150 feet.
- Major event (1 drum or more, etc.) = 500 feet.
- Residential and light commercial = 300 feet.
- Open areas = 1000 feet.
- BLEVE (Boiling Liquid Expanding Vapor Explosion) potential = 2500 feet (one-half mile).
- Stage arriving units 2500 feet upwind.
- Position vehicles headed out.

### HazMat Response Acronyms Reference: *NFES 2148*

**S**afety—Responder safety is #1 priority.

**I**solation & Deny Entry—Isolate material and don't let anyone enter hazard area.

**N**otifications—Local, state, and federal responders and regulators.

- C** ommand/Management–Implement command. IC must be identified/assigned.
- I** dentification & Assessment–ID material and hazards associated with it.
- A** ction Planning–State law requires written action plan. ICS 201 will work.
- P** rotective Equipment–Determine appropriate level for responders.
- C** ontainment & Control–Mitigate hazardous material involved only if you are trained, equipped, and authorized.
- P** rotective Actions–Secure area, evacuate or shelter in place.
- D** econtamination & Cleanup–Up to responsible party or local health department.
- D** isposal–Very expensive. Special permits required for hauling.
- D** ocumentation–Document everything.

## U.S. Fish and Wildlife Service (FWS) Agency Specific Directions

### **Page 11-1 Policy**

Structural firefighting is not our functional responsibility. We should only perform assistance in structure protection on an emergency basis to save lives. Our fire

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personnel may assist in protecting wildlands around structures or protecting the structure's exterior from approaching fire when we can accomplish such action safely. We will make our fire personnel aware of safety hazards associated with suppression activities around structures and transportation systems.

- Do not knowingly place employees in a position where exposure to noxious gases or chemicals or other situations require the use of self-contained breathing apparatus.

- Cooperative agreements will not commit our personnel to structural fire suppression.

(Service Manual 095 FW 3.8.A and B. Wildland Fire Management )

## U.S. Forest Service (USFS) Agency Specific Directions

### Page 11-1 Policy Structural and Vehicle Fire Fighting

**5137 - STRUCTURE FIRES.** Structure fire protection activities include suppression of wildfires that are threatening improvements. Exterior structure protection measures include actions such as foam or water application, to exterior surfaces of buildings and surrounding fuels, fuel removal, and burning out around buildings.



**5137.1 - Structure Fire Protection From Advancing Wildfires.** The Forest Service's primary responsibility is to suppress wildfire before it reaches structures. The Forest Service may assist state and local fire departments in exterior structure fire protection when requested under terms of an approved cooperative agreement.

**5137.2 - Structure Fire Suppression.** Structure fire suppression, which includes exterior and interior actions on burning structures, is the responsibility of State, tribal, or local fire departments.

Forest Service officials shall avoid giving the appearance that the Agency is prepared to serve as a structure fire suppression organization.

Forest Service employees shall limit fire suppression actions to exterior structure protection measures as described in section 5137.

**5137.3 - Structure Fire Protection and Suppression for Forest Service Facilities.** At those Forest Service administrative sites, outside the jurisdiction of state and local fire departments, limit fire protection measures to prevention, use of fire extinguishers on incipient stage fires (FSH 6709.11, sec. 6-4c), safe evacuation of personnel, containment by exterior attack, and protection of exposed improvements.

At Forest Service administrative sites located within the jurisdiction of State and local structural fire departments, structure fire suppression responsibility must be coordinated with State and local fire departments.

**5137.4 - Vehicle and Dump Fires.** Do not undertake direct attack on vehicle or dump fires on National Forest System lands unless such action is absolutely necessary to protect life or prevent the spread of fire to the wildlands.

#### Page 11-2 Self Contained Breathing Apparatus

**5135.3 - Self-Contained Breathing Apparatus.** Wildland firefighters may deploy only an open-circuit, self-contained breathing apparatus (SCBA) of the positive pressure type when smoke from vehicle, dump, structure, or other nonwildland fuel fire cannot be avoided while meeting wildland fire suppression objectives (29 CFR 1910.134, Respiratory Protection). If such an apparatus is not available, avoid exposure to smoke from these sources.

The acquisition, training, proper use, employee health surveillance programs, inspection, storage, and maintenance of an SCBA must comply with the National Fire Protection Association Standard, NFPA-1981 and 29 CFR 1910.134, and be

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justified by a Job Hazard Analysis.

Where an SCBA is approved, it may be carried only on a fire engine and its use must be consistent with FSM 5130.2 and FSM 5130.3.

**Page 11-5            Hazardous Materials**

**5135.2 - Hazardous Materials.** Limit actions of Forest Service personnel on incidents involving hazardous materials to those emergency measures necessary for the immediate protection of themselves and the public. If the material is a health and safety hazard requiring special measures for control and abatement, promptly notify the appropriate public safety agencies. Provide training in hazardous materials recognition and avoidance to employees whose exposure to such materials is likely (FSM 2160).