State of Wisconsin Department of Natural Resources

# Fire Management Handbook

4325.1

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# CHAPTER 1: ADMINISTRATION

## STATUTORY RESPONSIBILITY

The Wisconsin Department of Natural Resources (Department or DNR) is vested with power, authority, and jurisdiction in all matters relating to the prevention, detection, and suppression of forest fires outside the limits of villages and cities in the state and to do all things necessary in the exercise of such power, authority, and jurisdiction.

## DIVISION OF FORESTRY PURPOSE

The primary purpose of the Division of Forestry (Division) is to work in partnership to protect and sustainably manage Wisconsin's forest ecosystems to supply a wide range of ecological, economic and social benefits for present and future generations.

## DIVISION OF FORESTRY FIRE MANAGEMENT PROGRAM PURPOSE

The primary purpose of the Fire Management Program is to protect human life, property, and natural resources from wildfire. This objective is accomplished through coordinated fire suppression efforts, extensive training, preparedness activities, fire prevention, emphasis on safety programs, enhancing partnerships with fire-related agencies (including fire departments), and implementing sound scientific principles in management of forest fires.

## FIRE MANAGEMENT PROGRAM ROLE

The Division's role in fire management is to prevent, detect and rapidly suppress forest fires in areas of the state that have the greatest potential for significant loss of property, natural resources and even lives due to forest fire. The Division complements the capacity of local fire departments by filling roles (e.g., incident management teams, heavy equipment) not efficiently covered on a community basis. The Division will allocate resources based on an assessment of risk as defined by fire landscapes in Wisconsin and enhance statewide efforts in fire prevention and risk mitigation.

## GOALS

The following goals and objectives reflect the Division's approach to carrying out its mission. Overarching goals are followed by guiding principles of the DNR fire management program. The subsequent objectives are intended to be specific, measurable, action-oriented, realistic, and timely. Items are identified to measure how we can determine if we have been successful in meeting these objectives.

**Goal 1:** Firefighter and public safety is the first priority in DNR Fire Management and will be reflected in all activities. Provide for firefighter safety at all times by employing universal principles of suppression operations and maintaining situational awareness in all fire management activities.

Guiding Principles

1. The primary priority in all incident responses is the protection of the lives of the responders and general public. Secondary priorities are protection of improvements, natural and cultural resources, and management of costs associated with providing such protection.

2. Our employees are our most important asset in the fire management program. They are professionals and are expected to make reasonable and prudent decisions to accomplish the Division's mission while minimizing loss of life and serious injuries. Employees are empowered and expected to manage the risks of fire suppression and are free to decline assignments which they feel are unsafe.

3. Our partners in the fire suppression mission include fire departments, other state, federal, and local government agencies.

4. All firefighters deserve and should expect safe fireground operations.

5. The primary means to implement command and maintain unity of action is through the use of universal principles of suppression operations. These principles guide our fundamental fire suppression practices, behaviors, and customs and are mutually understood at every level of command. These principles include, but are not limited to: the 10 Standard Firefighting Orders; the 18 Watchout Situations; Lookouts, Communications, Escape routes and Safety Zones (LCES); and various fireline checklists. These principles are not absolute rules; they provide guidance in the form of concepts and values and require judgment in application, which is intended to improve decision making and firefighter safety.

6. Command and control is delegated to the on-scene incident commander (IC). That is, subordinate leaders must make decisions on their own initiative, based on their understanding of their supervisor's intent, coordinated efforts, and operational objectives.

7. Availability of trained Forestry pilots and Department aircraft provides an optimal level of fire detection, size-up, and fire lookout information while engaging in fire suppression. Use of pilots and aircraft helps ensure the highest available level of firefighter and public safety.

8. Radio communications and interoperability are essential to safety and operational effectiveness.

Objectives

1. Investigate, report and mitigate all incidents as soon as feasible. Reduce or minimize lost work time from accidents; and no firefighter or general public fatalities.

   *Measures of success:* Accident reports filed; employee injury workers compensation reports; Wisconsin Fire Accident and Injury Summary; Aviation SafeComs; Rapid Lesson Sharing reports filed due to near misses or injuries reported; Incident Command System (ICS) form 209s filed due to injury or fatality; wildfire reviews due to fatality; and number of work days lost to injury reported.

2. Provide health and safety information to employees and partner agencies in a timely manner as issues arise.

   *Measures of success:* Health and safety provisions incorporated in all handbooks, training programs, fire plans and daily operations plans; handbook safety chapter current; daily operation plans contain pertinent safety messages; training content incorporates health and safety provisions; and tailgate safety meeting held.

3. Conduct annual safety refresher training for employees and partner agencies such as fire departments (FD) prior to fire season.

   *Measures of success:* Annual RT-130 fireline safety refresher completed for all initial attack personnel; First Aid/Cardiac Pulmonary Resuscitation (CPR)/ automated external defibrillator (AED) training current for all initial attack personnel; annual physical fitness testing completed; Incident Qualification System (IQS) qualifications reviewed and updated for training and experience annually; annual air attack training, simulation, low-altitude waiver test and procedure review for DNR pilots completed prior to spring fire season.

4. Employ standard risk management process before all activities to identify and assess hazards, establish controls, make decisions and evaluate success.

   *Measures of success:* Training conducted on risk management process; size-up on all fires conducted before initiating suppression actions; daily, weekly and annual equipment inspections completed; After Action Reviews (AAR) conducted; and tailgate safety sessions conducted.

5. All portable and mobile radios annually checked for operations and proper radio communication programming with partner agencies such as FDs before fire season and as changes are required.

   *Measures of success:* Statewide radio communication programming plan reviewed and updated annually; radio communication technician checks and programs each radio annually prior to spring fire season;

ensure FIREGROUND BLUE is the standard radio interface frequency for all Department – FD communications on the forest fire fireground.

6. Ensure availability of fire-qualified pilots and Department aircraft for forest fire detection and safe fire suppression operations for all requested incident response.

   *Measures of success:* Daily statewide air operations plan at a Statewide Preparedness Level of 3 or higher; pilot medical current; pilot license current; annual air check rides completed; annual Air Attack training, simulation and procedure review.

7. Review safe fireline operations by conducting local AARs of forest fires and wildfire reviews of special action fires, and tailgate safety sessions at the local level, including partner agencies as quickly after the incident as is feasible.

   *Measures of success:* Number of fires which had an AAR and/or wildfire review conducted and Lessons Learned were produced and shared; and tailgate safety sessions conducted.

8. Acquire, maintain and utilize proper fire personnel protective equipment (PPE) for all incident response.

   *Measures of success:* PPE for all personnel conforms to National fire standards; all PPE meets Department amortization schedules; proper PPE worn during incidents.

**Goal 2:** Employ a continuous fire preparedness process that includes developing and maintaining fire suppression infrastructure and equipment, identifying values at risk, predicting fire activity, pre-positioning, deploying firefighters and equipment, hiring, training (interagency drills and scenarios), evaluating performance, correcting deficiencies and improving operations.

Guiding Principles

1. All Division employees will support fire management and forest management workload priorities.

2. Since fire management is integral to the mission of the Division, every employee will have a basic understanding of fire management and each have the responsibility to support the program and each person will identify the niche that is most consistent with their personal/professional needs, abilities and goals.

3. The Division considers training as a basic function of the fire management program.

4. Fire management training and experience is a prerequisite for service as a fire management supervisor or fireline officer.

5. The Department has adopted the Wisconsin DNR Wildland and Prescribed Fire Qualification Guide as official policy on incident and fireline position qualifications and training requirements. Fire/incident assignments will be based on the Qualifications Guide and will take into account the individuals experience, training and physical fitness. Normal daily duties and classification are not to be the determining factor when filling ICS positions for incidents.

6. Fire management planning, preparedness, prevention, suppression and education will be conducted on an interagency basis by engaging local, state and federal cooperators and partners. It is the responsibility of the Division of Forestry to develop local and interagency relationships.

7. The Division will maintain FFP grants to local fire departments to assist in suppressing and preventing forest fires.

8. Standardization should be considered and implemented, but not at the expense of innovation.

Objectives

1. Obtain and maintain target incident qualifications for all Forestry personnel as identified in the Wisconsin DNR Wildland and Prescribed Fire Qualifications Guide within the required time frame.
   *Measures of success*: Forestry personnel review of target qualifications; update and review IQS records,

training and experiences during performance evaluation process; IQS annual records maintenance; develop and deliver fire training; heavy dozer training conducted; Fire Equipment Certifications (FEC) maintained; 30 hours of dozer operations annually; annual fire training needs survey completed; NWCG technical courses provided to meet identified needs; and mock fires and simulations conducted.

2. Research, design, develop, build and purchase fire equipment, vehicles and heavy equipment to meet the established goals and needs of the division and partner agencies.

   *Measures of success:* Effectiveness and reliability of equipment in the field; maintaining targeted rotation ages for specialized fire equipment; producing quality equipment, in a timely manner, at a reasonable cost; stockroom customers receive quality products in a timely manner and are satisfied with the service they receive.

3. Annually provide financial assistance to and restore state funding to cooperating fire departments through the Forest Fire Protection (FFP) Grant program.

   *Measures of success:* Number and dollar amount of FFP grants awarded; number of VFD's prepared for fire response, because they've improved their communication (or equipment) capabilities with technological upgrades through the FFP grant program; amount of general assistance with filling out grant applications; follow up inspections for grant closeout; media releases and photos of grant recipients; and FEPP equipment inspections.

4. Maintain fire equipment and infrastructure according to fire readiness standards throughout the year as needed.

   *Measures of success:* Annual cache inventory maintenance; annual radio inspections and reprogramming including the multi-band aircraft radios; annual radio communication tower inspections; daily, weekly and annual equipment inspections; annual equipment testing and inspections (i.e. hose testing, pump tests, etc.); Incident Resource Guide (IRG) updates; 100-hour and annual aircraft maintenance inspections; SEAT base maintenance; IMT trailer/equipment readiness; incident command post (ICP) location readiness; and annual weather station maintenance.

5. Annually identify values at risk by incorporating structural mapping in areas identified as high risk to project class forest fires, including updating and reprinting structural maps every 5 years.

   *Measures of success:* Structural mapping data gathering and zone creation (cycle 5 yrs); contracting for map development; contracting for printing structural zone maps (cycle 5 yrs); mapping and map books completed and distributed to all emergency response agencies serving the county.

6. Annually develop, plan and conduct fire training to meet agency requirements and standards.

   *Measures of success:* 30-hour tractor requirement for operators; annual preseason fire meeting; post season fire meeting; annual 16-hour fire in-service training; annual ranger and LE refresher training; biennial operator recertification; annual air attack and fire pilot training; recurring SEAT manager training; flight training accomplished to proficiency standards, including initial, recurrent and low-altitude flight training; mock fires; and Forestry Law Enforcement Training for new Forest Rangers.

7. Improve operations by fostering staff time to assist in new program innovation.

   *Measures of success:* Fire Management Specialist Team membership; Forestry Equipment and Safety Specialist Team membership; Fire Prevention Specialist Team membership; Forestry Law Enforcement Specialist Team membership; ad-hoc teams; and Great Lakes Forest Fire Compact (GLFFC) committee membership;

8. Maintain key regional and national partnerships through maintaining regular communication and agreements with partners.

   *Measures of success:* Attending GLFFC trainings and meetings; interactions with Tribes; FD meetings attended and training sessions conducted; Eastern Area Coordinating Group (EACG) meetings attended; and out-of-state fire response.

**Goal 3:** Provide for public education on the risks of forest fire, apply fire prevention and mitigation measures to reduce forest fire ignitions and minimize fire loss.

Guiding Principles

1. Education and informing the public about the fire risk and causes of forest fires is critically important, especially in designated wildland urban interface areas. Where these areas exist, the Division must work with cooperating agencies and the media to increase public awareness.

2. The Division will strengthen existing prevention and mitigation programs such as the Wildland Urban Interface program. Prevention programs will be integrated into a Division-wide strategic plan for education and outreach and will be evaluated to understand the cost savings they provide by reducing the numbers of fires.

Objectives

1. Develop and conduct fire prevention messages and education programs, targeted at the highest human caused fire problems annually and as needed. The effort is to be appropriately scaled to the fire risk landscape (highest priority are fire landscapes 4, 7, 9 and 15).

   *Measures of success:* Annual number of fires by cause analyzed; Categorize prevention efforts by intent (e.g. creating awareness, education, public involvement, train-the-trainer, etc.) and audience (kids, property owners, local government, fire departments, media, etc.) to focus prevention efforts; school/youth programs; displays at events (fairs, civic activities, etc.); Smokey appearances (i.e., parades); local media contacts and interviews (radio, TV and print); Smokey fire danger signs current; press releases and articles; outreach item creation and management (publications, posters, signs, placemats, displays, inserts, etc.); school/youth program partner coordination (Environmental Education for Kids; Learning, Experiences and Activities in Forestry; Take Smokey Camping; FD, etc.); general web updates; direct public contacts (email, phone, etc.); developing partnerships (FD, Air/Waste, Local Gov't, power line co., GLFFC).

2. Develop and implement a methodology for analysis of fire occurrence, targeting specific fire cause data and developing appropriate prevention measures.

   *Measures of success:* Annual number of fires by cause analyzed; statewide prevention campaigns creation & coordination (TV, radio, print, videos, etc.); event planning (Fire Prevention Week., opening of fishing season, July 4th, Smokey's birthday, etc.); Acute fire problems (improper ash, arson, EBR's, Red Flag, etc.); and evaluate prevention efforts to determine if prevention efforts and costs are proportional to the causes.

3. Investigate all human-caused fires within 24 hours and enforce fire law violations as appropriate upon completion of investigation.

   *Measures of success:* number of human-caused fire investigations; fire reports completed; investigate Chapter 26 burning complaints, prepare enforcement cases using CAR and Forestry Contact Records; determine Law Enforcement actions to gain compliance; referrals to Distirct Attorneys; prepare court cases and appearances; warnings, citations and arrests; fire billing; non-reportable runs (liming, campfires, dust, etc.); complete structure survival checklists on fires that involved a structure being damaged, saved, or lost; right-of-way (ROW) inspections (railroad, power lines, etc.); railroad track patrol orders; broadcast burn/pile inspections (specials); and law enforcement/911 center contacts.

4. Manage the Burning Permit System daily to achieve compliance.

   *Measures of success:* number of permits issued (permanent, seasonal and special); number and month of permit hotline phone calls and web hits; number of fires caused by permit holders burning contrary to restrictions; assess burning regulations and suspensions implemented compared to fire danger outputs; number of emergency fire wardens (EFWs); EFW visits and training; daily fire danger updates (phone/web including co-op); and burning permit system management (phone & web).

5. Educate the public in those communities at high risk of forest fires by Wildland Urban Interface educational efforts, promoting Firewise concepts and developing and maintaining Community Wildfire Protecton Plans (CWPP) as needed.

*Measures of success:* CWPPs completed; Firewise USA Recognition programs; number WUI/Firewise presentations or workshops; hazard mitigation projects coordinated and conducted; number of Firewise projects; Home Ignition Zone Assessments; assisting local partners with prevention/WUI efforts (zoning, housing developments, packets, publications, etc.); and Firewise demonstration sites developed; fuels reduction projects (prescribed fire, thinning, chipping days, etc.); creation or maintenance of fuel breaks;.

**Goal 4:** Plan and conduct land management activities that reduce the risk to forest fire and help achieve property management objectives.

Guiding Principles

1. Fire is recognized as a tool to maintain and enhance natural landscapes and will be used to function in its natural ecological role when specifically applied according to prescribed criteria and an approved plan.

2. Education and informing the public about the natural role of fire and prescribed fire is important. Where these areas exist, the Division must work with cooperating agencies and the media to increase public awareness.

Objectives

1. Safely utilize fire as a tool by providing technical advice and ensure all prescribed burns are planned and conducted within approved prescriptions.

   *Measures of success:* number of prescribed burn plans written, reviewed, approved and conducted; acres treated; evaluation of prescribed burns in meeting objectives; inspections and approvals of special permits; number of escaped prescribed fires; and after-action review of escaped prescribed fires.

2. Reduce the risk of catastrophic forest fires by conducting forest management activities that will mitigate the risk and assist in suppression alternatives.

   *Measures of success:* State lands/County Forest lands prescribed burn plans written; managed forest lands (MFL) prescriptions written for prescribed burning and for silvicultural practices specifically designed to mitigate forest fire risk.; Input to State Forest, other state lands, county forest and community forest Master Plans for prescribed burning and for silvicultural practices specifically designed to mitigate wildfire risk; Provide input to CWPP and Firewise Communities plans; Gypsy moth slow-the-spread and suppression program acres; and emerald ash borer (EAB) & Oak Wilt assessment/survey flights; Provide input as requested to power line utilities in identifying and mitigating ROW hazards.

3. Forestry personnel and equipment will participate in prescribed burns conducted on public lands where needed and available in order to meet burn plan requirements and to achieve incident qualification experience.

   *Measures of success:* Number of prescribed burns conducted on public lands; cooperative assistance provided in conducting prescribed burns on other government-owned lands (USFS, USFWS, BIA/Tribal, NPS, local municipalities); fire training provided to DNR staff; fire training provided to external partners; and IQS qualifications and experiences documented.

4. Annually plan and facilitate land management activities that will reduce the risk of forest fires and assist in suppression alternatives.

   *Measures of success:* Hazard mitigation projects completed; installation or maintenance of fuel breaks; fuel reduction projects completed (mechanical or prescribed fire); document acres treated, miles of fuels break, who conducted the project (e.g., DNR, partner, or citizen group), where, and whether it was a mitigation strategy identified in a CWPP or Firewise Community; document how a mitigation strategy affected the outcome of a wildfire; railroad ROW inspections completed; and silvicultural activities completed that were specifically designed to mitigate forest fire risk.

5. Annually develop educational messages and conduct education programs, targeted at the natural role of fire and prescribed fire in maintaining ecosystem health.

   *Measures of success:* Number of awareness, education, public involvement, train-the-trainer, etc. events created to address the natural role of fire and prescribed fire; number of varying audiences that message is

delivered to (schools, property owners, local govt., fire departments, media, etc.); displays at events (fairs, civic activities, etc.); local media contacts and interviews (radio, TV and print); press releases and articles; outreach item creation and management (publications, posters, signs, placemats, displays, inserts, etc.); school/youth program partner coordination (Environmental Education for Kids; Learning, Experiences and Activities in Forestry; Take Smokey Camping; FD, etc.); general department web updates; direct public contacts (email, phone, etc.); developing partnerships (FD, TNC, federal agencies, wildlife, ER, GLFFC, etc.).

**Goal 5:** Manage and suppress all forest fires within the state using an interagency approach in a coordinated, efficient and effective manner.

Guiding Principles

1. The Division's resources will be placed within the state to most efficiently prepare for, detect, and suppress forest fires with emphasis on high risk areas.

2. Fire departments are a key partner in the suppression of forest fires in Wisconsin. Fire departments should be treated as full partners in this endeavor and should be treated with respect and valued as such.

3. Fires are easier and less expensive to suppress when they are smaller. The management philosophy is full suppression with aggressive initial attack.

4. Fire suppression will be based on sound risk management decision making processes and take into account values protected and resources at risk.

5. Expenditures undertaken to meet the suppression objectives will be commensurate with values to be protected.

6. The ICS is the official fire organization of the DNR on all incidents.

7. Incident Commanders have the responsibility to establish clear and concise objectives.

8. While the primary responsibility of our fire management workforce is Wisconsin forest fire protection, we will support state and national emergencies when asked or ordered, including all-risk.

9. Support for in-state fire operations takes priority over accomplishment of local resource targets. Support of out-of-state fire operations will only take priority over local resource targets when determined by Division Leadership.

10. Local FDs will be the primary resource used for structural protection. However, the DNR does have statutory responsibility to protect property and improvements when incidental to forest fires.

11. The most qualified, immediately available individual will be used to fill various ICS positions needed on all incidents. If the individual has not completed all elements of the qualification for the assigned position, they may be replaced by the IC when an individual meeting or exceeding the qualification becomes available. All assignments will remain in effect for the duration of the incident or until the person is relieved by the IC or their designee.

Objectives

1. Provide for DNR fire staffing and suppression response according to defined DNR staffing and preparedness levels.
   *Measures of success:* Wisconsin Staffing & Preparedness Level Guidelines; daily operations plans meeting defined staffing guidelines; Aeronautics operations plans; daily Behave Forecast prepared; National Fire Danger Rating System (NFDRS) and Canadian Forest Fire Danger Ratings System (CFFDRS) indices; WIMS; Fire Reporting System; fire behavior forecasts, and fire websites updated and maintained.
2. Provide response to all forest fires as soon as feasible.

   *Measure of success*: Direct response to all forest fires within organized protection and when requested in Cooperative protection areas.

3. Contain all fires at initial attack within the first burning period.

*Measure of success:* Percentage of fires contained within first burning period from the fire report containment times.

4. Initiate suppression action on all fires within 20 minutes of report with organized suppression forces (DNR, FD, federal agency, etc.).

   *Measures of success:* Fire report first attack times by agency; detection reports by aerial detection; 911 pages.

4. Utilize fire qualified Forestry pilots and Department aircraft while engaged in fire suppression actions.

   *Measures of success:* Initial size-up transcripts from the dispatch recording system; archived flight logs; aerial fire photos.

5. Achieve 100% extinguishment of all fires with no re-kindles or escapes after declared controlled.

   *Measure of success:* Thorough mop-up; check fires the next day or beyond before declaring fire officially out; Fire report declared out times; number of fires required to respond to after declared controlled.

6. Maintain 95% of all fires under 5 acres in size

   *Measure of success:* Fire report – fire size.

7. Document all wildfires in the state under DNR organized protection, mutual aid or on DNR lands.

   *Measures of success:* Complete and maintain for each wildfire the fire report, map, records, documentation, invoices, billing, payrolls, travel, and dispatch records.

8. Fire suppression equipment maintained and available for required fire staffing and statewide preparedness guidelines.

   *Measures of success:* Equipment maintained and available to meet daily operations plans and to meet fire staffing and statewide preparedness guidelines; daily, weekly and annual equipment inspections conducted and recorded; equipment maintenance required conducted in timely fashion.

9. Enhance fire suppression capabilities by utilizing partner agencies, tribes and fire departments to provide fire suppression assistance.

   *Measures of success:* Develop and maintain agreements and Memorandum of Understanding (MOU) with FDs, Tribes, Federal agencies, other State and local entities, including private businesses, to ensure their availability and response for initial and extended attack on all fires; FD training provided.

10. Ensure prompt incident management team (IMT) response to emergency situations.

    *Measures of success:* Maintaining trained and qualified Wisconsin DNR Type 3 IMTs; IMT staffing plans to include recruitment of trainees and complete rosters; number of IMT refresher training sessions conducted; number of requests fulfilled for DNR IMT assistance or DNR personnel and equipment to assist in emergency response events; feedback provided by communities assisted by IMTs; personnel completing IMT position training; and number of IMT AARs conducted.

11. Facilitate and conduct annual training sessions to enhance working relationships and increase the capabilities of partner agencies, tribes and FDs to provide fire suppression assistance.

    *Measures of success:* Numbers and types of training sessions completed; number firefighters trained; mock fires conducted; and simulation exercises conducted.

12. Provide annual DNR training assistance to cooperative area fire departments.

    *Measure of success*: Cooperative fire training reports.

13. Provide WDNR assistance within coop areas to suppress extended attack fires when requested, and as resources are available.

    *Measure of success:* Mutual aid fire reports.

14. Hold parties responsible for starting forest fires through education, fire billing and law enforcement.

    *Measures of success:* Investigate all fires for cause determination; issue warnings and/or citations to responsible party as warranted; responsible party billed for fire costs; and fire costs collected

15. Encourage a cooperative effort with partner agencies and private contractors on initial and extended attack as well as project class wildfires.

    *Measures of success:* Fire reports – first attack agency and contributed services; number and currency of agreements and MOU's; Incident Resource Guide (IRG) updated; private equipment contract sign up; private dozer training; hiring and training LTE/MOU hand crews; federal agency contacts; tribal contacts; DEG contact; Sheriff contact including county dispatch; fire department annual training sessions; fire department structural branch training sessions; attending County Fire Association meetings; and prescribed burner contacts.

## CRITICAL FIRE MANAGEMENT RESPONSIBILITIES

Forest fires require an immediate Department response to protect the public and minimize resource loss. In significant forest fire situations requiring assistance of personnel and equipment from outside a given area, the area forestry leader (AFL) is authorized to contact adjoining AFLs or their designee directly. AFLs to whom such requests are made are authorized to respond to the extent possible, compatible with their own needs and situations. AFLs involved will notify their district forestry leader of the request for assistance as soon as possible. The district forestry leader will notify the Forest Fire Protection Section through contact with the Forest Fire Protection Section Chief, the Forestry Field Operations Bureau Director or the Forest Fire Operations Specialist.

Exception: When high to extreme fire danger exists and the Forest Fire Protection Section Chief, the Forestry Field Operations Bureau Director, or their designee activates the Command Center in Madison, the Command Center procedures outlined in this Handbook will prevail in the deployment of equipment and personnel statewide.

A number of critical fire management activities must be carried out by supervisors and fire management personnel before and during the fire season to meet fire suppression responsibilities promptly, effectively and safely.

Responsibilities for specific critical fire management activities are as follows:

### Division of Forestry

The Division has broad support and oversight roles in the fire program, including the following specific responsibilities:

1. Develop statewide standards for the fire management program.
2. Develop statewide qualifications for fire management employees.
3. Monitor, for consistency, the application of statewide fire management standards and qualifications.
4. Maintain and operate the Forestry Command Center.
5. Develop and process emergency burning orders.
6. Seek emergency funding when regular budgets are exhausted because of fire suppression activities.

## Command Center

The purpose of the Command Center, in the case of major incidents, is to direct the assignment and deployment of Division equipment and personnel around the state as needed to protect the resources of the state. Equipment from partners and cooperators from outside the Division may also be requested and utilized.

The Command Center will be activated in the Madison office when directed by either the Forest Fire Protection Section Chief, the Forestry Field Operations Bureau Director, or their designee.

### Facilities and Communication

When activated for a Division response to a major incident(s), the Command Center will be staffed by Division personnel.
The Office of Communication will assign a Public Information Officer to assist with the dissemination of information to the media. Telephone numbers to access the Command Center will be published annually in the In-State Mobilization Guide.

### Responsibilities

1. Consult with districts to accurately assess the statewide fire situation.

2. Consult with districts to establish priorities on existing fires and all hazard responses.

3. Direct equipment and trained personnel to fill the Division's needs

4. Maintain liaison with Wisconsin Emergency Management and other appropriate agencies, and request assistance as needed in responding to situations.

5. Work with Office of Communication personnel to facilitate issuance of news releases, social media and answer media inquiries.

6. Keep the Secretary's Office and Governor's Office informed of the statewide fire situation

### District Fire Status Reports

The district forestry leader or their designee will notify the Forest Fire Protection Section of a project fire or a fire that has the potential of becoming a project fire. Reports should be made by telephone to Forest Fire Protection Section Chief, Forestry Field Operations Bureau Director, or their designee in the early stages of the fire, regardless of time of day or day of week. This early warning will enable the Forest Fire Protection Section to have the Command Center ready to respond, and to keep the Secretary's Office informed of developing wildfire emergencies.

### Activation of the Command Center

The Forest Fire Protection Section is responsible for monitoring statewide fire conditions. The Forest Fire Protection Section Chief, the Forestry Field Operations Bureau Director, or their designee is responsible for activating the Command Center, based on any of the following criteria:

- A request from at least one or more districts to activate the Command Center

- Statewide Preparedness Level of 3 or above

- High fire occurrence (30+ statewide) for several consecutive days

- A fire weather forecast of "very high" or "extreme" fire danger during the coming two or more days

- At least one or more project fires occurring

- An all hazard event is being supported or managed by the Division that requires out of district resource mobilization, involves coordination with WEM, or is in response to a declared State of Emergency.

The Secretary's Office, WEM and Governor's Office will be notified of the activation as soon as possible.

Deactivation of the Command Center

The Forest Fire Protection Section Chief, the Forestry Field Operations Bureau Director, or their designee is responsible for deactivation of the Command Center when its services are no longer needed.

The procedure for activating and deactivating the Command Center, staffing schedule, and contact information will be maintained annually by the Forest Fire Operations Specialist in the In-State Mobilization Guide.

## Forestry Equipment Research & Development Center

The primary purpose of the Forestry Equipment Center is research, development, fabrication and repair of specialized fire suppression vehicles and equipment and operation of a supply stockroom. The Equipment Center consists of engineering, design, metal fabrication, machine shop, automotive repair, Forestry fleet management, purchasing and stockroom functions. The Center is equipped to provide immediate service for emergency repairs and service both in-house and in the field. The stockroom supplies equipment to field stations, cooperating FDs and outside agencies. A cache of firefighting tools is also maintained at Tomahawk for statewide mobile distribution.

Job Priories:

PRIORITY #1

a. Emergency repairs and service to fire suppression equipment and field needs
b. New primary fire suppression equipment outfitting, fabrication and development
c. Operations of the stockroom

PRIORITY #2

a. Emergency repair of non-fire suppression equipment
b. Regular repair and rebuilding of fire suppression equipment
c. Construction of miscellaneous fire management program equipment
d. Facility maintenance and remodeling required to meet existing building standards and codes

PRIORITY #3

a. Repair of non-fire heavy equipment and vehicles
b. Other functional Forestry program projects
c. Disposal of Federal Excess Personal Property (FEPP)

Facilities & Communication

Forestry Equipment R&D Center
LeMay Forestry Center
518 West Somo Ave.
Tomahawk, WI 54487

Field Mechanic Shops

Black River Falls
Hayward
Wausaukee
Wautoma
Woodruff

Area shops and personnel are established to provide maintenance and repair services and guidance. Capabilities and equipment vary by location. Contact the area mechanic for details.

**Division of Forestry Administrator**

The Division of Forestry Administrator is responsible for ensuring that the district forestry leader receives the overall support and cross-media cooperation necessary to ensure that critical fire management activities are implemented.

**District Forestry Leaders**

District forestry leaders are responsible for the overall fire management program in the district. For the Department to meet its statutory responsibilities, district forestry leaders must exercise sufficient oversight and direction to ensure that the critical fire management activities outlined in this Handbook section are accomplished effectively. Their specific responsibilities are as follows:

1. Function as the principle advisor to the Division Administrator and Bureau Director relative to the district fire management program.

2. Provide briefings and other information needed to ensure the Division Administrator and Bureau Director are kept informed of the current fire situation and are able to effectively carry out oversight responsibilities.

3. Direct the movement of fire suppression equipment and staff between areas within the district as needed or required by the Command Center to meet fire management objectives.

4. Serve as the district contact when the Command Center is activated and ensure the Command Center is kept informed of district fire activity and resource status. Designate an alternate contact if required.

5. Coordinate the application of burning regulations, Red Flag alerts, and the implementation of emergency burning restrictions within the district, with adjacent districts, and the Forest Fire Protection Section.

6. Review Area Daily Fire Operations Plans within the district and identify actions needed to ensure consistent application of statewide fire management standards.

7. Monitor preparedness and fire training activities and individual qualification levels across the district and identify actions needed to ensure consistent application of state-wide fire management and qualification standards.

8. Identify training needs and readiness issues and develop recommendations for corrective action.

9. Conduct District Fire Reviews to assess compliance with Handbook standards in order to identify deficiencies and/or need for changes and to recommend corrective actions.

**Area Forestry Leaders**

Area forestry leaders are responsible for the overall fire management program in the fire response units (FRUs) in their area (see map on page 14). For the Department to meet its statutory responsibilities, area forestry leaders must assure that the critical fire management activities outlined in this Handbook section are staffed and accomplished effectively. Their specific responsibilities are as follows:

1. Develop and manage an annual area budget and work plan that identifies, funds and allocates the staff necessary to accomplish key wildfire prevention, detection, preparedness, suppression, and law enforcement activities consistent with Department standards.

2. Approve and implement the Daily Fire Operations Plan, including a safety message, for the area. Ensure that adequate qualified personnel are available for fire detection, dispatching, suppression, incident management, and law enforcement at a level commensurate with current and anticipated fire conditions. Modify employee work schedules as needed to efficiently respond to fire staffing requirements. Identify readiness issues and recommend corrective actions.

3. Provide support and resources necessary to identify and complete required training in order to maintain appropriate fire and law enforcement qualifications of all area employees with fire suppression and incident management team responsibilities.

4. Provide support and resources necessary to maintain all area fire equipment in accordance with Handbook standards

and at readiness levels consistent with daily operational needs.

5. Conduct fire readiness inspections within the area to assess compliance with Handbook standards. Identify deficiencies and/or need for changes and recommend management actions.

6. Take command of fires as IC as appropriate.

7. Approve requests from FDs and public officials in Cooperative fire areas for Department assistance on forest fires outside of state Protection areas.

8. Take immediate corrective action to address unsafe conditions on the fireline. Relieve personnel as appropriate. Remove unsafe equipment from service.

9. Provide briefings and other information as needed to ensure the district leader is kept informed of the current fire situation and is able to effectively carry out supervisory responsibilities.

10. Direct the daily activities of the Area Staff Specialists.

11. Direct the movement of fire suppression equipment and staff within the area. Approve requests from adjacent areas for assistance on ongoing incidents.

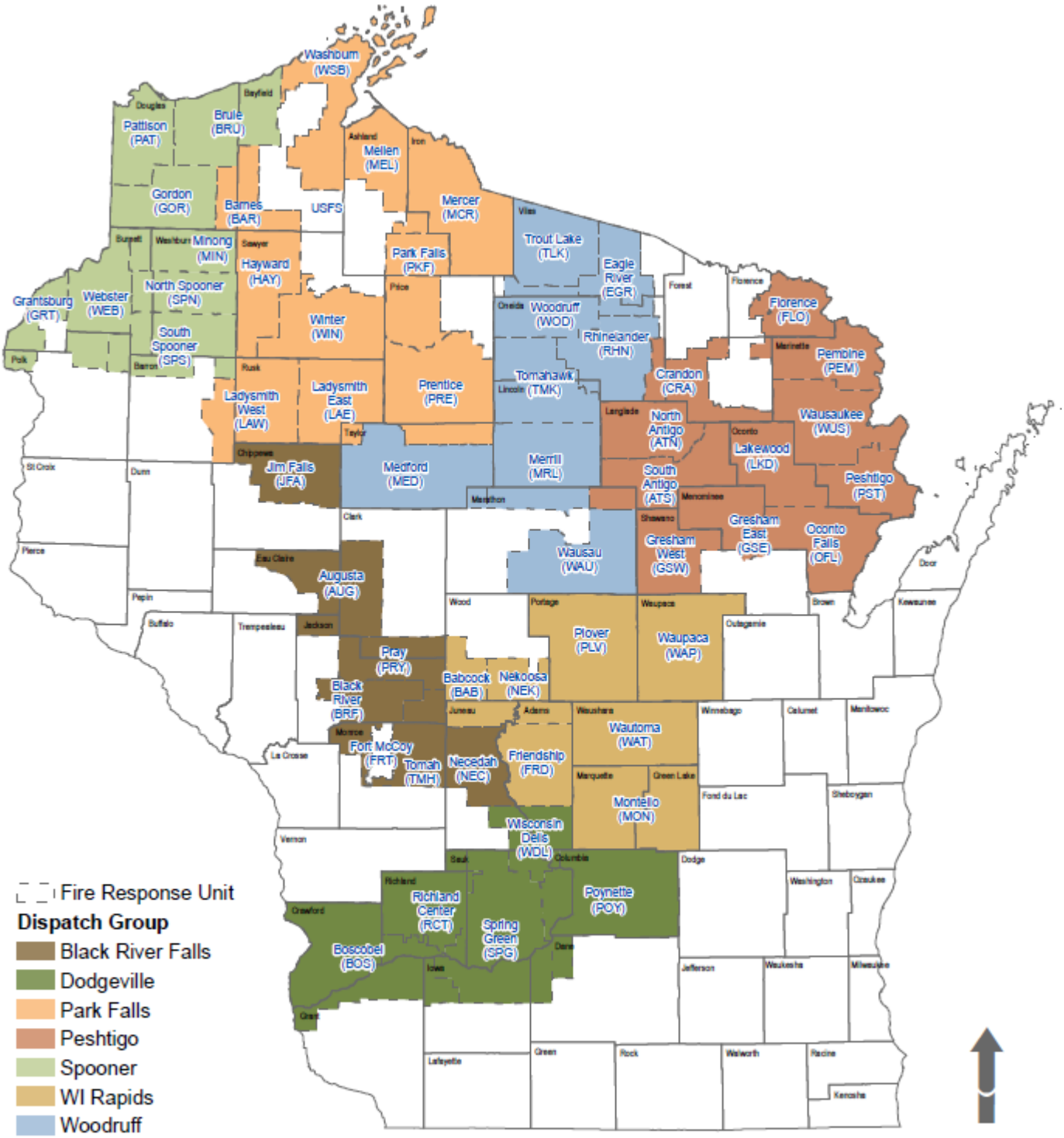
12. Order and direct air suppression resources in accordance with fire management policy standards.

13. Establish burning permit regulations and authorize Red Flag alerts within the area. Provide input to the district forestry leader relative to the establishment of emergency burning restrictions.

14. Monitor/review the performance of personnel on fires to ensure consistent application of statewide standards.

15. Approve prescribed burn plans and authorize burns. Coordinate all prescribed burning within the area and modify or halt prescribed burning as necessary to minimize conflicts with forest fire suppression activities.

# Dispatch Group and Fire Response Units




The Department has made reasonable efforts to provide accurate information, but cannot exclude the possibility of errors or omissions in sources or of changes in actual conditions. The Department makes no warranties of any kind, either express or implied. Changes may be periodically made to the information herein – contact the originator of the data with any questions regarding appropriate use.

*WI DNR Forestry 3/18/2022*

**Forestry Team Leaders**

Forestry team leaders are responsible for the day-to-day oversight of field staff responsible for the execution of the fire management program at the field level. For the Department to meet its statutory responsibilities, forestry team leaders must assure that field staff are equipped and trained and able to accomplish critical fire management activities outlined in this Handbook section. Their specific responsibilities are as follows:

1. Ensure adequate, qualified fire response unit personnel are available and make assignments as necessary to implement the Daily Fire Operations Plan.

2. Hire LTEs as needed for fire suppression duties and ensure required safety training is provided.

3. Conduct informal Forest Ranger Credential Reviews during the annual review process. Identify training needs and other needed preparedness activities.

4. Ensure the readiness of fire response unit fire equipment in accordance with Handbook standards. Conduct fire readiness inspections within the team's area to assess compliance with Handbook standards. Identify deficiencies and/or need for changes and recommend management actions.

5. Take command of fires as IC, as appropriate.

6. Monitor/review the performance of personnel on fires to ensure consistent application of statewide standards and assess training needs for fire personnel and incident management team members.

7. Take immediate corrective action to address unsafe conditions on the fireline. Relieve personnel as appropriate. Remove unsafe equipment from service.

## PHYSICAL FITNESS REQUIREMENT

The Department is responsible for ensuring that employees are physically qualified to perform hazardous duties which reduces the risk to themselves, the public, others and to the resources protected. Annual work capacity testing (WCT) will apply to all Forestry employees (hired after Oct. 30, 2011) and Fish, Wildlife, & Parks employees (hired after July 1, 2015) who are assigned initial attack fire and/or prescribed burn duties in Wisconsin. The DNR will ensure that all persons requiring physical fitness testing are tested according to the provisions identified within Manual Code 9124.2.

WCT administrators will document the administration of the WCT to all employees that are required to take either the Pack (arduous level) or Field (moderate level) test. Test results will be documented on the WCT Test Record Form (#9100-859) for employee record-keeping, and tracked within the Incident Qualification System (IQS). To become a WCT administrator, an employee must:

1. Already serve at a supervisory level. Test Administrators must make determinations such as pulling staff out of the test if they are significantly behind time or are experiencing difficulty during the test. Additionally, if an employee fails the WCT, it becomes a personnel issue in regards to their position duties.

2. Read the Work Capacity Test Administrator's Guide

3. View the Work Capacity Test PowerPoint

4. Ensure that every test location meets all the requirements:

    a. During the actual conducting of the field test, medical personnel, either a paramedic or two EMTs, must be present at the test site.
    b. The testing site must be within 10 minutes of a primary care medical facility. The primary care facility must be either a hospital or trauma center with an emergency room. Typically, high school tracks are the ideal testing location in conjunction with a local primary care facility.

5. Act as a shadow to a current test administrator, to first observe how the test is conducted

## UNIFORM STANDARDS

### Forest Ranger Uniforms

To provide guidance to Forest Rangers for the wearing of the prescribed uniform to enhance safety and visibility, maintain a professional image, ensure consistent treatment of employees, and aid in recognition. The uniforms as authorized by the Department and this policy are the official uniforms of all Forest Rangers. All clothing shall be neat and clean in appearance and shall be color coordinated as described below.

The uniform shall be worn in its entirety and consist of a minimum of one of each of the following (additional clothing may be ordered dependent on individual staff needs and supervisory approval):

- Green pants with black belt
- Long sleeve or short sleeve tan shirt with badge, silver name plate, and patches. Sleeves shall remain buttoned at the cuff. Shirts shall be worn open at the collar with all, but the top button buttoned.
- Authorized black shoes or polished black boots with a smooth, round toe with black or neutral colored socks.

* While in uniform, if a hat and/or jacket are worn, they shall be the approved articles listed below.
*Hat with the Forest Ranger emblem. Permitted hats include baseball style hat, stocking hat or beanie (green or blaze orange).
** Black jacket with patches (DNR Logo, Forest Ranger Rocker, US Flag and Badge patch)*

**Wearing of the Uniform by Forest Rangers**
Forest Rangers shall wear the designated uniform when on-duty in the role of enforcing officers in the following situations:

1. Court appearances
2. Funerals and Special Ceremonies, as instructed by the Division of Forestry
3. Formal interviews and investigations
4. Legislative/News/Media contacts
5. Meetings with town and county boards or other political bodies
6. Meetings and/or training sessions with fire departments
7. External meetings with other agencies
8. Educational programs and presentations
9. Simulated disaster exercises with local government agencies
10. Ranger Recertification Training
11. Instruction of Forestry Law Enforcement modules and courses
12. Other enforcement related activities as directed by supervisor

When fire staffing, Forest Rangers shall wear the designated uniform and PPE for suppression and prescribed fire duty. This policy does not supersede the Suppression and Prescribed Fire Uniform Policy in this handbook.

Variations and deviations from the authorized uniforms are not allowed except as provided in this policy.

**Ownership of the Uniform**
All uniform items provided by the department, including patches, are the property of the DNR. As such, no component of the uniform may be sold or transferred without authorization. No uniform items may be retained, sold, bartered, traded, or donated for personal use or gain, except that worn/used shoes, boots and pants do not need to be turned in upon separation from service.

If the Forest Ranger promotes or laterals into a position that does not require Forest Ranger credentials or upon separation from state service, the uniform (except items stated above) shall immediately be returned to the employee's immediate supervisor or designee. The supervisor may redistribute or dispose of the uniform items accordingly.

**Uniform Standards**
All Forest Rangers are responsible for maintaining their uniforms and complying with this uniform policy. All supervisors, regardless of lines of authority, are responsible for ensuring the standards are followed and taking corrective action as appropriate in the event these standards are not followed.

1. The uniform shall be kept serviceable, clean, and free of excessive wrinkles.
    a. Any exposed T-shirt shall be black or neutral in color. Long sleeve undershirt, turtlenecks or mock turtlenecks will not be worn with the short sleeve uniform shirt.
    b. Contaminated clothing: Unusual or extreme laundry needs will be paid by the department (e.g., biological or chemical contaminants or severe soiling requiring commercial cleaning applications).

c. Unserviceable clothing: Unserviceable, torn or shabby portions of the uniform shall not be worn as part of the uniform. Patches that are worn out, buttons that are missing, etc. will be replaced. Uniform items may be tailored, hemmed or repaired at state expense to provide a better fit for individuals upon the initial issuance of those items.

2. The Forest Ranger's badge, silver name plate, and shoulder patches are considered part of the uniform. Only shoulder patches, emblems, badges, and silver name plates issued by the department are to be attached to the uniform.
   a. The Forest Ranger badge will be worn immediately above and centered over the left pocket of the uniform shirt or in the badge tabs supplied from the factory. A black mourning band may be worn on a Forest Ranger's badge when directed to or when attending a funeral or other service for a fallen law enforcement officer, firefighter, EMT, or with supervisory approval.
   b. The silver name plate shall be worn centered, directly above and even with the top of the right pocket (see Figure 1). A name plate is not necessary on the jacket.
   c. The DNR logo shoulder patch shall be attached to the left sleeve of the shirt, and jackets, one inch down from the shoulder seam with the “FOREST RANGER" rocker attached immediately below. The United States flag patch shall be attached on the right sleeve of the shirt and jacket one inch down from the shoulder seam. The Forest Ranger Badge patch will be attached to the jacket.
   d. When fire staffing, the badge/badge emblem shall be displayed either on approved headwear or chest pack.
   e. Silver name plate shall be displayed on chest pack, if worn.
3. Footwear worn with the Forest Ranger work uniform will be solid black in color.
   a. Exceptions for color may occur for work boots, hip boots, rubber knee boots, waders, and insulated or rubberized foot gear that may be worn with the uniform as appropriate for the weather or job duties.
   b. Sandals are not authorized footwear and may not be worn with the uniform.

**Uniform Purchases and Replacement**

As authorized and approved by supervisors, uniform items shall be ordered using the Forest Ranger Uniform Order Form located on the Forestry LE Intranet page and will be paid for with local budgets. The uniforms will be tracked locally by supervisors.

1. **Authorized clothing purchases.** The clothing authorized for purchase remains the property of the department. Such purchases are tax exempt and should be made with the forester’s department-issued “purchase card.” Foresters making authorized clothing purchases pursuant to this policy shall follow DNR Finance instructions for the proper submittal of the purchase card invoices/receipts, including the statement, ***Item purchased for on-duty wear as authorized by the Division of Forestry “Forest Ranger Uniforms Standards” policy.***
2. **Authorized black shoes/boots.** Reimbursement for the authorized black shoes/boots to be worn with the uniform is not to exceed $150. This shoe/boot reimbursement is not to be applied to a “fire/forestry boot” used for PPE. A shoe/boot purchase may be renewed every 5 years from the date of the last purchase. Each Forest Ranger will be required to produce documentation of the last purchase date. Worn/used shoes will not be required to be turned in upon separation from the department.
3. **Purchase procedures.** The employee makes a request for the authorized item to their immediate supervisor, who reviews the request and either approves or denies the request. If the request exceeds the amounts authorized in this section for the item, the employee shall cover the cost exceeding $150. **Sales tax is the responsibility of the employee and cannot be claimed on the expense report.**
   a. **Boot and shoe reimbursement.** All approved boot and shoe purchases shall be paid for initially with personal funds. The Forest Ranger shall submit the receipt(s) documenting the purchase item and amount for reimbursement on a PeopleSoft expense report.
   b. **Purchase invoice.** Attach and submit a scanned copy of the itemized purchase receipt, a copy of this policy with the expense report and supervisory approval documentation.

Figure 1.

### Suppression and Prescribed Fire Uniforms

Standard protective clothing is desirable for purposes of safety, recognition, and high visibility. To ensure these articles of clothing will perform as expected, they are to be worn only as described below. They are not intended to be worn as a daily duty uniform, work clothes or to internal Department meetings. In order to provide and to promote a high standard of employee protection, Forestry personnel that have been issued protective clothing shall wear it at the following times:

1. When fire operations plans require staffing.

2. When an employee is involved in a fire investigation or other non-emergency law enforcement action and needs to be readily identified as Forest Ranger and fire PPE is appropriate.

3. When responding to any emergency situation (reportable and non-reportable fires or other emergency responses) when fire staffing is operational.

4. When personnel are involved in other emergency incidents and need to be readily identified as a Department employee (i.e., field response during incident management team activation during natural disasters.

5. When conducting prescribed burns.

6. When directed for fire training sessions.

When responding to any emergency situation (reportable and non-reportable fires) when fire staffing is not operational, Forestry staff may wear PPE coveralls or PPE over pants and brush coats over the top of street clothing instead of the standard PPE pants and shirt. All other standard PPE is required.

Further information on standards for forest fire protective clothing and equipment can be found in the Safety chapter of this Handbook.

## WORK/REST GUIDELINES

The intent of work/rest guidelines is to manage fatigue and to provide flexibility for fire staff managing initial attack, extended attack and project class fires. All Department employees engaged in forest fire suppression, including dispatching, or functioning as a member of an IMT (including all-risk incidents), must have adequate rest periods.

### Supervisory Authority

When working in emergency situation conditions, a functional or operational supervisor has the discretion and authority to remove any employee from duty, at any time, for safety reasons, including fatigue. This is to ensure the safety of the employee, as well as that of co-workers and the general public during emergency conditions.

### Work Scheduling

1. An employee **must** have a scheduled day off after working **20 consecutive days**, regardless of the total hours worked per day.

2. An employee placed on Fire Duty Readiness (FDR) would **not** be considered as being off duty for that day, even if they do not return to active duty during the FDR.

3. An employee **may** have an ordered scheduled day off after working **14 consecutive days** at the discretion and authority of the supervisor. This may include a day the employee was previously scheduled to work.

4. If fire danger allows, an employee may request to exchange a scheduled work day with a future scheduled day off within the normally scheduled Sunday-Saturday work week so as to "reset" the work/rest schedule. Supervisory approval is required for voluntary schedule changes.

5. If during extended work periods an employee may request of their supervisor a day off to address personal fatigue

issues. The supervisor will attempt to address this request in a timely manner in light of staffing and programmatic needs.

A *scheduled day off* is defined as not in work status for 24 consecutive hours. Note that, in regards to the start of an ordered or scheduled shift, two hours or less work status does not break the continuance of the 24-hour rest period. An example of when this situation occurs is when predicted fire staffing at the shift start does not require the anticipated resources needs previously considered, and with supervisory approval, staff are released from work status.

**Work Hours**

1. A 2-hour to 1-hour work/rest ratio (2:1) will be used as a guideline in determining work schedules; that is, for every two hours of work, an employee should be allowed one hour of rest and/or sleep.

2. An employee who has worked for **12 consecutive hours** must notify the IC, operational supervisor or their supervisor that they anticipate they will meet the 16-hour limit and that a work/rest period needs to be considered. This allows supervisors time to bring in a replacement, if needed.

3. Except in emergency fire suppression situations when no alternatives are available because of pervasive statewide fire danger (i.e., statewide preparedness level 5 or on-going project fire) no employee may work:
   a. In excess of 16 consecutive hours without their supervisors, IC's or operational supervisor's approval
   b. In excess of 24 consecutive hours
   c. More than 32 hours in any 48-hour period without exception

4. Employees who work **16 consecutive hours** or more may not be placed on FDR for fire suppression purposes until the 2:1 work/rest period is achieved.

5. An employee on FDR that is required to report to duty during the FDR period or is paged out to an off-duty incident must meet an adequate rest period requirement of 8 uninterrupted hours or a cumulative total of 12 hours of being in non-work status prior to reporting for their next scheduled shift.

6. An employee needs to notify their supervisor of a night fire response and report the night time fire hours by fire number on the time sheet in the justification section. On night fires, employees are expected to contact the dispatch center upon departure and return to the station.

7. Incident Commanders shall schedule personnel, including themselves, to provide for the appropriate work/rest periods, within 24 hours from assignment to an incident.

**Rest Period Requirements**

1. All staff working emergency situations are required to have a 2-hour to 1-hour work/rest ratio scheduled. For every two hours of work, an employee must be granted one hour of rest and/or sleep.

2. The work/rest schedule shall be tracked and monitored by the supervisor.

3. A rest period is defined as an 8-hour uninterrupted time period.

4. An employee who has worked over 12 consecutive hours **AND** must travel more than 50 miles to the home station must be able to reach their residence by 10:00pm or complete the work/rest requirements before being released from an incident.

5. Any person working on an incident night shift in any capacity, who is greater than 50 miles from his/her home station or residence may not drive a vehicle back to their home station or residence until work/rest guidelines are met and the individual has been released from the incident. A person may be required to remain overnight, unless a rested driver is available to transport and return the person to their home station. A night shift is defined as working between 10:00 pm to 6:00 am.

Unforeseeable emergency situations may require temporary variations from this policy. For example, life-threatening situations may require longer work periods until additional personnel or replacements can be obtained. However, at the end of the emergency, rebalancing to the 2:1 work/rest ratio is mandatory.

## FIRE MANAGEMENT PERSONNEL ASSIGNED TO FIRE DUTY READINESS (FDR)

All personnel with initial attack forest fire suppression assignments and who are placed on FDR must be able to respond to their fire work stations within 30 minutes during the period they are on FDR.

## PARTICIPATION IN EMERGENCY RESPONSE PROGRAMS

The Division will provide assistance in natural resource related emergencies, such as floods, tornadoes, blowdowns and other similar events as long as that participation is consistent with the Division's ability to respond to forest fire or mutual aid fire emergencies.

This policy does not prohibit Division employees from participating as members of a FD, ambulance or rescue squad, but does clarify when employees are in "work status" and are covered under the Department worker's compensation insurance. The following restrictions clearly limit the Department's responsibilities regarding potential actions in matters of civil and criminal liability.

### Restrictions

1. At no time will a Forestry employee respond as a member of a FD, ambulance or rescue squad while in "work status" for the DNR.

2. Any scheduling conflict will be resolved in favor of the Department unless otherwise authorized by the supervisor.

3. Any action taken as a member of a FD, ambulance or rescue squad, etc. will be considered to be outside the "scope of employment" of the Department.

4. Employees may not use any DNR equipment while engaged in outside employment.

### Implementation Issues

Department mutual aid with FDs is authorized by s. NR 1.23, Wis. Adm. Code. Mutual aid, as defined, may be given when requested by a FD provided an employee performs the duties as trained for by the DNR. The employee is then working within the "scope of employment" and is covered by the DNR worker's compensation.

Although a DNR employee can switch from a DNR mutual aid response to an emergency organization member response during an incident, the employee cannot be in Department work status, may not use state equipment, and must have supervisory approval before making the switch.

A DNR employee may be granted prior supervisory approval to switch during an incident and become a member of an emergency response organization.

This prior supervisory approval to switch roles should specify the contact procedure between the employee and their supervisor or designee, i.e., dispatcher. The employee should always notify the fire chief or other person in charge of an incident when the switch from DNR employee to an emergency response organization is made.

A DNR employee may use a state vehicle to respond to an emergency before switching roles and becoming a member of an emergency response organization if the employee is closer to an incident when notified than if they were required to return to a personal vehicle. When an employee is using a state vehicle in this situation, the employee is in DNR work status.

An employee performing as a member of an emergency response organization during normal state working hours must account for the time taken off as follows:

For represented, non-represented professional and supervisory employees, schedules may be altered, leave time used or professional time taken as outlined in Manual Code 9133.

For represented technical bargaining unit employees, schedules may be altered with supervisory approval or leave time taken. Supervisors are encouraged to work with employees to accomplish this in a mutually agreeable manner.

**Outside Employment**

Some FDs, ambulance or rescue squads compensate members for responses. Compensation may be in the form of cash or other benefits, such as clothing or equipment when it becomes the personal property of the employee. Employees engaging in such activities for compensation must submit an Outside Activities Report/Request (Form #9100-31) for Department approval in accordance with Manual Code 9103.2.

## DELEGATION OF SIGNING AUTHORITY ON FORMS

The Secretary has delegated the authority to sign the following forms as shown:

| Form Number | Title | Signing Authority |
|---|---|---|
| 4300-061 | Fire Department / DNR Memorandum of Understanding for Mutual Aid and Fire Suppression Services | Area Forestry Leader |
| 4300-030 | Federal Excess Personal Property Use Cooperative Agreement | Area Forestry Leader |
| 4300-049 | Private Equipment and Operator Availability Contract for Wildland Fire Suppression | Area Forestry Leader |

# CHAPTER 2: PREVENTION

## ADMINISTRATION

The protection of Wisconsin forest and wildland areas from destructive fires is a principal assignment of the Natural Resources Board. The fire management program in the Department of Natural Resources (Department or DNR) has been established and maintained for that purpose. The responsibilities of forest fire management include prevention, detection and suppression of fires. Enforcement of fire regulations is an integral part of the fire prevention program. Actions taken to educate on and enforce the fire laws are carefully planned to maximize their effects as a fire prevention measure.

### Objective

The objective of the fire prevention program is to reduce the losses associated with wildfires through education, engineering, and enforcement.

### Fire Statistics

Annual statistics related to fire numbers and their causes will be produced by the Forest Fire Protection Section.

### Prevention Contacts

Any specific questions, concerns, or ideas in regards to fire prevention or Firewise-related issues should be addressed to the Wildfire Prevention Specialist, the Wildland Urban Interface (WUI) Coordinator, or WUI Specialists.

Questions, comments, or concerns related to fire prevention and forest education can also be voiced to your District and/or Area Specialist Team representative.

## ENGINEERING

### Statewide Laws and Regulations

For a breakdown of how materials are handled (i.e., landfill, recycle, or burn), visit: http://dnr.wi.gov/topic/environmentprotect.html.

### Alternatives to Burning

1. Reduce usage – buy in bulk or larger quantities and demand less packaging on the products you buy.
2. Reuse items – use cloth grocery bags, donate unwanted items to charity or sell them at a yard sale.
3. Recycle newspaper, office paper, cardboard, corrugated cardboard, magazines, aluminum, metal, glass and acceptable plastics.
4. Compost leaves and plant clippings.
5. Chip brush and clean wood to make mulch or decorative chips or use it as heating fuel in wood stoves or boilers.
6. Dispose of allowable waste materials at a licensed landfill. For more information about what items may be disposed of at licensed landfills, contact the Waste Program at your DNR regional office or service center.

### Model Open Burning Ordinance

The model ordinance was prepared to assist Wisconsin counties, cities, villages and towns in adopting local regulations related to outdoor burning and burning of refuse. The model is intended to assist these units of government in enacting their own ordinances and can be found at https://widnr.widen.net/view/pdf/gitihsrtmg/AM356.pdf?t.download=true

### Burning Questions

For questions related to burning permit laws and open burning issues, visit the "Burning Permits" intranet page. This toolbox is intended to assist Forestry, Law Enforcement, Customer Service or Air and Waste staff with cross-programmatic questions from the public. https://sp.dnr.enterprise.wistate.us/org/fd/Intranet-FD/Pages/fire/burning-permits/default.aspx

For questions related to alternatives to burning, find out if burning is allowed, or to submit a complaint regarding an open burning activity, visit the Open Burning internet page and use the "Can I Burn" web tool

**Open Burning**

The Division of Forestry (Division) acknowledges that outdoor burning creates air quality and waste management concerns, in addition to wildfire risks. The following should not be interpreted as an endorsement to burn, but rather used to promote safe burning of materials that by law are legal to burn.

Individual residents/private citizens are allowed to burn lawn and garden debris, small quantities of clean untreated, unpainted wood, and clean paper/cardboard waste that is not recyclable, such as a pizza box.

Businesses, industries and municipalities are prohibited from open burning, with very few exceptions. One exception is for wood burning facilities that have received a state-issued wood burning facility license. Check with your DNR Air or Waste Program staff for questions on any other exceptions.

Open Burning Recommendations

The description and characteristics listed below are intended as guidelines in helping the staff and the public distinguish between a fire that requires a permit and one that does not. Open burning, as referenced in this portion of the Handbook, is meant to include outdoor burning in or out of an enclosure such as a burn barrel or burn ring, but not including outdoor wood-fired boilers/heaters.

The following recommendations are intended to be guidelines that staff can use to advise the public. The following recommendations are not all inclusive and are designed to help reduce the chance of a fire escaping control. The state accepts no liability if the following recommendations are used, yet an individual's fire escapes or damage occurs due to a fire.

Recommendations for Safe Burning Common to all Fires

1. Know your local burn regulations, and if required, obtain necessary permits.

2. Burn only legal materials (as defined by state statue and may be more restrictive by local ordinances).

3. Attend the fire at all times.

4. Maintain a fire size that allows for quick suppression with the available resources and within your personal abilities.

5. When you are done with your fire, be sure it is completely out. Use your senses to make sure the fire is out (Look, Listen, Smell, and Touch).

6. Have a sufficient water source and hand tools available to suppress the fire quickly.

7. Recognize hazards and mitigate them. Examples of hazards include:

    a. Wind gusts
    b. Cold fronts (or other weather factors) which may create gusty, shifty and erratic winds
    c. Fires close to overhead power lines, tree canopies, structures or other combustible materials
    d. Highly visible or high traffic areas

8. Have your address/fire number, including county name and road name, handy in case you have to call for assistance.

9. If your fire escapes control and you are not able to quickly suppress it, abandon your suppression effort and seek immediate assistance by calling 911 or your local emergency phone numbers.

Campfires

Description: A cooking/warming/recreational fire.

Intent: Solely for warming or cooking purposes, not intended for the disposal of the materials being burned.

Characteristics: A fire that burns mostly woody fuels, but may be started using some kindling materials. Kindling may include the use of some leaves or paper, but sustaining the burning of the fire is not relying on kindling materials.

*Public Safety Recommendations for Campfires*

1. Use a metal or rock/stone fire ring that completely surrounds and contains the fuels being burned.

2. A cleared area (down to mineral soil or other non-combustible materials) around the fire that is equal to or greater than the diameter of the fire ring and a minimum or 3 feet cleared surrounding the fire ring (examples: a 2 foot fire ring should have at least a 3 foot clearing around it, a fire ring with a diameter of 4 feet should have at least a 4 foot clearing around the fire ring).

Debris Burning (piles or in containers)

Description: A fire that is used to dispose of leaves, vegetation, clean non-recyclable paper or clean, untreated, unpainted wood.

Intent: Intent of the fire is (or would be reasonably assumed to be) the disposal of the materials being burned rather than for the purposes of cooking, warming or recreational purposes.

Characteristics: The fire may be located on the ground (inside a fire ring or not contained by a ring) or may be in a barrel. The range of fuels may vary from light fuels, such as grass, twigs or leaves and/or heavy fuels, such as logs, stumps or wood scraps, in addition to clean non-recyclable paper or clean, untreated, unpainted wood.

*Public Safety Recommendations for Debris Burning*

1. A minimum of five feet of area (cleared to mineral soil or consisting of other non-combustible materials) should be maintained around the burn pile. Where possible a larger cleared area is encouraged.

2. A pile should be kept to a small enough size that it can be controlled with basic hand tools and water. However, fuel types, weather conditions and personal limitations may further limit the size. Require that a special permit be issued for piles larger than 6’ x 6’ x 6’.

3. Start with a small pile and add to it as the pile burns down.

4. Plan on burning only as much materials that can be completely extinguished within the time period that your permit allows, and by the time that you will be leaving.

5. Fire must be attended at all times.

6. Encourage burning of heavy fuels, stumps, and large quantities of fuels when there is complete snow cover.

7. If burning in barrels or other containers:

a. Container should be in mechanically stable condition and have vent holes no bigger than ¼ in size above the ash line of the container.
b. Use a heavy wire screen with holes no bigger than ¼ in size or cover that has small holes that will allow for some air movement but will contain most of the embers.

Safety Note – Burning (especially of illegal materials) can emit dangerous toxins that can cause severe health issues. Firefighters (and other bystanders) are encouraged to stay clear of areas where illegal materials are being burned and if the burn cannot be safely extinguished without being exposed to the smoke, mitigation measures such as calling in fire department resources that have the ability to use breathing apparatus should be considered. In addition, when the burning of illegal materials is discovered, referrals to DNR Air or Waste program staff should be conducted for additional follow-up.

Broadcast Burning

Description: A fire that consumes fuels over a relatively broad area (generally measurable in acres or fractions of acres).

Intent: Generally, for the purposes of site preparation (agricultural, silvicultural, etc.), prairie/savanna/etc. management, fire hazard reduction, habitat creation/maintenance purposes and maintenance of invasive/non-desirable vegetation.

Characteristics: The fire is often located over an area that is covered in vegetation that may be dead, alive or a mix of both.

*Public Safety Recommendations for Broadcast Burning*

1. Size limitations regarding when a special burn permit is required vary around the state. Staff should be aware of the local size that requires the issuance of a special permit and/or field inspection.

2. Broadcast burns often require equipment or supervision that is more than is required for small brush piles or campfires. When special equipment or supervision of the burn is required, those requirements should be clearly listed on the special permit that is issued.

3. For broadcast burns that are being conducted on Department lands or by Department staff, ensure Department, district, and area guidelines regarding prescribed and broadcast burning are known and followed. That includes the development and approval of a prescribed burn plan and use of required safety equipment.

4. Cooperation between agencies with trained firefighting personnel are encouraged as training opportunities, and to help accomplish burns that may be unreasonable based on current available staffing.

5. Smoke management concerns should also be addressed to reduce smoke over roadways, residential areas, and other smoke-sensitive establishments (i.e., Retirement homes, schools, hospitals, airports, etc.). Consider burning only when wind conditions are favorable to minimize any adverse impacts to these areas and post hazard signs along roadways that may be affected by the burn.

6. Permit holders should also notify local fire departments, law enforcement agencies and dispatch centers before lighting to reduce the amount of false runs when a passerby calls in the smoke from a broadcast burn.

Land Clearing Operations

Description: A debris fire or fires that are used to dispose of large piles or windrows of stumps, logs and other woody debris.

Intent: These fires are generally used to dispose of large piles of stumps, logs, etc., to clear land for agriculture or building sites.

Characteristics: These piles cannot be burned within the time restrictions of a regular permit. Piles or windrows may burn for days or months depending on the circumstances. This is usually done with the aid of heavy equipment.

*Public Safety Recommendations for Land Clearing Operations*

1. Burning of large piles and windrows is recommended during months when snow cover is present.
2. If permits are required, a special permit can be issued after a site inspection.
3. Direction should be given to the permit holder about the statutory restrictions regarding leaving their fire unattended.
4. In most cases, heavy equipment such as a farm tractor with a root rake or bucket (and/or other heavy equipment such as a bulldozer) should be present to manage the piles.
5. Permit holders should also notify local fire departments, law enforcement agencies and dispatch centers before lighting to reduce the number of false runs when a passerby calls in the smoke from a land clearing operation.
6. Smoke management should also be addressed to reduce the hazard of smoke over roadways, residential areas, and smoke-sensitive establishments (i.e., retirement homes, schools, hospitals, airports, etc.).
7. Permit holder must monitor the burned material and verify that it is completely out. Land clearing fire containing stumps, logs, etc., can hold over for months, even during snow cover.

### Solid Waste

The 1990 Recycling Act prohibits commercial, industrial and municipal facilities from disposing of any yard wastes by either landfilling or burning without energy recovery. It also prohibits the landfilling or burning of many recyclable materials such as paper and cardboard. The Waste Management Program allows open burning of small amounts of woody materials only at private residences or at facilities which have received a special wood burning facility license.

### Air Management

The combination of Air Management's restrictive rules on open burning (which have been in place since 1970) and the Waste Management Program rules mean that open burning of most waste materials is prohibited under state law. Local ordinance can override – and thus prohibit – the few exceptions that are allowed under state law.

## PREVENTION INSPECTIONS

Prevention inspections can be considered as fire danger or fire occurrence dictates.

### Logging Operations

Inspections of active logging operations should place emphasis on identification and mitigation of risk. Examples of sources of risk to locate are as follows:

1. Mufflers and spark arresters (see s. 26.205, Wis. Stats.).
2. Use of logging equipment prone to starting fires such as rotary blade equipment, i.e., "hot saws".
3. Use and storage of highly flammable fuels such as gasoline, oil, etc.
4. Use of chain saws and other equipment.

5. Personal use of smoking material.

6. Use of torches or welding equipment during equipment maintenance and repair.

7. Ensure functioning portable fire extinguishers are on site and available.

8. Ensure that all fire suppression systems attached to logging equipment are functional.

9. Ensure that logging equipment operators and truck drivers are familiar with the operation of portable fire extinguishers and fire suppression equipment.

If serious risk situations are discovered, the logging operator will be advised and instructed to reduce or eliminate the risk. These inspections should be made when the ground is not snow covered. All inspections should be documented.

**Recreational Areas - Campgrounds**

Restricting campers to developed campgrounds will help to control the risk. Personal contacts with campers at campsites are encouraged especially in high hazard areas. Points to remember when making contacts are:

1. Fire rings, grills and fireplaces will be located in areas cleared of flammable materials such as grass, leaves, paper, overhanging branches, or firewood.

2. A suitable barrel or container should be provided for disposal of hot charcoal and ash. Every effort will be made to prevent indiscriminate dumping of these materials. This is vital both from a fire prevention and safety standpoint.

Maintaining close relationships with owners or managers of public and private campgrounds will make it easier to gain their assistance in eliminating serious risk and hazard combinations. Managers can reduce their overall risk by applying fundamental concepts in the Home Ignition Zone Self-Assessment for Homeowners (FR-474). Propose alternatives to burning debris that managers may have accumulated from yearly cleanup activities. If they choose to burn, ensure they understand regulations in their area. They can further reduce their risk by making campers aware of fire danger and any restrictions that may apply to their campfire. It is also important that when campers leave their site, their campfire is fully extinguished and cold to the touch.

**Right-of-Ways: State-owned or Controlled**

Inspection should be made to determine the seriousness of risks and hazards along right-of-ways. If high risks and hazards exist in conjunction with each other, an attempt should be made to reduce or eliminate one or both of them. It is encouraged to document these inspections for future reference.

Examples of State-owned or controlled right-of-ways:

1. Recreational trails such as hiking, biking, snowmobile, ATV, hunter walking, canoe routes or portages

2. Roads, easements and access areas

**Other Right-of-Ways**

Railroads

For information on railroad right-of-ways, please see the Railroad Fire Prevention section below.

Power lines

Inspections of power line right-of-ways can be requested by the Department. The emphasis should be placed on identification and mitigation of risk. The following statutes outline the requirements for identifying and eliminating natural hazards along power line right-of-ways.

*Wisconsin State Statutes, Chapter PSC 113.0512, Identification of potential power line natural hazards*

PSC 113.0512(2): Inspection to Identify Potential Power Line Natural Hazards.

PSC 113.0512(2)(a): *Inspection.* The utilities shall conduct inspections of its operations, including its transmission and distribution lines and facility rights-of-way, every 3 to 8 years and within 60 days of an order for inspection issued by the commission.

PSC 113.0512(2)(b): *Request for inspection.* Any person, organization or agency may request the utility to make an inspection for potential power line natural hazards and the commission on its own motion, may order the utility to inspect its transmission and distribution lines and rights-of-way for potential power line natural hazards. The utility shall make such inspection upon a showing that potential power line natural hazards may exist.

PSC 113.0512(3): Response to Identification of Potential Power Line Natural Hazards. Upon identifying a potential power line natural hazard, the utility shall take action to eliminate the hazard to the power line. The utility shall make a reasonable effort to notify the owner or other individual with authority, to trim or remove the tree of the potential danger and method by which the danger may be minimized or removed. Nothing in this section shall preclude the utility's obligation to immediately remove the hazard.

Note: Section 26.14 (9) (b), Wis. Stats., subjects a person to liability for the cost of suppressing a forest fire if the forest fire is intentionally or negligently set and allowed to escape. A utility not inspecting its lines or operations to identify, trim or remove hazardous trees consistent with these rules may be found negligent and, therefore, responsible for payment of forest fire suppression costs resulting from a forest fire caused by a tree or branch breaking or damaging a line or equipment. A utility complying with these rules, is not expected to be responsible for costs associated with forest fire suppression under s. 26.14 (9) (b), Wis. Stats. If a utility complying with this section is not authorized to trim or remove a tree it identifies as hazardous, consistent with the training required by it; a landowner notified of the potential danger or damage that may be caused to the transmission or distribution line or operation, might be found later to have been negligent and responsible for the costs of setting and allowing a forest fire to escape; however, the agency seeking reimbursement for the costs has the burden of proving that the landowner is responsible. The goal of this effort is to reduce the likelihood of outages and forest fires occurring.

The *Urban Tree Risk Management Guide* (USDA Forest Service publication NA-TP-03-03) is a comprehensive guide to hazardous tree identification, prevention, and correction. The publication can be found online or ordered through the USFS.

## RAILROAD FIRE PREVENTION

The most common causes of railroad fires are exhaust, worn or defective brake shoes, and track grinding. Good cause determination enables us to attack the specific problem.

Analysis, identification of the local railroad problem, and planning is done at the local level. The Forest Fire Protection Section will provide Forestry personnel with training, information, and coordination in addition to training on how to do a preliminary inspection of locomotives and making contact with the railroad administration.

To be successful in working with the railroads it is necessary that all contacts, inspections, visits, or telephone calls with the railroad are documented in writing. A case file shall be established at each level of the program for each railroad being dealt with. Check the current Forest Fire Program Record Retention/Disposition Authorization for specific information on retention.

### Railroad Orders

Under s. 26.20, Wis. Stats., the Department has the authority to establish standards and order maintenance of railroad right-of-ways and spark arrestors, and order track patrols, etc., through the issuance of “Railroad Orders”. Prior to issuance of these orders, it is advisable to work with your local railroad company to address any issues that have occurred, or you perceive might occur due to lack of maintenance and/or fire weather. Discussion with the Locomotive Inspector and Bureau staff must occur before orders are issued.

**Railroad Right-of-Ways**

Inspections of railroad right-of-ways should place emphasis on identification and mitigation of risk. Section 26.20(4), Wis. Stats., outlines the requirements of clearance along railroad right-of-ways:

> Section 26.20(4), Wis. Stats., Clearing right-of-way
>
> 26.20(4)(a): Every corporation maintaining and operating a railway shall, at least once in each year, and within 10 days when requested by the department in writing, cut and burn or remove from its right-of-way all grass and weeds and burn or remove from its right-of-way all brush, logs, refuse material, and debris within a reasonable time, and whenever fires are set for such purpose, shall prevent the escape of the fire from the right-of-way. Upon failure of a railway corporation to comply with this paragraph, the department may do or contract for completion of the work and the corporation shall be liable to the state for all of the costs of the work.
>
> 26.20(4)(b): The department may periodically require every corporation operating a railway to remove combustible materials from designated right-of-way or portions of a right-of-way, and lands adjacent to the right-of-way. This paragraph shall not relieve any railway corporation from responsibility or liability for causing any damage along any right-of-way nor from the corporation's duty to comply with paragraph (a).

**Railroad Fire Problem Analysis**

What is the history of railroad fires in the unit for the last five years? Use the following as a basis for your decision making:

1. Fires have occurred during at least three of the previous five years along any quarter mile length of the right-of-way. Are they on one side of the track or both sides?

2. Have there been one or more fires of at least 10 or more acres in size during the previous 10 years within any quarter mile length of the right-of-way. Were they on one side of the track or both sides? What was the cause? Would right-of-way work have prevented a fire, or fires, from starting?

3. Is the railway run seasonally or with engines not serviced by a company mechanic, and has a fire has occurred in the last 10 years?

If any of the above occurrence criteria is met, consider the following in determining the priority for accomplishing the work:

1. Access for suppression equipment is marginal or non-existent.

2. Complications or environmental damage arising from a fire or smoke results in a hazard to life or property.

3. No fire of any kind would be acceptable because of the value of the property at risk.

4. Train operates in volatile fuels such as pine or marsh, or in wildland urban interface areas.

What do you want done to deal with the problem? Some possible solutions include:

1. Installation of a plowed perimeter fire break, the outer edge of which is 25 feet from the center line of the track on the side or sides the fires have occurred on.
2. Create a burned-out fuel break by igniting all fuel within 25 feet from the center line of the track on the side or sides the fires have occurred on. Burned-out fuel breaks should be completed as soon as possible after snow melt in order to be effective for the upcoming fire season. Burning must be done with appropriate permits, water availability on-site, adequate fuel breaks or wetlines, and any additional instruction per the local DNR forest ranger.

3. Installation of a fire break at the top of the cut or the bottom of the fill that is at least six feet wide.

4. Installation of a drivable fire break that will allow access for wheeled or tracked vehicles.

5. Installation of a water access point for a portable pump.

6. Require a railroad mechanic to install or maintain a spark arrester to manufacturer specifications.

7. Follow train with fire equipment during high fire danger and immediately report fires to 911 dispatch. The intent is to report fires to crew, who can put them out before they get larger.

The AFL and/or the forest ranger shall meet with the appropriate road master/operator and jointly determine the location of the breaks, width of breaks, completion dates, and timing of future break maintenance in accordance with Department recommendations.

A follow-up letter will be sent to the road master/operator and railroad division engineer listing all instruction and technical advice so that no misunderstanding will occur. All such instructions (including agreed-upon completion dates for the specified work) and directions will refer to locations by mile post or other method used by the railroad to locate points along the right-of-way.

It is the responsibility of the AFL to see that the agreed upon work is done in the manner and location specified. The local forest ranger should be assigned to work closely with the railroad in seeing that the work meets agreed upon standards. A record must be maintained of any contacts made by the local ranger or the railroad regarding progress on the work. If weather has prevented the railroad from completing the work by the agreed-upon completion date, this should be documented and taken into consideration in the decision-making process. After the forest ranger has made the necessary contacts and if little or no work is done by the agreed upon completion dates:

1. A letter will be prepared for the AFL's signature. It will include:

    a. Copies of all maps and previous correspondence and meeting dates.
    b. The identity of the railroad sections where right-of-way work was to be done, the standards to be met and the timeline for completion.
    c. A newly established deadline, if appropriate.
    d. A definite statement of what legal action will be taken if there is no compliance. This action will be discussed with the Forest Fire Law Enforcement Specialist (FLES) and Bureau of Legal Services before finalizing the letter.
    e. Copies of the finalized letter will be provided to the FLES and Bureau of Legal Services.

2. The procedure to follow if the railroad fails to comply is:

    a. The district attorney will be briefed by the AFL and/or forest ranger on the case. Include the original letter and all subsequent Department actions in the briefing.
    b. Prosecution will be under ss. 26.20(4) and (9), and s. 23.79(3), Wis. Stats.
    c. The FLES and Bureau of Legal Services will be kept informed of all progress on the case.

3. If the cleanup has not been completed by the original deadline and there is a valid reason, (e.g., flooding, snow cover), a new completion date can be issued. If, at that time, the work still hasn't been completed, a citation can be issued and a new date established. If, at the newest deadline, the work still isn't completed, another citation can be given. Remember to keep a reasonable timeframe in establishing deadlines.

4. REMEMBER: Each day the railroad fails to meet the compliance deadline is a separate violation; each day the railroad can be cited for a violation. In addition, s. 23.79(3), Wis. Stats., can be used to obtain a court order for compliance. Failure to comply with a court order issued under s. 23.79, Wis. Stats. may result in contempt of court.

If the railroad corporation fails to comply with the specified cleanup, the Department may do or contract for completion of the work and the corporation will be held liable for all costs.

Keep the FLES and Bureau of Legal Services informed on the progress of these types of cases.

## RED FLAG WARNING

Purpose and Objective

A Red Flag Warning (RFW) is a term or a set of criteria defined as an increased risk of fire danger due to the combination of warm temperatures, low humidity, strong winds and dry fuels (vegetation). All DNR annual and special burning permits are suspended and fire danger is 'extreme.' Campfires for warming/cooking, operating equipment, ash disposal, fireworks, disposing of smoking material, etc. is strongly discouraged and should be avoided under these conditions. Since these actions are not 'illegal' under an RFW, enforcement actions must remain under existing authority (e.g., burning without a permit, allowing a fire to escape, failure to extinguish, etc.).

It is the objective of the RFW prevention program to reduce the amount of property and resource damage caused by wildfires. Accomplishment will be through the use of outside agency cooperators and agency fire control forces to supplement existing fire prevention efforts.

Major elements of this program will be mass media and partner saturation urging public cooperation in preventing fires, arson prevention due to physical presence of patrols in designated areas, the early detection and reporting of fires, and the quick suppression of fire starts through utilization of volunteers, other cooperators, and agency patrols in designated areas.

Red Flag Warning Criteria

Red Flag Warnings can be declared under the following circumstances:

1. A Fire Weather Watch is in effect and meets the weather/fuels criteria: A fire weather watch has been issued because the criteria are anticipated to be met based on the weather forecast issued the previous day. If a Fire Weather Watch has already been issued for the affected area (i.e., fuel coordination has already taken place), and if forecast offices agree that critical fire weather conditions will be met, a RFW can be issued without any additional coordination with the fire management agencies (i.e., WDNR and USFS). If the criteria are confirmed in the morning forecast, which is done at approximately 5:00 a.m., the NWS can then independently issue an RFW. These forecasted weather criteria are:

    a. 20-foot sustained ten-minute winds in excess of 15 mph
    b. Relative humidity below 25%
    c. Temperature of 75 degrees or above
    d. Fuel conditions:
        i. Springtime - the Fine Fuel Moisture Code (FFMC) of the Canadian Forest Fire Danger Rating System (CFFDRS) reaches 92, this will be the trigger point for agencies to collaborate to determine if a RFW should be issued. A FFMC of 94 or higher has been identified as the predictable level that would commonly represent a RFW.
        ii. Summertime - CFFDRS BUI of 100+ trigger point for agencies to collaborate to determine if a RFW should be issued. CFFDRS BUI of 110+ = Fuels are critically dry and conducive to project fires.

2. No Fire Weather Watch, however, the weather/fuel criteria is met: In the event a Fire Weather Watch was not issued the day before, but the 5:00 a.m. forecast indicates red flag criteria, the NWS will call the WDNR and the USFS to discuss whether or not a warning will be issued. The Bureau will then notify the appropriate dispatch group(s) of the decision.

3. Red Flag Warning criteria not met, but is requested by suppression agency: Should the forecasted weather parameters not be met, and the DNR would like a RFW issued for other reasons (i.e., weather parameters are close but do not meet minimums, however fuel conditions are extreme or the fire risk is increased due to a planned event (e.g. fishing opener, July 4$^{th}$, etc.)), DNR will initiate a contact with the NWS to request a RFW be issued.

Red Flag Warning Implementation

Red Flag Warnings will be implemented by county. The Bureau of Forest Protection will consult with the AFLs before implementation on which counties will be affected. The Bureau of Forest Protection will then coordinate the issuance with the various NWS offices.

All Areas will annually discuss and identify appropriate RFW prevention strategies and include these strategies as an addendum to their Incident Resource Guides (IRG) or in other planning systems as agreed upon by the Area, which shall be

implemented when a RFW is declared. Every forester shall know their roles and responsibilities. It is recognized that fire suppression activities, sudden changes in weather conditions, and other factors may prevent the implementation of some RFW prevention strategies. Should circumstances preclude fully implementing, the AFL is authorized to either not implement the strategies or to partially implement them.

The following fire prevention strategies shall be considered:

1. Notification of all Area personnel (e.g., weekly calls, daily operations plan, radio, etc.)
2. Notification of local contacts – Appropriate EFWs, county forestry department, Sheriff's Department, fire departments, conservation wardens, federal partners, campgrounds, etc.
3. Cancellation of burning permits including special permits
4. Cancel all DNR prescribed burning
5. Update red flag message and fire danger to "extreme" on WIS-BURN and website
6. Provide talking points to Communications Office and fire spokespeople to support media relations (encourage news media to use and share DNR-sanctioned news releases and social media)
7. Use of existing signs, magnets, posters, flags, graphics, etc. for fire danger awareness
8. Periodic updates by Fire Response Units (FRUs) to dispatch of conditions in their area

Authority & Notification

The Forest Fire Protection Section in collaboration with the USFS and the National Weather Service identify the need for and implement RFWs. Any AFL can request implementation of a RFW for other reasons (changes in weather, 4th of July, etc.). If implementation is requested for any reason, the Area Leader shall first notify surrounding Areas and the District Forestry Leader. The District Forestry Leader shall notify the Bureau of Forest Protection who will request the RFW through the National Weather Service.

The Warning

The AFL will notify dispatch that an RFW has been declared. Dispatch will notify each forester/forester ranger and fire response unit (e.g., radio, operations plans). The fire response unit will notify all fire control personnel and non-fire control personnel at the station. Upon being notified, each forester/forester ranger will immediately implement fire prevention strategies as identified. The District Forestry Leader will notify the Secretary's Director.

Cancellation

When the National Weather Service, in coordination with the Forest Fire Protection Section, determines that RFW conditions no longer exist, they will cancel the warning and notify dispatch and/or area forestry supervisors. Dispatch will notify the FRU Foresters/Forester-Rangers, who will in turn notify all other personnel at the station, including partners, local media contacts, etc. The District Forestry Leader will notify the Secretary's Director.

It is essential to the credibility of the RFW program that cancellation of warnings be prompt and complete. Signs and other methods to inform the public should be removed or updated in a timely manner and phone and web messages on WIS-BURN should be updated immediately.

*--SAMPLE PRESS RELEASE--*

*Madison, WI--In conjunction with the Department of Natural Resources, the National Weather Service has issued a Red Flag Warning for today until 7:00 PM (or other appropriate time). A Red Flag Warning is issued when a variety of weather factors come together to create especially dangerous wildland fire conditions. High temperatures, low humidity, high winds, and exceptionally dry fuels are anticipated and can result in catastrophic fires. As a result, the Department of Natural Resources is prohibiting all burning with DNR issued burning permits and is asking everyone to be especially careful with any activities that could potentially lead to a wildland fire. Campfires, outdoor grills, smoking, chain saws, ATV use or other small engine use all have the potential to throw a spark and ignite a dangerous and destructive fire. Please exercise restraint and extreme caution during these unusually dangerous circumstances. Report fires early by dialing 911 immediately.*

# EMERGENCY BURNING RESTRICTIONS

Purpose and Objective

Emergency Burning Restrictions is an authority under s. NR 30.05, Wis. Adm. Code that allows the DNR to suspend burning and limit potential risks associated with specific public actions that could cause a wildfire in the outdoors under anticipated long-term, drought conditions in DNR Protection Areas. After May 31st, in extensive areas, the Restrictions are implemented only after a Permit Reinstatement (s. NR 30.03(3), Wis. Adm. Code). Situations under which an order could be initiated include extreme/critical, long-term drought, state or federal emergency declarations, or blowdown/tornado events. Though not the preferred term, Emergency Burning Restrictions are often referred to as a "burn ban" by the public and the media.

It is the objective of Emergency Burning Restrictions to reduce the amount of property and resource damage caused by wildfires under these ongoing emergency situations. Upon the issuance of an order, accomplishment will be through the use of outside agency cooperators and agency fire control forces to supplement existing fire prevention efforts.

Major elements of this program include mass media saturation urging public cooperation in preventing fires, arson prevention due to physical presence of patrols in designated areas, the early detection and reporting of fires and the quick suppression of fire starts through utilization of volunteers, other cooperators, and agency patrols in designated fire protection areas.

Under Emergency Burning Restrictions:

(1) It shall be unlawful for any person within the boundaries of forest fire control areas established under s. NR 30.05, Wis. Adm. Code, to:
   1. Build a campfire in any manner except in developed camping areas unless the individual has first obtained a special permit from a duly appointed area forest ranger or other person delegated that authority by the department.
   2. Smoke a pipe, cigar or cigarette except at places of residence or in a vehicle equipped with an ash receptacle.
   3. Throw matches, ashes or burning material from a vehicle.
   4. Burn combustible materials in any area of organized protection where emergency burning restrictions are in place unless they have first obtained a special permit from a duly appointed and designated forest ranger, fire warden or other person designated by the department.

(2) The provisions of this section shall become effective upon the issuance of an order by the Secretary and the posting of two notices in the form prepared by the department in each civil township affected. The notice shall also be published for information. The department shall take such other steps as it deems necessary to convey effective notice to persons who are likely to be affected by the order; this may include electronic means of notification.

Under Emergency Burning Restrictions, the above violations may be cited for the burning of combustible materials within fire protection areas, outside of incorporated cities and villages.

Below are some discretionary guidelines that apply during these times:

Outdoor Burning (s. NR 30.05(d), Wis. Adm. Code)
Enforcement action should be taken on persons found burning a pile of debris on the ground/in a barrel or conducting any broadcast burns on the landscape.

Fireworks (s. NR 30.05(d), Wis. Adm. Code)
The use of fireworks, including otherwise legal fireworks (i.e., sparklers), in woody and grassy areas is strictly prohibited and enforcement action should be taken.

Campfires (s. NR 30.05(a), Wis. Adm. Code)
Enforcement action should be taken on persons with campfires in undeveloped areas and wilderness areas. The device that the individual is burning does not exempt them from the restrictions.

Smoking (s. NR 30.05(b), Wis. Adm. Code)
Persons found smoking a cigarette, pipe, or cigar outdoors is strictly prohibited. However, if the individual has taken the steps to clear an area, or to smoke on a non-combustible surface (such as gravel or concrete), it is at the discretion of the ranger for appropriate enforcement action.

Charcoal Grills (s. NR 30.05(d), Wis. Adm. Code)

Charcoal grills may be used only in the immediate vicinity of a residential dwelling on a non-combustible surface. Two issues exist with the use of charcoal grills: improper ash disposal and venting on the underside of the grill. It is at the discretion of the ranger for enforcement action.

Cutting/torching (s. NR 30.05(d), Wis. Adm. Code)
Welding, torching, and surface grinding in hazardous areas is prohibited.

Off-road vehicles and Logging Equipment (warnings)
Automobiles, motorcycles, all-terrain vehicles (ATVs) and logging equipment should be warned that hot exhaust systems can cause a fire. There are no 'burning restrictions' for off-road vehicle use and logging equipment, but any fire caused by their use is subject to suppression costs and may be responsible for all damages caused by the fire.

Emergency Burning Restriction Implementation

The following fire prevention strategies shall be considered:

1) Notification of all Area personnel (e.g. weekly calls, daily operations plan, radio, etc.)
2) Notification of local contacts – Appropriate EFWs, county forestry department, Sheriff's Department, fire departments, conservation wardens, federal partners, campgrounds, etc.
3) Cancellation of burning permits including special permits
4) Cancel all DNR prescribed burning
5) Update the message on WIS-BURN hotline/website and fire danger signs
6) Provide talking points to Communications Office and fire spokespeople to support media inquiries (encourage news media to use and share DNR sanctioned news releases and social media)
7) Use of existing signs, posters, graphics, etc. for fire danger awareness
8) Periodic updates by FRUs to dispatch of conditions in their area

Authority & Notification

The Forest Protection Section implements Emergency Burning Restrictions on behalf of the Area requesting. If implementation is requested, the AFL first notify surrounding Areas and the District Forestry Leader. The District Forestry Leader shall notify the Bureau of Forest Protection who will request the order to be signed by the Secretary's Office. Notification may also be made to the Governor's Office at the discretion of the Division Administrator.
The AFL will notify dispatch that the restrictions are in place; this should be indicated on the daily operations plans and communicated to each forester/forester ranger and fire response unit. The fire response unit will notify any non-fire control personnel stationed in the area who may not regularly receive the daily operations plans.

Cancellation

When the Area determines that Emergency Burning Restriction conditions no longer exist, they will cancel the order and notify Dispatch and/or AFL. Dispatch will notify the FRU Foresters/Forester-Rangers, who will in turn notify all other personnel at the station. Dispatch and FRU Foresters/Forester-Rangers will also notify all pre-planned cooperators of the cancellation, especially the news media. The District Forestry Leader will notify the Secretary's Director.

It is essential to the credibility of Emergency Burning Restrictions that cancellation of warnings be prompt and complete. Signs and other methods to inform the public should be removed or updated in a timely manner and phone and web messages on WIS-BURN should be updated immediately.

# PERMIT REINSTATEMENT

Purpose and Objective

Permit Reinstatement is an authority under s. NR 30.03(3), Wis. Adm. Code that allows the DNR to reinstate the requirement of burning permits in extensive DNR protection areas after May 31st. This will, in turn, lead to the implementation of Emergency Burning Restrictions and limit potential risks associated with specific public actions that could cause a wildfire in the outdoors under anticipated long-term, drought conditions. Situations under which an order could be initiated include extreme/critical long-term drought, state or federal emergency declarations, or blowdown/tornado events.

It is the objective of Permit Reinstatement to reduce the amount of property and resource damage caused by wildfires in severe to critical drought conditions. Upon the issuance of an order, accomplishment will be through the use of outside agency cooperators and agency fire control forces to supplement the existing fire prevention effort.

Major elements of this program include mass media saturation urging public cooperation in preventing fires, arson prevention due to physical presence of patrols in designated areas, the early detection and reporting of fires and the quick suppression of fire starts through utilization of volunteers, other cooperators, and agency patrols in designated areas.

Permit Reinstatement Implementation

The following prevention strategies shall be considered:

1) Notification of all Area personnel (e.g., weekly calls, daily operations plan, radio, etc.)
2) Notification of local contacts – Appropriate EFWs, county forestry department, Sheriff's Department, fire departments, conservation wardens, federal partners, campgrounds, etc.
3) If applicable, cancellation of burning permits including special permits
4) Cancel all DNR prescribed burning
5) Update the message on WIS-BURN hotline/website and fire danger signs
6) Provide talking points to Communications Office and fire spokespeople to support media relations (encourage news media to use and share DNR sanctioned news releases and social media)
7) Use of existing signs, posters, graphics, etc. for fire danger warning
8) Periodic updates by FRUs to dispatch of conditions in their area

Authority & Notification

The Forest Protection Section implements the Reinstatement order on behalf of the Area requesting. If implementation is requested, the AFL shall first notify surrounding Areas and the District Forestry Leader. The District Forestry Leader shall notify the Bureau of Forest Protection who will request the order to be signed by the Secretary's Office. Notification may also be made to the Governor's Office at the discretion of the Division Administrator.

The AFL will then notify dispatch that the restrictions are in place. Dispatch will notify each Foresters/Forester-Rangers and fire response unit. The fire response unit will notify all fire control personnel and non-fire control personnel stationed there.

Cancellation

When the Area determines that the Reinstatement is no longer needed, they will cancel the order and notify Dispatch and/or area forestry supervisors. Dispatch will notify the FRU Foresters/Forester-Rangers, who will in turn notify all other personnel at the station, including partners and news media. The District Forestry Leader will notify the Secretary's Director.

It is essential to the credibility of the Reinstatement that cancellation of order be prompt and complete. Signs and other methods to inform the public should be removed or updated in a timely manner and phone and web messages on WIS-BURN should be updated immediately.

# EMERGENCY USE RESTRICTIONS

Purpose and Objective

Emergency Use Restrictions is an authority under NR 30.06 that allows the DNR to implement use restrictions on all state-owned lands managed by the department or lands under its control, supervision or management by lease, easement or otherwise within the boundaries of DNR protection areas. This authority allows the DNR to close or modify hunting, trapping and fishing regulations or seasons on lands for the applicable condition. The Use Restriction is often preceded by, but not limited to, implementing Emergency Burning Restrictions and/or Permit Reinstatement to limit potential risks associated with specific public actions that could cause a wildfire in the outdoors under anticipated long-term, drought conditions. Situations under which an order could be initiated include extreme/critical long-term drought, state or federal emergency declarations, or blowdown/tornado events.

It is the objective of Emergency Use Restrictions to reduce the amount of property and resource damage caused by wildfires in critical drought conditions. Upon the issuance of an order, accomplishment will be through the use of outside agency cooperators and agency fire control forces to supplement the existing fire prevention effort.

Major elements of this program include mass media saturation urging public cooperation in preventing fires, arson prevention due to physical presence of patrols in designated areas, the early detection and reporting of fires and the quick suppression of fire starts through utilization of volunteers, other cooperators, and agency patrols in designated areas.

Emergency Use Restriction Implementation

The following fire prevention strategies shall be considered:

1) Notification of all Area personnel and other DNR Divisions/programs impacted (e.g. weekly fire calls, daily operations plan, radio, etc.).
2) Notification of local contacts – Appropriate EFWs, county forestry department, Sheriff's Department, fire departments, conservation wardens, federal partners, campgrounds, etc.
3) If applicable, cancellation of burning permits including special permits
4) Cancel all DNR prescribed burning
5) Update the message on WIS-BURN hotline/website and fire danger signs
6) Provide talking points to Communications Office and fire spokespeople to support media relations (encourage news media to use and share DNR sanctioned news releases and social media)
7) Use of existing signs, posters, graphics etc. for fire danger awareness
8) Periodic updates by FRUs to dispatch of conditions in their area

Authority & Notification

The Forest Fire Protection Section implements the Emergency Use Restriction order on behalf of the Area requesting. If implementation is requested, the AFL shall first notify surrounding Areas and the District Forestry Leader. The District Forestry Leader shall notify the Bureau of Forest Protection who will request the order to be signed by the Secretary's Office. Notification may also be made to the Governor's Office at the discretion of the Division Administrator.

The AFL will then notify dispatch that the restrictions are in place. Dispatch will notify each forester/forester ranger and fire response unit. The fire response unit will notify all fire control personnel and non-fire control personnel stationed there.

Cancellation

When the Area determines that the Emergency Use Restriction is no longer needed, they will cancel the order and notify dispatch and/or area forestry supervisors. Dispatch will notify the FRU Foresters/Forester-Rangers who will in turn notify all other personnel at the station, including partners and local news media. The District Forestry Leader will notify the Secretary's Director.

It is essential to the credibility of the Emergency Use Restriction that cancellation of order be prompt and complete. Signs and other methods to inform the public should be removed or updated in a timely manner and phone and web messages on WIS-BURN should be updated immediately.

## ENFORCEMENT

### Burning Permit Laws

Chapter NR 30, Wis. Adm. Code, provides procedures and considerations in the issuance of burning permits. Apply the following guidelines in a manner consistent with Chapter NR 30.

### Annual Burning Permits

Annual Burning Permits (Form 4300-125) will be issued under the authority of s. 26.12(5)(a) and (b), Wis. Stats., by Division of Forestry, Customer Service staff and credentialed Emergency Fire Wardens (EFW) and others to whom this authority has been delegated within the Department.

Annual Burning Permits are intended for the disposal or removal (e.g., broadcast burns) of leaves, brush, pine needles, clean non-recyclable paper or clean untreated, unpainted wood. Burning can be done on the ground or in an incinerator/burn barrel. Annual Burning Permits will be issued for a period of a calendar year at no cost. If a burning permit is issued after December 1st, the permit is valid for 13 months. Burning permits are issued to an individual person, not the burn location, and are non-transferable.

In Intensive areas, Annual Burning Permits are required anytime the ground is not completely snow-covered. As general guidance, snow-covered means that snow exists around the material to be burned before, during, and immediately following the burn. It is not uncommon for us to have an inch of complete snow cover overnight, a person lights their debris on fire, and the snow melts throughout the day which allows the fire to escape later on. Debris burns should remain under 6x6x6 feet in size and broadcast burns should not exceed one acre. Burn time restrictions are determined by the AFL based on weather and fuel conditions. Burn times are traditionally restricted to the evening hours 6 pm to midnight (or 4 pm during daylight savings), but during times of minimal risk, AFLs can allow for daytime burning 11 am to midnight. Any burn that exceeds these restrictions may require the issuance of a Special Burning Permit (Form 9400-196).

In Extensive areas, Annual Burning Permits are required anytime the ground is not completely snow-covered between the dates of January 1st through May 31st. Debris burns should remain under 6x6x6 feet in size and broadcast burns should not exceed 10 acres. Burn time restrictions are determined by the AFL based on weather and fuel conditions. Burn times are traditionally restricted to the evening hours 6 pm to midnight (or 4 pm during daylight savings), but during times of minimal risk, AFLs can allow for daytime burning 11 am to midnight. Any burn that exceeds these restrictions may require the issuance of a Special Burning Permit (Form 9400-196).

Burning restrictions will be determined based on fire landscapes and daily staffing levels. Time restrictions should be considered as a prevention tool in areas where escaped fires or holdovers are a problem and such permits will expire at midnight of each day.

Since the number one cause of wildfires is related to debris burning, the cancellation or suspension of burning is the first step to reduce the amount of property and resource damage caused by forest fires as weather conditions worsen and fire occurrence increases. Even though burning is not allowed, the annual permit may still be issued. Daily verification is still required for Annual Burning Permits.

Upon annual burning permit issuance, permit issuers should reinforce to the permit holder that it is important to check the daily burn restrictions and fire danger before burning via the phone number provided or on the web. In addition, during elevated times of fire danger, RFWs or Emergency Burning Restrictions could also be in effect.

#### Roles & Responsibilities

*EFW or DNR Employee*

1. Issues annual burn permit which allows applicant to burn
2. Provides copy of permits to forester/forest ranger annually

*Forester/Forest Ranger*

1. Recruits and trains EFWs and other permit writers

2. Supplies forms, describes permit system to EFWs and other permit writers and provides any related updates.

3. Maintains a running total of the number of handwritten burning permits by FRU for each EFW and ensures the data are entered in the quarterly reporting system or as specified. This information will be utilized in the EFW evaluation process.

4. Informs AFL of changing hazard conditions which may influence permit restrictions

*Area Dispatcher or Designee*

1. Updates burning permit restrictions on WIS-BURN internet and phone by 11:00 a.m. each day.

2. Dispatches fire management personnel to respond to burning complaints

*Area Forestry Leader*

1. Sets burning restrictions on the county level which comply in form and substance to provisions of ch. NR 30, Wis. Adm. Code (Example: No burning will be allowed until after 4:00 p.m., or no burning allowed today.)

2. Approves exceptions on an individual basis

3. Suspends or cancels daily burning, implements RFWs or Emergency Burning Restrictions.

For more information on position duties and responsibilities related to burn permits, refer to the Emergency Fire Warden/Credentials Section in the Forestry Law Enforcement chapter of this Handbook.

**Special Burning Permits**

Special Burning Permits (Form 9400-196), sought by an individual or private landowner, organization, business or municipality for large quantities, burning outside allowed times, and/or broadcast burns exceeding the local area maximum size limit, need to be issued by the local DNR-ranger station or their designee for the purposes of agriculture, ecology or disposal.

Burning permits for other debris burning should not be issued for materials in violation of chs. NR 429 or NR 502, Wis. Adm. Code. Local ordinances may be more restrictive than state law. Solid Waste Reduction, Recovery and Recycling: s. 287.07, Wis. Stats., Prohibitions on land disposal and incineration.

Roles & Responsibilities

*Area Forestry Leader*

1. Sets Daily Burn Restrictions

*Area Dispatcher or Designee*

1. Updates fire reporting system with numbers and acres burned for all broadcast burns

2. Maintains list of current issued special burn permits within area as provided by integrated forestry staff

*Special EFW Credentialed Individuals*

1. Receives request for issuance of Special Permit

2. Based upon visual inspection or personal knowledge of the site, sets and communicates specific conditions of permit or denies permit if conditions cannot be met. (Document on form)

    - Agency partners may conduct a site inspection on our behalf, but the permit must be approved and certified by Special Credentialed staff. Note: Agency partners would require Regular EFW credentials to issue handwritten annual burn permits. In addition, the Agreement with the CNNF outlines the process for issuing emergency fire warden credentials to forest service employees.

    - Special Burning Permits shall be issued for the minimum time required to safely implement the burn. Permits should not exceed (5) days in length; if the burn does not take place within the approved dates, a new permit must be issued. If the burn cannot be feasibly conducted within (5) days, exemptions could be made upon further evaluation and AFL approval.

3. Reports permit to area dispatcher if approved and local county dispatch as applicable or have authorized permit holder notify county dispatch.

Broadcast Burning
Requests for broadcast burning not covered by an Annual Permit will require a Special Permit. AFLs typically set parameters for maximum acreage allowed to be burned with an annual permit. Acreage in excess of those parameters or burning outside of allowed times requires a Special Permit.

Debris Piles
Requests for burning debris piles larger than 6x6x6 feet or burning outside of allowed times will require a Special Permit.

Structure Burns
Any individual or entity desiring to burn a standing structure in Wisconsin can only do so with the assistance of a recognized Wisconsin Fire Department (FD). Structures may only be burned as part of a planned fire training exercise. Structures that are not deemed acceptable for a training burn cannot be burned; and must be disposed of in another legal manner. More information about the structure burn process can be found on the DNR's Air Program intranet website and in Form #4500-113 (Notification of Demolition and/or Renovation and Application for Permit Exemption).

Once permitted and approved to be burned by Environmental Management, the fire department must determine if the structure is within DNR Fire Protection. If the burn is within DNR Protection and burning permits are required, the fire department must contact the local FRU/ Ranger Station to obtain a Special Burn Permit. Special Burn Permits are required for any structure burn in DNR Fire Protection, unless the ground is completely snow-covered. It is preferred that the FD contact the FRU/ Ranger Station at least one week before the scheduled burn date. The designee from that FRU/ Ranger Station shall visit the structure and issue a Special Permit to the permittee igniting the burn, also in care of (C/O) the FD completing the burn. Any necessary notifications shall be listed on the permit, and fire weather must be evaluated to ensure the structure burn should not cause a forest fire. Before the burn takes place, it is recommended that the fire department conducting the burn notify the nearest DNR fire conrol dispatch office and/or Sheriff's Office, regardless of jurisdiction or permit requirements. Consult with the DNR Air Asbestos Inspector for the county where the burn will take place for any questions.

Woodburning Facility License/ Brush Disposal Sites
Any requests for permits for solid waste disposal sites should be treated as a Special Burning Permit (Form 9400-196) particularly if it is a seasonal permit. After obtaining a proper license, wood burning facilities and municipalities must still obtain a Special Burning Permit (Form 9400-196) and follow area restrictions. Consult with the DNR Non-landfill, Solid Waste staff for the county where the burn will take place for any questions.

Special Burning Permits to operators will be issued as follows:

1. Permits will be issued only for those solid waste disposal sites that have provisions for burning in an issued license. Permits will only be issued by integrated forestry staff or designee.

2. Permits will not be issued if an order has been issued to "close" the site.

3. Additional fire control provisions may be written into the permit at the time of issue for a specific instance or period of time. These provisions would normally concern the safety of burning operations not covered in the license.

4. Permits to burn at solid waste disposal sites will not be issued to any person other than the site operator.

Work Crews

Requests for burning from municipal or highway crews, etc., shall be treated as a Special Burning Permit (Form 9400-196). Crews must specifically be instructed that the fire must be attended and completely extinguished when they leave each day. Make sure the special restrictions are written on the permit.

Written documentation may also be provided to the County Highway Department each year explaining the permit requirements and statutory responsibility for their burning operations. A copy of written documentation must be kept by the local Forester/Ranger. This serves as a reminder for the highway department, and more importantly serves as written documentation that we notified them of the laws and regulations should their fire escape or require enforcement action.

### Permits in the Cooperative Area

Cooperative Fire areas or areas inside the city limits of incorporated cities and villages are regulated by town chairpersons, local and county officials and are primarily protected by fire departments. The Department may provide an electronic template of a generic burn permit (found on the Burning Questions webpage) to local officials who regulate burning in Cooperative areas upon request. When requested, the Department will provide notices (prepared by the Department) to be posted in 5 or more public places in each township forbidding the setting of fires in cooperative townships. s. 26.13(3), Wis. Stats.

## WILDLAND URBAN INTERFACE PROGRAM

Problem: The development of residences, vacation homes, and communities in areas of flammable wildland fuels, a condition known as the wildland urban interface (WUI), has created an increased number of structures or values at risk for destruction from wildfires.

Objective: The protection of life, property, and resources from wildfires through aggressive wildfire prevention, law enforcement, pre-suppression, and suppression activities. Incorporate WUI materials and information to enhance and reinforce existing activities.

Because of changing social values, an ever-increasing number of people are using the forested areas of Wisconsin for home sites, recreation, and leisure. This increased use has resulted in many developments that have no plan to prevent a wildfire from destroying homes. Planned programs of fire prevention and safety in the WUI areas of Wisconsin reduce the chance of such a disaster.

### Firewise Program

To achieve this increased fire safety, Forestry personnel should utilize the Firewise program to deliver effective wildland fire prevention and preparedness messages. The Firewise program is an effective method to address the growing WUI challenge for the following reasons:

1. Firewise is a nationally accepted program.

2. The Firewise program has a wealth of literature and information that address specific concerns from a hazard mitigation standpoint and offers universal mitigation measures that can be implemented in Wisconsin.

3. Utilizing the Firewise program may help minimize the time and effort local Forestry personnel devote to the development and delivery of effective messages.

Prioritizing Efforts

Based upon the statewide listing of Communities at Risk and Communities of Concern, supervisory direction, and projected future development, the target audience for Firewise program messages will be the following in order of priority:

1. Local Political Groups and Organizations

    a. Homeowner and Lake Associations
    b. Fire Departments
    c. Town Boards and Town Associations
    d. Planning and Zoning Authorities
    e. Emergency Management Offices
    f. University of Wisconsin Extension

2. Homeowners/Landowners

    a. Individual contacts
    b. Groups of homeowners (e.g., subdivisions) not guided by an association

## Contacts with Local Political Groups and Organizations

Homeowner and Lake Associations

Take advantage of meetings and events that local homeowners/lake associations may hold to present some of the challenges faced by fire organizations when protecting property from forest fires. Utilize Firewise information and examples from across the country, especially ones from Wisconsin or the Great Lakes states. PowerPoint presentations showing positive (and sometimes negative) aspects of Firewise properties should be used. Field personnel should enlist the support of local fire departments, natural resource organizations and emergency management personnel to reinforce fire safety messages. Take advantage of any local recent fires that posed or could have posed suppression challenges and resulted in multiple structure saves or losses.

Some homeowner/lake associations have their own newsletter and/or website. Articles in newsletters and links to web pages are inexpensive means to deliver wildfire prevention messages to such groups of people.

Don’t underestimate the power of appropriately placed informational signs dealing with fire safety. These signs should include appropriate local messages and be constructed of materials that require minimum maintenance. Signs need to be placed in high traffic areas (e.g., entries to subdivisions, etc.), and placement should be approved by governing bodies.

Leave homeowner/lake association board members with information regarding the Firewise Communities USA Recognition Program. It is a nationally recognized program that places the responsibility of wildfire preparedness directly on the community. Residents are encouraged to work with their local forest management agency, local fire officials, and other community stakeholders to assess hazards in their community and create a plan of action as how to reduce those hazards. There is no need to pressure an association to participate in the program. However, if a community shows interest, plan a time to explain the recognition process and put them in contact with the state Firewise liaison.

The process of a community becoming recognized as Firewise takes about a year. DNR staff involvement will require one person committed as the community's local contact and will include approximately:

1. One day devoted to a community assessment

2. One day devoted to compiling the assessment results

3. One possible additional day to work with the local fire department to make sure they agree with the assessment

4. One day to meet with the community Firewise Board to discuss the assessment

5. One day to review the community's Plan of Action

6. Any additional time needed to consult with the community on their Firewise activities

The local forest ranger and Fire Chief should be included in the community assessment day and review the association's Plan of Action to make sure they are on the right track. Becoming a recognized Firewise Community is primarily the community's responsibility. Being involved in a nationally recognized program will provide a recognized Firewise Community with funding opportunities to reduce fuels around structures and throughout the community. DNR staff and local fire officials are mostly involved to provide technical assistance and advice.

Fire Departments

These contacts should be educational contacts initially. Once the challenges of the WUI are described, attempt to involve local fire department members in the presentation of any programs as well as in brainstorming new ideas to implement measures to meet the challenges the WUI presents.

The Wildfire Risk Reduction (WRR) program provides an opportunity to partner with fire departments. Examples of past projects coordinated with the assistance of fire departments include: Home Ignition Zone (HIZ) assessments, the posting of Smokey Bear fire danger signs, wildfire season fire prevention patrols, and the creation of Community Wildfire Protection Plans. Other projects eligible for funding are those specific to wildfire prevention and awareness and hazard mitigation.

Fire departments should be encouraged to apply for grant funds administered by the Department and engage in wildland fire training opportunities. Grant funds are available through the Forest Fire Protection Grant (FFP) program to increase forest fire protection and suppression capabilities through cooperative efforts with local fire departments and county/area fire associations.

The Division has instructors available to teach wildland fire training to fire departments in Wisconsin. The 8-hour course, "Introduction to Wildland Fire Suppression for Wisconsin Fire Departments," is designed to offer firefighters information needed to safely suppress forest fires in Wisconsin.

This introductory course should be offered annually for all new fire department members.

Town Boards and Town Associations

The main purpose of contacts with local units of government is to describe forest fire suppression challenges faced by emergency agencies in the WUI, gain local acceptance of and encourage adoption of forest fire safety recommendations in local ordinances, and educate local officials about the Firewise program and the opportunities the program offers. This also offers a forum to discuss which fire safety related recommendations may conflict with local zoning ordinances.

Forestry personnel with fire prevention and suppression responsibilities should familiarize themselves with the concepts involved in creating a Community Wildfire Protection Plan. Through the passing of the Healthy Forests Restoration Act in 2003, communities are encouraged to prepare such a plan to help them identify priorities for protecting life, property, infrastructure, and natural resources in the wildland urban interface. Local units of government should be encouraged to work with their local DNR Forestry personnel and fire departments to create a Community Wildfire Protection Plan. Such plans provide an assessment of a fire-prone community and identify fuels reduction and education opportunities.

Planning and Zoning Authorities

Contact should be made with local planning authorities early on in their comprehensive land use planning process. If local comprehensive land use plans are well underway or complete, contact can still be made, as these types of documents are meant to be updated periodically. It is recognized that adoption of these principles into codes may be

a very long process in some communities. Remember, we do not wish to eliminate development; our sole interest is to make certain that development takes place in a safe manner and location. Safe growth, is smart growth. The publication emphasizes recommendations regarding:

1. Creating Firewise landscapes
2. Vehicular access
3. Signing streets, roads, and buildings
4. Emergency water supplies
5. Structural design and construction
6. Debris burning

In addition, consideration is given to providing local fire agencies an opportunity to review proposed development plans to allow them input on fire protection needs for the community. Planning authorities should also work with fire protection agencies to identify special fire problems in an area (e.g., areas of highly fire-prone vegetation, inadequate access for emergency vehicles, inadequate water supply, high housing density, etc.). Consequences of inaction should be made very clear.

Large development projects need special attention. Current and projected fire protection needs should be included in all large development plans. Particular consideration should be given to the placement of greenbelts or fuel breaks around and within areas of high housing density.

Local planning authorities should be encouraged to take opportunities to improve the survivability of existing homes when possible. Possible means include when an owner applies for a building permit to remodel or expand his or her home. Under some conditions, driveways can be reconstructed, and fuel breaks can be installed or improved. Local authorities should also be encouraged to generate a fire-safe attitude in a community by making sure homeowners are aware of hazards in their area and providing them with information regarding what steps can be taken to lessen those hazards.

Encourage planning authorities to work with local officials, DNR Forestry personnel, and their local fire departments to create a Community Wildfire Protection Plan.

Emergency Management Offices

Wisconsin Emergency Management (WEM) can assist with local natural disaster planning, such as a large wildfire impacting communities of different sizes. One way to do that is through the WEM Hazard Mitigation Grant Program (HMGP). A project does not have to be in a declared county to be eligible for HMGP funding. Therefore, every community that is vulnerable to natural hazards should consider applying for HMGP funds. WEM provides workshops to communities involving various types of natural disasters and how to prepare for them. Contact can be made at the local level with the county EM director to set up these workshops. Look to the WEM website for more information.

## Contacts with Homeowners/Landowners

This section contains information about individual home ignition zone assessments and group contacts to educate people on how to assess their own properties. Home ignition zone assessments are evaluations of an area 100 to 200 feet around a person's home (residential or seasonal). The assessment focuses on mitigation strategies the homeowner can accomplish to make their home better able to withstand a wildfire, without relying on outside assistance from firefighters. The assessment is based on national standards established in "Assessing Wildfire Hazards in the Home Ignition Zone," a course developed by the WUI's Fire Working Team of the National Wildfire Coordinating Group.

Follow-up solutions should be considered for implementation after homeowners have had a chance to consider ways to mitigate hazards on their properties. The Hazard Mitigation Program has provided funds for chipping days, community tree thinning projects, and the establishment of brush collection sites. Staff should consider applying for funds to implement such a project locally.

Individual Contacts

Contacts are made to the property of an individual owner who has a dwelling or other structure in a Community at Risk or Community of Concern. DNR Forestry personnel may assess properties as workload allows or the work may be contracted out with local volunteer fire departments or other qualified sources. Before beginning home assessments, DNR Forestry personnel shall complete "Assessing Wildfire Hazards in the Home Ignition Zone" training. In situations where the assessments are contracted out, the local personnel must have an acceptable level of WUI knowledge. This knowledge is to be attained through Home Ignition Zone training, given by knowledgeable field staff. Ideally, contact will be made with the homeowners in advance, so they have the opportunity to be present during the assessment. A direct mailing is one way to achieve this. In some cases, a homeowner may not wish to have his/her property assessed and they can opt out. If properties are assessed "door-to-door" and the homeowner is not present at the time, send them a letter that explains the purpose of your visit with contact information if they would like their property assessed at another time. Mailing addresses can be obtained from the local government tax roll. Assessments should be made at frequencies determined by the AFL.

Materials to use in making assessments will be supplied by the Department, but may be supplemented with appropriate local materials. At a minimum, the contact should include:

1. Introductory letter to the homeowner

2. Home Ignition Zone Assessment form

3. *Burning Permits Prevent Wildfires* brochure (PUB-FR-613). Local pamphlets or flyers describing outdoor burning laws can be more informative and should be used if available

4. Appropriate brochures detailing the interface problem and what can be done about it

Groups of Homeowners

If your situation permits the development of group contacts (e.g., a cluster of homes around a lake or an easily identifiable subdivision or neighborhood), you can enlist the aid of partners such as your local WUI specialistor fire chief and set up a program. Handout material should include the same items as in an individual contact, but let the homeowner assess his/her own property after you have explained the assessment form thoroughly to the group.

The returns from a group contact may be advantageous in that: l) you can get the message to more people in a shorter span of time; 2) you may be able to instill a "community" effort that benefits the entire development by encouraging people to work together to lower their collective wildfire risk.

## Funding Sources and Grants

Wildfire Risk Reduction Program

The Wildfire Risk Reduction (WRR) Program is made possible through grants received from the U.S. Forest Service. Each year, WRR applications are sent to AFL, State Forest Superintendents, and the Forestry Leadership Team, at which time staff is able to apply for funding in support of projects related to wildfire education, community planning, and hazardous fuels mitigation. Projects must benefit a community at risk to wildfire.

Contact the WUI Program Coordinator for details on the WRR Program, including guidelines, applications, and past projects.

Forest Fire Protection (FFP) Grants

State funds are available to increase forest fire protection and suppression capabilities through cooperative efforts with local fire departments and county fire associations under s. 26.145, Wis. Stats. Fire departments that have executed a forest fire suppression agreement acceptable to the Department are eligible to apply.

For more information regarding FFP grants, please refer to the Forest Fire Protection Grant Program section in the Partner Agreements chapter of this Handbook.

## EDUCATION

### School Programs

Juveniles are annually responsible for between 2% and 5% of all forest fires that occur in Wisconsin. Nationwide statistics point to a greater percentage of structural fires resulting from juveniles. It is highly likely that for every reportable wildfire, there are many juvenile related fire-play situations that do not result in reportable forest fires. Correcting inappropriate behavior related to fire-play at an early age can prevent future problems.

To maximize fire prevention efforts with juveniles, consider working with cooperators such as fire departments to provide school programs and events in local areas. Routine school programs are an important aspect of any overall fire prevention program and are normally broken down according to grade levels with some general guidelines listed below.

Minimum Standards

Recognizing that school programs can be an effective wildfire prevention tool, all school students within a FRU at grade levels K-3 should be contacted at least once every three years. Programs for other grade levels are strongly recommended, but will be at the discretion of the Forestry Team Leader based on workload priorities. Remember that fire prevention programs at the older grade levels can be very effective in helping prepare students for decisions they will be making in their adult lives. In addition, working with older grade levels can be very effective in accomplishing special projects that may have widespread ramifications from a forest fire prevention standpoint. By using appropriate students for special projects, you may actually minimize the time you spend on a special wildfire prevention project and provide you with a cost-effective way to complete a project.

Resources Available

The Learning, Experiences, and Activities in Forestry (LEAF) Wisconsin K-12 Wildland Fire Lesson Guide is an extremely useful resource that is recommended for use at the K-12 levels. All Wisconsin teachers and DNR stations should have access to the LEAF lesson guide and teachers can prepare students for any follow-up presentation you may present using this lesson guide. This lesson guide is an excellent resource for local teachers, but also provides you with many ideas for follow-up to students. Lesson guide information and other wildfire prevention resources can also be accessed at the LEAF website.

Other resources that have been successfully used and developed by various individuals are available and are referenced in the "Prevention Materials" section of this chapter or may be available on the intranet. The LEAF website, http://www.uwsp.edu/cnr/leaf, has cataloged several examples of fire prevention programs. Many of these approaches have stood the test of time and have been the basis for some of the topics in the LEAF lesson guide, so take the time to look these activities over. Some examples are referenced in the grade levels below.

Program Priorities:

| | |
|---|---|
| High | Conduct at interval indicated, Identified as High return for the time expended (generally captive, interacting audiences). Seek out opportunities within or bordering) FRU to present to these groups. |
| Moderate | Interval determined as workload allows and based on guidance from local supervisor. Identified as moderate return for time expended (generally non-captive audiences), based mainly on requests received or local history. |

Preschool

| | |
|---|---|
| Priority: | Moderate |
| Interval: | No Set Interval |
| Use of Smokey Bear: | Yes, but may be scary for the younger kids. |
| Length of Program: | 5- 15 minutes |
| Target Messages: | Danger of Playing with matches/ Lighters<br>Good Fires and Bad Fires |
| Available Resources: | Prevention Intranet Page<br>Videos<br>ABC's of Fire Safety<br>Puppet Shows<br>"Take Smokey Home Backpack" |

Kindergarten-3rd grade

| | |
|---|---|
| Priority: | High |
| Interval: | At least once every 3 years |
| Use of Smokey Bear: | Yes, by the 3rd grade level consider not having Smokey make an appearance. |
| Length of Program: | Up to 30 minutes (present relative to grade level) |
| Target Messages: | Danger of Playing with matches/ Lighters<br>Good Fires and Bad Fires<br>Consequences of carelessness<br>Introduce causes of fires and how to prevent them<br>What to do in the event of a fire (reinforcing messages delivered by structural fire service)<br>Safe Campfires |
| Available Resources: | Prevention Intranet Page<br>Videos<br>Power Points<br>Smokey's Fire Prevention Box<br>Fire safety games<br>"Bad Campfire-Good Campfire" card series<br>"Take Smokey Home Backpack" |

4th grade- 6th grade

| | |
|---|---|
| Priority: | Moderate |
| Interval: | No Set Interval |
| Program Recommendations: | Basic introduction to Fire Behavior<br>Forest Fire History (Wisconsin)<br>Personal Protective Equipment Demonstrations<br>Fire Ecology<br>Suppression Equipment Demonstrations<br>Fire Management Program Overview<br>Prescribed Burning |
| Use of Smokey Bear: | Not Recommended |
| Length of Program: | Up to 30 minutes |
| Target Messages: | Introduce Causes of Fires and how to prevent them<br>Consequences of Carelessness |
| Available Resources: | Prevention Intranet Page<br>Videos<br>Power Points<br>Fire Prevention Games<br>Wisconsin Forest Fire Trivia |

Middle School

| | |
|---|---|
| Priority: | Moderate |
| Interval: | No Set Interval |
| Program Recommendations: | Prescribed Burning<br>Forest Fire Detection<br>Forest Fire Suppression Resources<br>Tactics and Techniques<br>Forest Cover Types<br>Forest Fire Danger Calculation<br>Outdoor Burning Permits<br>Wildland/Urban Interface<br>Forest Fire Safety |
| Use of Smokey Bear: | Not Recommended |
| Length of Program: | Up to 30 minutes (present relative to grade level) |
| Target Messages: | Prevention of Wildfires<br>Firewise Around the Home |
| Available Resources: | Prevention Intranet Page<br>Videos<br>Power Points<br>Fire Prevention PSAs |

High School

| | |
|---|---|
| Priority: | Moderate |
| Interval: | No Set Interval |
| Program Recommendations: | Special Forest Fire Prevention Projects<br>Training students to help present programs to peers or younger students<br>Career Day Presentations |
| Use of Smokey Bear: | Not Recommended |
| Length of Program: | No Set Length (Discuss with Teacher.) |
| Target Messages: | Forest Fire Issues and Challenges |
| Available Resources: | Prevention Intranet Page<br>Videos<br>Power Points<br>Interactive Forest Fire Simulations |

**Adults**

In Intensive and Extensive protection areas, personnel should actively seek out opportunities, as workload allows, to present wildfire prevention programs. When presenting these programs, do not merely deliver a prevention message. Rather, envision how this group may help with the DNR fire prevention efforts. Having a thorough understanding of local wildfire causes and what the DNR is currently doing to prevent those forest fires is essential. Working with others to accomplish important fire prevention tasks not only can result in more effective fire prevention efforts but can help establish lasting relationships that will pay big fire prevention dividends in the future. Consider utilizing other area staff, UW Extension, Basin Educators, WUI specialists, and other Bureau staff to fill requests.

Personnel should utilize PowerPoint programs, existing displays or field tours to deliver and reinforce the message. Inserting local examples into these programs will personalize the program and make it more meaningful to the audience. Some examples of adult groups that can be contacted with fire prevention programs include:

1. Fire departments or county fire associations – Outdoor burning laws and burning permits, RFW, Emergency Burning Restrictions, forest fire danger rating signs, school program presentation, etc.

2. Emergency Fire Wardens – General forest fire management overview, burning permits, RFWs, Emergency Burning

Restrictions, prevention material distribution, forest fire danger rating signs.

3. County or town boards – General forest fire management overview, general fire prevention, outdoor burning ordinances, alternatives to burning, recycling and composting opportunities.

4. Homeowner and lake associations – General fire prevention, development planning, becoming a Firewise community, alternatives to burning, recycling and composting opportunities.

5. Real estate agents/associations – Outdoor burning law and emergency services pamphlet distribution.

6. Home builders' associations – Outdoor burning laws, construction standards, potential prevention funding assistance.

7. Education boards or local school district committees – Potential Juvenile Fire Setter participants, if a program is in place.

8. County committees or agencies (planning, zoning, recreation, law enforcement and highway departments are some examples) – General fire prevention, RFW explanation, outdoor burning laws, fire prevention signage.

9. Church or other civic groups (optimist club, garden clubs, rotary clubs) – General fire prevention contacts, burning permits, alternatives to burning, recycling and composting opportunities.

10. State Forest or Parks Interpretative Programs – Campfire talks, equipment displays, open houses or other park or forest special events may offer opportunities to deliver a forest fire prevention message.

This is by no means an exhaustive list of adult groups that prevention staff can work with. There may be others in the local area that can offer not only an opportunity to spread the wildfire prevention message, but also offer opportunities to build relationships that will eventually increase the effectiveness of the DNR fire prevention messages.

Personnel should take into consideration the group's background and whether they are a captive or passive audience when presenting fire prevention programs. Localize the presentation so the audience can relate to the message. Consider the interests of the groups, any existing programs they currently are involved with that correspond to your fire prevention message and what they can do for you. Remember, this is a potential opportunity to increase the effectiveness of your fire prevention efforts. Work on building a team that tackles one aspect of your fire prevention program. Many groups cannot only provide individuals to assist with fire prevention efforts but may also be able to help with projects financially. Approach these presentations with an open mind; your ideas may not be the only way to tackle fire prevention issues. Present positive messages during your presentations!

Staff should respond to requests as quickly as possible and programs should be presented as workload allows. Do not rely solely on requests to determine what wildfire prevention programs you schedule. After determining your prevention priorities, seek out groups with important and appropriate wildfire prevention messages. Schedule presentations with these groups at times that are convenient for them, and make sure they are in acceptable locations. Staff should plan on bringing adequate handouts or other materials to supplement their presentation. Presentations should be approached with the thought that these groups may be able to help you in your fire prevention efforts.

**Fairs and Other Civic Activities**

Fairs attract large numbers of people and offer an excellent opportunity to present both fire prevention and forest management messages. Take advantage of these opportunities as they present themselves in your areas of fire management responsibility as budget and workload priorities allow. Don't be afraid to be creative when considering opportunities. Smokey Bear throwing out the first pitch at a youth league baseball game may be an excellent way to deliver a simple fire prevention message. This potentially also imparts a positive message about the Department. Never pass up an opportunity to shine a positive light on the Division, the positive activities we are involved with and the assistance we provide to the public and other agencies. In addition to displays, consider utilizing special appearances at fairs. An appearance by Smokey Bear (always a hit with the children), a fully outfitted wildland firefighter, or a team of firefighters including local volunteer and DNR firefighters can be effective. Equipment displays, if space allows, typically attract attention and will offer you the opportunity to deliver a prevention message. Consider using Powerpoint programs if space does not allow for suppression equipment.

Assignments to arrange for and supervise events of statewide significance, such as the State Fair, shall be directed by the Division Administrator.

## SMOKEY BEAR GUIDANCE

### Image & Appearance

The key to Smokey's worldwide recognition is credited to the positive image that has been promoted since the inception of the program. Uniform standards have been identified for all aspects of Smokey's image, from drawings to the manufacture of the costume to public appearances.

### Artwork

Only Smokey Bear artwork, approved and dated by the Washington Office, may be used. Reproductions of existing art may not be approved. WHEN IN DOUBT CHECK IT OUT! Glossy black-and-white and color prints of the official photograph may also be obtained from the Director. Only use specific Pantone matching system acceptable colors for use on Smokey Bear artwork. Questions or approvals should be directed to the Prevention Specialist.

### Smokey Appearances

Smokey Bear appearance requests should be evaluated and prioritized as work and time allows. Smokey appearances during times of higher fire danger should be strongly considered, especially in Fire Landscapes 4, 7, 9 and 15. Utilizing fire departments for Smokey appearances is a partnership that should be encouraged.

The following are guidelines for all Smokey appearances:

1. Fire prevention messages should be included with all Smokey appearances.

2. Smokey school program visits should be limited to grades K-3.

3. Keep Smokey's image and message traditional.

4. The person wearing the costume must exhibit appropriate animation to be effective. Express sincerity and interest in the appearance by moving paws, head and legs.

5. There shall be at least one uniformed escort to accompany Smokey. "Smokey's Helper" vests have been created for this use. The escort shall guide Smokey at the elbow.

6. After donning the costume, the escort shall inspect the suit. Check for the following:

    a. Is the drawstring tucked in?
    b. Is the zipper out of sight?
    c. Are the buttons fastened?
    d. Is the belt firmly fastened to the pants?
    e. Are the pant cuffs neat?
    f. Is the hat crown up?
    g. Is the head straight on the shoulders?
    h. Is the fur brushed generously?

7. A private dressing room is necessary for putting on and taking off the costume.

8. The costumed bear should not force itself on anyone. Do not walk rapidly toward small children.

9. A round-point shovel is part of the Smokey Bear image. It shall be used for appearances, when appropriate.

10. The costume becomes hot to the wearer after a very short period. Success has been noted with the use of compartmentalized vests, "Blue Ice" and the addition of a battery-operated fan in the hat. Several cooling options are

available from the costume manufacturers. Limit appearances to 15-20-minute segments to minimize personal discomfort.

After each appearance, check the costume for needed repairs or cleaning. Note this on the outside of the storage box for immediate follow-up by the owner/manager of the costume.

Costume

Effective uses of the Smokey Bear costumes are for parades and for appearances at schools, fairs, youth-group meetings, conservation activities, television appearances, sporting events, civic and community events, trade and trademark shows, and similar functions where a fire prevention message can be conveyed.

Examples of inappropriate uses are: Christmas parties, summer picnics, Halloween parties, job fairs, charity campaigns, or any situation that might compromise Smokey's integrity or give the appearance of impropriety.

There are two licensed companies that administer the official Smokey Bear costume. Both of these companies can facilitate purchases of costumes and repairs.

Facemakers, Inc.
140 Fifth Street
Savanna, IL 61074
http://www.facemakersincorporated.com/

Shafton, Inc.
6932 Tujunga Avenue
North Hollywood, CA 91605
http://www.shaftoninc.com/

Costume Acquisition and Use

Only USDA Forest Service and State Forestry agencies may purchase costumes without prior approval. On a case-by-case basis the Director, Fire & Aviation Management, through the Regional/Area Coordinators, approves costume ownership by other Federal and international agencies. Local fire departments and other fire protection organizations may be granted permission to purchase a costume after State Forester approval.

Existing costumes owned by the Department may be loaned out to trusted organizations (i.e., fire departments, Tribes, etc.) for wildfire prevention purposes. Guidelines and checklist for loaning out the costume can be found within the Loaned Smokey Costume Memorandum of Understanding. This will ensure the costume is utilized properly, kept in good condition and returned to the proper owner or station.

Individuals who wear and use the costume must agree to:

1. Use the costume only to further public information, education, and awareness of the prevention of wildfires.

2. NOT SPEAK during appearances. Conversations or explanations should be carried out by the accompanying official escort.

3. Never appear in less than full costume.

4. Remain anonymous at every appearance and in any publicity connected with an appearance. This includes being photographed without the head.

5. Use only costumes that are clean, complete and in good condition.

6. Keep costume out-of-sight before and after use.

7. Appear dignified and friendly. Avoid clowning and horseplay.

8. Always be accompanied by an appropriately uniformed escort in public appearances, except where not practical, such as on a parade float where space is limited.
9. Refrain from using alcohol or drugs before and during the Smokey Bear appearance. This condition applies to escorts as well.

Care and Maintenance

The owner/manager of the costume shall assure that:

1. The Smokey costume is not used unless it is clean, complete and in good repair. Ideally, the costume should be dry-cleaned. Laundering is permitted according to manufacturer's specifications. If the suit is not cleaned after several hours of use it will begin to smell and cause deterioration that will shorten the life expectancy.

2. The costume is inspected after each use and any required maintenance is performed.

3. The costume is not placed into the costume box wet. Thoroughly air-dry the suit first.

4. The manufacturer's recommendations for proper placement of the components into the storage box are followed.

5. Costumes can be returned to their respective manufacturers for maintenance, refurbishment and repair. Contact the manufacturer for price quotations.

Security and Disposal

Protect the Smokey Bear costume from theft, vandalism, and to eliminate unauthorized use, which may result in bad publicity and immeasurable harm to the integrity of Smokey as a symbol of wildfire prevention.

1. Keep the Smokey Bear costume under lock-and-key when it is not in use.

2. Use a sign-in/sign-out system to control costume use.

3. Mark the costume box to say, "Warning: Unauthorized use or possession of this costume is not permitted."

4. Immediately report thefts of Smokey Bear costumes to the appropriate law enforcement authorities and request prompt action to assure recovery.

5. When it is determined by the owner/manager that the costume is no longer fit to wear and must be disposed of, the suit shall be rendered unrecognizable as a Smokey Bear costume by cutting, tearing, and/or burning all components.

### Trademark Protection

The respected and recognized name of Smokey Bear and his well-known message, as well as the property rights in the trademark and the service mark are valued. There is an important need to distinguish Smokey Bear, his message, information and education materials, advertising and commercially licensed products from those of other symbols; and to prevent their improper use. To accomplish this requires vigorous protection. The benefit to this position is that integrity is maintained and is reflected back to the sponsoring organizations.

## MEDIA RELATIONS

### Goal

To provide clear, accurate and timely information to media representatives, stakeholders and the general public on issues affecting public and environmental health, natural resources and environmental management policies. For a more detailed overview of media relations procedures and policies within the Department, please refer to the Office of Communications Intranet site.

## General Policy for Release of Information and Public Notice

Preparing and releasing news to the media is an important Department function. It is the quickest way to reach the largest possible number of state residents. News releases, social media posts and media contacts are made for a variety of purposes. These usually are to inform, to educate or to notify Wisconsin citizens about our environment and resource-related activities. Because of the DNR's regulatory responsibilities, some of the information we release to the media is sensitive – especially in areas of public health, policy and law enforcement.

The Department issues news in several ways utilizing traditional and social media outlets. The flagship publications of the DNR are two weekly products: the Wisconsin DNR Weekly News, a packet of news releases; and the Outdoor Report, an electronic round-up of current statewide conditions as reported by on-site observers. Publishing this packet helps us keep the public informed of Department activities and events affecting Wisconsin's environment natural resources. The second weekly publication, The Outdoor Report, also is a news packet of reviews of regional weather, field conditions and natural events.The Department also issues many news releases outside the normal weekly news packet schedule when situations and timing warrant. Some releases are distributed only to local news media while others are distributed statewide.

Most of the releases also are released on the DNR's Twitter feed and sometimes on the DNR's Facebook page. The Twitter feed, Facebook, Instagram and LinkedIn pages also are used for independent messages – such as feature photos or a special event. The DNR also communicates to the media and the general public through the DNR's YouTube account, Flickr site and Pinterest.

If you have Department information that may be news, contact the Office of Communications to help you assess the topic's news value and to determine if the news should be released immediately to local or statewide news outlets or included in the weekly news packet. Social media questions can go directly to the social media coordinator, housed within the Office of Communications.

### Central Office News Releases

All central office news releases must be forwarded by programs through the Office of Communications and/or to the Secretary's Office for approval. At a minimum, central office news releases and social media posts must be approved by the Bureau or designee and the Division of Forestry Administrator.

### Media Inquiries

Inquiries from reporters and editors are excellent indicators of public interest. As a department, DNR makes every effort to answer media inquiries in an accurate and timely manner, though receiving a call from a reporter does not necessarily mean you will be the one to complete the interview. Staff should only respond to media inquiries on a local level on topics that are of a non-sensitive manner. All other media requests should be referred to the Office of Communications or identified spokesperson.

Department employees are encouraged to participate in information activities that contribute to a better understanding of the Department, its duties and functions. Employees are advised to provide only factual answers and never speculate or respond to hypothetical questions. Employees are responsible for the factual accuracy of any information provided. Be aware that reporters often operate on a tight deadline. When you are contacted by the media and asked to respond to questions outside your area of expertise, take a few minutes to help the reporter find an appropriate Department contact.

The Bureau will provide seasonal fire talking points, approved by the OC, that emphasize key messages and/or campaign themes. If forestry personnel are contacted by a local ***radio station***, ***newspaper***, or ***television*** station, staff are asked to address the themes identified within the talking points. If the topic is outside the identified themes/talking points, pre-approval from the Office of Communication is required and/or a designated spokesperson will handle these requests. Again, notification to the media contact list and the employees' supervisory channel is required after every interview with what topics were covered and the contact information of the entity you gave the interview to. If forestry personnel are contacted by the Associated Press or any major media outlets (e.g., CNN, Milwaukee Journal Sentinel, Wisconsin Public Radio, etc.), the designated spokesperson will handle these requests.

### News Releases & Articles

Statewide fire news releases (as part of the DNR package or as fire risk dictates) will continue to be coordinated

through the Forest Fire Protection Section. Here is a local news release template on fire safety burning permits for local use; staff are authorized to use the template by adding local information. Prior to sending it off to the "local newspaper," a notification or carbon copy email needs to be sent to DNR DL FR MEDIA, the employee's supervisory channel, and should include a copy of the final article and the contact information of the entity you are supplying the article to. If you have a specific need for a local article, Contact the Bureau of Forestry Operations, Protection Section with your proposal and approvals will be gained from the Office of Communication.

Complex Incidents
If a fire or other event is large or complex enough to trigger activation of an Incident Management Team, that team will include a Public Information Officer (PIO). Once the PIO is on-scene and briefed by the IC, the PIO will manage all media contacts and information requests from that point forward. If you are involved in a response of this type, please forward all media requests to the PIO on the scene. If additional PIOs are needed on a large incident (for that operational period or beyond), a resource request needs to come from the incident. A designated OC representative will staff the Command Center to assist in approvals, media relations and social media needs.

News Releases

The Department has a standard news release format and are coordinated at the Division level. The Office of Communication can assist in placing news in the standard format and in editing copy to comply with accepted Associated Press style standards.

## FIRE PREVENTION AWARDS

Recognition of outstanding service is important in a comprehensive wildfire prevention program. There are several ways to accomplish this goal.

### Wisconsin Recognition

1. "Smokey Bear Citations" (velum) – given for outstanding service to wildfire prevention of local or district wide scope and effect over and above normal coverage or activity in wildfire prevention matters. These awards are available through the National Symbols Cache.

2. "Wisconsin Award- Certificate of Recognition" – given for outstanding service to wildfire prevention of a statewide scope and effect over an extended period of time. These awards are available from local area dispatch offices.

Smokey Bear citations and Wisconsin Awards are available to individuals outside of the Department who are outstanding in one or more wildfire prevention activities. Emergency Fire Wardens, newspapers, radio and TV stations, local groups or organizations are examples of candidates.

To keep the award's status at a desirable level, the acts or instances should be truly significant. This is not to make them unattainable, however. Fire management personnel wishing to recognize individuals for such service should draft a memo and indicate the outstanding service and route to the area leader for approval. Consider utilizing this opportunity to enhance the fire prevention message and present the award during the spring to generate interest with local media.

### Regional Recognition

1. Great Lakes Forest Fire Compact (GLFFC) Fire Prevention Awards – These are presented annually by the GLFFC to recognize individuals and organizations that have provided outstanding contributions to wildfire prevention. Nomination forms and the details of the nomination process are available on the GLFFC website. The GLFFC Prevention Committee reviews the nominees at their winter meeting and recommends to the GLFFC Executive Committee those who should receive the award. Awards are presented locally at appropriately identified events.

2. "Eugene F. McNamara Award"—The Northeast Forest Fire Supervisors administers this award to honor an individual or organization that has provided outstanding service in the field of wildfire prevention within an individual State or group of States in the Northeast Area. Nominations are typically due in the spring and the award is presented at the annual Northeast Forest Fire Supervisors meeting in the summer.

**National Recognition**

The "National Smokey Bear Award" shall be given as part of the Cooperative Forest Fire Prevention (CFFP) program to prevent human-caused wildfires, in recognition of outstanding and significant contributions to the program.
A uniform standard for awards will apply to both states and federal agencies. Five awards are approved: Golden Smokey statuette, Silver Smokey statuette, Bronze Smokey statuette, Smokey Bear citation and Smokey Bear appreciation award.

Eligibility

Awards will be made to organizations or persons who have, during the preceding specified period, rendered an outstanding and effective contribution to the cause of forest or range fire prevention. Law enforcement activities that prevent wildfires shall be considered. Prevention activities related to fires in buildings or urban developments do not qualify for CFFP awards.

Award Categories

Awards will be made in the following general categories:

1. Business and Industry – Commercial advertising agencies, television, radio, newspapers, magazines, Smokey Bear licenses, wood-using industries, banking associations, etc.

2. Conservation, Fraternal, Civic, Professional and Government Organizations – Conservation and wildlife groups, women's clubs, Kiwanis, Rotary, Lions, Society of American Foresters, government agencies, etc.

3. Educational, Religious and Youth Groups – Parents and teachers' groups, church groups, Boy and Girl Scouts, 4-H clubs, Future Farmers of America, etc.

Nominations

Nominations should be 500 words or less, typewritten and double spaced. The nomination shall include a concise description of the service rendered or contribution made, and shall show the name, address and affiliation of the nominator. Newspaper clippings, photographs, magazine articles, or other material may be attached to a nomination. More information on these awards is available through the National Symbols Cache.

Kinds of Awards:

1. "Golden Smokey" statuette
   Given For: Outstanding service to forest fire prevention of national scope and effect over an extended period of time.
   Given To: Organizations and agencies with nationwide activities and/or influence.

2. "Silver Smokey" statuette
   Given For: Outstanding service to forest fire prevention over an extended period of time.
   Given To: Persons with nationwide and/or regional activities and/or influence.

3. "Bronze Smokey" statuette
   Given For: Outstanding service to forest fire prevention of state or region-wide scope and effect over past two years.
   Given To: Organizations, agencies, and persons with state or region-wide activities and/or influence.
4. Smokey Bear Citation
   Given For: Outstanding service to forest fire prevention of less than statewide scope and effect over past two years.
   Given To: Organizations, agencies and persons.

5. Smokey Appreciation Award
   Given For: Significant service to forest fire prevention within a local area over past year.
   Given To: Organizations, agencies or persons.

## DATES OF INTEREST

### Prevention Week

The Great Lakes Wildfire Prevention Week has been identified as being the third full week in April every year. Although it is typically during peak fire season, it is encouraged to promote this week locally by having events, making appearances and boosting overall fire prevention and awareness during this time.

### National Prevention Week

National Fire Prevention week is identified by the anniversary of The Great Peshtigo Fire of October 8, 1871. Although this week typically focuses on structural fire, it's a great opportunity to tie in both messages. Many forest rangers and technicians perform their Smokey school programs during this week.

### Smokey's Birthday

The official birthday of Smokey Bear is Aug. 9, 1944. Consider working with partners such as libraries, fire departments, schools, youth groups and other organizations to assist in local efforts (i.e., birthday party) to promote fire prevention messages.

### Firewise Recognition

The Firewise program has instituted National Wildfire Preparedness days for local communities to promote wildland fire preparedness and planning efforts. For more information on these dates of interest, visit the Firewise website.

## PREVENTION MATERIALS

### Publications

Numerous publications are available to assist staff with spreading wildfire prevention messages. A complete list of available publications and ordering information can be found on the Publications site.

### Intranet/Internet Resources

The Forest Fire Protection Internet site is a great place to explore when looking for available information regarding burning permits, firefighter assistance and prevention and safety for our external customers. The pages contain quick links to the most visited pages within the fire program, such as the current fire danger and burning permit restrictions. Other topics include the online burning permit, EFW locations, protecting property, wildfire history in Wisconsin, and current fire statistics.

The Division's Fire Prevention Communication Plan is an internal toolbox for Forestry staff to assist with local fire prevention and wildland urban interface efforts. Within the kit, staff can access education and outreach ideas, advertisements, relevant websites, public service announcement downloads, graphics, descriptions of available displays, and examples of children's activities.

The Burning Questions intranet site is an internal toolbox to assist DNR personnel (Customer Service, Forestry, Air & Waste, Law Enforcement) with any questions associated with burning permit regulations and open burning concerns raised by the public.

### Materials/Resources

Guidelines for promotional materials:

- Keep promotional material giveaways unique to appropriate fire management and fire prevention events and programs.
- Minimize giveaways provided to other programs within the DNR where fire staff and a fire message is not represented.

- Consider creating good quality, low-cost products with a message specific to Wisconsin. The products could coincide with the theme for Wildfire Prevention Week.
- Funding for smaller local events should come from local operational budgets.
- Funding to purchase materials for larger events that have statewide or regional impact should not come out of local operational budgets and could be supplemented by Wildfire Risk Reduction program as funding allows.
- When the Central Office has limited supply of materials, priority should fall on areas within DNR organized protection according to fire landscape/fire risk.

**National Symbols Cache**

The most cost-efficient materials for prevention related events are from the National Symbols Cache. You order direct (using a p-card only) and delivery is within a few days, as long as items are in stock. Shipping costs are included in the price.

**Firewise Items**

Firewise items can be found on the NFPA website (click on Catalog and Wildfire Safety). The catalog contains publications, DVDs, reference books and much more. Items in the catalog are appropriate for firefighters, homeowners, builders, landscapers, planners and teachers.

**Other Vendors to Consider**

- Woodland Enterprises
- National Association of State Foresters
- Smokey Signals

**Displays**

Displays are available from a number of locations, with dispatch offices and Division of Forestry Specialists (Fire Prevention, WUI, Forestry Education, LeMay Forestry Center) being common contacts. Displays are an excellent way to deliver simple messages that do not require constant staffing by DNR personnel. Localize displays whenever possible.

## WILDFIRE PREVENTION SIGNS

This is a comprehensive sign plan for the Division of Forestry, wildfire prevention program and will provide the framework for managing an effective sign program. All fire prevention signs that are installed within DNR protection areas or on DNR managed properties shall be inventoried using Survey123 app that is available in the DNR app catalog. The application allows the user to collect the required information about type, location, quality/condition, including photographs, and store in a shapefile. Sign inventory shall be maintained annually as conditions and placement of signs change regularly and for notification to the Department of Transportation (DOT) of any applicapable updates. Statewide data will be maintained and can be viewed on the app or upon request.

**Signs & Posters**

Wildfire prevention posters and signs are seasonal notices. When used correctly, these can be an economical and effective method of reaching targeted audiences with timely messages. Poorly maintained or outdated signs are ineffective and can leave the public with a poor impression of their public and private land managers. To ensure consistent fire prevention messaging, any custom signs, including modifications to fire danger rating signs, must be approved by the Fire Prevention Specialist Team before production.

**Ordering Signs**

Approved signs can be ordered through Order Tracking and Inventory Control (OTIC) or from the LeMay stockroom. For a complete listing of various available posters and inventories, contact the Fire Prevention Specialist or the Wildland Urban Interface Coordinator.

Typical Fire Prevention messages:

- General Awareness Messages (i.e., Smokey Bear)
- Fire Danger Rating (i.e., Low, Moderate, High, Very High, Extreme)
- Seasonal Messages (i.e., fireworks)
- Emergency Use (i.e., Emergency Burning Restrictions, Red Flag Warnings)
- Prolonged significant fire risk (i.e., drought, state of emergency)

**Sign Placement**

When installing signs, it's important to check with Department of Transportation, County Highway Department or township for any restrictions or permit requirements.

Potential sign locations:

- DNR offices: ranger stations, service centers, parks & state forest offices
- Frequently used travel routes (waysides, tourism, kiosks, etc.)
- Local businesses (bait shops, gas stations, restaurants, hardware stores, sporting goods stores, etc.)
- Schools & libraries
- Locations of recreational bulletin boards including boat launches, camping sites and ATV trails.
- Emergency Fire Warden locations

**Installation & Maintenance**

When installing a poster or sign, remove existing staples or nails. The signs should be centered and square to the sign board. Consider stenciling the backing board with a Smokey logo or generic prevention message so if the poster is removed there still is a prevention message shown.

Replace posters that have been defaced or otherwise damaged. Replace posters when they are no longer needed or when the message is no longer applicable and timely. For instance, a wildfire message left out during winter portrays a careless image and the effectiveness of this message is lost during fire season.

Emergency Burning Restrictions and Red Flag Warning poster locations should be pre-determined or mapped and should be in-place to concur with the order and promptly removed when the order is rescinded. The same goes for seasonal messages such as "No Fireworks" and the July 4$^{th}$ holiday. These posters should be in-place and replaced in a timely fashion.

In addition to maintaining the appearance and readability of the poster the sign board and post will need maintenance. Remove weeds, brush, and other obstacles that obstruct the visibility or detract from the message and a positive image.

**Fire Danger Rating Signs**

The purpose of a fire danger rating sign is to relay to the public what the fire danger is for a particular period of time, usually daily. One of five adjectives (Low, Moderate, High, Very High or Extreme) is displayed on the sign to represent the fire danger for that day. Since these signs relay a time sensitive message, it is critical that the signs be updated daily to accurately reflect the existing fire danger for that day. Area forestry leaders should annually remind staff to maintain fire danger sign currency year-round. The sign adjective should also correspond to the fire danger adjective listed on the DNR website.

Smokey adjective level signs are to be updated by 11:00 a.m. on days when staff are in work status year-round. No distance requirements will be set for signs (i.e., miles/distance). It is more important to have the sign relaying the correct message than it is to have a sign in a particular area. If staff determine that a sign cannot be regularly updated by 11:00 a.m., staff should relocate the sign where it could be regularly updated or consult with supervisor or member of the Fire Prevention Specialist Team before removing adjective level sign. Staff are not to modify or change Smokey adjective level signs, in any way, from their original design. Signs that are no longer in good condition shall be replaced. Funding assistance for new signs may be available through the Wildfire Risk Reduction Program.

Staff should follow one of three options for off-season maintenance:

- Cover the sign with plastic or with tarps
- Simply leave the sign at "low" danger during periods of snow and snow melt

- Leave sign uncovered and install generic message i.e. “drive safe,” “think spring,” “happy holidays.”

To help facilitate the workload associated with keeping the signs updated, consider the following:

1. Place signs near DNR stations eliminating travel time to update.

2. Limit the number of fire danger signs per FRU so keeping them updated daily in relation to other workload is realistic.

3. Place signs at businesses/partner locations that are willing to update the sign daily. This is done after the DNR notifies them of the change in fire danger. Examples of such places are EFWs, fire departments, gas stations, banks, sport/bait shops or other state agencies. It is imperative that staff work with partners to ensure that partner-managed signs are being update regularly and consistently.

New and existing DNR-managed fire danger rating signs located on the landscape require notification to be entered into the Survey 123 or equivalent approved app.

The DNR has partnered with DOT and outlined procedures and maintenance of DNR fire danger rating signs within highway ROWs and the use of DOT electronic message boards through a Memorandum of Understanding (MOU). The MOU defines the use of these signs for fire prevention purposes. Any new sign locations within the ROW must be approved by the DOT, may be subject to permits and breakaway standards and need to have sign owners name indicated on the sign. Completion of the data contained within Survey123 will ensure necessary reporting to DOT.

Fire danger rating sign inventory data collection must include:

- The sign owner’s name & address
- Sign installer’s name & address
- Landowner’s name & address
- Municipality (city, town, village)
- County name
- GPS coordinates (decimal degrees, i.e., 44.5078 x -89.5515)
- Direction of sign face (N, S, E, W)
- What side of the road the sign is located (L, R)
- Quadrant
- Section, township, range numbers
- Zoning
- Sign type (V, back-to-back, single-sided)
- Located within highway right of way (Y or N)
- Condition of sign (Poor, Fair, Good)
- Date added to inventory (i.e., when a change is made to the inventory list)

## EMERGENCY FIRE WARDENS (EFWS)

Due to safety concerns, workload constraints, and the options of getting a burning permit online and over the phone, efforts to phase out residential EFWs began in 2012. Some residential EFWs will remain in locations where cultural reasons prevent local community members from using motor vehicles, accessing the Internet, or using the phone **and** where the nearest business EFW or DNR office is more than 5 miles from the community. Remaining residential EFWs will not be posted to the external Internet database. Those EFWs who issue permits from their home (e.g., during tax time) should indicate the Town Hall address and contact information.

**Recruitment**

1. EFW recruitment will occur only in a place of business identified as a geographic necessity. AFLs can give approval to recruit a residential EFW due to cultural reasons.

2. Every effort should be made to recruit businesses who are dependable and who will act in a manner that is favorable to the entire Division.

3. Since permit writing is the most essential part of an EFW's duties, a business willing and able to perform this task should be sought.

4. No person should be recommended for EFW credentials who are under 18 years of age. The maximum age should be determined by the person's physical and mental ability to function as an EFW.

5. The number of EFWs within an area will be determined by the AFL. Private EFWs will not exceed three per county.

**Credentials**

For the Department to meet the requirements of s. 26.12(3), Wis. Stats., the following procedures will govern the issuance of EFW credentials.

State law requires a person intending to set fire in DNR forest protection areas of the state to receive "written permission in advance from a duly appointed fire warden." These statutes were written when face-to-face contact with a fire warden was the only means of receiving this "written permission." Today, "written permission" can be granted electronically with the use of computers, cell phones, tablets and other devices.

The "Department" is vested with the authority to appoint fire wardens for this purpose. As such, the Forest Fire Protection Section is the controlling body for burning restrictions and permits and therefore determines when and where burning can occur within DNR forest protection areas on a daily basis.

By virtue of their positions, Division staff and Customer Service staff have been appointed the authority to issue written permission, both in person and through electronic media under the guidance of the Forest Fire Protection Section, without the need for specific fire warden credentials.

Regular EFW Credentials

1. Issued to externals (business or remaining residential EFWs), who have no other law enforcement credentials to enable them to function for the Department to protect them from liability pursuant to ch. 26, Wis. Stats. These credentials are limited to only issuing handwritten annual burn permits (Form 4300-125).

2. List of regular EFW credential holders needs to be submitted to county boards annually in the spring. Credentials must be updated annually.

3. All business EFWs will be issued Emergency Fire Warden Credentials, Form 9100-054. The credentials should be issued to the owner or manager of the business with reference to "Doing Business As" or "D.B.A." See example on the following page.

**STATE OF WISCONSIN**
**DEPARTMENT OF NATURAL RESOURCES**

«FRU»

To all to whom these presents shall come, Greeting:

KNOW YE, That reposing special trust and confidence in the integrity and ability of **«Name»**, and/or doing business as **«Business Name»**, we do hereby appoint and constitute that person an

**EMERGENCY FIRE WARDEN**

for **«County»** County for the State of Wisconsin, and do authorize and empower that person to execute and fulfill the duties of that office, according to Chapter 26 of the Statutes (laws relating to forest fires) during good behavior and the faithful performance of duties for the year Year. This credential limits the authority of the appointee to the issuance of annual burn permits. (Form 4300-125)

This appointment is validated in the Municipality of **«Location»**, Wisconsin this Day day of Month Year. «Next Record»

**STATE OF WISCONSIN**
**DEPARTMENT OF NATURAL RESOURCES**

By _____
Area Forestry Leader

Form 9100-54 Rev. 8/14

4. The Regular EFW Credential (Form 9100-54) is located in E-forms as a Word document.

5. Upon appointment as a business EFW, the Letter for Businesses must be presented to the business owner on an annual basis; the letter will reflect any new information related to the burning permit system for the upcoming year. Copies of these letters will be maintained by the area dispatcher.

   See Example:

**-SAMPLE LETTER TO BUSINESS OWNERS/MANAGERS ACTING AS EMERGENCY FIRE WARDENS-**

To Whom It May Concern:

Thank you for your service as a duly appointed DNR Emergency Fire Warden for the State of Wisconsin. This is your annual refresher along with your updated Emergency Fire Warden Credential cards. This authorization is valid for the calendar year as long as the credential holder is employed by the business referenced in this letter.

You have indicated that you and your business are willing to issue Annual Burn Permits (Form 4300-125) on our behalf. As the business owner or manager, it is your responsibility to identify burning permit administrators and educate your staff on the current process involved in burning permit issuance. Failure to do so will lead to the loss of your Emergency Fire Warden Credential. This is pursuant to Section 26.12(5)(a) (or (b), if in extensive) of the Wisconsin Statutes.

*[Insert any new information here such as references to new publications, website updates or changes to burning permit policy or procedure. For any new guidance, consult the Fire Prevention Specialist.]*

_____
Business Name (print)

_____
Signature of Emergency Fire Warden (owner or manager) Date

Special EFW Credentials

1. Issued to internal DNR staff who have authority to write special burn permits (Foresters, Technicians and Dispatchers)

2. Requests for special EFW credentials should be directed to the.

3. Special EFW credentials are not submitted to county boards.

4. Special credentials will be issued upon employee appointment for the duration of their tenure. In turn, if employee position duties change where the permit credentials are not applicable to the employee's job responsibilities, the credentials are no longer valid.

5. The Special Emergency Fire Warden Credential (Form 9100-56) is located in E-forms as a Word document.

**STATE OF WISCONSIN**
**DEPARTMENT OF NATURAL RESOURCES**

«FRU»
To all to whom these presents shall come, Greeting:
KNOW YE, That reposing special trust and confidence in the integrity and ability of **«NAME»** of the county of **«County»** we do hereby appoint and constitute that person a

**SPECIAL EMERGENCY FIRE WARDEN**

For a term beginning **Date**
And ending upon change in duties within the fire program.

This person is hereby authorized and empowered to execute and fulfill the duties of that office, specifically pertaining to the issuance of special burn permits, according to Chapter 26 of the Statutes (laws relating to forest fires) during good behavior and the faithful performance of these duties. The Department of Natural Resources may revoke these credentials at any time it is deemed advisable.

This appointment is validated within organized DNR protection areas on this Day day of Month,Year.

**STATE OF WISCONSIN**
**DEPARTMENT OF NATURAL RESOURCES**

By _____
Area Forestry Supervisor
Form 9100-56 Rev. 8/14

## Training

Upon EFW recruitment, or as an annual refresher, individual instruction should be given by local credentialed Forestry staff. These instructions should cover the following topics:

1. Providing permit books

2. Providing EFW with proper credentials and updated letter to businesses

3. Explaining the permit writing process and the importance of referencing daily checks on the hotline and Internet site

4. Furnishing EFW with supporting publications or literature

5. Maintaining copies of written permits to assist with law enforcement and reporting systems

6. Burning permit issuance within organized DNR protection areas

7. Open burning rules (legal versus illegal materials)

8. Importance of maintaining a professional image on behalf of the DNR

9. Preparing EFW to answer questions about burn location (DNR Protection areas versus Cooperative areas)

10. Furnishing telephone list of relevant DNR fire personnel in the area

11. Referencing website address if computer/internet available

**Maintenance**

1. Consider reducing the number of business EFWs based upon proximity, (e.g., two EFWs on the same street should be avoided).

2. Within each area, determine a minimum set of standards to justify the need for business EFWs over a geographical area, based on overall number of permits issued.

3. Ensure that EFWs have proper signage, that it is posted in a visible location and properly maintained.

4. Copies of all handwritten regular burn permits must be retained for 1 year (after the initial creation year) or until legal proceedings are completed, and must be collected at the end of the calendar year.

5. Copies of all handwritten special burn permits must be retained for 4 years (after the initial creation year) and must be collected at the end of the calendar year.;

**Forester/Forest Ranger Responsibilities**

1. Maintains relationships with EFWs and update local contact information within the FRU.

2. Completes annual refresher (e.g., delivers permit books, publications, credentials and letter to businesses, etc.).

3. Compiles a list of EFWs in the FRU and submits to area dispatcher by January 1st of each year.

4. Maintains a running total of the number of handwritten burning permits FRU for each EFW, and ensures the data is collected at the end of the year. This information will be utilized in the EFW evaluation process.

5. Upon site inspection, approves or denies all Special Burn permits as requested within the FRU.

**Area Dispatcher/Staff Specialist Responsibilities**

1. Combines lists and permit numbers received from Foresters/Forester-Rangers on spreadsheet by area.

2. Supplies list or link to online database at dnr.wi.gov enter keyword “fire warden” on a county basis and submits to the respective county board or its designated committee before Feb. 1 of each year for approval.

    a. If the list of EFWs is sent to the county via the online database link and the county has additional residential EFWs, those EFWs must be sent in written form.
    b. The county board returns approved list to the area by Feb. 28th.
    c. If the list is not returned from the county board by Feb. 28th, the original submittal shall become the official list.

3. Each area will ensure that a current list of active business EFW names and addresses is on the master EFW list located on the Fire Drive by March 15th of each year

4. Prevention specialist will coordinate the master list upload with appropriate IT staff starting in March and each subsequent month thereafter during fire season.

5. If changes to a fire warden occur after the above deadlines, updates should continue to be made to the master EFW list. Simply notify the Prevention Specialist of these changes so periodic updates to the external site can be made as needed.

**Merit Awards**

Certificates of merit are available for awarding to EFWs in recognition of faithful service per the Recognition Program Manual Code 9159.3. Certificates will be awarded in five-year multiples, e.g., 5, 10, 15, 20 years. When the EFW retires from serving the state, the exact number of years of service should be placed on the award. If an EFW passes, the certificate can be awarded to the spouse or close relative. It is suggested that this certificate be awarded with a document-type frame.

Certificate procedure:

1. Forestry staff will submit names and years of service to the area staff specialist.

2. Certificates are prepared by the dispatcher and will be electronically signed by the Forestry Division Administrator (Chief State Forester) and the Forestry Field Operations Bureau Director.

3. Certificates will then be returned to the Forestry staff for presentation.

4. Consider utilizing this opportunity to enhance fire prevention message during the spring and presenting award with accompanying newspaper story.

# CHAPTER 3: PREPAREDNESS

**General Expectations**

**All elements of fire management personnel, equipment, and facilities documented in this chapter and elsewhere in this handbook are subject to fire readiness review. The Forest Fire Suppression Specialist shall administer the review in an effort to ensure statewide consistency in a state of readiness.**

## FIRE MANAGEMENT FACILITIES

Fire management facilities are defined as areas where fire management personnel have primary responsibility for upkeep. This includes ranger stations, office areas, mechanics shops, storage buildings, grounds, prevention sign locations, dispatch centers, radio communication towers and weather station sites. For facilities where DNR fire management staff are not property managers, evaluations should be done to gauge how they reflect on the image of the DNR fire management program. Examples of these include incident command posts (ICPs), DNR service centers and SEAT bases.

All fire management facilities should be clean, organized, maintained, and kept free of clutter to promote efficiency and project professionalism to the public as well as other DNR programs and partner agencies. Communication and cooperation with other programs is also necessary to maintain a well-kept facility. In many circumstances, other programs house items in or share the same facility as fire management personnel.

Maintenance of facilities and items housed at facilities is necessary to effectively project a professional image and ensure that facilities and items are ready when needed. Routine cleaning and fixing of broken items ensures that this image is upheld at all times, efficiency is maximized, and the life of the facility is maintained.

Assigning specific areas of the facility to a task or purpose and labeling as such allows for good workflow and promotes efficiency. Over time, as items are replaced with newer items, duplication occurs and results in an excessive surplus. Effort should be taken to avoid collecting surplus items beyond a reasonable need. In regards to tools, equipment, and workspaces within a fire management facility, personnel should use this informal guidance: "Have what you need, need what you have, and above all, maintain what you have".

Opportunities exist to eliminate surplus items from fire management and other program facilities through private sale. Guidelines for the sale of surplus fire equipment can be found in the Wisconsin State Accounting Manual. A Department Financial Specialist should also be consulted to ensure proper guidelines are followed.

### Fire Management Stations

#### Work Areas

When completing a project in a work area, the area itself should be returned to as good or better condition to when the project was started. Segregated work areas (where space allows) specific to the tasks facilitates workflow and should be considered as a best practice when developing or reorganizing work areas. Tools should be kept in a manner to allow for easy recognition of where they belong and cleaned and put away at the end of each shift. Safety in the workplace shall be emphasized with signage and accessible PPE (personal protective equipment). Tools must be equipped with and used with appropriate guards where applicable.

#### Storage Areas

Items placed in storage should be labeled, easily identifiable, and placed in an organized fashion. Where practical, storage areas should be segregated away from work areas and other storage areas for dissimilar items (i.e., FRU Normal Operating Inventory vs. Area Tool Cache). Long-term storage of broken or outdated items should be avoided. Information specific to Fire Caches or Normal Operating Inventories can be found below. Storage of items should be done in a manner to reduce the chance of the items falling and injuring personnel or creating a tripping hazard.

Office Areas

Fire management offices should be well-organized to ensure efficient workflow. Areas that are typically visible to partners and the public should always be clean and orderly. Filing of documents should be done in a manner that is easily interpreted by someone unfamiliar with the filing system. Sensitive documents should be segregated such that only those with viewing privileges can see them.

Grounds

Grounds areas assigned to fire management for maintenance, including parking areas, lawns, and green spaces, should be free of visible clutter, maintained seasonally (mowed, raked, plowed), and kept in good repair.

## Fire Cache Specifications

Fire caches should be assembled and stored in a manner to ensure efficiency. Different types of caches include (but are not limited to) Station Normal Operating Inventories, Area Pump Caches, Area PPE & Tool Caches, Heavy Dozer Area Cache, Forestry Equipment Research & Development Center PPE & Tool Cache (including Pump Kit – Large, and Pump Kit – Mop Up). Detailed minimum cache lists are found below.

Labeling of storage containers and locations allows for easy identification for personnel unfamiliar with the cache. A detailed cache map or floor plan posted in a recognizable location allows unfamiliar personnel to navigate the cache easily. Caches intended to be brought to an incident should be easily mobilized, either on trailers or in large durable containers. Items intended to be part of different caches should be stored and labeled in a manner that easily differentiates them. Fire caches should always be stored such that comingling of items associated with other programs is minimized.

All caches should be inventoried in a similar fashion to promote statewide consistency as to actual use of cache items. Inventories should show a current list of all items found in the cache, the minimum number of items required for the cache when not in use, and a system to check out and update the current count of items as they are used. Done correctly, the inventory should, at all times, reflect the current count of items in the cache and ease restocking of the cache after it is put “in use”.

Falling below minimum levels is permissible only if items have been checked out and put in “in use” status. After items have been put in “in use”, priority should be given to restocking to the minimum level. Annual verification of cache inventories shall be conducted, and spot checking should occur after use of cache items. Excessive caching should be avoided to prevent too much time being required for inventorying and maintaining items. It is recognized that different areas provide different circumstances for use of items. Other workloads should be considered when assessing total stocking levels.

Station Normal Operating Inventories

The intent of these inventories is to be able to one-time fully restock fire suppression equipment to the minimum level as denoted on the Daily/Weekly forms for items likely to be used or broken on a fire. The minimum stocking levels of operating inventories depends on the amount and type of equipment associated with each station. Having items above the minimum stocking level is permissible, but all items associated with an operating inventory need to be maintained and inventoried.

Items below are to be stocked when not “in use” at the station, according to an equivalent of the total of all minimums from the daily/weekly forms for each piece of equipment.

- 1” Hose with NH Fittings (excluding booster reel)
- 1.5” Hose with NH Fittings
- nozzles
- appliances (hose fittings)
- Class A foam
- leather gloves

Items below are to be minimally stocked when not “in use”, as stated for each FRU regardless of number and type of units.

- 1 each yellow, red, and white hard hats
- 1 complete set of NFPA 1977 compliant clothing (can be coveralls)
- 1 loggers style first aid kit
- 1 tow/tie down chain .5”x 16’ (for stations with tractor-plow)
- 1 tie down ratchet .5” with hooks on both ends (for stations with tractor-plow)
- Suction hose, 16’ of each size used in FRU
- 6 backcans/bladder bags
- 2 shovels
- 2 pulaskis
- spanner wrench, 2 of each size
- hose gaskets, 2 of each size used in FRU
- 5 gal of hydraulic oil (for stations with tractor-plow)

Area Pump Cache

This is a minimum list. Items in excess of this are permissible, but all items should be inventoried and kept in working order.

- 1 Mark-3 pump (MK-3 or MK-3-B2)
- 1 gas can, 5gal with fuel supply hose and connectors
- 2-cycle engine oil (sufficient amount to mix with 5 gallons of fuel)
- 1 spark plug
- 1 wrench, spark plug
- 1 screw driver, flat blade
- 1 flashlight w/batteries
- 5 pair earplugs
- 1 bucket, collapsible
- 1 spanner wrench, large
- 1 hose clamp, shut-off
- 10 ft. suction hose, size & fittings to match pump
- 1 strainer, size to match pump
- 1,000-ft hose, discharge 1-1/2" NH
- 1,000-ft hose, discharge 1" NH
- 250-ft hose, synthetic garden 3/4" GHT
- 5 gated wye, 1-1/2" NH
- 1 thief valve, 1-1/2” NH x 1” GHT
- 5 nozzles, 1" NH
- 2 nozzles, 3/4" GHT
- 2 nozzles, 1-1/2”
- 1 1-1/2" FNPSH x 1-1/2" MNH (or correct adaptor to go from pump to 1-1/2” MNH)
- 1 1-1/2" DBL MNH
- 1 1-1/2" DBL FNH
- 5 1-1/2" FNH x 1" MNH
- 2 1" FNH x 3/4" MGHT
- 5 gasket, hose 1-1/2" NH
- 5 gasket, hose 1” NH
- 5 gasket, hose ¾” GH

Area PPE and Tool Cache

This is a minimum list. Items in excess of this are permissible, but all items should be inventoried and kept in working order. All items do not need to be housed in the same location. Items designated as area cache items need to be clearly labeled as such and not counted towards other caches.

- 10 hand tools
- 10 back cans or bladder bags

Fire Fighting PPE, 10 each (NFPA 1977 compliant)

- coveralls

- hardhats
- safety glasses
- gloves
- headlamps/flashlights with batteries
- fire shelters
- equipment belts

Heavy Dozer Area Cache

- heavy dozer grab bag (PPE and communication equipment to outfit 1 private operator)
  one pair nomex, hard hat, safety glasses, gloves, headlamp, strobe, high vis vest, fire shelter with web gear,
- 1 portable radio (functional and currently programmed)
- 1 radio headset (must function with currently supported radio)

Forestry Equipment Research & Development Center PPE, Tool, and Pump Cache

This cache is 2-palletized, 20-person kits, ready to be shipped anywhere upon request. Each contain:

- 20 backpack pumps or bladder bags, complete
- 10 fire shovels
- 5 combi-tools
- 5 Pulaskis
- 10 pails foam, Class A
- 2 drip torches
- 4 gas cans, 5 gallon, Type 1
- 20 hose, discharge, 1-1/2" NH x 50'
- 15 hose, discharge, 1" NH x 100'
- 10 Nomex coveralls, L
- 10 Nomex coveralls, XL
- 5 Nomex coveralls, 2XL
- 20 safety glasses
- 20 headlamps
- 350 AA batteries
- 10 gloves, L
- 10 gloves, XL
- 20 hardhats, yellow
- 40 1qt. canteens w/case
- 20 fire shelters
- 20 equipment belts

Equivalent quantities of the above 20-person kits are to be kept in normal stockroom inventory. If the prepackaged kit is shipped out, this quantity will be packaged and made ready for transport. Equivalent quantities of PPE for 20 additional persons are also to be kept in normal stockroom inventory.

*Pump Kit – Large*

This kit is available to be packaged and shipped anywhere.

- storage container
- 1 pump, Honda WH20X
- 1 spark plug
- 1 spark plug wrench
- 1 flat blade screwdriver
- 1 Phillips screwdriver
- 1 gas can, 1gal, Type I
- 1 funnel
- 1 qt. engine oil, appropriate for pump
- 1 flashlight w/batteries
- 5 pair earplugs
- 1 bucket, collapsible

- 1 spanner wrench, large
- 1 hose clamp, shut-off
- 8 ft. suction hose, size & fittings to match pump
- 1 strainer, size to match pump
- 1 gated wye, 1-1/2" NH
- 1 thief valve, 1-1/2" NH x ¾" GHT
- 3 nozzles, 1" Lexan NH
- 2 nozzles, 3/4" GHT
- 1 2" FNPT x 1-1/2" MNH (normally attached to pump)
- 1 1-1/2" DBL MNH
- 1 1-1/2" DBL FNH
- 3 1-1/2" FNH x 1" MNH
- 2 1" FNH x 3/4" MGHT
- 5 gasket, hose 1-1/2"
- 5 gasket, hose 1"
- 5 gasket, hose ¾"
- 1 hose, discharge, 1-1/2" NH x 50'
- 2 hose, discharge, 1" NH x 50'
- 2 hose, synthetic garden, 3/4" GHT x 50

*Pump Kit – Mop-up*

This kit is available to be packaged and shipped anywhere.

- storage container
- 1 pump, Honda WH15
- 1 spark plug
- 1 spark plug wrench
- 1 flat blade screwdriver
- 1 Phillips screwdriver
- 1 gas can, 1gal, Type I
- 1 funnel
- 1 qt. engine oil, appropriate for pump
- 1 flashlight w/batteries
- 5 pair earplugs
- 1 bucket, collapsible
- 1 spanner wrench, small
- 8 ft. suction hose, size & fittings to match pump
- 1 strainer, size to match pump
- 5 gated wyes, 3/4" GHT
- 5 nozzles, 3/4" GHT
- 1 1-1/2" FNPT x 1-1/2" MNH (normally attached to pump)
- 2 1" FNH x 3/4" MGHT
- 5 gasket 1" NH Hose
- 5 gasket ¾" GHT Hose
- 8 hose, synthetic garden, 3/4" GHT x 50'

Definitions

NPT National Pipe Tapered (standard pipe thread)
NH National Fire Hose Thread. (With gasket seal. Also referred to as NST. National Standard Thread)
NPSH National Pipe Straight Hose Thread. (Straight pipe thread with gasket seal. Also referred to as NP) GHT Standard Garden Hose Thread
M Male Thread
F Female Thread

**Fire Tower Sites**

Fire Towers are no longer staffed, however, safety of the public should be considered at tower sites still owned by the DNR. Signage should be used to communicate acceptable and unacceptable use of the tower and tower site by the public.

Sites that have a history of vandalism or inappropriate use should be mitigated by increased signage (available upon request from the Forestry Equipment Research & Development Center), installation of locked gates, and where applicable, increased patrols or surveillance.

**Locations Not Maintained By Fire Management Personnel**

SEAT bases, DNR service centers, and incident command posts are facilities not commonly maintained by DNR fire management personnel. However, these locations are associated with, and reflect on, the professional image of the DNR fire management program. Assessment of a partner's ability to adhere to expectations should be conducted when evaluating the effectiveness of the locations and establishing new locations. For instance, if a partner is unable to trim back vegetation from a prevention sign, other options should be considered.

## FIRE EQUIPMENT STANDARDS

**Categories of Equipment**:

1. Safety Equipment – Safety equipment includes all equipment that is deemed to be critical to the safety and protection of the operator.

   Standardization Policy – The location and functional operation of all safety equipment should be standard on all fire units. If this is not possible, then the variation should be incorporated in the Fire Equipment Course Certification process.

   a. Fire plow hydraulic controls must raise the plow/hitch when the control lever is pulled rearward/up/towards the operator and lower the plow/hitch when the lever is pushed forward/down/away from the operator.
   b. Fire plow hydraulic couplers for the main beam should be color coordinated or otherwise identified to insure compliance with item "a" above. Example: red female to red male etc.
   c. On tractor-plow units, moving the water pump hydraulic control forward/down engages the pump, thus producing water flow. If electric switches are used to control water flow they shall be labeled for clear operation.
   d. On tractor-plow units (equipped with a shower system), pushing/turning water valve controls down/forward turns on the shower system with suction from the onboard tanks.
   e. One fire shelter carried on the tractor-plow should be mounted in front of the operator in an easy/fast access mounting device.
   f. Operating vehicle weight must not exceed the manufacturers' Gross Vehicle Weight Rating.

2. Operational Equipment – This includes equipment not critical from a safety standpoint, but important to the functioning of a unit as a firefighting vehicle.

   Standardization Policy – Uniformity in location and functional operation of equipment and controls is desired but not critical. Components and controls should be clearly labeled.

   a. Standardized terminology and labeling should be developed for identifying this equipment and describing its operation. Operation of this equipment should be uniform on all vehicles (i.e., pull valve out to discharge, push in to shut valve), unless logically designed and labeled.
   b. A standard minimum compliment of equipment to be carried on fire units should be listed on the Weekly Fire Suppression Equipment Inspection form.
   c. The employee that is expected to be the regular operator of a fire suppression unit shall receive a checkout on operation of the unit by Forestry Equipment Research & Development Center personnel when they pick up any new vehicles/equipment from the Center.

**Modification of Equipment**

1. **No changes, redesigns or modifications will be made to equipment without prior notification and approval of the Forestry Equipment Research & Development Center Superintendent (Superintendent).** Depending on the nature of the request, the Superintendent may: 1) approve the request; 2) refer the request to the Forestry Equipment and Safety Specialist Team; 3) turn down the request.

2. Employees are encouraged to give feedback on existing equipment and make recommendations for changes directly to the Equipment Center Superintendent or to a member of the Forestry Equipment and Safety Specialist Team. Employees are also encouraged to frequently check the safety service bulletin page of the Forestry Intranet page for updated safety bulletins.

3. The superintendent and equipment team should regularly correspond and discuss design proposals. Depending on the nature and scope of the proposal, the Superintendent should interact with the Forest Fire Protection Section Chief and/or the Forestry Operations Team.

## Radio Use Rules

For DNR Radio Communications Program policy, please see Chapter 7: RADIO COMMUNICATIONS in this Handbook. For guidance on radio use and troubleshooting, refer to the DNR Radio Communications Guide.

## Fire Equipment Identification

### Color

Type 4, 4x and 6x engine cabs and steel or fiberglass bodies should be painted fire truck safety yellow (Sherwin-Williams J5-6086 or equivalent). New Type 7x engines should be safety yellow as old trucks are replaced.

Aluminum bodies can be natural or painted safety yellow. Dozers and low ground units should be standard manufacturers industrial yellow.

### Unit Identifier

All fire suppression units should be provided with unit identifiers. This is the station name followed by a sequential number per the following methodology. Station abbreviations used for labeling are identified in the table below on page 30-9. Vinyl lettering and stencils can be obtained from the Forestry Equipment Research and Development Center.

*Engines*

"Station Identifier – Engine Type – Sequential Number" (for that type vehicle at that station)

Example: WUS 61 is the 1st Type 6 engine at Wausaukee
WUS 72 is the 2nd Type 7 engine at Wausaukee

*Complete Heavy Units including Low Ground Units*

"Station Identifier – Sequential Number" (for that type vehicle at that station)

Example: RHN 1 is the 1st heavy unit at Rhinelander
WEB 3 is the 3rd heavy unit at Webster
POY 2 is the 2nd heavy unit at Poynette and is a low ground unit

For radio communication purposes only, if the Type 4 engine is used independently, it is identified the same way that other engines are identified (Station Identifier-Engine Type-Sequential Number)

Example: Rhinelander 1 arrives on a fire and unloads. An LTE uses the engine while tractor is plowing. The engine would then be Rhinelander 41. The tractor-plow would remain Rhinelander 1.

*Heavy Dozers*

"Station Identifier – Dozer – Dozer Type – Sequential Number"

Example: Crex Dozer 21 is the Type 2 dozer out of Crex. The transport would be called Crex 21 Transport

Labeling Required for Each Type of Fire Equipment

| Type 7x Engines | Type 6x Engines | Type 4, 4x Engines |
|---|---|---|
| DNR logo | DNR logo | DNR logo |
| Forestry Division text | Forestry Division text | Forestry Division text |
| Fleet number | Fleet number | Fleet number |
| Operating weight | Operating weight | Operating weight |
| U.S. flag | U.S. flag | U.S. flag |
| Roof identifier (2018+) | Roof identifier | Roof identifier |
| Unit ID | Unit ID | Unit ID |
| Fire | Fire | Fire |

| Tractor-plows | Low ground units |
|---|---|
| DNR logo | DNR logo |
| Forestry Division text | Forestry Division text |
| Fleet number | Fleet number |
| Operating weight | Operating weight |
| Roof identifier | Roof identifier |
| Unit ID | Unit ID |

Unit Identifiers for Fire Response Units (FRUs) and Equipment Locations by Dispatch Group

## Southwest District

### Black River Falls

| | | |
|---|---|---|
| FRU | AUG | Augusta |
| FRU | BRF | Black River Falls |
| FRU | JFA | Jim Falls |
| FRU | NEC | Necedah |
| FRU | PRY | Pray |
| FRU | TMH | Tomah |
| | ALM | Alma |
| | BLD | Baldwin |
| | EAU | Eau Claire |
| | LAX | La Crosse |
| | MEN | Menomonie |
| | WTL | Whitehall |
| | NEI | Neillsville |

### Dodgeville

| | | |
|---|---|---|
| FRU | BOS | Boscobel |
| FRU | POY | Poynette |
| FRU | RCT | Richland Center |
| FRU | SPG | Spring Green |
| FRU | WDL | Wisconsin Dells |
| | BNG | Richard Bong Rec Area |
| | BRB | Baraboo |
| | DOD | Dodgeville |
| | FIT | Fitchburg |
| | HCN | Horicon Marsh WA |
| | JAN | Janesville |
| | KMS | Kettle Moraine Southern |
| | LKM | Lake Mills |
| | NEV | Newville |
| | PLK | Kettle Moraine Pike Lake |
| | PLY | Plymouth |
| | VRQ | Viroqua |
| | WAK | Waukesha |

## Northwest District

### Park Falls

| | | |
|---|---|---|
| FRU | BAR | Barnes |
| FRU | HAY | Hayward |
| FRU | LAD | Ladysmith East |
| FRU | LAD | Ladysmith West |
| FRU | MCR | Mercer |
| FRU | MEL | Mellen |
| FRU | PKF | Park Falls |
| FRU | PRE | Prentice |
| FRU | WIN | Winter |
| FRU | WSB | Washburn |

### Spooner

| | | |
|---|---|---|
| FRU | BRU | Brule |
| FRU | GOR | Gordon |
| FRU | GRT | Grantsburg |
| FRU | MIN | Minong |
| FRU | PAT | Pattison |
| FRU | SPN | Spooner North |
| FRU | SPN | Spooner South |
| FRU | WEB | Webster |
| | BRN | Barron |
| | CRX | Crex Meadows WA |

## Forest Fire Protection Section

| | | |
|---|---|---|
| | MSN | Madison |

## Northeast District

### Wisconsin Rapids

| | | |
|---|---|---|
| FRU | BAB | Babcock |
| FRU | FRD | Friendship |
| FRU | MON | Montello |
| FRU | NEK | Nekoosa |
| FRU | PLV | Plover |
| FRU | WAP | Waupaca |
| FRU | WAT | Wautoma |
| | APP | Appleton |
| | BER | Berlin |
| | BEV | Buena Vista WA |
| | GRB | Green Bay |
| | OSH | Oshkosh |
| | SDH | Sandhill WA |
| | WHR | White River Marsh WA |
| | WRP | Wisconsin Rapids |
| | GRR | Grand River |

### Woodruff

| | | |
|---|---|---|
| FRU | EGR | Eagle River |
| FRU | MED | Medford |
| FRU | MRL | Merrill |
| FRU | RHN | Rhinelander |
| FRU | TLK | Trout Lake |
| FRU | TMK | Tomahawk |
| FRU | WAU | Wausau |
| FRU | WOD | Woodruff |
| | MEA | Mead WA |

### Peshtigo

| | | |
|---|---|---|
| FRU | ANT | Antigo North |
| FRU | ANT | Antigo South |
| FRU | CRA | Crandon |
| FRU | FLO | Florence |
| FRU | GSM | Gresham East |
| FRU | GSM | Gresham West |
| FRU | LKD | Lakewood |
| FRU | OFL | Oconto Falls |
| FRU | PEM | Pembine |
| FRU | PST | Peshtigo |
| FRU | WUS | Wausaukee |
| | NAV | Navarino |
| | SHN | Shawano |

DNR Logo

The standard DNR logo decal will be placed on both truck doors of all engines. On tractor-plows and low ground units the DNR logo will be placed on both sides of the unit.

Forestry Division Text

For engines the words "Forestry Division" shall be placed just below the DNR decal in 1" high minimum letters in contrasting color. On tractor-plows and low ground units the text shall be placed on both sides of the unit.

Fleet Numbers

Fleet numbers will be placed on both front doors of all engines, both sides of dozer cowlings and low ground units and both sides of trailers, near the front. A minimum of 1" lettering shall be used. Fleet numbers for trailers shall also be welded to the bed frame in the front left corner area.

Roof Identifiers

Unit identifiers will be placed on the top of the cab as shown on the following pages. Type 6x engines shall use just the FRU abbreviation. Type 4, 4x, 7x and 2018 and newer 8x engines; tractor-plows; and low ground units shall use the unit identifier. Black lettering will generally be used on yellow cabs. Individual characters will be a minimum of 12 inches high (or as large as possible) in "Arial black" font. Roof Identifiers are not required on older Type 7x engines.

Unit Identifier Placement

The unit identifier should be placed on the unit in the following manner. Either the FRU abbreviation or full station name can be used for the station portion:

1. All Type 6x, 7x engines shall have the unit identifier placed on both sides of the truck, inside the 4" wide reflective stripe on the forward portion of the chassis doors. This lettering shall be 3" minimum in height.

2. All Type 4, 4x engines shall have the unit identifier placed on both outboard sides of the body locating the lettering close to the front, top edge of the body. This lettering shall be 3" minimum in height (4" preferred).

3. All engines shall have the unit ID placed on both sides of the front and rear of unit. All lettering shall be 3 inch minimum in height (or tallest allowable by the truck design. 4" preferred).

4. Tractor-plow unit identifiers shall be placed on the outboard sides of both water tanks. All lettering shall be painted, 10" high in "Arial black" font and centered vertically and horizontally on the side of the tanks. All 2013 and newer CAT units shall have the unit identifiers placed on the outboard sides of both tool boxes. Letter shall be painted, 6" high in "Arial black" font and centered on the toolbox doors.

5. Tractor-plow unit ID shall also be placed on the front and rear of unit. Lettering shall be 2" minimum in height (larger if there is room).

6. Unit identifiers shall be placed on both outboard sides of trailers in contrasting color.

7. Low ground units shall have the unit identifier placed on both sides of the cab or body and front and rear of unit. This lettering shall be 3" minimum in height (4" preferred).

All lettering shall be in contrasting colors with preferred combinations being black lettering on white or yellow background or white lettering on black background.

For examples of unit identifier placement, please see example pictures starting on page 30-12.

US Flag

All engines shall have a US flag decal on both sides of the unit. Type 6x-7x to be on the upper rear of the front fender. Type 4-4x to be on the upper, rear corner of the body. See example pictures.

Fire

All engines shall have "FIRE" placed on both sides of the truck, on the front quarter panel or likewise. This lettering shall be a minimum of 4"height. See example pictures.

Fuel and Flammable Liquid Compartments

Any compartment that is used to carry flammable liquid shall have the red diamond-shaped "FLAMMABLE LIQUID" label applied to the outside of the storage compartment (see pictures on next page). This applies to engines and dozers.


Unit Weights

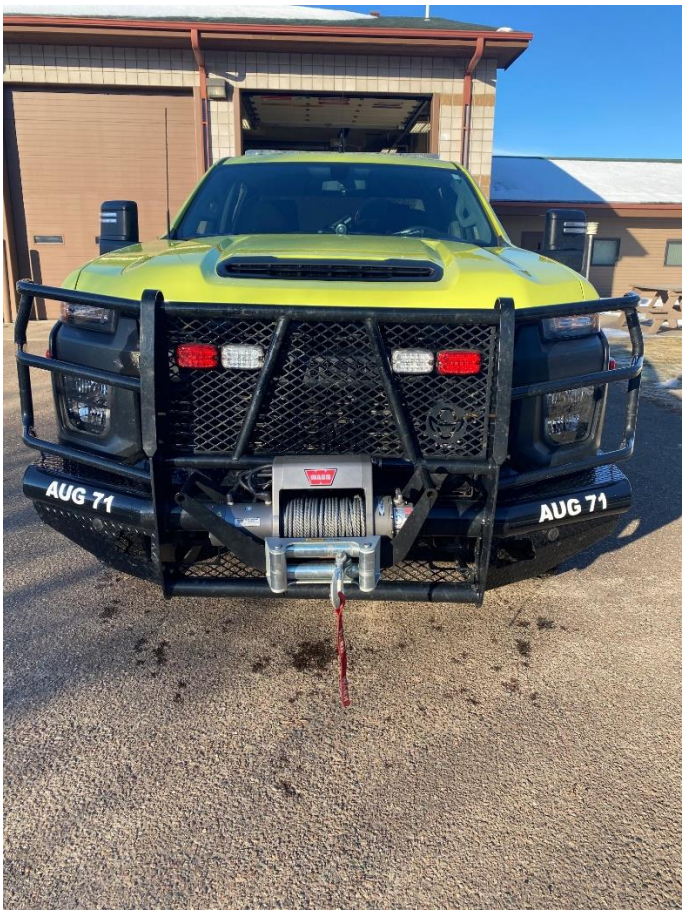
ALL units shall have the fully loaded, operating weight posted on BOTH sides of the unit per the following:

1. Engines to have operating weight in 1" high minimum lettering in contrasting color on the front, lower area of the body.
2. Tractor-plows to have operating weight in 1" high minimum lettering in contrasting color on the engine cowl.
3. Low ground units to have operating weight in 1" high minimum lettering in contrasting color on the cab or body.
4. Trailers to have unit EMPTY WEIGHT in 1" high minimum lettering in contrasting color on the trailer tongue.
5. Heavy units to have the truck, loaded trailer and total combination weight and height of loaded tractor-plow posted in a conspicuous location in the cab of the truck.


FIRE
FORESTRY DIVISION
0775
BRF 71


FIRE
FORESTRY DIVISION
0168
TMK 61


LKD 61
LKD 61


AUG 71
AUG 71


AUG 71
STATE OWNED
19446
WISCONSIN
AUG 71


SUCTION HOSE
PLV 61
STATE OWNED
18498
WISCONSIN
PLV 61


GRT 1
GRT 1

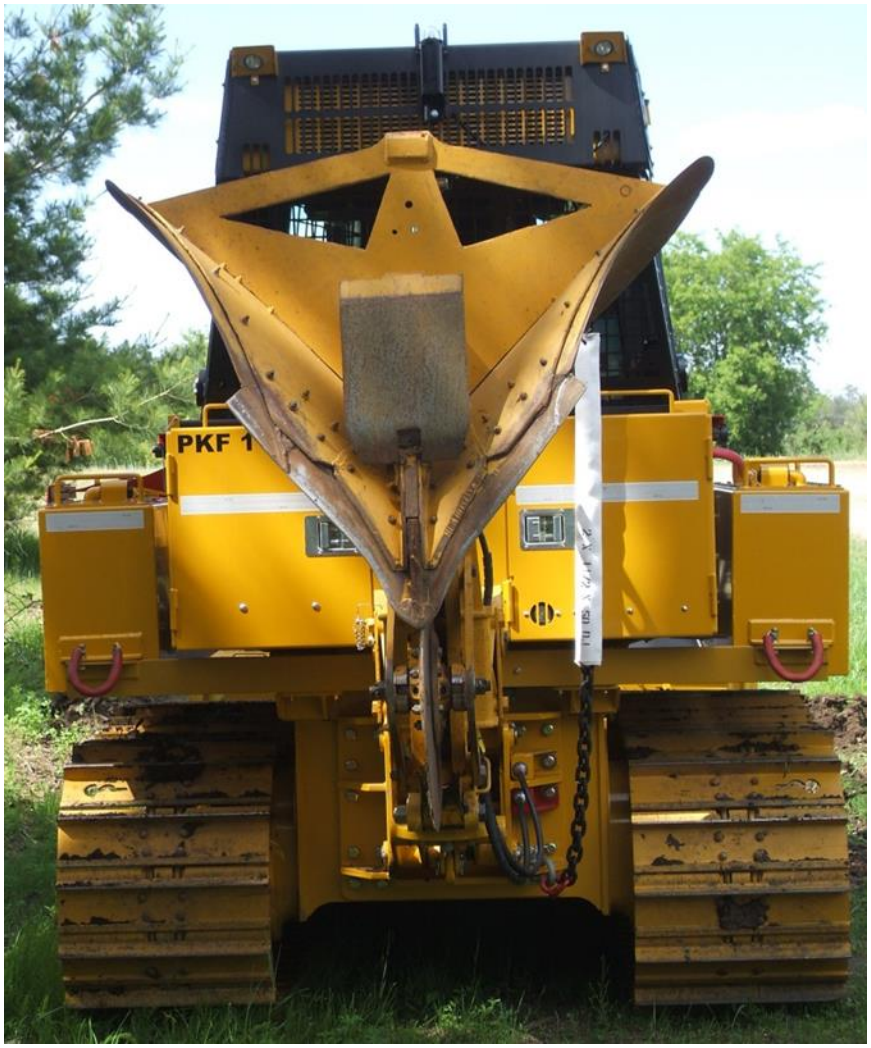

WISCONSIN FIRE - STAY BACK 500 FEET
PUMP COMPARTMENT MUST BE FULLY OPEN WHEN OPERATING PUMP
SUCTION
MED 1
16991
WISCONSIN
MED 1
PREVENT WILDFIRES
PREVENT WILDFIRES


PLV


AUG
71


WAT 1


TMK
2


PKF 1


TMK 1


AUG 2
FIRE
FORESTRY DIVISION
0017
DRINKING WATER
PERSONAL GEAR
FIRST-AID KIT
FLASHLIGHT
FIRE PPE
JUMPER CABLES
REFLECTOR KIT
BOLT CUTTER
HYD JACK
TOOL BOX
GAS TANK - PUMP
CHAIN SAW
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MOTOR / HYD OIL
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AUG 1
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## EQUIPMENT MAINTENANCE

Operator shall follow the equipment manufacturers' guidelines for all fuel and oil requirements, lubrication and maintenance, and any special items of concern. Read and know the owner's manual for each piece of equipment you operate.

### Division Mechanics

Each engine, tractor-plow and low ground unit has been aligned with a Forestry Equipment Research & Development Center mechanic. Operators should contact their mechanic for all repair and maintenance issues. This is to keep the area mechanic informed on the condition of the equipment in their area. The mechanic can help determine the best course of action on any given issue. A list of mechanic shops can be found in the Administration chapter of this Handbook, under the Forestry Equipment Research and Development section.

### Fire Equipment Inspections

CDL Inspections Not Required

The rules requiring pre-trip and post-trip inspections under Title 49 Code of Regulations are not applicable to DNR vehicles. Title 49CFR Part 390.3(f)(2) exempts vehicles operated by the state or a political subdivision of the state from the commercial vehicle inspections.

Required Inspections of DNR Fire Suppression Vehicles and Equipment

Three types of inspections are required of all DNR fire suppression vehicles and equipment. They are:

1. Daily Inspections
2. Weekly Inspections
3. Annual Inspections

Daily Inspections

Daily equipment inspections shall be performed on all fire suppression units whenever the unit is scheduled for staffing per the area operations plan or whenever the state is at Preparedness Level 3 or higher. Area forestry leaders may require daily inspections at additional times.

At the end of all work shifts where a unit has responded to a fire, all units should be inspected to ensure they are ready for emergency response. Check fluid levels and check for any leaks or broken parts. Replenish missing tools and supplies, especially drinking water.

All units scheduled for Fire Duty Readiness (FDR) shall have a daily inspection performed on the last regularly scheduled working day preceding the FDR shift/day. If a unit is called to respond to an emergency during FDR status (or at other times when the unit was not scheduled to be staffed but an emergency response is required), the operator should do a walk around inspection and basic readiness check, including a visual check of tire condition/air pressure, any obvious fluid leaks, hitch and tie downs, all equipment lights, and start the fire pump and tractor-plow. Brake function should also be checked as the truck leaves the garage.

Type 4, 4x engines and trailers shall have the non-fire portion of the daily inspection completed WHENEVER the unit is driven on the highway for non-emergency use.

Daily inspections should be performed using the following forms:

| | |
|---|---|
| Type 6x and 7x engines | Form 4300-087 |
| Type 4, 4x engines and trailers | Form 4300-088 |
| Tractor-plows | Form 4300-089 |
| Low ground units | Form 4300-090 |

Completed forms should be kept in an organized file at the unit station.

In order to properly perform daily inspections, special attention should be paid to the following instructions.

*Type 6x and 7x Engines*

1. Check all fluid levels and inspect engine compartment for visible fluid leaks.

2. Check belts for cracks, proper tension, worn or shiny area, breaks in contact surface and breaks in backing material. Check coolant hoses for leaks, bulges, soft spots and cracking or glazing of outer surfaces.

3. Check axles for broken springs, leaking shock absorbers, irregular tire wear, tire inflation level and brake fluid leaks.

4. Check oil level in pump engine and start pump engine. After engine warms up, operate at normal speed and check water pump functions.

5. Check winch hook for distortion or cracks. Check lead chain and cable for wear, stretching, cracks and broken cable strands.

6. Check operation of foam system and flush system after checking.

*Type 4, 4x Engines and Trailers*

1. Check all fluid levels and inspect engine compartment and under truck area for visible fluid leaks.

2. Check belts for cracks, proper tension, worn or shiny areas, breaks in contact surfaces, breaks in backing material. Check coolant hoses for leaks, bulges, soft spots, cracking or glazingof outer surfaces.

3. Check axles for broken springs, leaking shock absorbers, irregular tire wear, tire inflation level.

4. Check oil level in water pump engine and start engine. After engine warms up, operate at normal speed and check water pump functions.

5. Check to see that hitch bolts are tight, that air and electric connections are tight and in proper positions, and that safety chains are in good condition and properly attached.

6. Check to see that tilt bed-latch is latched and tight.

7. Check to see if load is properly positioned and that tie-downs are in good condition, properly attached, and secured.

8. Check trailer axles for broken springs, irregular tire wear and proper tire inflation.

9. Check oil level at see-through hubs if applicable.

List any items that need additional attention in the "remarks" section and arrange to have the problem corrected.

*Tractor-plows/Dozers*

1. Remove sticks and debris from operators station, undercarriage, tracks and plow. Wash unit if necessary.

2. Check for oil and coolant leaks around engine compartment and under machine when checking fluid levels.

3. Remove any accumulations of dirt and trash from cooling air intake screens and from radiator.

4. Check air filter pre-cleaner and clean if needed.

5. Check hydraulic hoses for leaks and worn spots.
6. Adjust track if necessary. Check all track rollers and final drive housings for leaks.
7. Check plow for broken parts or out of alignment.
8. Check fire water system; discharge hose and shower system and fire curtains.
9. On enclosed cab units, clean windows and check for broken glass.

*Low Ground Units*

1. Remove sticks and debris from undercarriage and tracks. Wash unit if necessary.
2. Check for oil and coolant leaks around engine compartment and under machine when checking fluid levels.
3. Remove any accumulations of dirt and trash from cooling air intake screens and from radiator.
4. Check air filter pre-cleaner and clean it.
5. Consult operator's manual for correct free play in steering pedals or leavers.
6. Check hydraulic hoses for leaks and worn spots.
7. Adjust track if necessary. Check all track rollers and final drive housings for leaks.
8. Check fire water system; discharge hose and fire curtains.

Weekly Inspections

Weekly equipment inspections shall be performed once per week (Sunday to Saturday) whenever a fire suppression unit is designated to be staffed on the area Fire Operations Plan; or prior to being utilized for nonemergency response; or at area forestry leaders (or designees) discretion. The standard minimum compliment of equipment and tools to be carried on fire suppression units will be listed on the Weekly Fire Suppression Equipment Inspection forms. Additions for regional differences in firefighting problems and needs can be made. Storage compartments on trucks should be labeled to show the contents of each compartment. A copy of the weekly inspection form should be kept in cab of each truck.

The weekly inspection consists of a daily inspection, plus an inspection to see that all required suppression equipment is actually present on the vehicle. These inspections should be performed using the following forms:

| | |
|---|---|
| Type 6x and 7x Engines | Form 4300-087A |
| Type 4, 4x Engines and trailers | Form 4300-088A |
| Tractor-plows | Form 4300-089A |
| Low ground units | Form 4300-090A |

Completed forms should be kept in an organized file at the unit station.

Annual Inspections

There are two annual inspections required for all DNR wildland firefighting equipment and vehicles. One covers the basic vehicle (and chassis) and can be done at any time of the year. Type 6x, 7x Engines, low ground units and tractor-plows will use the Vehicle and Heavy Equipment Pool Trailers Annual Maintenance Check (Form 9200-094) for chassis inspection. Type 4, 4x Engines and Trailers need a DOT-compliant inspection to meet Federal Code 49 CFR 396 and install the “Annual Vehicle Inspection Label”.

The second is the Annual Fleet and Fire Apparatus Inspection and covers any firefighting equipment that has been mounted on the vehicle, including any portable pumps. Forestry team leaders are responsible for scheduling and

coordinating Annual Fleet and Fire Apparatus Inspections, which should be completed between arrival of snow cover and the beginning of spring fire season (approximately March 15). Completed forms should be kept in an organized file at the unit station or area mechanics shop.

## Fire Hose

### Discharge Hose

All fire discharge hose that has been placed in service (no longer in original packaging) shall be inspected and service tested annually using the latest edition of NFPA 1962 Standard for the Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose. Weeping hose should be marked as such at the female end and tested separately from non-weeping hose. 300 p.s.i. will not be attainable but test for major failure.

A summary of the test procedure is as follows:

1. Unroll each section of hose.
2. Inspect hose jacket for cuts, abrasions, burns, mildew, rodent damage and other defects and/or injuries. Discard damaged hose lengths after removing any usable couplings.
3. Inspect couplings for worn, missing or defective internal gaskets. Replace gaskets as needed.
4. Check for frozen swivels – swivels should rotate freely.
5. Check for damaged or out-of-round threads.
6. Check for corrosion, slippage of coupling on hose and couplings that are mounted crooked on hose.
7. Test each section of hose. Pressure testing should be done using a hose tester.
8. Connect hose to tester. Total length of hose being tested should not exceed 300 feet.
9. Charge hose slowly. Make sure that all air is exhausted from hose.
10. Close nozzle or cap end of hose and clear hose area of all personnel except pump operator.
11. Raise pressure slowly to 45psi. Check for leakage at each coupling and tighten where necessary.
12. Mark each hose at the end or back of each coupling to determine, after the hose has been drained, if the coupling has slipped during the test.
13. Slowly increase pressure to the service test pressure of the hose (300psi for all forestry hose).
14. Stabilize the pressure for 1 minute for each 100 feet of hose in the test line.
15. Hold the test pressure for a minimum of three minutes and observe hose for:
    a. Leaks in hose
    b. Crooked couplings
    c. Leaks at couplings
16. Shut down pump and drain hose.
17. Inspect for slippage of couplings.
18. Remove from service any hose length with leaks, bad couplings, crooked couplings or slippage at couplings.

19. Wash hose if necessary; allow to dry completely.

20. For hose that passes the test – on the female end of the hose jacket, with a permanent marker, mark the month/year the discharge hose was service tested.

21. Reverse the fold at the male end when re-rolling hose.

22. Rotate hose between storage and active use annually.

Suction Hose

Proper preventive maintenance of suction hoses on all fire suppression units and suction hoses in storage should be conducted per the following procedures:

1. Suction hose lengths shall be removed from the unit or storage area and inspected prior to the spring fire season. Each hose section should be held so that looking through the hose will disclose any obstruction. All obstructions (mouse nests, leaves, etc.), upon discovery, should be removed.

2. Check the fittings on both ends of the suction hose. See that the female end turns freely and is not out of round. Check the threads (male end especially) for damage. If damage is detected, a skilled person may be able to "touch-up" the threads with the proper file. Be careful not to drop the ends on the ground or pavement or to get sand in the threads. Fittings can be hand-tightened if the gaskets and threads are in good condition. Do not damage the threads or gasket by over tightening with a spanner.

3. The body of the hose should be checked for signs of cracking or wear. If there are numerous deep cracks, the hose collapses with hand pressure, or other serious wear is evident, the hose must be replaced. Be sure to save the fittings for installation on new hose.

4. Remove suction hose fitting gaskets for inspection. Replace gaskets if either hard or cracked. Apply silicone lube to gaskets on all surfaces before installing.

.5. Test suction hose with a reliable vacuum source. Hand primer on Darley pump with hose adaptors and hose end cap can test 1", 1 1/2", or 2 1/2" hose. Suction hose passes test if it will hold 20" Hg for 10 seconds. Any lower test results equate to a failed test.

6. The exterior of all suction hoses used in the unit's plumbing should be checked as in step 3 above when pump maintenance is performed. Before winter or cold storage, suction hose in the plumbing system must be drained completely.

7. Suction hose lengths on heavy trucks should be removed during winter months and stored out of the weather. Salt and other road chemicals deteriorate the hose. Be sure that the suction hose is in an area free of rodents to prevent damage during storage.

8. Suction hose should be carried in a manner so that it is not subjected to direct sunlight, heavy objects, movement or loss during transportation.

Fittings, Nozzles, and Appliances

1. Inspect for physical damage and leaks

2. Repair or replace as necessary

**Pumps**

Cold Weather Pump Operation

1. For operation during freezing weather, the water supply to the pump must be shut off and the pump drained of all water when not in use.

2. The pump must be turned over to remove trapped water from the pump.

3. If possible, pump drain valves should be closed and antifreeze poured into pump.

4. If antifreeze is not available, drain the unit and turn the pump over with all drains in the open position.

Winter Storage

1. Remove all drain plugs and/or open all drains on the pump.

2. Drain the water tank(s) as completely as possible-use an incline so water flows to tank opening.

3. Turn pump over several times to remove the remaining water (pump drains open).

4. Reinstall pump plugs and/or close pump drains.

5. Pour at least one quart of rust inhibited antifreeze into the pump and turn pump over several times.

6. Drain all valves.

7. Leave ball valves in half open position.

8. When possible, with units equipped with slip in pump packages remove them for winter storage.

## Heavy Trailers

Pintle Hitch

Be sure the nuts holding the pintle eye to the trailer are tight. The pintle eye should be solid if properly fitted and nuts are tight. Pintle rings should NOT be greased. The pintle eye should be adjusted so that the loaded trailer travels with a level bed. If the bed cannot be completely level, it should be slightly higher in the front.

Safety Chains

These chains must be in good repair and crossed when attached to the truck. The chains should be adjusted just long enough to allow enough slack for turning.

Air Brakes

Do not attempt repair or adjustment of air brakes unless you have had training in this type of repair. It is recommended to have this repair work done by a qualified mechanic.

Air hoses should be checked for audible air leaks each time they are connected. The glad-hand seals should be checked regularly and replaced as needed. Air brakes must be lubricated as directed in the trailer operator's manual. Do not over-grease!

Wheel Bearings

Some units have oil bath bearings and the oil level needs to be checked. Some units have lifetime greased bearings and oil must not be added to these units.

## Loading

All loads must be carried so that 10 to 20 percent of the gross weight (trailer + load) is placed on the trailer hitch. Failure to distribute the weight properly can produce erratic and uncontrollable behavior of the trailer while it is being towed. All trailers have blade stops to correctly position each model of tractor-plow.

Securing the Load

All fire suppression dozers and dozer/plow units will be secured during transport with the 4-point tie down system. All other heavy equipment transported on tilt bed trailers will be secured with four tie downs and binders. Tie downs must be kept tight at all times and must be checked frequently. Keep tie down screws clean and oiled.

Assistance in tying down non-standard loads can be obtained from the Equipment Center.

## FIRE STAFFING

Area fire staffing will be determined daily any time the ground is not snow-covered by using forecasted conditions such as the Canadian Forest Fire Danger Rating System (CFFDRS), weather, fuel conditions, time of year, ignition potential, Haines Index, live fuel moisture, forecasted fire behavior, and statewide preparedness level.

The following matrices will be used to set area staffing levels with the above considerations.

**Wisconsin DNR - Division of Forestry**
**Fire Resource Staffing Levels**

Spring Break Points (Based on ISI)

| Dispatch Group | Staffing Level 1 | Staffing Level 2 | Staffing Level 3 | Staffing Level 4 | Staffing Level 5 | Staffing Level 6 | Staffing Level 7 | Staffing Level 8 |
|---|---|---|---|---|---|---|---|---|
| STATEWIDE | 0 - .1 | .2 - 1.1 | 1.2-2.9 | 3-6.7 | 6.8-9.9 | 10-14.9 | 15-19.9 | 20+ |

Summer Break Points

| May to Sept | | ISI | | | | | |
|---|---|---|---|---|---|---|---|
| | | 0-3 | 3-6 | 6-15 | 15-18 | 18-20 | 20+ |
| DMC | 0-16 | 1 | 1 | 1 | 2 | 3 | 3 |
| | 16-35 | 1 | 1 | 2 | 3 | 3 | 4 |
| | 35-59 | 1 | 2 | 3 | 3 | 4 | 4 |
| | 59-75 | 2 | 2 | 3 | 4 | 4 | 5 |
| | 75-89 | 2 | 3 | 4 | 4 | 5 | 5 |
| | 89+ | 3 | 4 | 4 | 5 | 5 | 6 |

Fall Break Points

| Oct to Dec | | ISI | | | | | |
|---|---|---|---|---|---|---|---|
| | | 0-1 | 1-4 | 4-7 | 7-11 | 11-13 | 13+ |
| DMC | 0-2 | 1 | 1 | 1 | 2 | 2 | 3 |
| | 2-4 | 1 | 1 | 2 | 2 | 3 | 4 |
| | 4-11 | 1 | 2 | 2 | 3 | 4 | 4 |
| | 11-21 | 2 | 2 | 3 | 4 | 4 | 5 |
| | 21-38 | 2 | 3 | 4 | 4 | 5 | 5 |
| | 38+ | 3 | 4 | 4 | 5 | 5 | 6 |

The Resource Staffing Level / Fire Characteristics matrix (11x17 printout) will be used to determine the correct resource availability. During inactive fire conditions, a single operation plan for an extended time period may be sufficient to ensure staff will be ready and able to response to fire incidents. During conditions of potential high fire activity (i.e. Spring), two operation plans will be completed daily, morning and evening, and sent/communicated to all fire resources in the area (all dispatchers, area forestry leaders, district forestry leaders, and Forest Fire Protection Section staff). Weekly conference calls between NWS and DNR will be conducted by the NWS to brief DNR fire managers of forecasted weather conditions for the following week. This conference call will also be used to determine the Statewide Preparedness Level and individual district needs.

## WEATHER

### Fire Danger Rating

The Canadian Forest Fire Danger Rating System (CFFDRS) is the official rating system used by the Department. However, the National Fire Danger Rating System (NFDRS) is maintained for partnering agencies. For specific instructions on the operation of the systems, see the following reports:

1. Weather Guide for the Canadian Forest Fire Danger Rating System - B.D. Lawson and O.B. Armitage Canadian Forest Service Northern Forestry Centre 2008.

2. The National Fire Danger Rating System - 2016. NWCG Memorandum 19-002.

3. Users Guide to WIMS; Weather Information Management System.

### Weather Station Maintenance

Department-approved fire management weather stations are located at the following offices:

| Station Name | Number | Station Name | Number |
|---|---|---|---|
| Antigo | 471901 | Ladysmith | 471601 |
| Appleton | 473402 | Lancaster | 476003 |
| Augusta | 472801 | Lind | 470603 |
| Barnes | 470202 | Mead | 472603 |
| Black River Falls | 473901 | Minong | 470703 |
| Boscobel | 476002 | Necedah | 474301 |
| Brooklyn | 476201 | Pardeeville | 475701 |
| Diamond Lake | 471703 | Rome | 473501 |
| Dodgeville | 476001 | Star Prairie | 472201 |
| Eagle | 476401 | Tomahawk | 471801 |
| Ganoe Hill | 472901 | Wausaukee | 471301 |
| Hayward | 470804 | Wautoma | 474201 |
| LaCrosse | 474601 | Woodruff | 471002 |

Every year each weather station must be sent in for maintenance to Forest Technology Systems (FTS). The Bureau of Forest Protection sets up a new agreement annually with FTS for maintenance. A dispatcher/staff specialist is assigned a list of RAWS stations to monitor and ensure the replacement schedule is followed:

1. Contact is established between the local ranger station maintenance staff and FTS before sending the station in for maintenance to receive an RMA (Return Merchandise Authorization) number for tracking.

2. The following items should be sent in:

   a. Every year: fuel stick sensor (FS-3), temperature/humidity sensor (THS-3)
   b. Every second year: wind speed and wind direction sensor (SDI-WS-RMY)
   c. Every third year: rain gauge (RG-E12), solar radiation sensor (SDI-SR-PYR)
   d. Other instruments and parts will be sent in on an as-needed basis.

3. Make sure everything is packed securely in the packing case.

4. The package should be insured for the appropriate instruments being sent, see below for cost to insure. The approximate replacement costs (as of 2022) for each sensor are:

| | |
|---|---|
| SC-11 Shipping Case | $1050.00 |
| THS-3 | $1000.00 |
| FS-3 | $1150.00 |
| SDI-WS-RMY | $1550.00 |
| SDI-SR-PYR | $1150.00 |
| RG-E12 | $2800.00 |
| **Total:** | $8700.00 |

5. For addition information, refer to the Interagency Wildland Fire Weather Station Standards & Guidelines (PMS 426-3) for information pertaining to proper use and maintenance of the weather station.

**Fire Weather Station Inspections**

Since quality weather observations are dependent almost entirely on good instruments and observations, it is therefore necessary that a strict mode of operations and procedures are adhered to at the weather stations.

The following procedures shall be conducted annually (preferably in the spring), and will govern the inspection of fire weather stations:

Team Leader or Designee (Inspector)

1. Notifies Staff Specialist of inspection date.

2. Inspects weather station and records according to specifications on Fire Weather Station Inspection Report, (Form 4300-038). To ensure reliability of data and minimize errors, periodically check for instrument error, observation error, and improper installation of weather station.

3. Completes a copy of Form 4300-038 and distributes to the Staff Specialist who then forwards a copy to the Area Forestry Leader and the Forest Fire Suppression Specialist.

4. Corrects the deficiencies noted as soon as possible, but not to exceed 15 days.

5. Ensures when corrections are completed and conducts follow-up inspection as soon as possible.

**Weather Observations**

1. Weather observations are taken hourly via the Geostationary Satellite System (GOES). Each station is assigned an upload time. Most stations are near the top of the hour.

2. Current fire weather information is posted hourly at the Great Lakes Fire/Fuels website, 25 minutes after the hour.

Fire Weather Forecasts

The Great Lakes Fire/Fuels page will use gridded NWS forecast conditions and CFFDRS values via the following guidelines:

1. Forecast weather values for 6-hour periods out to 2 days are obtained four times per day from the National Weather Service National Digital Forecast Database on the same 5 km grid available for the Real-time Mesoscale Analysis (RTMA). The gridded values are displayed as graphical images with the capability to rollover and see specific values at each grid point. The nearest gridded values to specific stations are used to compute the station forecast values.

2. At 18:30 UTC, forecast values for the next two days are updated using the National Digital Forecast Database (NDFD) gridded values.

3. At 00:30 UTC, analyzed weather values from the RTMA grids or station values are used to update what has already taken place. NWS forecasts for the remaining 18 hours of the forecast period for the next day at 18:00 UTC are then used. Day 2 forecasts use the most current information from the NWS.

4. At 06:30 UTC, analyzed values from the RTMA grids or station values over the past 12 hours are used. NWS forecasts for the remaining 12 hours of the forecast period for the present day at 18:00 UTC are then used. Day 2 forecasts use the most current information from the NWS.

5. At 12:30 UTC, precipitation values from the RTMA grids or station precipitation over the past 18 hours are used. NWS forecasts for the remaining 6 hours of the forecast period for the present day at 18:00 UTC are then used. Day 2 forecasts use the most current information from the NWS.

Spot Forecasts

1. Spot weather forecasts can be requested through any DNR dispatch center, or directly requested through the National Weather Service where a dispatch center isn't applicable.

2. Spot forecasts for ongoing fires and approved prescribed burns may be obtained from the closest NWS office via the internet. Spot forecasts can also be requested by phone or fax. A phone call must accompany the fax request so the forecaster is aware of the request.

3. When requesting the spot forecast, personnel should provide information about the location, topography, fuel type(s), size, ignition time, and a contact and telephone number. If possible, a representative weather observation should accompany the request. Requestor information justifying the spot forecast request must also be provided for the forecast request to be honored.

4. Refer to the current NWS Wisconsin Fire Weather Operations Manual for more detailed instruction and to identify what constitutes an approved prescribed burn.

5. Feedback should be provided, whenever possible, back to the NWS as to the accuracy of the spot weather forecast.

**FTS Weather Station Catalogue**

| Station Name | MesoWest ID | Station ID | WIMS ID | GOES ID | Lat D M S | Long D M S |
|---|---|---|---|---|---|---|
| Antigo | AGOW3 | 2628 | 471901 | 5370E088 | 45 09 32 | 89 06 53 |
| Appleton | TT571 | 10188 | 473402 | 32A28E7E | 44 17 14.93 | 88 27 33.19 |
| Augusta | AFWW3 | 2632 | 472801 | 5370A382 | 44 41 44.64 | 91 08 04.07 |
| Barnes | BRNW3 | 2630 | 470202 | 53704070 | 46 24 00 | 91 30 00 |
| Black River Falls | BFWW3 | 2631 | 473901 | 537036E0 | 44 17 47.87 | 90 43 36.41 |
| Boscobel | BBLW3 | 2675 | 476002 | 5370F3FE | 43 08 57 | 90 41 03 |
| Brooklyn | BKNW3 | 10707 | 476201 | 32B03F9A | 42 52 12 | 89 29 55 |
| Clam Lake USFS | CLRW3 | 2166 | 470304 | 333232A6 | 46 11 51 | 90 58 12 |
| Diamond Lake | DMLW3 | 2639 | 471703 | 5370D512 | 45 06 20 | 90 41 24 |
| Dodgeville | DLEW3 | 2011 | 476001 | 53702596 | 43 01 22.82 | 90 08 21.62 |
| Eagle | EGLW3 | 10187 | 476401 | 32A280AC | 42 51 34.59 | 88 30 57.26 |
| Glidden USFS | GDNW3 | 1109 | 470302 | 328B871E | 46 08 41 | 90 35 25 |
| Ganoe Hill | TT569 | 10186 | 472901 | 32A27EFA | 44 34 39.49 | 92 04 0.88 |
| Hayward | HWDW3 | 2626 | 470804 | 53709618 | 46 00 1.7 | 91 30 00 |
| Horicon USFWS | MAYW3 | n/a | 475601 | 837600EC | 43 34 14 | 88 36 31 |
| Keshena MTE | KEHW3 | n/a | 472002 | 5213C2FA | 44 53 21 | 88 39 41 |
| LaCrosse | TT573 | 10190 | 474601 | 32A29D08 | 43 49 20.10 | 91 11 31.88 |
| Ladysmith | LDYW3 | 2638 | 471601 | 53710180 | 45 26 00 | 91 07 00 |
| Lancaster | LKRW3 | 10706 | 476003 | 32B07C90 | 42 49 35 | 91 41 11 |
| Laona USFS | LAAW3 | 1108 | 471101 | 3284818C | 45 27 43.7 | 88 40 47.14 |
| Lind | LNDW3 | 2637 | 470602 | 5370C664 | 45 44 23 | 92 47 44 |
| Mead | MNEW3 | 2676 | 472603 | 537112F6 | 44 41 50 | 89 51 57 |
| Minong | MRZW3 | 2625 | 470703 | 53705306 | 46 08 09 | 91 58 51 |
| Mountain USFS | TT278 | 7206 | 472003 | 320943A | 45 07 26.29 | 88 22 17.8 |
| Moose Lake MN | n/a | n/a | 211803 | 7070C558 | 46 25 13 | 92 48 02 |
| Mora MN | n/a | n/a | 213301 | 7070D62E | 45 23 24 | 93 16 11 |
| Necedah | NEHW3 | 2327 | 474301 | 8376139A | 44 01 43 | 90 04 59 |
| Pardeeville | PEEW3 | 2010 | 475701 | 537075EA | 43 33 29.05 | 89 18 22.90 |
| Phelps USFS | PLPW3 | 2590 | 470502 | 3336410C | 46 02 24 | 89 05 46 |
| Rome | NKAW3 | 2634 | 473501 | 5370856E | 44 15 24 | 89 48 36 |
| Smith Rapids USFS | SMRW3 | 3083 | 470902 | 3268B000 | 45 55 56 | 90 10 51 |
| Star Prairie | SRPW3 | 10189 | 472201 | 32A293DA | 45 11 11.08 | 92 39 01.04 |
| Tomahawk | TAWW3 | 2623 | 471801 | 5370100C | 45 35 38.94 | 89 43 21.84 |
| Washburn USFS | WSHW3 | 1110 | 470207 | 3336379C | 46 35 6.46 | 91 15 20.08 |
| Wausaukee | WUEW3 | 2633 | 471301 | 5370B0F4 | 45 23 22.30 | 87 57 55.48 |
| Wautoma | WUTW3 | 2636 | 474201 | 5370669C | 44 03 22 | 89 17 32 |
| Woodruff | WUFW3 | 2622 | 471002 | 5370037A | 45 53 14 | 89 39 04 |

Note: n/a = information not available.

**Adjective Levels of Canadian Forest Fire Danger Rating System**

| GRASS | | | | | | PINE | | | | | | HARDWOOD | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Julian | BUI | ISI | FFMC | FWI | Rating | Julian | BUI | ISI | FFMC | FWI | Rating | Julian | BUI | ISI | FFMC | FWI | Rating |
| **SPRING** | | | | | | | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | Low | 0 | 0 | 0 | 0 | 0 | Low | 0 | 0 | 0 | 0 | 0 | Low |
| 0 | 0 | 0 | 75 | 0 | Moderate | 0 | 0 | 0 | 75 | 0 | Moderate | 0 | 0 | 0 | 75 | 0 | Moderate |
| 0 | 0 | 0 | 88 | 0 | High | 0 | 0 | 0 | 88 | 0 | High | 0 | 0 | 0 | 88 | 0 | High |
| 0 | 0 | 2 | 0 | 0 | Moderate | 0 | 0 | 2 | 0 | 0 | Moderate | 0 | 0 | 2 | 0 | 0 | Moderate |
| 0 | 0 | 2 | 88 | 0 | High | 0 | 0 | 2 | 88 | 0 | High | 0 | 0 | 2 | 88 | 0 | High |
| 0 | 0 | 4 | 0 | 0 | High | 0 | 0 | 4 | 0 | 0 | High | 0 | 0 | 4 | 0 | 0 | High |
| 0 | 0 | 8 | 0 | 0 | Very High | 0 | 0 | 8 | 0 | 0 | Very High | 0 | 0 | 8 | 0 | 0 | Very High |
| 0 | 0 | 8 | 93 | 33 | Extreme | 0 | 0 | 8 | 93 | 33 | Extreme | 0 | 0 | 8 | 93 | 33 | Extreme |
| **SUMMER Grass May 12; Pine May 22; Hardwood May 17)** | | | | | | | | | | | | | | | | | |
| 132 | 0 | 0 | 0 | 0 | Low | 142 | 0 | 0 | 0 | 0 | Low | 142 | 0 | 0 | 0 | 0 | Low |
| 132 | 0 | 15 | 0 | 0 | Moderate | 142 | 0 | 6 | 0 | 0 | Moderate | 142 | 0 | 15 | 0 | 0 | Moderate |
| 132 | 0 | 20 | 0 | 0 | High | 142 | 0 | 11 | 0 | 0 | High | 142 | 0 | 20 | 0 | 0 | High |
| 132 | 130 | 0 | 0 | 0 | Low | 142 | 55 | 0 | 0 | 0 | Low | 142 | 85 | 0 | 0 | 0 | Low |
| 132 | 130 | 10 | 0 | 0 | Moderate | 142 | 55 | 5.5 | 0 | 0 | Moderate | 142 | 85 | 10 | 0 | 0 | Moderate |
| 132 | 130 | 15 | 0 | 0 | High | 142 | 55 | 10 | 0 | 0 | High | 142 | 85 | 15 | 0 | 0 | High |
| 132 | 130 | 20 | 0 | 0 | Very High | 142 | 55 | 16 | 0 | 0 | Very High | 142 | 85 | 20 | 0 | 0 | Very High |
| 132 | 170 | 0 | 0 | 0 | Low | 142 | 80 | 0 | 0 | 0 | Low | 142 | 160 | 0 | 0 | 0 | Low |
| 132 | 170 | 5 | 0 | 0 | Moderate | 142 | 80 | 5 | 0 | 0 | Moderate | 142 | 160 | 5 | 0 | 0 | Moderate |
| 132 | 170 | 10 | 0 | 0 | High | 142 | 80 | 9.5 | 0 | 0 | High | 142 | 160 | 10 | 0 | 0 | High |
| 132 | 170 | 15 | 0 | 0 | Very High | 142 | 80 | 15 | 0 | 0 | Very High | 142 | 160 | 15 | 0 | 0 | Very High |
| 132 | 170 | 15 | 95 | 50 | Extreme | 142 | 80 | 15 | 93 | 50 | Extreme | 142 | 260 | 20 | 94 | 50 | Extreme |
| 132 | 260 | 0 | 0 | 0 | Low | 142 | 120 | 0 | 0 | 0 | Low | 142 | 260 | 0 | 0 | 0 | Low |
| 132 | 260 | 0 | 75 | 0 | Moderate | 142 | 120 | 0 | 75 | 0 | Moderate | 142 | 260 | 0 | 75 | 0 | Moderate |
| 132 | 260 | 0 | 88 | 0 | High | 142 | 120 | 0 | 88 | 0 | High | 142 | 260 | 0 | 88 | 0 | High |
| 132 | 260 | 5 | 0 | 0 | Moderate | 142 | 120 | 5 | 0 | 0 | Moderate | 142 | 260 | 5 | 0 | 0 | Moderate |
| 132 | 260 | 5 | 88 | 0 | High | 142 | 120 | 5 | 88 | 0 | High | 142 | 260 | 5 | 88 | 0 | High |
| 132 | 260 | 10 | 0 | 0 | High | 142 | 120 | 10 | 0 | 0 | High | 142 | 260 | 10 | 0 | 0 | High |
| 132 | 260 | 15 | 0 | 0 | Very High | 142 | 120 | 15 | 0 | 0 | Very High | 142 | 260 | 15 | 0 | 0 | Very High |
| 132 | 260 | 15 | 94 | 45 | Extreme | 142 | 120 | 15 | 93 | 45 | Extreme | 142 | 260 | 15 | 93 | 45 | Extreme |
| **FALL (October 1 for all)** | | | | | | | | | | | | | | | | | |
| 273 | 0 | 0 | 0 | 0 | Low | 273 | 0 | 0 | 0 | 0 | Low | 273 | 0 | 0 | 0 | 0 | Low |
| 273 | 0 | 4 | 0 | 0 | Moderate | 273 | 0 | 4 | 0 | 0 | Moderate | 273 | 0 | 4 | 0 | 0 | Moderate |
| 273 | 0 | 8 | 0 | 0 | High | 273 | 0 | 8 | 0 | 0 | High | 273 | 0 | 8 | 0 | 0 | High |
| 273 | 55 | 0 | 0 | 0 | Low | 273 | 55 | 0 | 0 | 0 | Low | 273 | 55 | 0 | 0 | 0 | Low |
| 273 | 55 | 4 | 0 | 0 | Moderate | 273 | 55 | 4 | 0 | 0 | Moderate | 273 | 55 | 4 | 0 | 0 | Moderate |
| 273 | 55 | 7.5 | 0 | 0 | High | 273 | 55 | 7.5 | 0 | 0 | High | 273 | 55 | 7.5 | 0 | 0 | High |
| 273 | 55 | 10 | 0 | 0 | Very High | 273 | 55 | 10 | 0 | 0 | Very High | 273 | 55 | 10 | 0 | 0 | Very High |
| 273 | 80 | 0 | 0 | 0 | Low | 273 | 80 | 0 | 0 | 0 | Low | 273 | 80 | 0 | 0 | 0 | Low |
| 273 | 80 | 4 | 0 | 0 | Moderate | 273 | 80 | 4 | 0 | 0 | Moderate | 273 | 80 | 4 | 0 | 0 | Moderate |
| 273 | 80 | 8 | 0 | 0 | High | 273 | 80 | 8 | 0 | 0 | High | 273 | 80 | 8 | 0 | 0 | High |
| 273 | 80 | 10 | 0 | 0 | Very High | 273 | 80 | 10 | 0 | 0 | Very High | 273 | 80 | 10 | 0 | 0 | Very High |
| 273 | 80 | 10 | 93 | 33 | Extreme | 273 | 80 | 10 | 93 | 33 | Extreme | 273 | 80 | 10 | 93 | 33 | Extreme |

Note: The Julian dates vary from station to station and year to year

## DISPATCHERS

### Incident Resource Guide

The Incident Resource Guide (IRG) will contain information necessary to meet the needs of dispatching for initial attack fires and extended attack fires that do not have an IMT activated. Area forestry leaders, in conjunction with Forest Fire Protection Section staff, are responsible for annually updating the information in their portion of the IRG.

### Dispatch Staffing

A trained dispatcher should be available at each dispatch center to assist or relieve the regular dispatcher. Information on dispatcher staffing can be found on the Resource Staffing Level / Fire Characteristics matrix (11x17 printout).

### Dispatch Maps

Wall maps shall be magnetic or have a stick-pin backing. Any other mapping technology may be used in addition to the hard copy map, per the AFL's discretion. Since dispatch maps now involve considerable expense, the Forest Fire Protection Section encourages the use of magnetic-type maps. This will prolong the life of the map.

Items That Must Be on the Dispatch Map

1. Township and range lines, marked and numbered
2. Highways, including federal, state, county, and township roads
3. County names and boundary lines
4. Civil townships and names, including sections and section numbers
5. Water (lakes, rivers, streams)
6. FRU boundaries
7. Protection boundaries, if applicable
8. Areas out of protection within protection boundaries
    a. Cities, villages, etc.
    b. Federal land
    c. Military installations
    d. Others
9. Land ownership shown by color (federal, state, county, BIA)
10. Major recreational trails
11. Airports marked with icons
12. Hazards within the area (pipelines, railroads, electric transmission lines, etc.)
13. Surrounding states and/or dispatch groups as space allows, and local dispatch needs
    a. Roads, water, town/range/section information
14. Specific peculiarities of the area, i.e., restricted airspace

Optional Items for the Dispatch Map

- Air detection check points
- Lat/Long lines
- Fuel model boundary

## Aircraft Check-In and Check-Out Procedures

For fire control aviation missions, there will be positive flight following accomplished between DNR, or contract aircraft and the DNR dispatch center. Positive flight following will continue throughout the entire mission until the aircraft is safely on the ground or has been released to change frequencies to FAA ATC, an IMT, or another agency. Spidertracks is an approved method of flight following.

Refer to the Aircraft Operations Handbook (HB9248).

## Dispatching

Initial Attack Fire Dispatching

1. Dispatch initial attack unit(s) using the appropriate fire location description.

2. Obtain weather forecast when conditions warrant. Relay information to incident commander (IC).

3. If dispatcher receives more information, relay to initial attack unit(s) en route.

4. If not volunteered, request a fire size up from the IC.
5. 
6. Monitor all radio traffic on fire and log/record important actions.

7. If fire(s) is/are started by a train, notify that railroad. Obtain train number, engine number(s) and direction of travel for the fire report. The dispatcher will also, at the request of the IC, request from the railroad company that the tracks be closed and/or stop the train. Additional information on stopping trains can be found in the "Fires with Special Circumstances" section in the Suppression chapter of this Handbook.

8. In the event of multiple railroad fires, advise the adjoining FRU of the approaching train.

9. After fire is out or under control, request fire size, location, cause, number of structures lost, report preparer's name and assign area fire number

Extended Attack/Project Fire Dispatching

The area dispatcher will perform the following until the Incident Management Team assusmes command:

1. Immediately notify the area forestry leader of fires having serious potential. Be prepared to give the following information:

    a. The fire location
    b. The time of origin
    c. The fire size
    d. The name of the IC
    e. The location of the incident command post
    f. Any special circumstances or significant information
    g. Fuel type(s) involved

2. Anticipate the need for additional people, equipment, and supplies on the fire and makes preliminary arrangements as soon as possible.

3. Request location of incident command post (ICP) and advises all incoming units.

4. Dispatch additional people, equipment, and supplies to fire as requested by the IC.

5. Arrange for aerial observation of project fire in accordance with area fire plan or when request is made by the IC.

6. Request a spot weather forecast when the situation indicates the possibility of a serious fire.

7. Collect and compile data on fire actions that will be needed for compilation of reports and bills.

8. Assist in procuring food, equipment, and supplies to crews on project fires, when requested.

**Recording Devices – Use and Policy**

A recording device is installed to monitor all radio and telephone traffic. When recording telephone conversations, be sure to mention the name of the person calling and the person called. This is important in order to establish the contact and also if there was no contact made. The recordings can be accessed from the Dispatcher's computer for recalling transmissions and creating incidents in the event of a project fire or in the event transmissions are requested by the legal department.

All dispatch recording devices come with a backup network-attached storage (NAS) device that will backup files automatically. Should a Special Action fire occur, a separate recording of all dispatch communication during the incident should be promptly made and saved for reference during a potential subsequent review process or litigation proceedings as appropriate. Criteria for Special Action fires can be found in chapter 4 of this handbook. Backups of all daily dispatch recordings should be kept for four years. All recordings and transcribed dispatch logs of Special Action/Project fires should be retained at the Area level for 50 years before they are to be destroyed.

**Record Keeping**

For information on storage and disposal of records, please refer to Forestry RDA and IFFRS. In the event IFFRS is not available, the following is required.

Station Log Requirements

Dispatchers shall maintain a log of all radio communications and pertinent phone calls coming in to the dispatch office. This log shall contain, at a minimum; time of communication, who the communication is with, and what the communication is. If there is a change of dispatchers, enter the time and operator's name when the change occurs. Brief changes are exempt. The area dispatcher will log all pertinent information that is received or transmitted to or from the dispatch center. Use a 24-hour clock.

Dispatcher's Daily Records

The Dispatch Daily Record Form (EXTENSIVE OR INTENSIVE) is designed to record daily fire detection data, year-to-date fire data, daily fire and fire weather data.

Reportable Fire Records

An Individual Forest Fire Report (Form 4300-11) will be prepared for all "forest fires" occurring within organized state protection areas and for all cooperative area "forest fires" which occur or burn on DNR-owned or controlled lands. All reportable fires will be assigned a fire number. The following information will be recorded by the area dispatcher:

1. Dispatch Group Unit

2. FRU where fire occurred – enter name and code from the Individual Forest Fire Report User Guide

3. County

4. Legal description of fire origin or lat/long

5. Area of protection

6. Area fire number
7. Size (acres burned)
8. Structures lost
9. Fire cause - enter cause and code from the Individual Forest Fire Report User Guide
10. Date of fire origin
11. IC or individual who report will be assigned to

Burning Permits

At minimum, all special permits and others of unusual nature issued in the area will be called into the area dispatch center at least daily, but more often if necessary.

To effectively record the permits, the following information is necessary:

1. Section
2. Township
3. Range
4. "Forty"
5. Date permit expires
6. Material being burned, and size
7. Posted on dispatch map (X)
8. Time burning is allowed

*Burning Permits - Posting*

At minimum, all special permits and others of an unusual nature issued in the area will be posted with pins, magnets, dry erase marker, etc. on the area dispatch map.

The dispatcher will notify the adjoining Fire Response Unit/Dispatch Group, forester /forest ranger and/or area forestry leader if the special permit (including department Rx burns) is near a common boundary.

Arrest and Warning Records

Refer to the Forestry Law Enforcement chapter of this Handbook.

Fire Reports

The area dispatcher will check each fire report for accuracy and proper codes using the Individual Forest Fire Report User Guide (Form 4300-011) before the team leaders and area forestry leaders approve the fire report. Dispatcher/Staff Specialist will manage all invoices and suppression statements associated with fire reports.

**Payrolls**

Fire Suppression Payroll (Form 9300-183 in the DNR Forms Catalogue) will be completed at the area headquarters for all reportable fires having emergency hired labor and for non-reportable hired labor. More than one fire's labor charges may be entered on the payroll. A different payroll form should be completed for each individual that has reportable

fire labor charges.

Non-reportable hired labor payrolls will be completed once a month. Refer to the Individual Forest Fire Report User Guide (Form 4300-011) for current rates. Fire Suppression Payroll will be processed through the Forestry Finance Section.

# CHAPTER 4: SUPPRESSION

## WISCONSIN ICS FIRE ORGANIZATION

Wisconsin Department of Natural Resources (Department or DNR) follows Incident Command System (ICS) and National Incident Management System (NIMS) principles when managing wildland (forest) fire and all hazard responses. The Wisconsin Wildland and Prescribed Fire Qualifications Guide establishes incident position standards for DNR employees, meeting or exceeding the NWCG position standards that are recognized for partner agencies, thereby facilitating consistent and uniform performance by personnel mobilized under NIMS-ICS principles. The most qualified, immediately available individual will be used to fill the various ICS positions needed on all incidents. If an individual on the incident is not fully certified for the assigned ICS position, they may be replaced by the IC when a more qualified individual becomes available. Normal daily duties and position description classification are not to be the determining factor when filling ICS positions for fires. All ICS assignments will remain in effect for the duration of the fire incident or until the person is relieved by the IC or their designee.

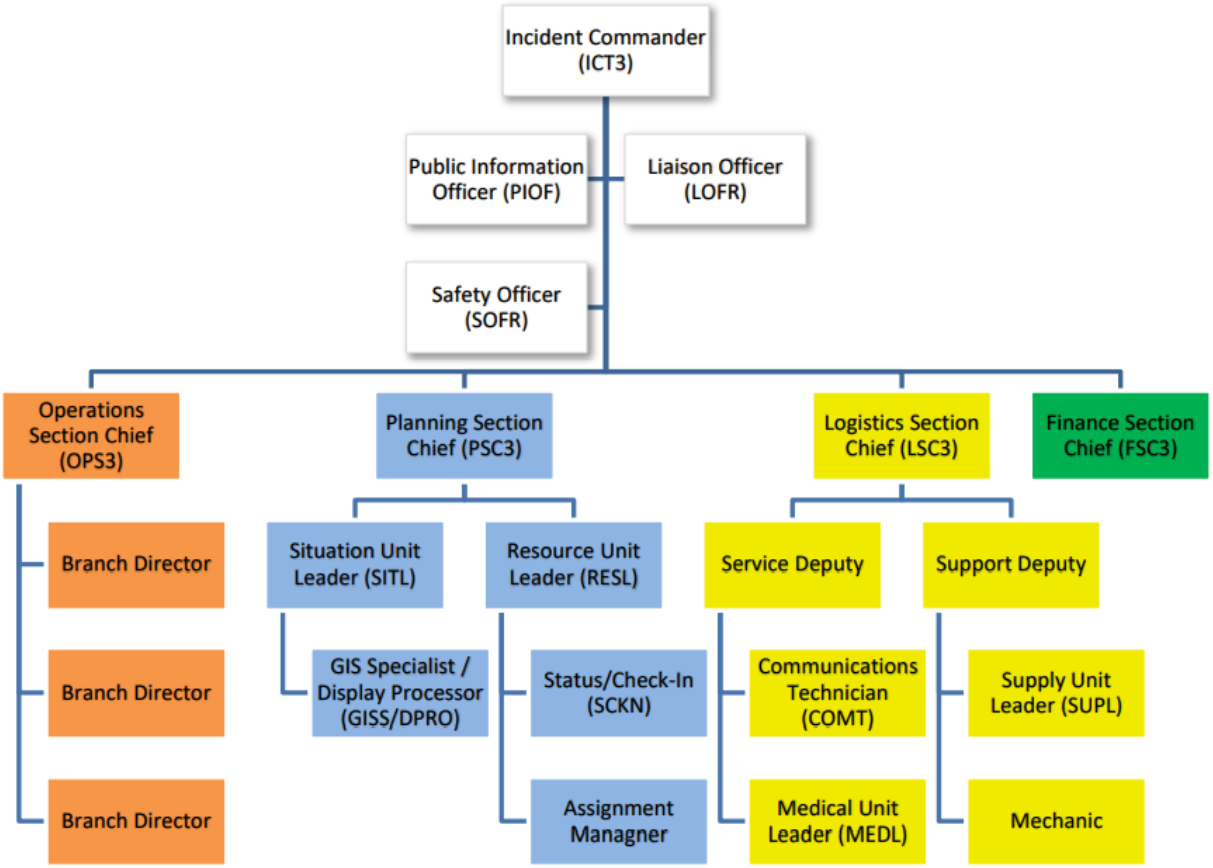
Following the NIMS-ICS principles, the DNR strives to maintain an appropriate span of control over resources. In most cases, Wisconsin fires can be suppressed by a handful of resources, but using the ICS facilitates rapid expansion or consolidation of the incident organization during complex project fires or in wildland urban interface/intermix areas. This is typically accomplished by utilizing functional branches, as well as divisions and groups, under the Operations Section. A typical ICS structure utilized during large wildfires in Wisconsin is depicted in the Wisconsin ICS Fire Organization chart on page 2.

## INCIDENT MANAGEMENT TEAMS

The Division of Forestry (Division) shall maintain three Type 3 Incident Management Teams (IMTs), which will be organized based upon the Division's geographical districts. The teams shall be maintained by the District Forestry Leader. Daily IMT staffing, based on the Fire Staffing Guide, will be the responsibility of the District Forestry Leader or designee. The primary purpose of these IMTs is to provide incident support to extended (e.g., 24-72+ hrs) or complex incidents within Wisconsin requiring a significant number of local, state and other resources.

Detailed policy and procedure for these IMTs will be captured in the *Type 3 Incident Management Team Guidebook.*

The IMTs shall staff rosters for the 22 positions identified in the organization chart below at a minimum. It is recognized that there should be depth in the Command and General staff positions, targeting a minimum of two staff in each position listed and at least one Logistics Section Chief per forestry Area. Other positions can be filled to meet operational needs.




Other auxiliary positions that may be needed during higher complexity incidents are displayed in the Wisconsin ICS Fire Organization chart on the following page.

## INITIAL ATTACK

Most forest fires in Wisconsin are controlled by initial attack suppression resources. Fires are frequently contained within the first hour of suppression and extinguished within the same operational period. The first DNR employee arriving at a fire who is qualified to act as IC according to the Wisconsin Department of Natural Resources Wildland and Prescribed Fire Qualification System, shall act as IC. The initial attack IC will perform all command and general staff functions on smaller incidents and may also be directly engaged in suppression actions.

Employees not authorized to act as IC who arrive first on the scene should take action to notify firefighting authorities and take other actions to suppress or control the fire as they feel is appropriate or within their means.

Direct attack using anchored control lines is the most commonly employed strategy on small fires that are contained during initial attack. Specific strategy will always depend on numerous factors including fuels, weather, topography, rate of spread, fireline intensity, and available resources.

When direct attack is not employed, burning out the fireline is standard procedure where combustible fuels are available between the inside edge of the fireline and the flaming edge. To be effective, burning out should be done concurrent with parallel line construction. Burning out the line will be the responsibility of the person in charge of that part of the perimeter. For more information on safely burning out the line, please see the Safety chapter of this Handbook.

All fires shall be checked to be sure they are out. This will be done before leaving the fire scene after initial attack, or if necessary, each morning at daybreak until the fire is declared out. Night work on fires may be required. No DNR employee assigned to the fire will leave the fire until released by the IC.

During initial attack, the IC should continuously evaluate firefighting progress and fire conditions to anticipate control time and any additional resource needs. Early recognition that initial attack resources will not control the fire is critical. The need for transition into extended attack must be communicated to dispatch as early as possible so that appropriate additional resources are ordered.

## EXTENDED ATTACK

As complexity increases, the IC should withdraw from fireline suppression and prepare for extended attack operations. This would include re-evaluating incident objectives, developing a safe and effective strategy and tactics, determining additional resource needs, assigning suppression resources, and documenting the fire organization. The Wisconsin Wildland Fire Initial Attack Worksheet (Form 4300-124) was developed to assist with this process. Appropriate ICS positions such as divisions and task forces must be filled to maintain span of control and may also include some command and general staff positions.

If the fire will require active patrol and mop-up beyond the first operational period, relief shifts and support from resources outside of the local area may be required. The IC must recognize that relief shifts will be necessary and institute the process of securing such relief at least six hours before it is required. More information on relief shifts and Department protocol can be found in the Work/Rest Guidelines section in the Administration chapter of this Handbook.

## PROJECT FIRES

When an Initial Attack Incident Commander (IAIC) recognizes that a fire will continue to grow exceeding the capability of an extended attack organization, that many of the command and general staff positions will be needed, or that initial containment will not occur within the first operational period, the fire should be declared a project fire and arrangements made to transfer command to the district IMT.

When the IAIC indicates a project fire, the area dispatcher will:

1. Notify the Area Forestry Leader (AFL), who will notify the District Forestry Leader.

2. The District Forestry Leader will notify the district IC that the IMT has been activated, and notify the

   Forest Fire Protection Section to request the initiation of the Command Center.

3. Notify the AFL, who will notify the District Forestry Leader.

4. The District Forestry Leader will notify the district IC that the IMT has been activated, and notify the

   Forest Fire Protection Section to request the initiation of the Command Center.

5. Implement expanded dispatch procedures by ensuring additional dispatch resources are obtained for the area dispatch center to provide support for the incident and continue to provide initial attack dispatching from the center.

**District Incident Management Team (IMT)**

Notification of IMT members will follow procedures put in place by the Team. Team members will report to the incident command post (ICP) as soon as possible. The Operations Section Chief, Wildland Branch Director, and/or the IMT Incident Commander should have a face to face meeting with the IAIC to gather pertinent information and form a transition plan. The district IMT will formally take command of the fire when operational.

After assuming command, the IC will activate needed elements of the ICS organization, brief personnel, establish incident objectives, approve an incident action plan, and direct the overall effort towards safe and efficient control of the fire.

Fireline and command post assignments will be made based on training, qualifications, experience and familiarity with the fire area. All resources and incident management team personnel reporting to the fire should check in at the ICP or staging area and receive an assignment. Once their assignment is completed, they must check out before demobilization. Work/rest guidelines will be followed before resources and personnel return to their home stations.

**Concentrating Equipment**

Controlling a project fire can easily require all of the available equipment and personnel within any one of our protection areas, with considerable quantities required from outside the areas to supplement the local resources. Each area with project fire potential should have plans prepared to commit all of their resources. Each district should have prearranged plans to move personnel and equipment from adjacent areas to any project fire. The respective District Forestry Leaders will make arrangements for the most logical solutions to this type of incident. Fighting project fires is not just a local problem but does become a problem for the entire Department. Suppression resources and IMT personnel from throughout the state may be sent to the fire to assist.

**Establishing an Incident Command Post (ICP)**

The IC should establish an ICP as soon as a project fire is declared. ICP sites and staging areas should be pre-planned and entered into the Incident Resource Guide (IRG).

Desirable qualities of a good ICP are:

1. Out of danger from the fire and smoke
2. Readily accessible and easy to find
3. Ample parking space for equipment awaiting assignment
4. Some shelter for personnel
5. Telephone(s) and wireless internet access
6. Located away from heavy traffic

If there is not a structure at the ICP site, provisions should be made for a mobile trailer or RV (recreational vehicle) type unit be moved in.

**Establishing the Staging Area**

Desirable qualities of a good staging area are the same as for an ICP, plus:

1. Being readily available to job sites on the fire.

2. Has separate communications link to the ICP.

3. Separated areas for parking different types of equipment.

**Assignment of Resources and Equipment**

All resources arriving on a fire should be assigned according to a prepared plan which is based on specific objectives. No personnel or equipment should be allowed to start work without clear orders and a briefing. This allows proper assignment of personnel and accurate records. Everyone should understand their specific assignment.

The following are general guidlines for initial deployment of resources (note:it may be necessary to deviate from this recommendation to meet the specific incident objective established by the IC):

1. One-half of the available personnel and equipment should be assigned to the right flank. Any major wind shift in Wisconsin is likely to take place in a clockwise fashion, placing extra demands on the resources of the right flank.

2. Assign 1/4 of the personnel and equipment to the left flank. Although this division is important, it may not present as much of a fire challenge as the right flank. This is because the left flank normally has the wind in its favor, and there is much less smoke present on the left flank.

3. Assign 1/4 of the resources to the head of the fire. Common practice with DNR is to label the head of the fire as Division H. Division H resources move along with the burning head with no defined terminals. It is generally a good practice to assign the local forest ranger to become Division H supervisor if training and experience qualify that individual for this task. The Division H supervisor should be assigned as early in the fire as possible.

4. Division H resources continue to float with the Head until a "favorable fire factor" (see next page) facilitates effective control efforts to contain the forward spread of the fire.

Favorable Fire Factors

Favorable fire factors include:

1. An open field

2. Abrupt change in cover type

3. A lake or other water

4. A sudden decrease in wind

5. A wide road

6. An increase in humidity

7. Nightfall accompanied by a decrease in wind and an increase in humidity

Wait and watch for the favorable fire factor. Safe and aggressive suppression actions, in conjunction with favorable fire factors, do not have to stop the entire head in order to be considered to be useful. Any decrease in the width of the head is a valuable advantage.

Planned backfires must be considered as an effective tool and should always be considered in the planning effort.

Backfires will not be set until such action is approved by the IC. Indiscriminate or poorly planned backfiring is a dangerous practice that must be prevented.

If the head is split by a natural barrier, such as a lake, it may become necessary to form two Division Hs or divide Division H into segments. This should only be done if there was substantial area between the two heads. If the heads are close together, it may be wiser to allow them to burn together and handle them as one Division H.

*Examples of how favorable fire factors may occur or be used*

- The fire burns out of a conifer cover type into broadleaf species and becomes a surface fire. Control is much easier, and the front may be stopped in part or entirely.

- Fire front hits an opening or a field. The rapid establishment of a control line plus backfiring may reduce the width of the head. If the head is narrowed appreciably, the backfire succeeded. Backfiring of fields or hardwood strips of the head is an acceptable practice, with the IC's approval.

- A fire heading into a rather large body of water such as a lake or river will usually result in narrowing the head.

- Backfiring from the edge of firebreaks or roadways at an acute angle to the forward-spreading fire front often tends to narrow the head.

*Examples of how adverse fire factors may affect control*

- Shifting winds complicate control efforts where the head joins the flanks and usually tend to widen the head. They also contribute to more frequent breakouts along the flanks. Local topography can cause erratic spread.

- Higher level winds, sometimes blowing in different directions than surface winds, may cause long-range spotting, which tends to widen the fire front. Spotting will often occur far ahead of the fire. Viewed from the origin, spotting usually will occur at the right of the head.

- Large grass marshes can also widen a fire front.

## Line Construction Groups

Project fires can have a rate of spread in excess of two miles per hour. For this reason, it is necessary to build and hold a fireline as rapidly as possible with a line construction group. The purpose of a line construction group is to create fireline; *the group is not responsible for post burnout containment or mop up*. The conventional method of line construction involves establishing divisions and assigning resources to complete the line, burn it out, and mop it up. This method remains valid; however, it is slower than the technique of using a line construction group.

Resources in a line construction group will generally include three to five tractor plows. The group may also contain crews, ATVs, fire trucks, aircraft, or other resources necessary to complete the objective. These resources should be led by a group supervisor on the line with them. A line construction group supervisor should be highly experienced, assertive and have substantial knowledge of fire behavior, local geography and fuels.

Multiple line construction groups may be used on a single fire. For example, each flank may deploy a line construction group, or two groups might be needed on a single flank when the fireline crosses a natural barrier such as a river. To reduce communication problems with groups, the radio identification will normally use "Right Group", "Left Group" as an identifier. An alternative would be to use the last name of the supervisor (i.e., "Group Smith").

Other resources which will help the group maximize the rate of line construction include fixed wing and rotary wing aircraft. Fixed wing aircraft can be valuable to the safety of a group by watching for spot fires outside the line behind them. Helicopters can greatly support the group by attacking spot fires behind them or by cooling hot spots ahead of them.

### Line Construction Tactics

A line construction group typically anchors its line at the heal or other anchor point and constructs line toward the head of the fire. The group will continue constructing the line until it hits a natural barrier, or the fire is contained

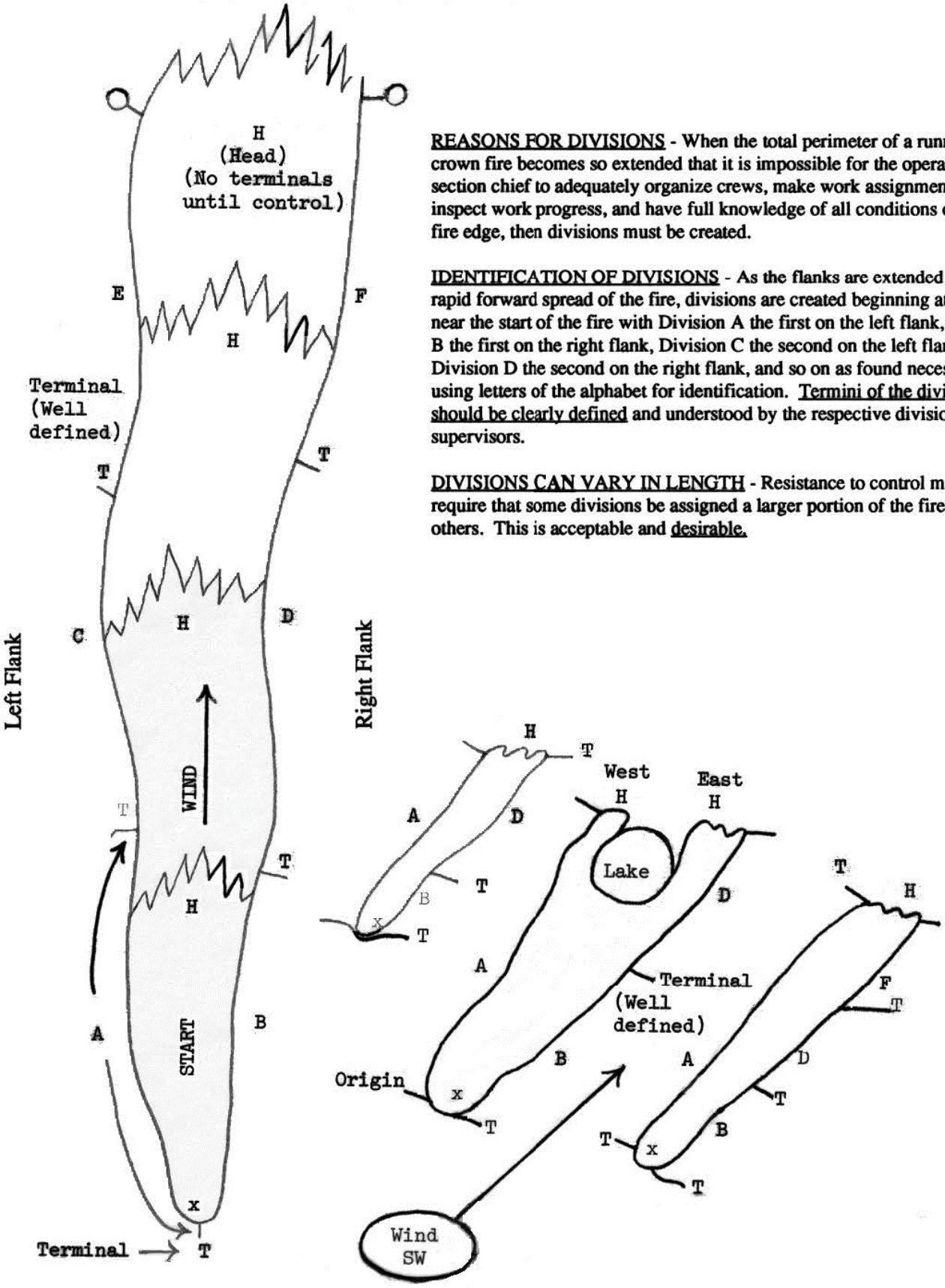
within the lines. This tactic is normally intended for use in direct attack situations where tractor plows can operate close to the fire. By operating close to the fire, the group may go into the burn if a breakout behind them creates a safety hazard. Further, equipment assigned to a group should stay within eyesight or close radio contact of one another for safety reasons. This would allow them to support each other in certain scenarios, such as hanging up on a stump or a blow-up situation. Should the fire blow up, it is recommended that the tractor plows position themselves next to one another. In this configuration, the shower systems would be mutually supportive.

Tractors assigned to assist a line construction group after the initial assignment has been completed should evaluate the fireline already put in. If two or more good furrows exist and the line has burned out and is holding, the operator should consider two alternatives. One is to put in an additional furrow. Another is to follow the line with the plow up in order to catch up with the group. If line skips or hot spots are found they should be furrowed before continuing.

Should a serious breakout occur behind a group and the division is lightly equipped, portions of the group may have to return to assist in containing it. If breakouts occur behind a group and resources return to furrow it, caution must be observed. Furrowing at the first flames encountered across the line would result in plowing on the head of the breakout. In this situation, it is safer to continue along the original fire perimeter until you find the most rearward flank of the breakout and begin the furrowing from there back towards the head. Once the breakout is contained the resources should be returned to the group as soon as possible.

After the line construction group creates the line, follow-up containment and mop up are the responsibility of the divisions which are created. Assignment of divisions to support the group can speed line construction and improve safety. Frequently, divisions will be established when the group is still within their boundaries. It is expected that the division and the group supervisors will coordinate their activities to be sure the control line is created and held.

Development of Divisions on Fire Perimeter - Project Fire




REASONS FOR DIVISIONS - When the total perimeter of a running crown fire becomes so extended that it is impossible for the operations section chief to adequately organize crews, make work assignments, inspect work progress, and have full knowledge of all conditions on the fire edge, then divisions must be created.

IDENTIFICATION OF DIVISIONS - As the flanks are extended by the rapid forward spread of the fire, divisions are created beginning at a point near the start of the fire with Division A the first on the left flank, Division B the first on the right flank, Division C the second on the left flank, Division D the second on the right flank, and so on as found necessary, using letters of the alphabet for identification. Termini of the divisions should be clearly defined and understood by the respective division supervisors.

DIVISIONS CAN VARY IN LENGTH - Resistance to control may require that some divisions be assigned a larger portion of the fire than others. This is acceptable and desirable.

## Wildland Structural Tactics

Wildland structural tactics are referenced in the Pocket Guide to Wildland Structural Tactics, developed by the Department.

## Evacuation of Citizens

The authority for evacuation of citizens from the path or perceived path of a project fire rests with the county Sheriff's Office. Departmental personnel may be asked to assist with evacuations, especially early on in the incident when law enforcement personnel may be understaffed. The Department policy for evacuation shall be as follows:

1. Citizens, property owners in particular, should be advised of the possibility or impending danger of a large fire approaching the area.

    a. Able-bodied persons may be allowed to remain in the fire area to help protect their property if they so wish.
    b. In situations involving children and handicapped people, strong persuasion and legal force in extreme cases should be used to cause their removal to safety.
    c. Sightseers and other nonessential personnel should be removed from the fire area.
    d. The evacuation supervisor should plan for transportation needs, safe shelters, and protection against looting and vandalism.

2. Credentialed Department law enforcement officers (conservation wardens) have authority to arrest persons that are hampering the firefighting activities.This authority may be exercised any time it is needed.

3. If the Governor declares a state of emergency, Wisconsin Emergency Management has authority to take any necessary actions including ordering evacuation. This would be done through the County Emergency Management director and the county Sheriff.

## Weather Conditions

Special Weather Forecasts

Weather plays a most important part in planning the attack and control of a project fire. It is recommended that special fire weather forecasts should be requested from the National Weather Service (NWS) when the Department has a project or large fire. Requests for a special fire weather (spot) forecast could be made to the NWS office by a Department dispatcher, or directly requested through NWS where a dispatch center isn't available. The NWS may want the following information at the time of the request:

1. The location relative to some well-known larger city or GPS coordinates.

2. The state of weather at the fire area, percent of cloud cover, existing temperature and relative humidity.

3. Wind direction and velocity.

A special forecast may be obtained at any time.

Project Fire Weather Conditions

Project fires occur under a range of weather conditions. In general, when relative humidity is less than 30%, wind speeds are in excess of 10 mph and Canadian Forest Fire Danger Rating System (CFFDRS) Initial Spread Index (ISI) is 10 or above, project fires can be expected to occur.

Most project fires in Wisconsin have occurred in the spring of the year.

Fire Danger Rating on Past Project Fires

| Fire Name | Size (acres) | Date | Day of Week | Temperature | Wind Direction | Wind Speed | Humidity | Humidity Maximum | Humidity Minimum | FFMC | DMC | DC | ISI | BUI | FWI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Miner I** | 3,177 | 09-May-76 | Sun | 79 | W | 5 | 23 | 86 | 23 | 93 | 26 | 55 | 11 | 26 | 17 |
| **Necedah** | 1,507 | Aug. 28, 1976 | Sat | 75 | NW | 16 | 22 | 100 | 14 | 93 | 63 | 407 | 31 | 91 | 62 |
| **Dewey Marsh** | 1,318 | Sept. 11, 1976 | Sat | 82 | W | 7 | 27 | 100 | 25 | 94 | 52 | 412 | 14 | 79 | 34 |
| **Range Line** | 2,776 | Oct. 2, 1976 | Sat | 75 | NE | 9 | 35 | 100 | 25 | 93 | 111 | 569 | 15 | 149 | 47 |
| **Shamrock** | 1,210 | Nov. 2, 1976 | Tues | 57 | W | 20 | 17 | 43 | 15 | 89 | 40 | 551 | 24 | 67 | 46 |
| **Brockway** | 17,590 | 27-Apr-77 | Wed | 80 | SW | 16 | 19 | 85 | 26 | 95 | 31 | 40 | 36 | 31 | 42 |
| **Saratoga** | 6,159 | 27-Apr-77 | Wed | 79 | NW | 12 | 24 | 100 | 17 | 94 | 26 | 41 | 24 | 26 | 30 |
| **Airport** | 3,037 | 30-Apr-77 | Sat | 71 | SW | 10 | 28 | 100 | 18 | 92 | 41 | 52 | 14 | 40 | 25 |
| **Five Mile Tower** | 13,375 | 30-Apr-77 | Sat | 76 | S | 18 | 23 | 54 | 23 | 93 | 32 | 39 | 37 | 32 | 43 |
| **New Miner III** | 1,551 | 08-May-77 | Sun | 73 | NW | 10 | 23 | 100 | 23 | 93 | 29 | 68 | 16 | 29 | 24 |
| **Ekdall Church** | 4,654 | 21-Apr-80 | Mon | 91 | SW | 19 | 18 | 74 | 19 | 96 | 38 | 69 | 20 | 38 | 31 |
| **Oak Lake** | 11,418 | 22-Apr-80 | Tues | 87 | NW | 25 | 20 | 48 | 19 | 96 | 45 | 75 | 38 | 44 | 51 |
| **Lyndon Station** | 1,028 | 22-Apr-80 | Tues | 87 | SW | 11 | 22 | 100 | 19 | 95 | 33 | 45 | 23 | 33 | 32 |
| **Deer Print** | 863 | 02-May-88 | Mon | 79 | SE | 11 | 12 | 61 | 12 | 97 | 76 | 114 | 30 | 75 | 56 |
| **Lyndon Station III** | 911 | June 25,1988 | Sat | 93 | NW | 9 | 21 | 58 | 21 | 95 | 268 | 452 | 21 | 267 | 63 |
| **White River** | 4,261 | Nov. 20, 1989 | Mon | 45 | W | 25 | 43 | 86 | 42 | 86 | 6 | 215 | 25 | 11 | 21 |
| **Avoca II** | 1,897 | 22-Apr-90 | Mon | 68 | W | 8 | 43 | 62 | 39 | 87 | 13 | 18 | 10 | 12 | 10 |
| **Crystal Lake*** | 572 | 14-Apr-03 | Mon | 84 | S | 16 | 28 | 61 | 20 | 93 | 22 | 31 | 24 | 22 | 27 |
| **Cottonville** | 3,410 | 05-May-05 | Thurs | 72 | SW | 11 | 18 | 65 | 17 | 94 | 34 | 70 | 19 | 33 | 28 |
| **Germann Road*** | 7,499 | 14-May-13 | Tues | 82 | S | 12 | 26 | 92 | 20 | 93 | 23 | 46 | 18 | 22 | 22 |

*1300 weather conditions

Project Fire Behavior

Project fires typically exhibit one or more of the following types of erratic fire behavior:

1. Crowning or Crown Fire – a fire that advances through the crowns of coniferous trees independently of the surface fire.

2. Torching – when a fire that is burning principally as a surface fire intermittently ignites the crowns of trees (either singularly or a small group).

3. Fire Whirlwinds – a violent, noisy tornado of fire shaped like an elongated inverted funnel. These are very common with light winds, high temperatures, and level surfaces.

4. Fishtailing Winds – rapid changes of wind direction in short periods of time. Direction changes of 90° and more have been observed.

5. Long-range Spotting – spotting which occurs downwind of the head which can significantly increase the forward rate of spread of the fire. Long-range spotting has been observed in excess of 1.5 miles of the fire front, with .25 to .5 miles common.

# AIR OPERATIONS

## The Role of DNR Fire Suppression Pilots

The fire suppression pilot's role is multifaceted. The pilot's ability to relay vital information to ground personnel and take on additional duties as a fire grows and becomes more complex is essential. As an incident intensifies and more resources are sent to the fire, the pilot should prioritize and manage their responsibilities to ensure the safety of all personnel on the fire.

The primary functions of the fire suppression pilot are to:

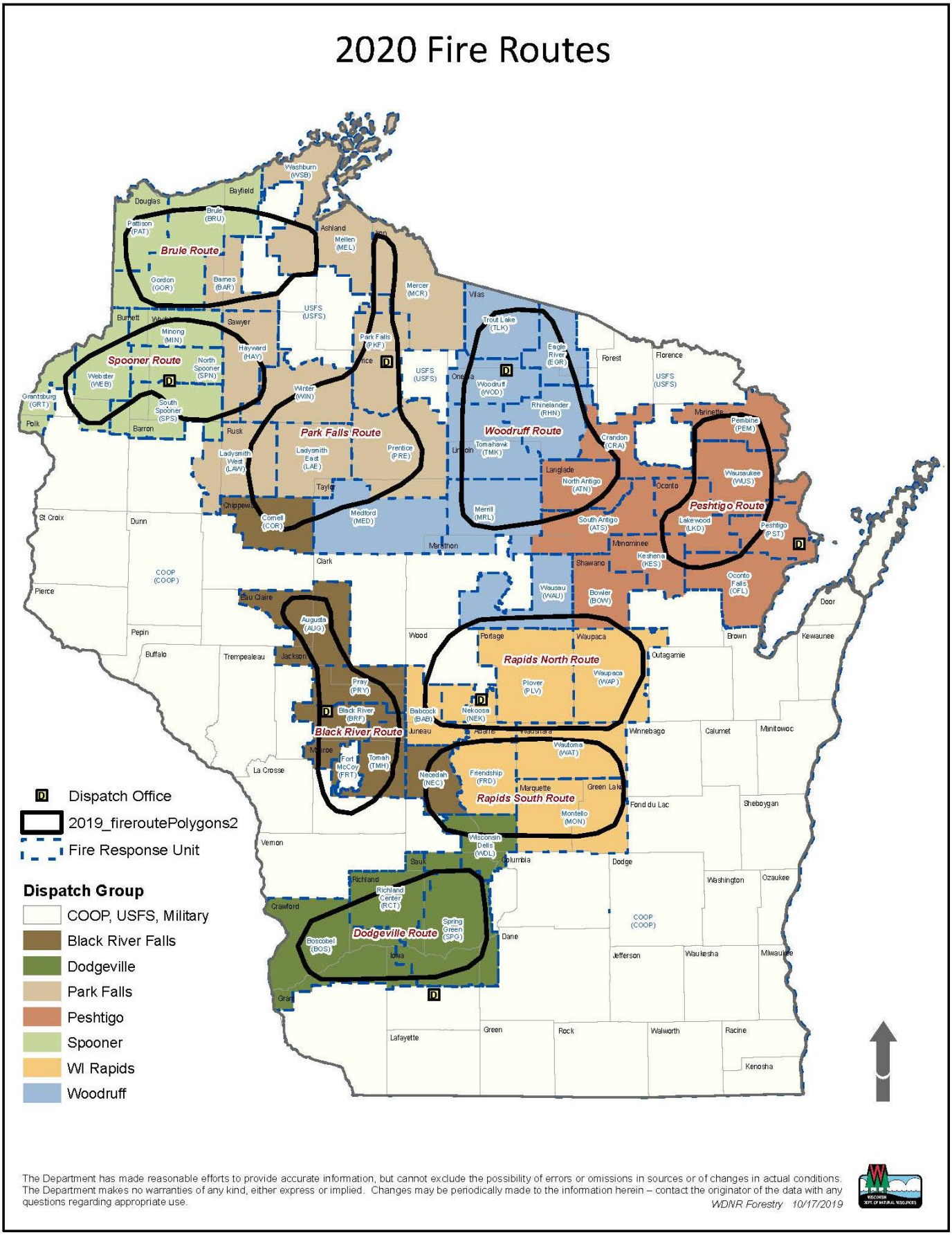
1. Detect and report smokes
2. Provide intelligence to firefighters
3. Manage airspace over a fire when multiple aircraft are present
4. Direct and supervise aerial suppression aircraft
5. Ensure operations are carried out in a safe and efficient manner
6. Coordinate the air attack with the ground attack

Since fire suppression pilots often come to the job with little or no knowledge of firefighting, it is important that basic firefighting course work, simulation training, and on-the-job training be accomplished before working as a fire suppression pilot.

The three basic functions that make up fire suppression flying – detection, intelligence, and air attack – have become progressively more complex and require specialized knowledge and training. Every effort must be made to bring pilots scheduled for fire duty to a level of qualification that meets the Department's needs.

### Aerial Detection Routes

It is the AFL's responsibility to request aerial detection on any given day when fire risk warrants. Each dispatch group should have designated aerial detection route(s) mapped. Pilots may also need to modify the routes based on factors such as the angle of the sun, visibility and altitude to ensure effective detection.


2020 Fire Routes
Brule Route
Spooner Route
Park Falls Route
Woodruff Route
Peshtigo Route
Rapids North Route
Rapids South Route
Black River Route
Dodgeville Route
Dispatch Office
2019_fireroutePolygons2
Fire Response Unit
Dispatch Group
COOP, USFS, Military
Black River Falls
Dodgeville
Park Falls
Peshtigo
Spooner
WI Rapids
Woodruff
The Department has made reasonable efforts to provide accurate information, but cannot exclude the possibility of errors or omissions in sources or of changes in actual conditions. The Department makes no warranties of any kind, either express or implied. Changes may be periodically made to the information herein – contact the originator of the data with any questions regarding appropriate use.
WDNR Forestry 10/17/2019

Intelligence and Lookout Duties

After arriving at the scene of a wildland fire, the pilot's primary job is to provide clear, concise, and pertinent information to dispatch and ground resources responding to the fire. The pilot should remain at the fire scene to provide intelligence for ground firefighters and should take photos of the fire as significant events occur. Pilots can also serve as an additional lookout for potentially unsafe fire behavior; pilots should remain on the fire scene until released by the IC.

Initial size up of the fire should be transmitted to dispatch on the dispatch frequency. The pilot should then establish contact with ground units en route to the fire on the primary tactical frequency (usually DNR RED). Once working with ground units on the fire, the dispatch frequency should continue to be monitored, if possible.

Air Attack

If air suppression resources are ordered, the pilot on scene should transition to the role of Air Attack Pilot (AAP). It is important that the pilot and ground resources understand the pilot's change in role. As Air Attack, the pilot takes on new duties which may limit their ability to provide intelligence or serve as a lookout for ground firefighters. It is the pilot's responsibility to prioritize their duties as follows:

1. Manage incident airspace
2. Communicate and carry out the air attack plan
3. Assess effectiveness of air suppression activities
4. Monitor ground resources locations and needs
5. Provide intelligence for ground firefighters or Situation Unit
6. Photograph the incident

Air Attack Pilots should carry out as many duties as time allows, however, their top priority is to accomplish the air attack plan safely and effectively. *The accomplishment of other duties may require a second resource pilot on scene.*

*Developing the Air Attack Plan*

Once air suppression resources have been ordered, the AAP and IC should develop an air attack plan based on the set objectives and the current fire situation. This should be accomplished before the arrival of those air suppression resources. Periodic reassessment of the initial attack plan should be coordinated between the AAP and IC to ensure continued effectiveness.

Extended Attack Communications

All communications with Air Attack should remain on the assigned tactical frequency unless a large fire communications plan is initiated. If a large fire communications plan is initiated, then communication with air attack should be on DNR AIR TO GROUND frequency. The IC is responsible for assigning appropriate frequencies if non-standard frequencies are used.

Communicating with Air Resources

WI DNR primary tactical = RED (151.430 RX/TX Tone – 136.5)

WI DNR AIR TO GROUND = A/G (170.4750, RX/TX Tone – 156.7)

## Aerial Suppression Resources

### Wisconsin Contracted Aircraft

The Division has historically utilized Exclusive Use and Call When Needed (CWN) contracts for acquiring suppression aircraft.

### Great Lakes Forest Fire Compact Aircraft

As a member of the Great Lakes Forest Fire Compact, aerial suppression aircraft from other Compact members may be ordered to assist on larger fires in Wisconsin. Helicopters, SEATs, Fireboss, CL-415, heavy retardant tankers, various Air Attack platforms and helicopters with heli-torch capabilities may be available.

Response times for various aircraft vary depending on type of aircraft and where they are based. In general, CL-415 aircraft can be utilized statewide (see flight time maps on following pages). Due to speed and range, helicopters have only been utilized in the northwestern portion of the state.

### Use of Aircraft from Minnesota

The state of Minnesota has aircraft at several locations near the Wisconsin border during fire season. Minnesota will allow some use of these resources in Wisconsin if conditions warrant. The AFL is authorized to request a state of Minnesota aerial suppression resource directly from the appropriate state of Minnesota dispatch office for initial attack on any fire within 5 miles of the two state borders. If a state of Minnesota aircraft is needed outside of this 5-mile border area, the Forest Fire Protection Section should arrange for the use of these resources.

### Wisconsin National Guard Blackhawk Helicopters

The Division may have access to the use of Air Guard Blackhawk helicopters (typically two), which are located in Madison and equipped with 600-gallon buckets.

Use of these aircraft for initial attack is generally limited to the southern half of the State. Effective initial attack in the northern half of the State can be accomplished, but prepositioning is suggested. Use of these aircraft for extended attack may be considered statewide. Availability should be indicated on the Daily Ops Plan.

### USFS Suppression Aircraft

The USFS contracts suppression aircraft of various sizes for use in multiple states across the US. They are dispatched to various locations as needed during the fire season. Other heavier aircraft may be available depending on the severity of the fire season.

## Ordering Procedure for Aircraft from Partner Agencies

1. The IC should request Suppression Aircraft from the local dispatcher.

2. The IC should provide the local dispatcher with the information needed to complete the Aircraft Dispatch Form (NFES-2657).

The local dispatcher should relay the request to the AFL or designee for approval. The AFL should make the request through the command center. If staffed, the command center will order suppression aircraft from other agencies, otherwise the Area should order the aircraft directly. Procedures for ordering aircraft from different partners are captured in the mobilization guide.

IF the local dispatcher needs to order Suppression Aircraft:

3. The local DNR dispatcher should contact the Minnesota Interagency Fire Center, Wisconsin Interagency Center, or Eastern Area Coordination Center to request tanker assistance. If a partner agency center can provide the requested resource, the local dispatcher should relay the necessary data from the Aircraft Dispatch Form electronically.

4. The local dispatcher should then notify the IC or the Operations Section Chief of the Suppression Aircraft ETA.

5. The local dispatcher should then immediately notify the Forest Fire Protection Section and AFL of the aviation request and the ETA.

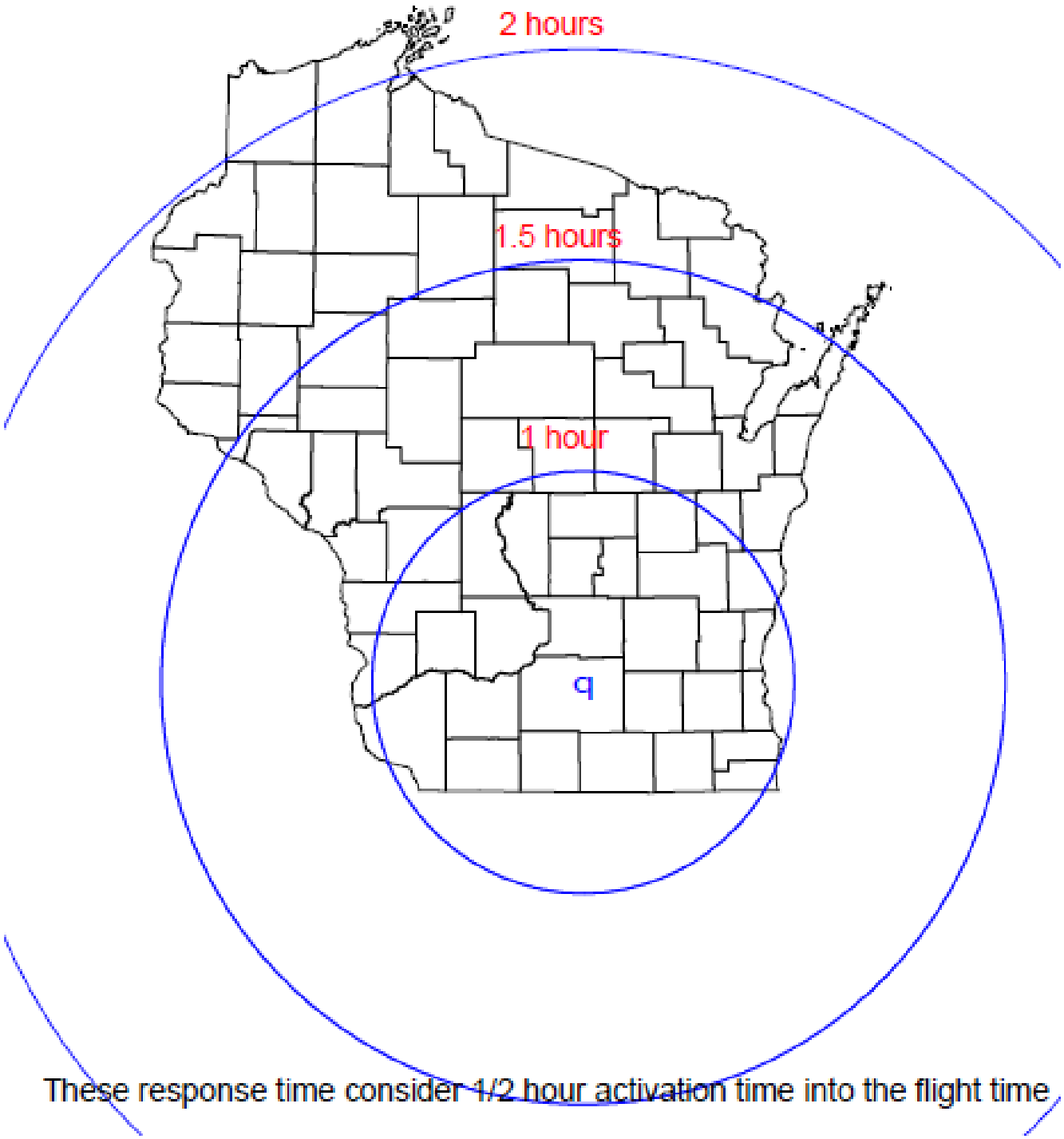
6. The IC or Operations Section Chief should notify the Air Attack Pilot, Line Branch Director, and Deputy Structure Branch Director as appropriate.

7. Tactical control of Suppression Aircraft should be vested with the Operations Section Chief unless specifically delegated.

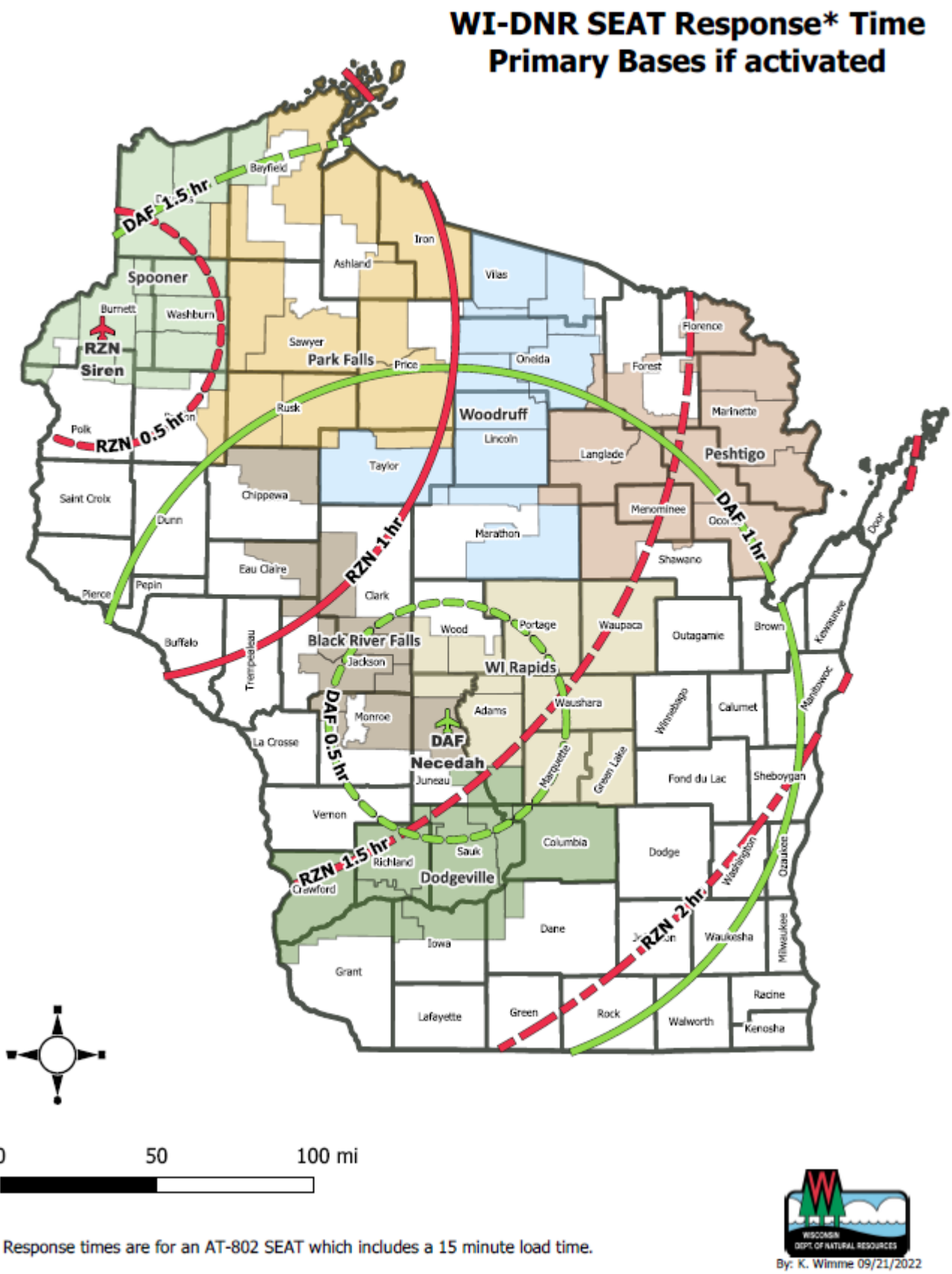
8. Interagency billing will go through the Division's Fire Operations Specialist.

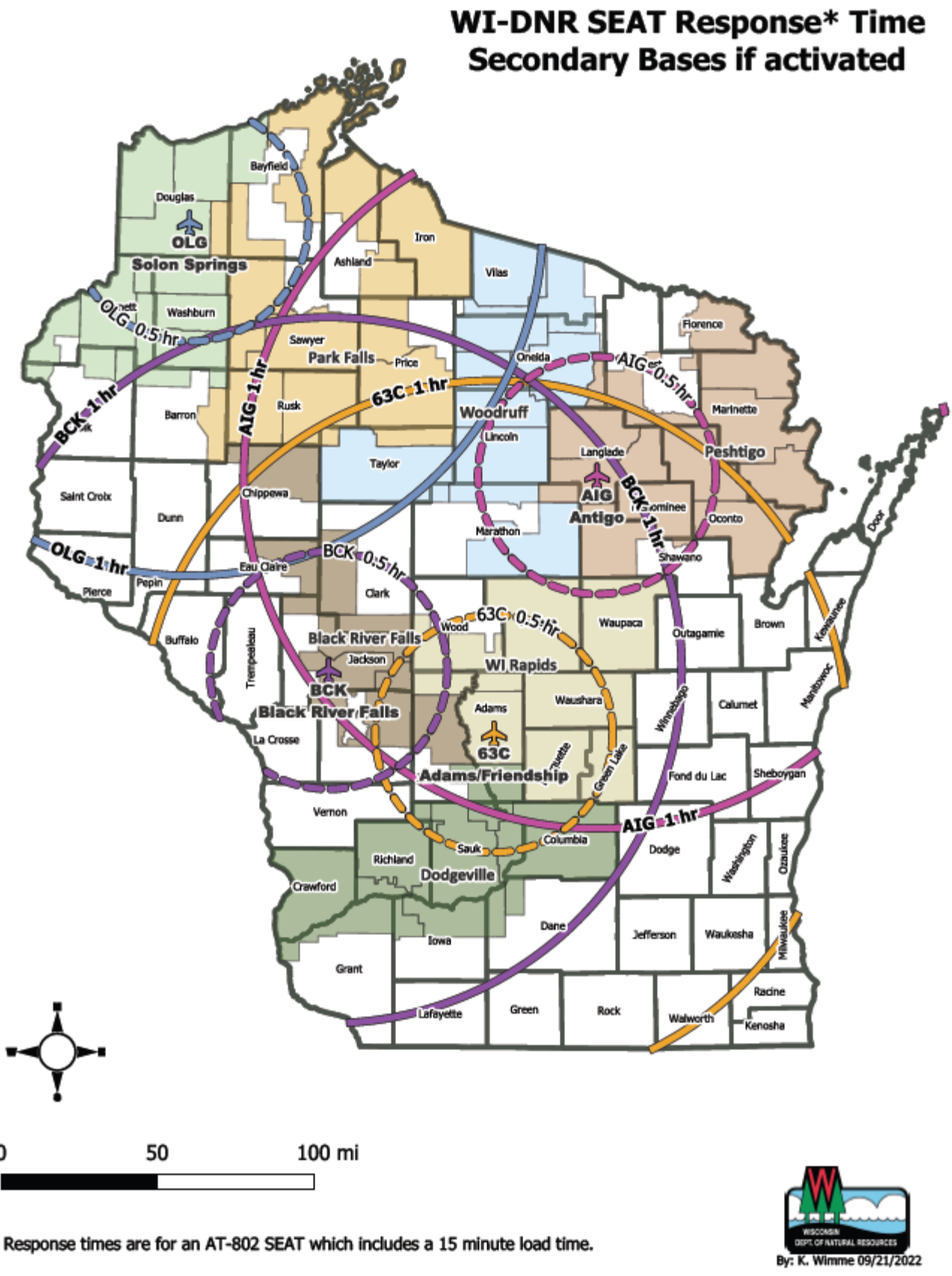

Flight Times from Thunder Bay and Saulte Ste. Marie, Ontario
Thunder Bay
LAKE SUPERIOR
1 HOUR
Saulte Ste Marie
1 HOUR
1.5 HOURS
1.5 HOURS
2 HOURS
2 HOURS
LAKE MICHIGAN
Timelines are for CL-415 Aircraft, and are adjusted
for 15 minutes of preparation and take-off time.

# Blackhawk Response Times for Wisconsin




These response time consider 1/2 hour activation time into the flight time


WI-DNR SEAT Response* Time
Primary Bases if activated
DAF 1.5 hr
RZN 0.5 hr
RZN 1 hr
DAF 1 hr
DAF 0.5 hr
RZN 1.5 hr
RZN 2 hr
RZN
Siren
DAF
Necedah
Park Falls
Woodruff
Peshtigo
Black River Falls
WI Rapids
Dodgeville
Spooner
Bayfield
Ashland
Iron
Vilas
Florence
Forest
Oneida
Price
Sawyer
Rusk
Taylor
Lincoln
Langlade
Marinette
Menominee
Oconto
Shawano
Marathon
Chippewa
Eau Claire
Clark
Wood
Portage
Waupaca
Outagamie
Brown
Kewaunee
Manitowoc
Door
Calumet
Winnebago
Waushara
Adams
Jackson
Monroe
La Crosse
Juneau
Marquette
Green Lake
Fond du Lac
Sheboygan
Vernon
Columbia
Sauk
Richland
Crawford
Dodge
Washington
Ozaukee
Dane
Iowa
Grant
Waukesha
Milwaukee
Lafayette
Green
Rock
Walworth
Racine
Kenosha
Burnett
Washburn
Polk
Saint Croix
Dunn
Pepin
Pierce
Buffalo
Trempealeau
0
50
100 mi
* Response times are for an AT-802 SEAT which includes a 15 minute load time.
WISCONSIN DEPT. OF NATURAL RESOURCES
By: K. Wimme 09/21/2022


WI-DNR SEAT Response* Time
Secondary Bases if activated
OLG
Solon Springs
OLG 0.5 hr
BCK 1 hr
AIG 1 hr
63C 1 hr
AIG 0.5 hr
Woodruff
Park Falls
AIG
Antigo
BCK 1 hr
OLG 1 hr
BCK 0.5 hr
63C 0.5 hr
Black River Falls
WI Rapids
BCK
Black River Falls
63C
Adams/Friendship
AIG 1 hr
Dodgeville
Peshtigo
Douglas
Bayfield
Ashland
Iron
Vilas
Florence
Washburn
Sawyer
Price
Oneida
Marinette
Barron
Rusk
Taylor
Lincoln
Langlade
Oconto
Saint Croix
Dunn
Chippewa
Marathon
Shawano
Door
Pepin
Eau Claire
Pierce
Clark
Wood
Waupaca
Outagamie
Brown
Buffalo
Trempealeau
Jackson
Waushara
Winnebago
Calumet
Manitowoc
La Crosse
Adams
Green Lake
Fond du Lac
Sheboygan
Vernon
Columbia
Dodge
Richland
Sauk
Crawford
Dane
Jefferson
Waukesha
Iowa
Grant
Racine
Lafayette
Green
Rock
Walworth
Kenosha
0
50
100 mi
* Response times are for an AT-802 SEAT which includes a 15 minute load time.
By: K. Wimme 09/21/2022

**Aircraft Types and Specifications**

| | CL-215 | CL-415 | Large Air Tanker (LAT) | SEAT AT-802F 1350hp | Fireboss AT-802F (on floats) 1350hp | Helicopter Blackhawk | Helicopter Bell 206 |
|---|---|---|---|---|---|---|---|
| **Type** | III | III | II | III | III | II | III |
| **Gallons** | 1,400 | 1,621 | 2000-3000 | 800 | 600-800 | 600 | 110 |
| **Speed (knots)** | 160 | 170 | 300 | 170 | 150 | 170 | 97 |
| **Turnaround Time (average est. - minutes)** | Varies according to fire, pick-up site and base locations | | | | | | |
| | 8-12 | 8-12 | 90 | 20-45 | < 10 | < 5 | 5 |
| **Cost/hr (approx - 2014)** | 4,300 | 4,000 | 10,000 | 3,000 | 4,250 | 5,500 | 1,150 |
| **Suppressant Type Available** | | | | | | | |
| **Water** | Yes | Yes | No | Yes | Yes | Yes | Yes |
| **Foam** | Yes | Yes | No | Yes | Yes | Yes | Yes |
| **Retardant** | No | No | Yes | Yes | Yes/No | No | No |
| **Operational Fuel Duration (hrs)** | 3 | 3 | 3 | 3 | 3 | 2 | 1.5 |
| **Drop Speed** | 100 | 105 | 150 | 105 | 90 | Varies | Varies |
| **Salvo Drop Distance (average - ft)** | 400 (2 doors) | 400 (4 doors) | 1,000 | 520 | 550 | 1,090 | 100 |
| **Runway Length (hard surface - ft)** | 5,000 | 5,000 | 5,000 | 2,400 | 2,400 | n/a | n/a |
| **Scooping Distance (ft)** | | | | | | | |
| **Water surface** | 1,500 | 1,350 | | | 2,800 | | |
| **Over 50ft obstacles** | 4,600 | 4,400 | | | 6,900 | | |
| **Effective Dispatch Range (miles)** | 200 | 200 | 300 | 40 | 70 | 200 | 25 |

Large Air Tankers & CL-215/415

*General Operations*

Large Air tanker usage should normally be limited to project fire incidents in pine fuel models. Initial attack with the air tanker should only be considered when ground attack forces are not available.

It may take at least 1 to 2 hours after it is ordered to get an air tanker on an incident, therefore an early analysis of the situation and planning ahead are essential for effective tanker deployment.

Due to the distances involved and other logistics, Wisconsin personnel should order long-term retardant with ground based tanker(s).

*Criteria for Use*

Due to the expense of Large Air Tankers, they should only be considered when necessary to meet critical incident objectives such as life safety, structure protection, or high value infrastructure/resources at risk. Incident Commanders requesting large air tankers should be able to accurately articulate the critical need.

Below is a list of considerations that should be taken into account by the IC when ordering air tankers:

1. Air tankers could be used to help mitigate threats to special hazards such as electrical substations or fuel tank storage areas.

2. An environmental contamination can be prevented (i.e., tire pile, pesticide storage buildings).

3. Tankers are useful when ground forces are delayed due to other incidents.

4. Tankers can only be used during daylight hours.

5. Tanker use becomes difficult when winds exceed 30 mph.

6. Consider the effects of tanker drops on any sensitive objects within the drop zone. Do not use tankers where physical objects would pose a hazard to the aircraft (such as towers).

*Suggested Tactical Applications for Air Tankers*

1. Spot Fires – Spot fires along either flank can often be successfully contained by drops. Spot fires ahead of the advancing head can also be attacked if the smoke density does not obstruct the vision of the pilot. On the ground, follow-up will still normally be required.

2. Line Breakouts – Air tankers have been successful in containing breakouts or slop-overs of fire that escape over a constructed or existing fireline. Don't rely on the air tankers for complete extinguishment, ground forces should also be used to follow up after a tanker drop.

3. Structures – Drops can be used for structural protection if pilot visibility is adequate. Drops should allow the fire department added time to gain access to a threatened building. Often a drop alongside – on or in the vicinity of a structure, may be sufficient to save the building.

4. Slowing fire spread – In light fuels, the advance of a fire may be slowed by a skillful air tanker drop. Valuable time is gained to allow ground forces to directly attack the fire. This may be especially true on soil that resists mechanical equipment and where a hand line may have to be established.

5. Flare-ups and hot spots – Drops can aid the effort of ground forces who are attempting to build line in flashy fuels. Flare-ups and hot spots can be effectively cooled to allow ground forces to approach much closer to the fire perimeter.

6. Backfiring – Drops can be used effectively as a supporting action to contain spot fires resulting from a backfiring operation. Wetting down the opposite side (from the backfire) of an existing or constructed line is an accepted practice. This will be considered a backfiring support mission that will contribute to the safe execution of the backfire.

7. Narrowing the head – Drops on flanks can help expedite line construction and thereby facilitate narrowing the head of a fire.

Helicopters

*General Operations*

This helicopter operations section of this handbook should follow the standards that have been established in the NWCG Standards for Helicopter Operations (NSHO).

*Criteria for use*

The IC should use the following guidelines to determine if the use of a suppression aircraft is appropriate.

1. Structural involvement is imminent.

2. Fire within 20 minutes or 30 miles of helibase, as adjusted for wind direction and speed.

3. When water source is within six miles, or an artificial water source can be established and maintained.

4. Mission can be accomplished during daylight hours.

5. No obstacles in the drop zones that would preclude or modify helicopter applications.

*Suggested Tactical Applications for Helicopters*

Helicopters are of little or no value in stopping the advancing head of a running crown fire. When containment is not successful on initial attack, the helicopter can be assigned other essential tasks on a project fire. These assignments should be coordinated by the Air Attack Group Supervisor or Operations Section Chief.

1. Spot Fires - Spot fires along either flank can often be successfully contained by a skillful water drop. Spot fires ahead of the advancing head can also be attacked if the smoke density does not obstruct the vision of the pilot. On the ground, follow-up will still normally be required by ground units.

   Division supervisors and Air Attack Group Supervisors should inform the IC of spotting conditions as soon as they are apparent.

   The IC or Operations Section Chief may then direct the assigned Air Attack Group Supervisor to have the helicopter drop "at will" on spot fires at an identified location or division.

2. Line Breakouts - Helicopters have been successful in containing breakouts of fire that escape over a constructed or existing fireline. Do not rely on the helicopter to completely extinguish a fire. Ground forces should always be used to follow up after a helicopter water drop.

3. Structures - Drops can be used for structural protection if pilot visibility is adequate. Properly placed drops may give ground forces and fire department engines added time to protect a threatened building. Often a drop along, on or around a structure may be sufficient to save the building.

4. Slow Fire Spread - In light fuels, the advancement of a fire may be slowed by a properly placed helicopter drop. Valuable time is gained to allow ground forces to directly attack the fire. This may be especially true on soil that resists mechanical equipment and where a handline may have to be established.

5. Flare-ups and Hot Spots - Helicopter water drops can aid tremendously the effort of ground forces who are attempting to build line in flashy fuels. Flare-ups and hot spots can be effectively cooled to allow ground forces to approach much closer to the flaming fire perimeter.

6. Backfiring - Helicopter water drops can be used effectively as a supporting action to contain spot fires resulting from a backfiring operation. Wetting down the opposite side (from the backfire) of an existing or constructed line is an accepted practice. This is considered a backfiring support mission that should contribute to the safe execution of the backfire.

7. Dropping on personnel and equipment - It should be recognized that a water drop on firefighters presents some danger. However, in a lifesaving situation, a drop on an endangered firefighter should be considered. Dropping water on a tractor-plow unit with a canopy is also considered a safe practice. A drop on a disabled tractor can provide the tractor operator with time to seek a safety zone to protect them from a flaming front of a fire.

8. Evacuation - In extreme emergencies where it is known that a citizen or firefighter is trapped, a helicopter may be able to transport the person out of danger. Helicopter pilot discretion will dictate the feasibility and safety of this type of an operation. When life safety is involved and action is needed, it should be coordinated with the IC or at the discretion of personnel at the scene.

## Single Engine Air Tankers (SEAT)

*General Operations*

The primary role of the SEAT is to provide early suppression action on small, initiating fires that have potential for rapid development into large fires. In addition to initial attack uses, SEATs may also be used to protect high value resources, support line construction by tractor plows or other ground suppression apparatus or assist with general suppression on working fires. But their greatest value remains in initial attack assignments to limit fire spread on small fire incidents with high potential for rapid, large fire development. Since early initial attack is vital, all attempts should be made to deploy a SEAT from the SEAT base closest to the developing fire.

*Suggested Tactical Applications for SEATs*

Most fires in Wisconsin are successfully extinguished with damages kept to a minimum because of early detection and rapid initial attack. A quick launch and target acquisition, along with an accurate drop, are paramount to the success of the SEAT program. Most missions involve a single drop and are usually within 15-20 flight minutes from the SEAT base. The DNR has found that the useful operating range for the SEAT is about a 25 mile radius from the base. Strategic principles that apply to ground operations also apply to air operations. Based on fire intensity, rate of spread, resource availability, and estimated line production rate, select a strategy that is achievable. As in ground tactics, the most effective strategy is usually anchor, flank and pinch.

Like any fire suppression tool, there are limitations. The fundamental mission of the SEAT is to reduce fire behavior to a level that increases the chance of successful suppression by initial attack ground resources. A successful drop should affect fire behavior by lowering fire intensity and flame length and like any aviation suppression aircraft, the drop must be followed up with ground resources to secure the line and contain the fire. Drop priorities should always be life, property and then resource, just as they would be for any ground resource.

When selecting a tactic and drop pattern it is important that it achieves the IC's objectives. SEATs have the ability to split loads to make two drops in a mission. This should be considered an acceptable use in fine fuels and very small initiating fires where the entire payload can be applied to the incident area by splitting the load and applying it from a crossing pattern or "X". By default most missions will utilize a "salvo drop" – applying a maximum amount of product onto the incident.

*Operational SEAT Base*

A SEAT base is one that can be used by a Single Engine Air Tanker (SEAT) to land, hot load (load without shutting down), and depart. Listed below are the expectations for a satellite base to be considered "operational":

1. All necessary equipment is ready. Below is a list of essential items for an operational satellite SEAT base:

    a. Office space (100 sq ft recommended)
    b. 1 pump with 2 ½" Suction and Discharge
    c. 2 10-ft 2 ½" hard suction hoses with gated wye and camlock ends
    d. 150 feet of 2 ½" discharge hose with rollers and camlock ends
    e. Ability to house or flow 3200 gallons of water for the first hour with ability to replenish within one hour per SEAT
    f. 15 to 30 SEAT loads of suppression agent – quantity will vary by product.
    g. 1 aircraft frequency radio
    h. 1 pump spill kit
    i. 6 safety cones pending site
    j. cell or hardline phone
    k. fax or computer and printer with internet access
    l. weather station (or access to current weather observations)
    m. tool box with:
        - Screw drivers
        - 3/8" nut driver for hose clamp
        - 12" pipe wrench

- spare spark plugs
- spark plug wrench
- tank repair kit
- fire extinguisher
- gaskets
- clamps

n. gas can for pump
large tarp

Note: The SEAT base manager (SEMG) is responsible for ensuring that SEAT base equipment is in good working order– water, tanks, pumps and appropriate connectors. SEATs can be used in an area but cannot be sent to a satellite base until it has been declared as "operational" by the assigned SEMG.

2. SEAT base personnel are designated, assigned, and trained for their roles.

3. A communications link is established with the IC or dispatch at all times (radio or phone).

4. A crash rescue plan is identified or developed for the SEAT base (SEMG responsibility).

5. The SEMG and/or assigned personnel should be briefed on the agency's procedures established for hazardous materials spills on the base (SEMG responsibility).

6. Moving a Suppression Aircraft Base - If the district wants to move the aviation base to a different location in the district/state, it may be done with the approval of the Forest Fire Protection Section Chief (or designee) or the Command Center, if activated.

*Additional items for consideration*

- The Forest Fire protection Section shall determine which retardant product should be used prior to the fire season
- All personnel assigned to the SEAT base will receive training on SEAT landing, mixing, loading and filling. SEAT proficiency drops should also be conducted.
- The base should have the ability to supply 3,200 gallons/hr, per SEAT, to the site.

**Ground Crew Safety**

Water or retardant dropping in conjunction with ground attack can present a serious hazard to ground personnel. This hazard is minimized with diligent air/ground coordination.

Ground crews should have received training on working safely in the vicinity of air operations. DNR and fire department personnel who have the potential to engage in fire suppression with air operations should have received formal training through previous training classes, and safety considerations should be reviewed periodically through annual safety refreshers and/or pre-season fire meetings. The following rules apply during a coordinated air/ground attack:

1. The Air Attack Pilot (AAP) and IC share responsibility for the safety of ground personnel. Air/ground communications should be maintained between the AAP and the ground crews in close proximity to the drop zone. There should be confirmation that the ground crews have cleared the drop zone prior to the drop being made and confirmation from the AAP that the drop is complete prior to personnel re-entering the area.

2. The AAP is responsible for determining the presence of ground personnel prior to commencing the air attack. No drop should be made with ground crew in the drop zone. The AAP should be aware of the exact position of ground personnel that are in the immediate vicinity of the drop zone. Ground personnel in the vicinity of a drop zone should be made aware of the direction of the tankers bombing run either by verbal description or by demonstration with the AAP aircraft. If radio communication cannot be established with ground crews, the AAP should make a low pass with the aircraft siren "on" to warn of an impending drop. However, the drop should not be made without visual confirmation by the AAP that the drop area is clear. Air suppression operations are to be discontinued when the safety of ground personnel is jeopardized. Either ground personnel will move out of the target area or air suppression action will terminate. However, due to the construction of WDNR tractor-plows units, a SEAT or a Type III or II helicopter drop may be made with a WDNR tractor-plow in the drop zone.

3. Drop zone vary depending on the size of the drop and whether the drop is being made with an air tanker or a helicopter. Typical drop zones are as follows:

    a. Type II and III helicopters: 100ft diameter circle with the target in the middle.
    b. Type I helicopter 200ft diameter circle with the target in the middle.
    c. Type III air tanker: 200ft wide by 500ft long box with the target line running through the center and the target 200ft from the bottom of the box.
    d. Type I & II air tankers: 400ft wide by 1000ft long box with the target line running through the center and the target 400ft from the bottom of the box.

    Dropping on Personnel and Equipment

    In a life-threatening situation, a drop by an aircraft on an endangered firefighter should be considered. Whether caught by surprise or in a planned emergency drop, line crews should use the following procedure: lie on the ground, face down, hard hat on, with your head toward the approaching drop.

## FIRES WITH SPECIAL CIRCUMSTANCES

### Railroad Fires

Railroad-caused wildfires can be a problem in Wisconsin because of the number of ignitions that can occur in a short period of time and the remoteness of the area where they can be set. When responding to a railroad fire initial attack, resources should request the following information if dispatch has not provided it:

1. Has the train been stopped?

2. Which direction is the train traveling?

3. Is there railroad crew assistance en route?

4. Have adjacent fire response units, or, dispatch groups that may be impacted, been notified?

5. Any other pertinent information you need to know about the incident?

6. If you are not familiar with the incident area, are there any fuels or hazards you should be aware of?

If the train is not at the scene when you arrive, complete your required suppression actions and your investigation of the scene.

If the known or suspected train is at the scene, inform the railroad person in charge that you are going to suppress the fire first, and, then conduct your interviews and investigations. Notify the dispatcher of this decision and have it passed onto the railroad so that all train movement into the area can be stopped.

Once suppression action is completed or has been turned over to other personnel, you should begin your interviews and inspections. If you are not experienced in locomotive inspections, check to see if any staff with more experience is available to assist. For more information on locomotive inspections, please refer to The Wisconsin Forest Ranger's Essential Locomotive Inspection Guide.

Procedures for Non-railroad Personnel Stopping Trains Causing Fires

The AFL or area dispatcher will contact each railroad before fire season for the names, e-mail and telephone numbers of people to contact when it is necessary to stop a train. This will be provided to the appropriate area personnel. This information will be captured in the IRG.

*Stopping a Train*

Per s. 26.20(6)(b), Stat. Stats.: Any forest ranger, conservation warden, sheriff or other duly-appointed authority may, in the performance of official duties, require any train causing fires or suspected of causing fires to stop

within a safe distance from the fires to avoid further setting or spread of fire. A duly-appointed authority may include, but is not limited to, fire department personnel, deputy forest rangers, foresters, forestry technicians, or other staff fulfilling the role of IC. This may also include dispatchers working on behalf of, or in conjunction with, the IC.

If a train is suspected of starting a wildfire, it should be stopped as soon as possible to determine what caused the fire(s), to preserve evidence, and to prevent the train from starting additional fires.

When a train is suspected of causing fires, the IC asks the dispatcher to notify the railroad what train is starting fires, its direction of travel and that the train is to be stopped as soon as it can be safely accomplished. It shall remain stopped until such time as the fires are controlled and/or the problem is corrected. The railroad should also be advised the Department has personnel and equipment working on their right-of-way between the specific mile post markers involved with the fire or series of fires.

The Department will notify the railroad when the train can be moved, typically when suppression action is completed and personnel/equipment have left the scene. If a unit cannot be moved under its own power without starting fires, the railroad shall provide additional locomotives or wait until the fire danger has diminished, e.g., later when humidity is up or winds have died or rain is occurring. If it must be moved and there is no replacement available, a track patrol shall be required to accompany the train and the train shall stop until any fires it starts are extinguished.

It is imperative that the Department works quickly and cooperatively with the railroad to determine fire cause, conduct suppression activities, and take corrective action. This is done to avoid prolonging backup of other trains. Staff working with the railroad should remember that they are partners in fire prevention. It is the goal of both entities to prevent fires and get the trains moving as soon as possible; however, providing for the safety of the railroad crew and firefighters is the number one priority.

Any action to stop a train will be documented and a copy provided to the FLESS. Any law enforcement actions taken with regard to railroads shall be documented in a Case Activity Report.

On occasion, areas should hold annual pre-fire season meetings with the railroads to discuss any issues, past, present or anticipated. These meetings are encouraged to prevent any fire issues and to build a better working relationship with the railroads. Contact the FLESS for assistance in setting up these meetings if need be or to notify the FLESS prior to the meeting for his/her attendance.

Track Patrols

Section 26.20(7), Wis. Stats., details the responsibility of both the railroad company and the Department concerning this activity. The Department views the primary value of a track patrol as being the early detection and reporting of all wildfires being caused by railroad operations.

The AFL will decide when track patrol is needed. Criteria to consider in making the decision include:

1. Railroad fires have occurred or are occurring

2. The existing or forecasted ISI is 10 or greater (Staffing level 6+)

3. Adjacent areas with similar fuels are having railroad caused fires

4. The existing fire situation in the region or state is such that Department firefighting resources are limited or non-existent

5. Coordination with adjacent areas or regions to avoid duplication and conflicting orders

The decision to order track patrol should be made as far in advance as possible and relayed to the railroad(s) so they can adjust their work plans to comply. Once the decision has been made and the railroad notified by telephone or a face-to-face meeting, the decision should be put in writing and provided to all parties. The FLESS should be notified of the verbal and written decisions. The same procedure should be used in removing the track patrol. Adjustments for temporary changes because of weather should be spelled out in the written

directive but communicated verbally by the quickest means possible. These communications should be documented at the Area level.

Orders for track patrol should include the times needed and the portions, by mile post or other railroad identification system, to be patrolled. In most cases, they will be ordered continuously from one end of the first problem area to the far end of the last problem area.

Upon request of the railroad, training in wild land fire suppression may be given to railroad employees who are likely to be assigned to track patrol or mop up. Such training should include fire suppression tactics and techniques, hand tool use and care, and fire safety.

Before fire season the AFL and/or area dispatcher will confirm current names, addresses (both postal and e-mail), and all telephone numbers of railroad representative to call when ordering track patrol. The Director, Bureau of Forest Protection may assign a staff member to provide assistance in making these contacts when the field is unsuccessful in their efforts to make them.

*Section 26.20(6) Reports and Measures for Preventing Fires*

The AFL will confirm the accuracy of the map of DNR jurisdictions by FRU, showing mile post locations of each railroad. The office, cell, and home telephone numbers, and email addresses of the area dispatcher, AFL, and local forest ranger will be shown on the face of the map. The fire management personnel listed should have copies of the maps to refer to when working with the railroad. Changes in personnel should be provided as appropriate. The maps and related information should be a part of the area's Incident Resource Guide.

*Follow-up Actions*

1. Each AFL or designee will provide copies of the above information to the appropriate railroad officials for reporting purposes.

2. The railroad will be requested by the AFL or designee to issue instructions to their personnel to report fires and, where possible, to stop the train and try to determine the cause of the fire.

3. Copies of any orders or instructions received from the railroad will be distributed to the FLESS and necessary area personnel as appropriate.

Railroad Fire Problem Analysis

Problem analyses of railroads with a history of fire occurrence should be conducted in conjunction with the AFL and local WUI specialist. Further instructions on this issue may be found in the Prevention chapter of this Handbook under "Railroad Fire Problem Analysis".

## Powerline Fires

The Department's powerline fire guidelines are as follows:

1. When a powerline break is discovered, the first person on the scene should immediately report the condition to the DNR dispatcher or county/municipal dispatcher and request that the utility be contacted to resolve the situation.

2. Report the condition to other responding resources by radio, telephone, or any other available means of communication.

3. When suppressing a fire caused by a break in a powerline, no Department personnel should approach closely to the point of breakage or attempt to suppress the fire until a thorough survey has been made as to how far back the wires have sagged, whether there is more than one point of low clearance of a special line hazard, and if the wire is in contact with any conducting material such as a metal fence, vehicle, water puddle, etc., that could be energized.

4. When unloading personnel or equipment, no approach should be made closer than 200 feet from the actual span containing the break. If personnel are available, post a person(s) to warn arriving firefighters of the hazard and

secure the scene.

5. When suppressing a fire caused by a break in a powerline, no suppression action should be attempted within the span where the break occurred or in adjacent spans if the slack has run back causing inadequate clearance.

6. When pumping water on a fire caused by a broken powerline, the water should be directed at the perimeter of the fire only and not on the energized conductor itself.

7. No attempt should be made to cut or move an energized powerline, fence, vehicle, or other energized conductor until the power utility repair persons have disconnected the lines and advised the Department that safe working conditions prevail.

8. No attempts should be made to rescue persons who are in contact with an energized conductor unless the rescuer has been thoroughly trained in such work and uses proper and certified equipment. The following guidelines should be followed in addition to the other guidelines for fire suppression:

    a. Immediately notify Emergency Medical Service (EMS) to respond to the scene.
    b. Take all precautionary measures necessary to avoid interference or unexpected attempts to assist from onlookers.
    c. If the line has been de-energized by power company personnel, do not move the injured person without EMS direction unless threatened by fire or other hazard. Do implement highest qualified EMS care following first aid as trained.

9. Do not attempt to disconnect lines by pulling meters or turning off high voltage switches.Pulling meters could result in an explosion or arcing. Some switches are not designed to be disconnected while energized. Doing so could result in arcing and flash burns.

10. Secure all parts of the electrical system including ground wires, supports, and poles from contact by firefighters. Damage to or a malfunction of equipment can result in parts of the system becoming energized that normally are not.

11. Do not run a truck or tractor through or over an energized fence or conductor. If access through an energized fence is essential, get the power company to do the cutting.

12. On all project fires and fires in developments, the IC should ensure contact with the power company is made to:

    a. Inform them of the pole numbers, pedestal numbers and general area description.
    b. Discuss to what extent, where and when power should be shut off to the general area concerned.

For more information on powerline fires, please refer to the following guides:

Wisconsin's Powerline Fire Prevention Field Guide

The Wisconsin Forest Rangers Field Guide to Powerline Related Forest Fires

**Peat Fires**

Burning peat soils can be very difficult and expensive to extinguish. A surface fire over the top of peat soil has the potential to burn down into the organic material beneath the surface. Early efforts are the key to successful peat fire extinguishment. Suppression may be more difficult and costly if time is wasted. Once established, a peat fire can burn for weeks or months with the potential to reappear as a surface fire or cause hazardous smoke conditions on roadways. Rainfall and even heavy snows have failed to extinguish peat fires in the past.

When a surface fire burns over peat soil, an IC should:

1. Determine if peat is burning and the potential extent of the fire.

2. If you are not experienced in peat fire suppression, call on adjacent staff that have more experience to help develop a suppression strategy.

3. Consider smoke hazards to adjacent communities and roads. Anticipate dense layers of smoke over roads under stable atmospheric conditions. Collaborate with transportation officials to mitigate traffic hazards using signs, billboards or traffic re-routing. If persistent smoke will impact other sensitive receptors such as communities, medical facilities, schools, etc., be sure to discuss the situation with local officials and those who will be affected.
4. Continue inspecting the site to determine if the peat fire is completely extinguished. This can best be determined early in the morning. Burning spots can easily be found at this time because smoke from each burning spot will show due to low wind and temperature. Marking these spots with flagging tape will make them easier to find later in the day.

Many methods have been used to fight peat fires. Consider the tactics on the following list:

1. Trench to mineral soil and allow the peat within the line to be consumed by the fire. Caution: This should be used when small spots can be isolated. Avoid this method when large areas are involved with many unburned areas within the perimeter. Avoid when peat is deep (over 12").

2. Raise the water level. If existing ditches can be dammed, this is a good method. This can also be done with a flowing stream.

3. Large capacity pump. You must soak or flood the burning peat. Spraying it will be ineffective unless done in the very early stages of the fire.

4. Plow to mineral soil with a tilted grader or dozer blade. Be careful not to doze any unburned peat on the smoldering fire edge.

5. Wetting agents can be used effectively on small patches

6. Irrigation systems can be used in early stages of the fire.

7. A roto-vator is most effective in open territory, absent of heavy tree cover. Roto-vating the top layers of peat 12"-18" (burning and unburned together) creates a delicate micro-climate that raises humidity and lowers temperature enough so that the fire will go out. Avoid walking on roto-vated areas or otherwise disturbing the area as this often destroys the micro-climate, resulting in a re-ignition of the area. This method will work in leatherleaf, Labrador tea, sphagnum and blueberry marshes.

8. Jetted wells may be an option to fill suppression units or to supply hose lays directly. Soil conditions beneath the peat will largely determine whether or not this technique will be successful. Coarse sand or gravel is most likely to support shallow jetted wells.

A combination of the above may best fit the particular fire.

## POST-FIRE

### Returning to Readiness

When any unit has responded to an emergency, all units shall be inspected post-incident to ensure they are ready for other emergency responses by utilizing the daily/weekly equipment inspection forms. Further explanation of the daily/weekly inspection forms may be found within the Preparedness chapter of this Handbook under “Fire Equipment Inspections”.

### Fire Reporting

For information on fire reporting, please see the Individual Forest Fire Report User Guide.

### After Action Review (AAR)

An AAR is a learning tool intended for the evaluation of any incident or project in order to improve performance by

sustaining strengths and correcting weaknesses. An AAR is performed as soon after the event as possible by the personnel involved. An AAR should encourage input from participants that is focused on:

1. What was planned?

2. What actually happened?

3. Why did it happen?

4. What lessons can be learned and shared from the experience?

- Whenever possible, the leader of the incident or project should facilitate the AAR process, however, an AAR can be performed by anyone directly involved in a project or incident. AARs may be conducted at any organizational level following the same format. It should not be utilized as a written investigational review.

**Rapid Lesson Sharing**

A Rapid Lesson Sharing (RLS) is a process for field personnel to quickly capture and share lessons with other DNR staff throughout the state. A RLS is a relatively simple document, consisting of a general narrative and followed by "lessons learned" from all personnel involved.

Developing a RLS is strongly encouraged for instances of:

1. Close calls

2. Unique successful suppression events

3. Efficient ways of performing work (equipment or operation adaptations)

4. Anything else that would benefit forest fire personnel

Developing a RLS

As with AARs, the main focus of the process should be on the events that unfolded and what can be learned from them, as opposed to placing direct fault with any individual. Insight gained by AARs conducted for that specific incident, could aide in the development of the RLS.

Once the event has occurred, the individual directly involved in the event is responsible for conducting the RLS, along with their direct supervisor. If more than one individual was involved (or the individual directly involved is not available), the leader of that event is responsible for conducting the RLS. Rapid Lesson Sharing documents should be sufficiently detailed, but no longer than five pages in length. Photographs should be used in the document to provide the reader with a clear idea of how events unfolded, and the scenario resulting from those events.

An initial draft of all RLS documents should be completed as soon as possible and submitted to the DNR Forest Fire Suppression Specialist. The DNR Forest Fire Suppression Specialist, in consultation with the Forest Fire Protection Section Chief will ensure all details are adequately covered.

After final review and approval by the Forestry Field Operations Bureau Director, the DNR Forest Fire Suppression Specialist may distribute the RLS to DNR fire suppression personnel statewide. In instances of potential threats to health, safety and welfare, issues identified in the process of conducting the RLS, at the discretion of the DNR Forestry Field Operations Bureau Director, may be shared as appropriate prior to completion of the RLS.

All RLS documents will be stored on the Forest Protection intranet for future ease of access. A compilation of RLS can also be used at in-service meetings prior to each fire season to review lessons learned from each incident. Examples of Rapid Lesson Sharing documents are available at the Wildland Fire Lessons Learned Center webpage.

## SPECIAL ACTION FIRES

Each year there are some fires that for one reason or another are not considered "routine" fires. These fires, because of some special circumstances, which call for special actions by the fire suppression personnel, will be called "special action" fires.

The following are some situations that will be called "special action fires". As others arise you will be notified through channels and can add them to this list.

1. Extra period fires (Those fires not under control by 10 a.m. the day following initial attack.).
2. Fires that make a major run or breakout of 20 acres or more after having been declared under control by the incident commander.
3. All fires over 300 acres.
4. All fires that involve major injury or death, or lost work time by DNR or volunteers.
5. All fires that cause more than $10,000 damage to properties, equipment or cover.

The Area shall notify the Division's Forestry Field Operations Bureau Director or designee, when a special action fire is in progress or immediately after it is under control.

All forest fire reports on fires that qualify as "special action fires" will be accompanied by a narrative report, explaining in detail, the circumstances involved, actions taken, photos, a copy of the dispatch and radio logs, information on persons notified, and a detailed map of the fire scene. The digital radio logs may be sealed and preserved in case they are needed in the future for legal proceedings. The narrative report for "special action fires" should contain as much information about the fire as possible. This information can be used in an analysis of the fire and the actions on the fire for future training. In order to make a good analysis, some of the information to be considered in the narrative report is:

1. A sequential narrative listing dispatch and action taken minute by minute until the fire is controlled.
2. How and why the fire reached "special action" stage.
3. What prevented early control, what problems were encountered?
4. Weather information leading up to the fire and how it changed during the course of the fire.
5. Adequacy of detection, report and response time; discussion of problems.
6. Adequacy of fire reporting and location.
7. Sufficiency of initial dispatch and follow up.
8. Condition of the fire on arrival of initial attack crews.
9. Effectiveness of initial attack and reasons.

It is a good idea to build a case file whenever there is a fire with unusual circumstances or on which extensive legal or other action is possible. The individual fire control officer at the scene will have to determine how extensive this type of case file will have to be and what it should contain.

Special action fires may be reviewed by the Bureau. Judgment will be made on individual fires based on type, size, damage, special problems, etc. Crown or project type fires will normally fall in this category. The written fire review is a separate report and will not be substituted for the sequential narrative on special action fires.

**Individual Forest Fire Reviews**

Forest Fire reviews may be considered by the Forestry Field Operations Bureau Director on any Special Action fires. Field staff may also request a wildfire review from the Forest Fire Protection Section on any Special Action Fire. Guidelines for actions taken when a Special Action fire occurs, and a wildfire review is conducted are described below. This type of review may also be required for all hazard events that DNR IMTs manage.

The main goals of any individual wildfire review are to:

1. Facilitate a positive learning environment. Review intentions should be clearly communicated, and fire events and outcomes are openly discussed and evaluated, resulting in a learning document that improves field staff operations in addition to overall fire management program policy.

2. Improve efficiency. Facts regarding what has occurred on one fire may serve to improve the handling of future fires and improve the overall efficiency of the fire suppression program.

3. Recognize special performance. Outstanding techniques, exemplary performance, or innovative ideas will be highlighted and discussed for the benefit of other employees throughout the state for considerations during fire suppression in the future.

4. Carefully examine tactics and organization. An honest look at tactics and organization can aid staff and leadership in determining if existing policies, procedures, and operational modes on fires are still valid, effective, and appropriate.

5. Evaluate lessons learned. Examine past training and identify deficiencies and training needs.

    a. Instances of where past training used in action on the fire was beneficial in achieving the desired objectives.
    b. Identify areas where fire suppression personnel could benefit from additional training.

6. Evaluate preparation and planning for a forest fire

    a. Equipment preparedness
    b. Fire Department training
    c. Contacts and relationships with other partner agencies
    d. Community involvement (Firewise, CWPP, etc.)
    e. Etc (see the current Suppression Team Inspection List)

Successful reviews are those that promote continuous open communication with field staff and should be conducted by a review team that is adequately distanced from field staff involved in the wildfire in order to reduce any real or perceived bias. A failed review is one that has a poorly communicated intent, one that is conducted by a team with potential bias, or one that becomes a blame-placing exercise that focuses on individuals rather than operation events, actions and outcomes.

A forest fire review will assess the following operational areas:

| | |
|---|---|
| Safety | Structural Protection |
| Organization | Air Operations |
| Communication | Law Enforcement |
| Wildland Fire Suppression | Partnering Agency Collaboration |

Procedure for Ordering a Review

| | |
|---|---|
| Forestry Field Operations Director | 1. Initiates a Forest Fire Review on any appropriate Special Bureau that occurs. |
| | 2. Drafts a Forest Fire Review Team Charge Memo within 30 days of the incident, in consult with Division Administrator and District Forestry Leader to: |

a. Establish Forest Fire Review Team members
b. Set the appropriate climate for learning
c. Clearly articulate expected outcomes from the review
d. Defined list of baseline products to be developed, along with an expected timeline

3. Sends a letter to field staff and any relevant partners ordering the review, it will include the following:

a. Objectives of review
b. What will be examined
c. Reason for the review
d. Procedure to be followed
e. How conclusions/recommendations are formulated
f. Explain how recommendations will be handled
g. Timeline associated for completion of the Wildfire Review

4. Consults with the District Forestry Leader and Forest Fire Review Team to select a date and send invites for the initial wildfire review meeting.

ICS Section Chiefs or Branch Director

5. Arranges Section/Branch level review meeting as soon as practical post-fire. Sees to it that all draft notes from Section/Branch review are compiled, along with any additional feedback and submitted to the appropriate Review Team field representative for the team to review in preparation for the initial meeting.

District Forestry Leader

6. Arranges initial meeting preparation, meeting place, and accommodations for team members. The location of the initial review meeting should be in the area or county where the fire occurred. Physical accommodations should be appropriate for the type of presentation and size of the expected audience.

Composition of Forest Fire Review Team

A list of Review Team members should be prepared by the Forestry Field Operations Bureau Director, in consult with the Forestry Division Administrator.

A typical wildfire review team should include the following individuals:

1. Forestry Field Operations Bureau Director, or Forest Fire Protection Section Chief

2. Forest Fire Suppression Specialist

3. Forest Fire Suppression field representative – either Line or Strike Team-qualified, not directly involved in wildfire

4. Air Operations representative – DNR pilot, not on assignment during wildfire

5. Structural Protection field representative – if initiated for wildfire

6. Law Enforcement field representative

7. Organization field representative – Incident Commander (ICT3 or higher) not involved in the wildfire

8. Chair of Fire Management Specialist Team (or Team representative)

9. Chair of Equipment & Safety Specialist Team (or Team representative)

Each member of the Forest Fire Review Team should not have been involved directly with the suppression efforts. Furthermore; the direct supervisors of those individuals involved in the suppression of the wildfire should not be

members of the team to minimize the potential for conflict of interest in the results of the wildfire review.

Each member of the Forest Fire Review Team is responsible for information gathering and fact-checking in regards to their respective section of the report. Personnel that may act as consultants for the Review Team for the purposes of informational gathering may include:

| | |
|---|---|
| Incident Commander | Other members of the Fire & LE Section |
| Operations Section Chief | Partner agencies, including local fire departments |

Individual Level Review – Personnel Narrative

Personnel narratives are crucial in helping the Review Team piece together an accurate timeline of events during the wildfire. Special care should be taken in documenting an accurate timeline and chain of events, particularly during notable instances such as when orders were given or changes in fire behavior occurred. An Activity Log form (ICS-214) is the suggested method to use for this purpose while on assignment. Length of narrative is often dependent upon length and scope of assignment; but in general, narratives should be concise and to the point, but with enough detail to paint a complete picture of each individual's experience. Positives and negatives of all aspects of the experience are encouraged but should also be captured in the field-level review (if conducted).

Each individual involved in the fire is expected to produce a narrative that includes the following information:

1. Name
2. Position on fire
3. Fireline supervisor
4. Time of arrival
5. Detailed assignment
6. Resources utilized – equipment, manpower, other
7. Division or area of responsibility
8. Communications
9. Safety
10. Tactics and actions taken – if necessary, use visual aids to explain actions and locations
11. Did you feel confident in your assignment?
12. Lessons learned in your experience on this fire.
13. Other comments/recommendations (for the narrative, confine statement to your assignment):

Field Level Review

Field level reviews conducted by fireline divisions, task forces, strike teams or crews should be provided to the Wildland Fire Suppression field representative on the Review Team for use in the wildfire review.

ICS Branch/Section Level Review

Should a forest fire meet the criteria for a wildfire review, an ICS section/branch-level reviews should also be initiated and conducted by the section chiefs for each of the following ICS sections: Planning, Logistics and

Finance. Within the Operations Section, the Ops Section Chief will have each branch director (Wildfire, Structural, Law Enforcement, Air Operations) hold their own individual meetings. These are an immediate (soon after control as possible) review of actions taken and should include all fireline staff in each section/branch involved in the wildfire. The Bureau of Forest Protection should be notified of ICS section/branch reviews so that a Fire & Law Enforcement Section representative can attend. All reviews will capture detailed draft notes should be taken on all subjects discussed (with further guidance on note-taking coming from the Team Charge Memo).

In addition to the four main questions asked in an AAR, special attention should be paid to the following topics:

1. Past training and/or techniques used that were beneficial in the suppression of the wildfire.

2. Limitations experienced by fireline personnel regarding training, experience, supplies, and/or equipment issues.

3. Tactics and techniques used and actions or decisions made.

It is important for section chiefs and branch directors to hold these reviews with the intent of open, honest communication regarding all actions and decisions made.

Information gathered through personnel narratives, field and section/branch-level reviews will be used as baseline data for the individual wildfire review and are considered draft documents until the wildfire review is complete.

Preparation for the Review

Proper preparation for the forest fire review ensures the success of the review itself. A carelessly presented review could work to the detriment of the fire management program. Persons assigned to the Review Team must be allowed time from their other duties to properly prepare for a review. Gathering and analyzing the information and materials for a fire review should be given the same priority as the suppression of the fire.

Although draft personnel narratives and ICS section/branch reviews should be conducted as soon as practical after the wildfire for use in the subsequent individual wildfire review, the actual individual wildfire review will be the official record of the incident.

*Documentation Produced During the Fire*

The following items should be collected by the IC with the assistance of the District IMT as soon as possible after the fire is declared out and submitted to a designated member of the Forest Fire Review Team (once established). These items will serve as a vital reference in addition to all personnel narratives and information gleaned from the initial forest fire review meeting.

1. Any maps produced showing the perimeter of the fire throughout the incident, showing division breaks.

2. DNR Area daily OPS plan(s)

3. DNR Area(s) fire behavior forecasts

4. Organizational ICS charts developed (if fire operations occurred over multiple days, retain the chart that was used for each operational period)

5. Radio communications plan

6. Individual Forest Fire Report, with as much of the report filled out as possible at the time of the review

7. DNR personnel and equipment lists for the fire (number and type of vehicles, aircraft, etc.)

8. List of all partnering agencies and number of individuals involved in the suppression effort, as well as post-fire activities

*Documentation Produced After the Fire*

The following items should be accurately detailed and drafted for further review by staff involved in the forest fire or members of the Forest Fire Review Team in order to facilitate a full understanding of the wildfire itself.

1. Map showing fire perimeter and cover types
2. Personnel narratives and ICS section/branch reviews
3. Fire weather forecast – county level (all counties where forest fire occurred)
4. Actual recorded fire weather – county level (all counties where forest fire occurred)
5. Predicted fire progression
6. Actual fire progression
7. Radio dispatch record made from dispatch log and recording
    a. This should be in transcribed form. Only information pertinent to the fire being reviewed should be included in the typed transcript of the dispatch records. Any other fire activity that may have influenced response to the wildfire under review should also be documented in the transcript.
8. Community preparedness assessment
9. Post-fire structural assessment

*Additional Records*

The local area is responsible (in conjunction with the IMT) for collecting these records which, although not included in the wildfire report, may be used further evaluation and analysis, wildfire site rehabilitation and other important Department processes:

1. Damage appraisal showing timber loss, structures lost, machinery, and other values lost.
2. Suppression costs by category – manpower (DNR, other agencies, private), equipment (DNR, other agencies, private) air, food, rentals, etc.
3. Timeline of events
4. Dollar values of structures saved

<u>Forest Fire Review – Initial Meeting</u>

The initial meeting for the forest fire review should occur after collection, review and evaluations of the above documents; however, the creation of documents produced *after* the fire (above) should not delay the initial forest fire meeting. The initial meeting should consist of the following attendees:

a. Forest Fire Review Team

b. Fire suppression staff from all areas involved in the fire (aviation and field staff)

c. Representatives from partnering suppression or emergency response organizations

d. District IMT members (if initiated for wildfire)

Before the initial meeting, Review Team members should have reviewed all draft personnel narratives and content from branch/section reviews in order to compile a list of all feedback from field staff. Additional questions related to the draft may also be asked to clarify intent behind personnel actions, in order to fully understand and relate to the

reasoning behind decisions made on the fireline.

*Forest Fire Site Visit*

It is important that the Review Team have the opportunity to tour the fire scene the day before (or immediately prior to) the initial review meeting, to have an accurate, first-hand perspective of the area of ignition, cover/fuel types, and fire intensity, severity and scale.

*Record-keeping*

To maintain accurate records, a member of the Forest Fire Review Team or an appointed secretary should take notes at the meeting of what was discussed, including all additional issues raised by suppression staff. These draft notes will be used to construct individual draft sections of the report.

*Visual Aids*

To assist with the discussion of the wildfire, a basic list of power point slides should be created for visual reference, showing a division break map of the fire, ICS organizational chart, fire behavior forecast, map showing hourly fire progression, and any other documentation that the team may think necessary and/or helpful.

*Fact-finding/Fact-checking*

As this is one of the main opportunities of information gathering the team will have in the draft development of several sections of the report (Forest Fire Suppression, Safety, Communications, etc.), it is vital that feedback from the compilation of draft narratives and all reviews be evaluated with staff at the meeting to ensure an accurate and adequate representation of forest fire suppression (aviation and field) and IMT staff in the final report.

Other subject areas that should be discussed with staff (if not adequately covered already) at the meeting should include:

1. Detection

2. Initial attack actions/resources used

3. Travel problems

4. Organization

    a. Establishment of incident objectives
    b. Positions filled
    c. Duties assigned and performed
    d. Incident command post (ICP): management and facilities
    e. Plans function
    f. Logistics function
    g. Operations function

5. Dispatching

6. Communication

7. Tactics and techniques

    a. Line construction and location
    b. Line lost
    c. Burning out lines
    d. Backfiring
    e. Spot fires
    f. Holding, patrol, and scouting actions

g. Air operations
h. Mop-up
i. Use of DNR and private equipment

8. Uncommon or unexpected conditions and challenges

9. Use of fire departments

10. Media relationships

11. Mobilization and demobilization

12. Training recommendations

13. Fire prevention

14. Structure protection

15. Safety issues, near-misses or accidents

16. Cooperation by public

17. Public comments

Individual Forest Fire Report

Each Review Team member is responsible for submitting a draft section of the report on his/her assigned portion of the review to the chair. The chair (or appointed secretary) is responsible for editing the draft sections under a consistent format and including all draft documentation produced during and after the fire as appendices of the report. At this time, the draft report should be reviewed by DNR legal staff for appropriate wording.

*Example Outline of Individual Forest Fire Report*

1. Introduction

   a. General information – initial date of forest fire, size, location
   b. General overview of review process

2. Executive Summary

   a. Overview of yearly fire season activity
   b. General information on weather leading up to forest fire
   c. List of resources involved in response
   d. Highlights of fire suppression activities

3. General Narrative

   Qualitative write-up of chain of events and times that they occurred during the wildfire, including:

   a. Initial fire/smoke report
   b. Initial attack
   c. Transition to extended attack
   d. Initiation of district incident management team
   e. Major changes in weather and/or fire behavior
   f. Update on fire size, perimeter, and major areas threatened at least once during every operational period
   g. Any other significant events that occurred during suppression, including accidents and other incidents within the incident
   h. Date and time of full containment

i. Any significant post-fire events, such as community meetings

4. Operational Sections

   a. Safety
   b. Organization
   c. Communications
   d. Forest Fire Suppression
   e. Structural Protection (if applicable)
   f. Air Operations (if applicable)
   g. Law Enforcement (if applicable)

5. Appendices

*Example Outline of Each Operational Section Write-up (Safety – Law Enforcement)*

1. Key Points to Consider

   These are significant points relevant to each section that the reader should be made aware of, that are not covered in the General Narrative.

2. What Went Well

   A listing of all positive actions and decisions made during the wildfire, including a highlighting of effective tactics and beneficial training.

3. Lessons Learned: Recommendations

   Recommendations should be aimed at areas for program improvement, whether it be modifications to suppression equipment, additional training, etc.

Area Report Preview

Before the Department-wide (and public) release of the report, it is recommended that DNR personnel and other appropriate responders in the area where the fire occurred be given an opportunity to review the draft findings and recommendations of the report, in order to provide a final fact-check of the content and discuss the findings with the team. This can be done in person or through audio/video-conferencing

Report Release

The chair (or secretary) of the Review Team will finalize and release the report as a PDF through the ForesTREEporter, accompanied by a short summary of the forest fire and review process. Simultaneously, the final report will be released as a PDF through the wildfire website created for the general public.

Statewide Fire Season In-service Meetings

A presentation of the findings and recommendations of the review should be conducted at all in-service meetings throughout the state, primarily with a training and information sharing objective in mind. This presentation and discussion with field staff will serve to further drive home the “lessons learned” from the fire, and to give field staff updates on what recommendations from the report may be implemented in the fire suppression program.

Follow-up on Recommendations Produced

| | |
|---|---|
| Within three months after report is released | 1. The Forestry Operations Team will review all recommendations developed within the report and assign each recommendation to the relevant Forest Fire Protection Section personnel or specialist/ad-hoc team. |
| Within six months after report is released | 2. Forest Fire Protection Section personnel or specialist/ad-hoc team |

will determine if recommendation is able to be implemented, and if so, will produce a timeline of expected implementation for each recommendation.

3. A member of the Wildfire Review Team, or a Forest Fire Protection Section staff member will be assigned the task of maintaining up-to-date records on the status of each recommendation, and person(s) responsible.

4. Field personnel should be given initial notice on status and expected timeline of implementation for each recommendation.

5. Quarterly updates should be given to inform staff of the status of each recommendation, and to ensure follow through on implementation.

# CHAPTER 5: SAFETY

## WILDLAND FIRE PROTECTIVE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT

To provide and to promote a high standard of employee protection, all Division of Forestry (Division) personnel involved with fire suppression and prescribed burns, shall wear the standard personal protective equipment (PPE) that meets the criteria listed for each piece of PPE. Additional PPE that is recommended and allowed is listed in addition to the standard PPE.

The latest edition of the National Fire Protection Association (NFPA) 1977 Standard on Protective Clothing and Equipment for Wildland Fire Fighting shall be used when purchasing PPE. Employees shall purchase PPE clothing from the Tomahawk Stockroom except for extenuating circumstances (like odd sizes or out of stock situations). Personal protective clothing, except leather boots, will be issued by the Department. NO modifications shall be made to NFPA clothing (no embroidery or patches may be added). All clothing items should fit properly and shall be kept clean and should reflect a professional image. PPE clothing that has become excessively stained or faded shall be removed from service (e.g., yellow shirts are not yellow anymore).

### Forestry Division Standard PPE

1. Hard hat (NFPA 1977)

    a. The hard hat will have affixed a 4 inch by 1 inch reflectorized strip horizontal across the front, back and both sides.
    b. Credentialed law enforcement officers will wear a white hard hat and a decal replica of the forest ranger badge will be affixed to the front of the hard hat. Certified equipment operators will wear a red hard hat. All other staff will wear a yellow hard hat.
    c. A chin strap will be part of all hard hats. Hard hats with chin straps securely fastened shall be worn while operating an ATV/UTV for fire operations.
    d. Hard hats will be inspected for cracks before using. Any hard hat that receives an impact shall be replaced.
    e. Hard hats will be replaced on a five year rotation age starting on the date the hard hat is put into service. New hard hats in inventory or cache that have not been exposed to sunand use are not considered “in service.”

2. Shirt (NFPA 1977)

    a. The yellow PPE shirt should be tucked into the green PPE pants. The yellow PPE shirt and green PPE pants are the uniform for fire staffing days and should reflect a professional image to all public contacts.
    b. Full time employees will wear a metal name tag centered above the right pocket or on a radio chest pack in a visible location.

3. Pants (NFPA 1977)

    a. Personnel will wear the green PPE pants with a belt. (LTEs will have the option of wearing PPE coveralls or PPE overpants and PPE brush coats)
    b. Pants and overpants will have reflective stripes. This requirement is met with a 2” stripe on the cuff and a 1” stripe on pocket flaps on recent purchased inventory.

4. Fireline boots (Division of Forestry Standard, see below)

5. Gloves (NFPA 1977)

6. Eye protection (meeting the Department’s health and safety policy or goggles meeting NFPA 1977 or 1971)

7. Hearing protection for all occasions around pumps, chain saws and heavy equipment

8. Fire shelter (current national standard)

9. Belt or web gear for fire shelter

10. Flashing lights on rear of person for all nighttime or low-light operations.

11. Head lamp for all nighttime operations.

12. Fire resistant high visibility vest (Division of Forestry standard)

**Fireline Boot Requirements**

Employees engaged in wildland firefighting are exposed to flame, fire, heat, sole puncture, ankle injury, heavy equipment and walk great distances over adverse terrain. To best protect workers feet in these conditions the Forestry Division standard for wildland fire boots (except for wet ground situations) is as follows:

1. The boot must be made of leather.

2. Soles and heels must be slip and melt-resistant. Boot cannot have a composition rubber or plastic sole. Lug-type or tractor tread soles are recommended, but not required.

3. All thread used to manufacture footwear shall be made of inherently flame-resistant fiber.

4. The boot must use laces that are inherently flame-resistant.

5. Boot height must be eight (8) inches minimum **measured inside the boot** from the center of the insole at the heel up to the lowest point of the top line of the boot.

6. The heel breast (height) must be a minimum of one-half inch (1/2”).

7. Steel toes are not recommended for fireline use since the steel toe will absorb and retain heat, posing a burn hazard to the wearer. Additionally, safety toe boots can cause toe and foot injury (blisters, loss of nail) during long periods of walking especially in steep and/or uneven terrain, but they are not prohibited.

8. Boots meeting NFPA 1977: Standard on Protective Clothing and Equipment for Wildland Fire Fighting would meet these specifications.
   This standard provides the protection necessary for the wildland fire environment, and this has been substantiated throughout decades of utilization by hundreds of thousands of wildland firefighters. Boots meeting these criteria are considered “Safety Footwear” for compensation purposes for fire suppression personnel.

**Additional PPE Allowed and Recommended**

- cotton or non-synthetic, long sleeve T-shirt to be worn under the PPE shirt. All undergarments should be cotton or non-synthetic material.
- portable radio
- radio headset for equipment operators.
- day pack for web gear capable of carrying at least one quart of water
- brush coat (NFPA 1977)
- fleece Nomex (NFPA 1977)
- coveralls (NFPA 1977)
- overpants (NFPA 1977)
- fire retardant shroud for hard hat (NFPA 1977)
- fire retardant hood/balaclava (NFPA 1977 or 1971)
- hot shield or equivalent dust mask. These are not considered a respirator. If a firefighter voluntarily uses a dusk mask/respirator, that use must follow the DNR Respiratory Protection Handbook. Employees voluntarily choosing to use a respirator must submit the form located in Appendix D of the Respiratory Protection Handbook for supervisory signature. The Division of Forestry recommends the following features on respirators used to filter particulates from wildland smoke:
    - two straps to secure the respirator to the face
    - An exhalation valve to decrease the physical efforts to utilize a particulate respirator.
    - N-95 Standard (filters 95% of particulates .3 microns and above)
    - welders particulate respirator (fire resistant exterior filter content)
- duffle bag for extra gear

## SAFETY GLASSES

Manual Code 9185.5 provides guidance on eye protection. The manual code states that "the Department will furnish eye protection to all employees whose duties expose them to hazards which may cause injury to the eyes and where there is a reasonable probability that injury can be prevented by the use of the appropriate protective devices."

Normal duties performed by foresters, forest rangers and forestry technicians place them in an environment that exposes them to hazards which cause injury to eyes. Because of this determination, the following policy was developed:

Forestry Division employees shall wear safety goggles or glasses with side shields whenever performing a job task in the forest. This includes, but is not limited to:

- Fire response
- Fire suppression
- Mop-up
- Rx Burning
- Cruising
- Marking/scaling timber
- Line running
- Mapping cut areas
- Scaling cut products
- Recon surveys
- Running survey boundary lines and corners
- Pruning/removing trees
- Posting signs
- Inspecting/working on forest roads/trails
- Making field examinations and preparing timber inventories
- Inspecting timber sales for contract compliance.

### Prescription Safety Eyewear

For employees requiring prescription safety eyewear, only eyewear meeting ANSI standards for prescription safety eyewear will be allowed. The employee shall choose and order their prescription safety eyewear following Finance procedures. All prescription safety glasses shall have permanently attached side shields. **NOTE:** ANSI-approved side shields shall be attached when a hazard is present.

## HIGH VISIBILITY CLOTHING

Federal law requires that all workers within road right-of-ways wear high visibility clothing that meets ANSI 107-2004 Class 2 or Class 3 for better visibility and safety. The policy for Department personnel is:

"All personnel within the right-of-way of any roadway open to the public, who are exposed to either traffic (vehicles using highway for purposes of travel) or to heavy equipment shall wear high-visibility safety apparel that meets ANSI 107-2004 Class 2 or Class 3."

Exemptions to this policy:

1. Law enforcement personnel performing law enforcement duties in which high-visibility apparel would put the officer at risk are exempt from this policy. LE personnel performing traffic control and other similar duties shall adhere to the policy.

2. Firefighters engaged in emergency operations that directly expose them to flame, fire, heat, and/or hazardous materials are exempt from this policy when wearing complete, approved fire PPE and hard hat. During hours of darkness a brush coat or coveralls with reflective striping should be worn to increase visibility. Firefighters engaged in any other types of operations shall adhere to the policy

It is recommended that personnel exposed to heavy equipment outside of road way right of ways (fire suppression - DIVS, HEQB, etc., active logging sites, any project with working heavy equipment) wear high-visibility safety apparel such as clothing that meets ANSI 107-2004 Class 2 or Class 3 standards, high-visibility cruising vests or fire PPE."

There are two types of vests generally stocked in Tomahawk; A non-fire resistant vest for general forestry work and a fire resistant vest for fire management personnel. The fire resistant vest is made from a material that is inherently flame retardant and the vest is coated with a flame retardant chemical. Cruising vests that meet the standard are also stocked at the Tomahawk warehouse.

## 10 Standard Firefighting Orders & 18 Watchout Situations

The original 10 Standard Firefighting Orders were developed in 1957 by a task force commissioned by the USDA-Forest Service Chief Richard E. McArdle. The task force reviewed the records of 16 tragedy fires that occurred from 1937 to 1956. The Standard Firefighting Orders were based in part on the successful "General Orders" used by the United States Armed Forces. The Standard Firefighting Orders are organized in a deliberate and sequential way to be implemented systematically and applied to all fire situations.

Shortly after the Standard Firefighting Orders were incorporated into firefighter training, the 18 Situations That Shout Watchout were developed. These 18 situations are more specific and cautionary than the Standard Fire Orders and described situations that expand the 10 points of the Fire Orders. If firefighters follow the Standard Firefighting Orders and are alerted to the 18 Watchout Situations, much of the risk of firefighting can be reduced.

### 10 Standard Firefighting Orders

1. Keep informed on fire weather conditions and forecasts.
2. Know what your fire is doing at all times.
3. Base all actions on current and expected behavior of the fire.
4. Identify escape routes and safety zones and make them known.
5. Post lookouts when there is possible danger.
6. Be alert. Keep calm. Think clearly. Act decisively.
7. Maintain prompt communications with your forces, your supervisor, and adjoining forces.
8. Give clear instructions and insure they are understood.
9. Maintain control of your forces at all times.
10. Fight fire aggressively, having provided for safety first.

### 18 Watchout Situations

1. Fire not scouted and sized up.
2. In country not seen in daylight.
3. Safety zones and escape routes not identified.
4. Unfamiliar with weather and local factors influencing fire behavior.
5. Uninformed on strategy, tactics, and hazards.
6. Instructions and assignments not clear.

7. No communication link with crewmembers/supervisors.
8. Constructing line without safe anchor point.
9. Building fireline downhill with fire below.
10. Attempting frontal assault on fire.
11. Unburned fuel between you and the fire.
12. Cannot see main fire, not in contact with anyone who can.
13. On a hillside where rolling material can ignite fuel below.
14. Weather is getting hotter and drier.
15. Wind increases and/or changes direction.
16. Getting frequent spot fires across line.
17. Terrain and fuels make escape to safety zones difficult.
18. Taking a nap near the fireline.

## LCES PRINCIPLES

**LCES** should be established before fighting each fire:

Select **L**ookouts
Set up **C**ommunications
Choose your **E**scape Routes
Know your **S**afety Zones

**LCES** functions sequentially – it's a self-triggering mechanism. Lookouts assess -and reassess - the fire environment and communicate threats to safety; firefighters use escape routes to safety zones. All firefighters should be alert to changes in the fire environment and have the authority to initiate communication.

The **LCES** system approach to fireline safety is an outgrowth of analysis of fatalities and near misses for over 20 year of active fireline suppression duties. LCES simply focuses on the essential elements of the standard 10 Fire Orders. Its use should be automatic in fireline operations, and all firefighters should know the LCES interconnection.

## BURNING OUT THE LINE

DIVISION OF FORESTRY PERSONNEL SHALL BURN OUT THE FIRELINE IN ALL CIRCUMSTANCES.

Recognize that the purpose of burning out the line, here in Wisconsin and everywhere else, is in the interest of the safety of the personnel working the fire. Safety is always our highest priority, and that dictates that we account for the safety of every person on the fire. In every situation on the fireline, we must account for LCES in one fashion or another.

1. To insure the safety of all personnel on the fire, **it is essential that they meet LCES criteria**; Lookouts, Communications, Escape Routes, Safety Zones.

2. In the vast majority of the fires on which we work, **we mitigate LCES by working sufficiently close to the free burning edge of the fire** that we have a means (Escape Route) to get to the black (Safety Zone) in a sufficiently short time frame that no possible change in burning conditions will cause an inordinate threat to the individual, whether on foot, in a 4X4, or on a tractor plow or anything else.

3. In those circumstances when, for whatever reason, we are unable to work sufficiently close to the free burning edge of the fire to mitigate LCES, as addressed in #2, above, the vast majority of the time **we mitigate LCES by "taking the black with us"**, bringing our Safety Zone/Escape Route with us by burning out the fuels that would provide a threat to our safety.

The following are possible examples where an exception may be made to this policy:

- A small fire is creeping around in an inaccessible part of a marsh. The plan is to install a furrow around the marsh and burn it out after the furrow is fully constructed. If the IC can articulate how safety concerns are addressed, for example using **Lookouts** with **Communications** to the resources, identifying a clear ag field **(Safety Zone)** the individual could get to promptly (**Escape Route**) in the event the fire flared, **LCES has been addressed**, and burning out the line does not have to take place as the line is being constructed.

- A plow furrow is constructed far ahead of a fire to serve as a base for backfiring, which is to begin at some subsequent time. While any operation ahead of a fire has the potential for danger, by having **Communications** with forces in view of the fire, and the posting of a **Lookout**, identifying an **Escape Route** to an adequately nearby **Safety Zone**, **LCES is properly addressed** without burning out the line.

- There is a "bubble" in the plow line, caused by a wet area or some other obstacle that forces a tractor-plow (TP) to flare further away from the fire. The plan is to burn that bubble out (igniting toward the origin) after the TP has "looped" back in nearer the fire, to avoid widening out the head by lighting a "burn out" fire that will turn into head fire. Again, anytime units are away from the black, in the brown, as the case would be here, the risk increases. There may, however, be a way, using a **Lookout** with **Communications**, and identifying a quickly accessible **safety zone** (perhaps the wet area itself), that **LCES can be mitigated**, and such a practice may be conducted with relative safety.

- A trail or road is identified as a potentially effective break, needing only to be widened or improved by a tractor plow. With concerns again about being away from the black, through the use of a **lookout**, and the ability to use the trail/road in as an **Escape Route**, **LCES may be mitigated** without burning out.

These unique situations are relatively rare. The critical factor is that the IC or Division Supervisor needs to be able to clearly and credibly articulate how **LCES needs are addressed** and mitigated to meet safety concerns on such operations without burning out the line. Safety of our firefighters is the heart of the issue here and cannot ever be compromised.

## Fire Management Incident Within an Incident (IWI) Action Plan

This guidance document is designed to prepare the Division for the event of an employee's or volunteer's death or serious injury in the line of duty, and to assist the Division in providing proper support for the deceased or injured employee's family. The Division will provide assistance in the form of tangible and emotional support to the immediate survivors of an employee or volunteer following a death or serious injury in the line of duty. This guidance also covers other IWI circumstances such as minor injury, lost, disoriented or imperiled by environmental conditions.

## Definitions

*Mayday* – The term Mayday will be designated solely for when a firefighter is in immediate distress. Specific examples include when a firefighter or firefighters become injured, trapped, lost, disoriented or imperiled by environmental conditions.

*Critical injury* – Injury to an on-duty wildland firefighter with a likelihood of death or permanent disability if not promptly treated, or any on-duty illness or non-life-threatening injury requiring hospitalization where for some reason the firefighter is unable to make the notification to family (i.e., ruptured spleen).

*Family or Family members* – Immediate family members of the deceased employee to include spouse, children, parents, siblings, fiancé or fiancée and/or significant others.

*Line-of-Duty Death* (LODD)– The death of an employee or volunteer by criminal or accidental means during the course of performing Division functions while on duty.

## Job Duties

*On scene Point of contact* (POC) - Assigned by the IC/Burn Boss to oversee the incident within an incident. This will likely transition to the District Forestry Leader or appointee after the first day.

*IC/Burn Boss* - Planning the tactics for fire suppression/control and requesting resources needed for upcoming shifts, contact dispatch or the Forestry Duty Officer to notify of the injured person.

*DNR Dispatch* - Notify immediate supervisor, Area Forestry Leader, and District Forestry Leader, of incident.

*Immediate Supervisor* - Contact employee's coworkers as soon as possible following notification of family or next of kin.

*Area Forestry Leader* - Filling contingency resource request from IC. Arrange for critical incident stress debrief, if needed.

*District Forestry Leader* – Ensure notification of family (see appendix B for assistance document), bureau, human resources/safety and risk, Secretary's Office and Governor's Office of incident. Appoint Hospital Liaison, Family Liaison, Law Enforcement Liaison, Public Information Officer, Department Spokesperson any other agency liaisons needed.

*Hospital Liaison* - Work with the hospital and the family, arrange transportation to and from the hospital. Make sure the family is kept informed of the status.

*Family Liaison* - Contact HR for benefits, act as a facilitator between the decedent's family and the agency during wake and funeral times.

*Law Enforcement Liaison* - Assigned by the District Forestry Leader or their appointee. This person will work with local Law Enforcement and Agency Law Enforcement to corroborate the investigation and ensure proper documentation and sensitive information sharing related to the investigation.

*Public Information Officer* - Share approved information with the media, also act as the Department Spokesperson.

| Timeframe | Action | Reference | Responsibility | Assigned To/Status |
|---|---|---|---|---|
| **Initial Response – Immediate actions** | 'Mayday' emergency protocol implemented-Notify the Incident Commander through chain of command | Incident Within an Incident (IWI) folder (Fire Drive) | On-scene Point of Contact (POC) | |
| | Provide for scene life safety measures (e.g., administer or assign medical care, assign notetaker) | Medical Incident Report, IRPG | POC | |
| | Contact Dispatch via cell phone (radio with discretion)<br><br>Contact Forestry Duty Officer if Dispatch isn't staffed | <br><br>608-267-0808 | IC/Burn Boss | |
| | Manage Fire/Protect Scene | | IC/Burn Boss | |
| | Notifications:<br>• Immediate supervisor<br>• Area Forestry Leader<br>• District Forestry Leader | | Dispatch if staffed, otherwise Forestry Duty Officer | |
| **First 3 Hours – Following Initial Incident** | Evaluate if contingency or replacement resources are needed for fire/Area | | Area Forestry Leader | |
| | Notifications:<br>• Command Center/Bureau (Director or Section Chief)<br>• Secretary Office/Office of Communication/Governor's Office<br>• Human Resources/Safety and Risk<br>• Contact DNR hotline: WEM\DNR duty officer<br>Assign personnel:<br>• Notification of family<br>• Family liaison<br>• Law enforcement liaison<br>• Public information officer<br>• Hospital liaison<br>Additional agency liaisons, as needed (e.g. FAA, USFS, Sheriff's office, fire dept.) | In-State Mobilization Guide for current contact information (Fire Drive)<br><br>608-266-6999<br><br>608-576-5359 or 1-800-943-0003 | District Forestry Leader | |
| | **Documentation: secure all photos, case activity reports, emails, texts, radio transcripts, etc.** | | **ALL personnel involved** | |

## Immediate Actions

1- "Mayday" will be announced over radio communications by the on-scene Point of Contact (POC) to all resources on the fire. POC will be identified by ICS position and is usually the highest qualified or most capable individual closest to the incident. **(Reference: "Mayday" Protocol located in Appendix A.)**

2- Follow IRPG Medical Incident Report for injured firefighter. POC will ensure the scene is secure for all life and safety measures and will determine/identify who will be responsible for assessing and treating the injured. POC will follow chain of command for assigned incident medical resources or dial 911 (Reference Medical Incident Report (MIR) found in IRPG)

3- IC/Burn Boss will designate one communication channel solely for emergency traffic, ideally the same channel that the "MAYDAY" was initiated on. IC/Burn Boss may designate a second separate channel for all other ground units to continue operations.

4- IC/Burn Boss will contact Dispatch via cell phone to inform them of emergency situation (radio with discretion). If Dispatch is not staffed, IC/Burn Boss will contact Forestry Duty Officer @ (608) 267-0808. IC/Burn Boss will also inform Dispatch of the change in fire ground channels. Dispatch will then announce this change to all incoming resources. The IC/Burn Boss will inform assigned incident resources of any communication changes.

5- IC/Burn Boss continues management of the incident.

6- Dispatch or Forestry Duty Officer will initiate notification process up the chain of command, contacting the following individuals.

- Immediate Supervisor
- Area Forestry Leader
- District Forestry Leader

## Within the first 3 hours of a Line of Duty Death/Critical Injury Incident

7- Area Forestry Leader determines and assigns contingency resource needs for the incident (i.e., if personnel have a need to be relieved of fire line duty).

8- District Forestry Leader will continue the notification process up the chain of command contacting the following individuals/offices.

- Command Center/Bureau Director or Section Chief
- Secretary' Office/Office of Communication/Governor's Office
- Human Resources/Safety and Risk Management 608-266-6999
- DNR Duty officer/WEM direct line 608-576-5359 or 1-800-943-0003

9- District Forestry Leader Assigns the following personnel:

- Notification of family
- Hospital Liaison
- Family Liaison
- Law enforcement liaison and investigation
- Public Information Officer
- Department spokesperson
- Additional agency liaisons (as needed)

## Next of Kin Notification

The impacts associated with notifying next of kin about a death will have long-lasting effects on the survivors and should be done with the utmost professionalism, sensitivity and expediency. Upon becoming aware of the employee's death, notification of the next of kin or another designated person should be the **first priority**. Prompt notification of survivors can be challenging due to mobile media devices that can circumvent the notification process. Every effort should be made to notify the survivors as quickly as possible. Notification to family members must never be delayed pending coworker notification. The name of an employee killed in the line of duty shall not be released to the media before notification of the immediate family. Below are procedures and principles for Family notification from the USFWS Line of Duty Death Response Handbook, Wildland Firefighter Foundation, and Fallen Hero's website adapted for the Department.

### Selection of Notification Team

Notification should always be made in-person whenever possible. Preferably, the notification team should consist of at least two department representatives.

The District Leader will designate someone to make the notification to the family or next of kin of the injured/deceased employee. The notification team should consist of at least one supervisor (Team Leader, Area Forestry Leader, District Leader) and another person.

The second person of this team may include a coworker from the deceased employee's office, close friend of the deceased or injured, a chaplain or other member of the clergy, or a law enforcement officer or fire department chief. At least one employee should be in professional attire or service uniform (Full Dress, if possible). Critical Incident Stress Management (CISM) personnel can be a part of this team or standing by to respond. If the employee previously had identified someone to do this through the **Confidential LODD Information Form (Appendix D)**, those wishes should be followed whenever possible. Employees should consider reviewing and updating the "Confidential LODD Information Form" annually, perhaps timed with their performance review.

Prompt notification of survivors can be a challenging endeavor for managers. Speed of communication due to mobile devices can circumvent the department's notification process. Every effort should be made to notify the survivors as quickly as possible and with compassion.

It is a good idea to consider taking separate vehicles in case one person needs to pick up a family member who is not home or perhaps accompany a family member to the hospital. **Examples of family notification verbiage are available in Appendix B.**

## Investigation Protocol

The purpose of this protocol is to highlight the multifaceted complexity of the investigation and to assist the Division investigate and document the death or critical injury of an employee or volunteer while in the line of duty (i.e., forest fire, prescribed burn, driving accident, forestry accident, etc.). The result of the investigation will provide factual and timely information regarding the incident to the family, Department, and Division. The investigation will provide necessary documentation to ensure offered benefits can accrue if applicable and will also form the basis for the review of safety protocols.

### Procedures

a. Scene preservation is important and should be implemented as soon as possible. This person may be appointed by the POC and should be assigned to preserve the scene until investigation can be initiated and may interact with the local Sheriff's Office or local conservation warden.

b. Multiple investigations will likely occur simultaneously depending on the circumstances of the IWI.
   i. Forest Fire Origin and Cause Investigation: Forest Law Enforcement Specialist or designee will lead a qualified investigation team (INVF)
   ii. Death or Critical Injury Investigation: A collaboration with DNR Wardens and local Sheriff's Office (or other agency).

c. District Forestry Leader (DFL) will arrange for investigation of the scene. There may be a need to request investigators and personnel from other Districts or agencies to perform effectively. For assistance from out of District, the DFL will contact the Forest Fire Protection Section Chief to request needed investigation assistance. Department conservation wardens will typically lead the investigation if the death occurs on department-owned or managed lands, while the local Sheriff's Office will lead the investigation in most other instances. Routinely, the death investigation is a collaboration with DNR Wardens and the Sheriff's Office (or other agency). Additional assistance may come from the following individuals or agencies:
   i. Division/Bureau staff with experience and knowledge
   ii. Forestry Law Enforcement Specialist and Coop Rangers
   iii. Incident Management Teams (or short team)
   iv. Investigators from GLFFC partners (i.e., MN DNR)
   v. Law Enforcement: Conservation Wardens, Park Rangers, Sheriff's Office, Department of Criminal Investigations (DCI), etc.

d. Some job duties of this group/team are as follows:
   i. Communicate with local Sheriff's department to discuss how the investigation will be handled and who is responsible for what.
   ii. Documentation: Secure/prepare documentation thus far in the investigation. This may include CARs, photo logs, evidence, dispatch audio recordings, etc.
   iii. Coordinate with other agencies that may handle portions of the investigation: (Fire Marshall's Office, Sheriff's Office, Department, external DNR)
   iv. Communication with IC, PIO, SLT, etc., as to the cause of the forest fire if determined.
   v. Interview all relevant witnesses.
   vi. Coordinate with Division of Public Safety and Resource Proteciton to create a secure folder in the CAR Repository for documentation.

It is important to remember that any documents, recordings, photos, CARs, evidence can be used for either investigation and should be retained as well as preserving the scene.

## Assistance to Family Members

The Hospital Liaison will arrange for transportation and waiting facilities for family members. The desires of the family members should be followed regarding their accessibility to other firefighters and friends. The Hospital Liaison will also assist family members, in accordance to their desires, in gaining access to the injured or deceased firefighter and arrange transportation for the family and other survivors upon their departure from the hospital.

The DNR agency Family Liaison should contact Human Resources (HR) to ensure they are aware of what has happened and assist the family with benefit information. HR should be contacted within the first 24 hours or on the first work day after the event to initiate paperwork and benefits process. This office will also have the latest information available. All materials regarding compensation claims and related paperwork, survivor benefits including state life insurance, Public Safety Officers' Benefit Act (PSOB), etc. should be handled by HR. HR can also coordinate any additional long-term support that may be available to the family.

The Department of Natural Resources' Employee Assistance Program (EAP) is a free confidential resource for DNR employees and their families to provide problem-solving resources that help employees and their families with personal problems.

EAP services are available 24 hours a day, every day of the year. Access services by calling **1-866-274-4723**
WI DNR HUMAN RESOURCES: DNR Duty Officer Number 608-576-5359 or 1-800-943-0003
**For more benefit information for fallen firefighters see Appendix C.**

## Notification of Employees

The IC will notify DNR dispatch of the incident, preferably via phone OR contact Forestry Duty Officer (FDO) if dispatch is not staffed. No names should be broadcast across the radio. It is important that the IC/Burn Boss ensure that on scene resources understand the need for initial confidentiality of the incident. Everyone shall refrain from sharing information about the incident outside of the chain of command without receiving authorization**.**

DNR Dispatch or FDO will contact the employee's immediate supervisor, AFL, and the District Forestry Leader. The District Forestry Leader will initiate the notification of the command center, the Secretary's Office/Office of Communication, and the Governor's Office.

After the notification of the family occurs, the employee's immediate supervisor should brief the deceased employee's team of the incident. The notification should occur in person. Those not at work at the time, may be notified via phone, but refrain from notifying team members by email. Efforts should be made to notify local personnel in the employee's current work station, if applicable, before releasing it to the media. The notification should be done in privacy.
The notification of the incident to all employees should be drafted by the Office of Communication as soon as possible. Providing information about the incident to the staff in a timely manner will limit the spread of inaccurate information. Information about funeral arrangements will also be sent to all staff when the information becomes available.

All supervisors need to monitor their staff for signs of stress and ensure they get help, if needed. Critical Incident Stress Debriefings (CISD) can be arranged to offer staff an opportunity to talk about the incident; CISD needs to occur from 24-72 hours post-stress occurrence to provide the most benefit to those involved. Critical Incident Stress Management and other important services are available through the Employee Assistance Program.

**Appendix A- Fire Management Incident Within an Incident (IWI) Action Plan**
**Mayday Protocol**

# MAYDAY

Mayday is an emergency procedure word used internationally as a distress signal in voice radio communications.

It is used to signal a life-threatening emergency by firefighters, aviators and mariners. The call is always given three times in a row—"Mayday, Mayday, Mayday"— to prevent it from being mistaken for some similar-sounding phrase under noisy conditions, and to distinguish an actual Mayday call from a message about a Mayday call.

The nature of wildland firefighting places the firefighter at risk for becoming hurt, lost, trapped or imperiled by environmental conditions. Survival depends on a mix of predictable self-survival actions by the affected firefighter(s), the IC, Division or Group Supervisor, and the actions of rescuers. The purpose of this procedure is to provide action steps to be taken by the injured/trapped/lost firefighter(s) and the IC. Specific procedures provided in this document include how to activate rescue and remove those in danger to a safe location in a quick and efficient manner.

**Definition:**
The term Mayday will be designated solely for when a firefighter is in immediate distress. Specific examples include when a firefighter(s) become injured, trapped, lost, disoriented or imperiled by environmental conditions.

**Procedures:**
The number one basic self-survival responsibility is to avoid getting into situations where a firefighter or firefighters gets injured, trapped, lost or imperiled by environmental conditions.
The rescue of injured, trapped or lost firefighters on a forest fire can be extremely time sensitive and must be organized and efficient to be successful. A Mayday call will immediately elevate that situation to the number one priority on the fire. All actions will be targeted to affect the lives and well being of the impacted firefighters.

**Emergency Procedures:**
When a firefighter(s) become injured, lost, trapped or imperiled by environmental conditions, the following procedures should be followed:

A. Call For Help Immediately – Report on a radio **"MAYDAY – MAYDAY – MAYDAY".** Announce your situation while utilizing escape routes to reach a safety zone. Firefighters should not delay notification of distress. The MAYDAY announcement should occur as soon as the firefighter believes they may be in trouble. The longer the delay of notification, the smaller the window of rescue will become.

B. Injured/Lost/Trapped firefighter(s) should provide the IC the following information:

C. LUNAR report
   L = Location (as accurately as possible)
   U = Unit ID ( i.e., Poynette 2)
   N = Nearest Safety Zone/Access Point
   A = Assignment (i.e., assignment the crew was working on at the time or befor the trouble)
   R = Resources you need (any special needs or information that may assist the rescuers in locating and removing affected firefighters.)

   Note - The use of names over a publicly monitored radio frequency is discouraged. Secure communications, such as a cell phone, is more appropriate if names need to be communicated. Information about medical conditions associated with a specific name is a violation of HIPA A – Federal Medical Privacy Law.

D. THE TERM "MAYDAY" WILL BE RESERVED ONLY TO REPORT FIREFIGHTER(S) IN IMMEDIATE DISTRESS (INJURED, LOST OR TRAPPED FIREFIGHTER(S)).

E. Activation of a MAYDAY will activate the following communication protocols:

If a MAYDAY is heard, all other radio traffic on that channel will cease, until the MAYDAY operation is complete.

The intent is for the MAYDAY affected firefighters NOT to change frequencies, if at all possible.

The IC will manage radio frequencies and communications as necessary.

IC will then designate a new radio fireground frequency for all other fire ground units to operate.

The IC will also notify dispatch of the change in fire ground channels, and have dispatch announce this change.

The IC will designate a Rescue Division or Group Supervisor for the rescue operations. If the IC is unable to staff that position, the IC can assume that role as necessary**.**

F. Radio Channels –
   1. Firefighters declaring a MAYDAY should remain on the assigned fireground operations channel if possible. Once contact is made with the IC, affected firefighters should remain on that channel.
   2. After a MAYDAY is broadcast, the stricken firefighter(s), the IC, Rescue Division or Group Supervisor, rescuers and the Safety Officer will stay on the designated channel, until resolution of the incident is achieved.
   3. All communications will be directed to the designated Rescue Division or Group Supervisor. All non-affected units shall switch to another fireground channel as assigned by the IC.
   4. All personnel shall continue to operate in their originally assigned Division/Group if not involved in the rescue.

G. Crews Stay Together – Firefighters that separate from each other make it more difficult for rescuers to locate all members of the crew. Firefighters/crew members who stay together enhance their chances for all to be rescued and allow for easier, more efficient extraction.

H. Follow Fireline Out – Firefighters/crew members should stay with the fireline and follow it out whenever possible.

I. Retreat to a Safety Zone – Where a firefighter cannot stay in a location, but there is a safety zone away from the fire that the firefighter can retreat to, they should take advantage of this location. Command and the rescuer team, must then be notified of this location as soon as possible.

J. Division/Group Supervisors – Supervisors who are unable to locate a crew or firefighters assigned to them, must immediately notify command and use MAYDAY to notify all personnel operating on the scene. When possible, the Supervisor's report should include who is missing, their last known location, and the actions being taken. Firefighting positions must not be abandoned during the rescue effort. Supervisors must control free-lancing. Command will initiate a rescue effort. On-going fire suppression must continue to afford the victims increased opportunity for rescue.

K. Personnel Accountability Report – Immediately following declaration of a MAYDAY, a Personnel Accountability Report (PAR) shall be taken. This is important to confirm that all firefighters are safe and accounted for. With the exception of the rescuers and Safety Officer, the PAR shall be conducted on the alternate radio channel assigned by the IC and dispatch, so as not to interfere with direct communication between the rescuers and affected firefighters/crew(s).

**Appendix B – Fire Management Incident Within an Incident (IWI) Action Plan**
**Family Notification Assistance Document**

# Preparing for the Notification

Key information will need to be gathered before making a fatality/serious injury notification including:

- The circumstances surrounding the death or injury (be clear what is fact and what is not verified); information on the incident survivors; medical status, if the employee is injured; location of the injured/deceased person.

- Verify the address of the next of kin.

- Determine ahead of time which person will make the actual notification.

- Before contacting the survivors, take into consideration any serious health conditions, language barriers, cultural barriers, logistical concerns, and whether children will be present. If religious affiliation of family is known, consider having a clergy member present, but do not delay the notification waiting for clergy to arrive.

- If there is knowledge of a medical problem with an immediate survivor, medical personnel should be dispatched to the residence to coincide with the death notification.

- If notification must be made at the next of kin's workplace, ask for a supervisor and a quiet, private room to talk with the next of kin.

- If notification is made at the hospital, the same rules apply. Find a quiet, private place for the notification and next of kin's questions and reactions.

- If an employee is injured to the extent that death is a possibility, the above notification procedures should be considered. Every effort should be made to assist the survivors with access to the employee before their death.

- Other employees should be directed not to reveal any information outside appropriate Service channels concerning the deceased employee until they are advised otherwise. It would be inappropriate for the next of kin to first learn of the death through the media or unofficial notification.

**REMEMBER:** Family relationships can be very complicated. Fiancés and significant others, whether they live with the injured or deceased person, are not legal next of kin. If you are aware of such an individual, ask the primary next of kin if they want to call/visit the significant other.

**Inability to Locate the Primary Next of Kin**
If the next of kin is not home, contact neighbors, the police department or local postmaster for information on the next of kin's location (work, out of town, etc.). Take care not to disclose (other than a family-related emergency) the purpose of your contact except to the next of kin. If the next of kin's absence is temporary, you may await their return or go in search of them as appropriate. If the next of kin is out of town and not expected to return shortly, determine their exact location. If it is within reasonable distance, attempt to contact them in person. If not, immediately contact the nearest Agency Administrator to the next of kin's physical location, brief them and request notification actions.

**Secondary Next of Kin**
If primary next of kin is not available, contact the secondary next of kin as identified on the Emergency Notification Information sheet.

**Next-of-Kin Notification Guidelines**

The first visit will be very difficult and may present new uncomfortable feelings with many varied reactions from each surviving family member/survivor. Remember to be professional, demonstrate empathy, and listen carefully. When

notifying the next of kin, be yourself. This is not easy; be as natural as possible in speech, manner, and method of delivery. Inform the survivors of the death, speaking slowly and carefully giving any details that are available. The following are suggested approaches with the family in this first visit:

Identify yourself. Example: “I am [name, title] and this is [name].”

Confirm the identity of the next of kin. For example, “Are you Mr. Sam Brown?”

As soon as most families see you, they will know something is wrong.

Ask to be admitted into the house**. Never make any notification on the doorstep of the house.**

Gather everyone in the home and ask them to sit down. Make sure that you sit down as well. If young children are in the home, ask the person being notified if they wish to have the children present. If they refuse to sit down, or there is nowhere to sit, be prepared to catch the Next of Kin as they may faint, pass out, or just fall due to the overwhelming emotion of sorrow. Be prepared to be embraced or even struck. Sometimes hearing news of their loved one’s death brings on immediate disbelief and anger to which a response could be physical.

Using the victim’s name, inform the next of kin slowly and clearly of the information you have regarding the incident. If specifics of the incident are known, relay as much information as possible. Never give the family a false sense of hope. Use words like “died” and “dead” rather than “gone away” or passed away.”

**Example for Death:** "The Chief State Forester of the Wisconsin Dept. of Natural Resources has asked me to express his/her regret that your (husband/wife/son/daughter __ [name] ___) died/was killed in (city/state) on (date). (State the circumstances) or “Your husband, George was shot today and died while on a burning complaint.” Please accept our deepest sympathy to you and your family in your tragic loss.”

**Example for Injured**: "The Chief State Forester of the Wisconsin Dept. of Natural Resources has asked me to express his/her regret that your (relationship; husband/wife/son/daughter ___ [name] ___) has been injured in (city/state) since (date). (State the circumstances). [Name of victim] is at (name) hospital/treatment center. If you would like to go there now we can help, make arrangements.”

**Example for Missing**: "The Chief State Forester of the Wisconsin Dept. of Natural Resources has asked me to express his/her regret that your (relationship; husband/wife/son/daughter ___ [name] ___) is missing in/near (city/state) since (date). (State the circumstances). When we receive more information, we will let you know immediately. We know this is a very difficult time for you and will try to help in any way we can.”

**Do not drag on with the process.**

One of the first questions the next of kin will ask is where their loved one is located and how to arrange to see them. It is important to verify the location treating the injured individual or the status of the remains before arriving for the first visit. If you do not know the answer to a question, don’t be afraid to say so. Offer to get back with the survivor when more information is available and be sure to follow through.

**Injured Person**

Before arriving for the first visit, verify the location of the medical facility treating the injured individual. In cases of severe injury, immediately arrange for transportation of next of kin to the medical facility.

**Remains of the Deceased**

Often, remains of the deceased are not immediately recoverable or not readily accessible. Be alert to this concern and answer the questions with care. Also, be prepared to answer questions about the possibility of viewing the remains. Remember to use the decedent’s name.

Normally, remains of the deceased are not available until 24 to 36 hours after an autopsy. This needs to be well-communicated to the family. Remains may be delayed for medical reasons, criminal investigations, or for proper travel documentation.

The family may want to travel to the site in order to come home with the remains of the deceased.

**Follow up on the status of the remains and keep the next of kin informed. Do not wait for the next of kin to ask the status.**

**Communication Tips**

- The people notifying the family should/if possible be in professional attire or service uniform (Full Dress, if possible).
- Make sure your first visit is as inconspicuous as possible, without calling undue attention to your visit by neighbors.
- The first visit should be brief and in private. The main concern is to answer questions and meet the demands and requests from the next of kin. A private meeting will cut down on the confusion that can occur with too many people in the room.
- Use the word died or killed. Do not down-play with "passed away" or "was lost."
- Listen. Your alertness to the needs of the next of kin at this time will help maintain a good rapport with them. Keep notes for later visits with the next of kin. They will be invaluable when reviewing what was said or done and to ensure all requests and commitments have been fulfilled.
- Confirm the next of kin's address and obtain telephone numbers for future contact.
- Inform next of kin that they will be contacted by a Service Family Liaison to assist them with benefits paperwork and other arrangements.
- Offer to call immediate family members, friends, or clergy who are available to come and support the family. Do not abandon the family once notification has been made.
- Assist the family in making arrangements for child care or other needs.
- Leave names and phone numbers for the family to reach you, the chaplain, or the Family Liaison. Make sure they can find you.
- Inform the Hospital Liaison, if assigned, when the family is on its way to the hospital.
- Go to the hospital and provide additional support to the family and support the Hospital Liaison with coordination needs as needed.

**DON'T in the Notification Process:**

- Do not notify the primary next of kin by telephone.
- Do not call for an appointment before making the first-visit notification.
- Do not read from your notes or a prepared speech when making notification.
- Do not drag on with the process.
- Do not disclose your message to neighbors or ask other people to have the next of kin call you.
- Do not use code words or acronyms that may have been used in the incident.
- Do not rush your words—speak as naturally as possible.

- Do not make statements like, “I know how you feel,” “I know what you’re going through,” “It was God’s will,” or “He led a full life.”

- Do not physically touch the next of kin in any manner unless there is shock or fainting. Summon medical assistance immediately, if necessary. Limit your discussion to information provided for the notification.

- Do not use your prior experiences or personal conjecture.

- Do not speculate on specific questions relating to the victim’s activity when they were killed or injured.

- Most decisions regarding cemetery, funeral director, or the type of funeral wanted will not be discussed in the first visit. (The family will need time to think and process the loss).

- **Do not make a promise that is not in your power to keep**.

- Do not make a statement or relay information to the next of kin unless you have verified the facts. Relaying false information, conflicting or misleading details regarding the fatality incident can be embarrassing to all parties involved. When you are uncertain about the answer to a question, reply that you do not know but will find out. Collect the facts before you respond and always follow through.

- **Do not discuss matters that you are not qualified to discuss.**

- **Do not take the victim’s personal effects on the first notification**.

- **Denying access to see the body is not an act of kindness**. Inform the survivor of any chance to view the body.

## Additional Benefits and Services

**Wildland Firefighter Foundation**
Focus is to help families of firefighters killed in the line of duty and to assist injured firefighters and their families.
2049 Airport Way
Boise, ID 83705
info@wffoundation.org
Office Phone: 208-336-2996
Office Fax: 208-336-2995

**Public Safety Officers' Benefits (PSOB)**
Program provides death and education benefits to survivors of fallen law enforcement officers, firefighters, and other first responder.
Customer Resource Specialist 1-888-744-6513 between the hours of 8:00 a.m. - 4:30 p.m. Eastern Standard Time
email AskPSOB@usdoj.gov.

National Wildland Fire CISM website: Information on Critical Incident Stress Management, peer support, and other resources. https://gacc.nifc.gov/cism/index.html

National Fallen Firefighter's Foundation "Initiative 13": Peer support, training, and resources for firefighters about behavioral health and suicide. https://www.everyonegoeshome.com

National Center for Post-Traumatic Stress Disorder: In depth information on trauma and PTSD. https://www.ptsd.va.gov/

Safe Call Now: A confidential, comprehensive, 24-hour crisis referral service for emergency services personnel and their family members. 206-459-3020. https://www.safecallnow.org/

Benefits resulting from State & Federal Law, contact the Department's Bureau of Personnel Benefits Office.

**Appendix D - Fire Management Incident Within an Incident (IWI) Action Plan**
**Employee Confidential Line-of-Duty Death Information**

# CONFIDENTIAL

# Line-of-Duty Death Information

This information will be used ONLY in the event of your severe injury or death in the line of duty and is optional. Copies of this form will be kept in a sealed envelope in your supervisor's office and area dispatch office and should be reviewed by the employee annually. **Please take the time to fill it out accurately as the data will be extremely helpful to your family and the Wisconsin Department of Natural Resources, Division of Forestry, in fulfilling your wishes.**

## EMPLOYEE INFORMATION- Home Address

Full Name _____

Address _____

City _____State: ____ Zip Code_____

Home Phone _____

Work Phone _____

Cell Phone _____

## FAMILY INFORMATION

Spouse's Name _____

Address and telephone _____

(If different from above)

_____

_____

Spouse's employer _____

Work address _____

City _____State: ____ Zip Code_____

Work Phone _____

Cell Phone _____

Names and ages of your children _____

_____

Do you want a WI DNR representative to contact your ex-spouse? ( ) yes ( ) no

If yes, please provide information about your ex-spouse.

Ex-spouse Name _____

Address _____

City _____State: ____ Zip Code_____

Home Phone _____

Work Phone _____

Cell Phone _____

## NOTIFICATIONS

Please list the people you would like contacted in case of severe injury or death in the line of duty. Begin with the first person you would like notified other than Spouse and children listed above (i.e. parents, significant other)

Name Address Phone Numbers Relationship

_____
_____
_____
_____
_____

When death/severe injury notification is made to your immediate family, is there anyone you would like to have accompany the notifying official? **If you would like someone other than a WI DNR Supervisor to notify your family, please list their address and telephone number.**

Name Address Phone Numbers Relationship

_____
_____
_____
_____
_____

Any known medical conditions to be advised of when making any notification to the immediate family or relation. (i.e. deaf, blind, heart condition)

_____
_____
_____

## ADDITIONAL INFORMATION

Please list any preferences you may have regarding funeral arrangements.

Church or Synagogue _____

Cemetery _____

Are you a veteran of the U.S. Armed Services? ( ) yes ( ) no

If you are entitled to a military funeral as determined by the Department of Veterans Affairs, do you wish to have one? ( ) yes ( ) no

Do you wish to have a fire service funeral? ( ) yes ( ) no

Are there any pets that need immediate care? ( ) yes ( ) no

If so, where are they located? _____

Do you have a living will? ( ) yes ( ) no

Do you have a will? ( ) yes ( ) no

If yes, where are they located? _____

Please list any insurance policies you may have.

Company Location of Policy

_____
_____
_____
_____

Are there any special requests or directions you would like followed upon your death? Feel free to provide any further information you feel would be helpful to assist your family.

_____
_____
_____
_____
_____
_____
_____

Employee Signature _____ Date_____

# EMERGENCY VEHICLE OPERATIONS

## Supervisory Responsibility

It is essential that supervisors at all levels demand strict adherence to the forestry emergency vehicle policy. Violations of manual code and handbook instructions must be acted upon. The appropriate level of discipline for the violation shall be administered in a prompt manner. The next level supervisor must be notified of the violation and informed of the disciplinary action taken.

No Forestry staff or fire department members may use DNR fire management equipment in an emergency capacity unless they have taken the Forestry Division Emergency Vehicle Operations Course (EVOC) and successfully passed the field portion on the specific type of vehicle being used (i.e., to use red lights and siren on a heavy unit, the operator must have passed the Forestry EVOC class using a full heavy unit).

## Statutory Rules of the Road and DNR Forestry Policy

NOTE: Specific Department of Natural Resources' policy dealing with key portions of the statutes is shown in bold faced, underscored, and capitalized text immediately after that portion. All personnel who will have occasion to operate forestry equipment in an emergency capacity should be thoroughly familiar with this material as well as chs. 340, 346, 347, and ss. 939.22 and 939.25,Wis.Stats.

340.01(3) "Authorized emergency vehicle" means any of the following:

(b) Conservation wardens' vehicles or foresters' trucks, whether publicly or privately owned; (for purposes of DNR use, privately owned trucks will not be authorized as emergency vehicles).

(f) Such emergency vehicles of state departments as are designated or authorized by the heads of such departments to be authorized emergency vehicles;

346.03 Applicability of rules of the road to authorized emergency vehicles. (1) The operator of an authorized emergency vehicle, when responding to an emergency call or when in the pursuit of an actual or suspected violator of the law or when responding to but not upon returning from a fire alarm, may exercise the privileges set forth in this section, but subject to the conditions stated in subs. (2) to (5).

(2) The operator of an authorized emergency vehicle may:

(a) Stop, stand or park, irrespective of the provisions of this chapter;

**ALL AUTHORIZED DNR EMERGENCY FORESTRY VEHICLES SHOULD ACTIVATE RED LIGHT(S) AT AN EMERGENCY SCENE WHEN PARKED ON OR ADJACENT TO A ROADWAY**.

(b) Proceed past a red or stop signal or stop sign, but only after slowing down as may be necessary for safe operation;

**DNR FORESTRY VEHICLES WHILE IN EMERGENCY STATUS SHOULD STOP AT ALL CONTROLLED INTERSECTIONS AND RAILROAD CROSSINGS WITH ACTIVATED SIGNALS. THE OPERATOR IN EMERGENCY STATUS MAY PROCEED PAST A RED SIGNAL, STOP SIGN OR ACTIVATED RAILROAD SIGNAL AFTER DETERMINING THE RIGHT-OF-WAY IS CLEAR.**

(c) Exceed the speed limit;

**NO FORESTRY VEHICLE, REGARDLESS OF EMERGENCY STATUS, SHOULD EXCEED THE POSTED SPEED LIMIT. AT ALL TIMES OPERATORS OF DNR FORESTRY VEHICLES, REGARDLESS OF EMERGENCY VEHICLE STATUS, SHOULD GIVE CAREFUL CONSIDERATION TO ROADWAY CONDITION AND QUALITY WHEN DETERMINING SPEED. SAFETY OF THE VEHICLE OPERATOR, PASSENGERS, AND OTHER CITIZENS USING THE ROADWAY MUST BE THE PRIMARY FACTOR WHEN MAKING THAT DETERMINATION.**

(d) Disregard regulations governing direction of movement or turning in specified directions.

(3) The exemption granted the operator of an authorized emergency vehicle by sub.(2)(a) applies only when the operator of the vehicle is giving visual signal by means of at least one flashing, oscillating or rotating red light ... The exemptions granted by sub. (2)(b) and (d) apply only when the operator of the emergency vehicle is giving both such visual signal and also an audible signal by means of a siren ...

(5) The exemptions granted the operator of an authorized emergency vehicle by this section do not relieve such operator from the duty to drive with due regard under the circumstances for the safety of all persons nor do they protect such operator from the consequences of his or her reckless disregard for the safety of others.

(6) Every law enforcement agency which uses authorized emergency vehicles shall provide written guidelines for its officers and employees regarding exceeding speed limits... The guidelines shall consider, among other factors, road conditions, density of population,... severity of crime and necessity of pursuit by vehicle. The guidelines are not subject to requirements for rules under ch. 227.

346.19 What to do on approach of emergency vehicle.

(2) This section does not relieve the operator of an authorized emergency vehicle from the duty to drive with due regard under the circumstances for the safety of all persons using the highway.

346.57 Speed restrictions.

(2) REASONABLE AND PRUDENT LIMIT. No person shall drive a vehicle at a speed greater than is reasonable and prudent under the conditions and having regard for the actual and potential hazards then existing. The speed of a vehicle shall be so controlled as may be necessary to avoid colliding with any object, person, vehicle or other conveyance on or entering the highway in compliance with legal requirements and using due care.

346.62 Reckless driving.

(a) "Bodily harm" has the meaning as designated in s. 939.22(4).

(b) "Great bodily harm" has the meaning as designated in s. 939.22(14).

(c) "Negligent" has the meaning designated in s. 939.25(2).

(d) "Vehicle" has the meaning designated in s. 939.22(44).

(2) No person may endanger the safety of any person or property by the negligent operation of a vehicle.

(3) No person may cause bodily harm to another by the negligent operation of a vehicle.

(4) No person may cause great bodily harm to another by the negligent operation of a vehicle.

347.25 Special warning lamps on emergency vehicles....(1) Except as provided in subs....(ls), an authorized emergency vehicle may be equipped with one or more flashing, oscillating or rotating red lights, except that .... fire department equipment may be equipped with red or red and white lights, and shall be so equipped when the operator thereof is exercising the privileges granted by s. 346.03. The lights shall be so designed and mounted as to be plainly visible and understandable from a distance of 500 feet both during normal sunlight and during hours of darkness. No operator of an authorized emergency vehicle may use the warning lights except when responding to an emergency call or when in pursuit of an actual or suspected violator of the law, when responding to but not upon returning from a fire alarm or when necessarily parked on a highway in a position which is likely to be hazardous to traffic using the highway.

347.38 Horns and warning devices.

(4) An authorized emergency vehicle shall be equipped with a siren, but such siren shall not be used except when such vehicle is operated in response to an emergency call or in the immediate pursuit of an actual or suspected

violator of the law, in which events the driver of such vehicle shall sound the siren when reasonably necessary to warn pedestrians and other drivers.

**Additional Policy**

Fire suppression employees shall comply with the following when responding to fire calls:

1. Drive immediately to the fire or suspected fire upon receipt of alarm or direction of the dispatcher.

2. Except as otherwise provided in this Handbook, observe all rules of the road, speed limits and local traffic regulations.

3. Drive defensively at all times without forcing your way or assuming right-of-way exists—even if it is legally yours.

4. Protect the scene when you arrive.

**Other Forestry Law Enforcement**

1. Foresters/forester-rangers have statutory authority to enforce forest protection laws in ch. 26, Wis. Stats., as well as additional laws as described in s. 26.97(1), Wis. Stats

2. Foresters/Forest-Rangers do not have the authority to conduct a motor vehicle stop using lights and sirens.

3. A Dispatch center shall be notified by the Forester/Forester-Ranger to request a sworn law enforcement officer to conduct a motor vehicle stop If possible, provide the following information:

    a. Unit identifier

    b. Location, speed and direction of travel

    c. Vehicle description, including license number, if known

    d. Reason for the request.

    e. Number of occupants, if known

4. Seat belts must be worn in all but the most extraordinary circumstances. Section 347.48(2m)(dm), Wis. Stats., allows an exception to the mandatory wearing of seat belts by authorized operators where "compliance could endanger safety of the operator or another." The Department maintains that the individual shall make the determination as to when to invoke this provision.

## FIRE SHELTERS

A fire shelter shall be worn by Forestry personnel whenever more than 100’ from an engine or tractor/plow or whenever directed by the IC. It is expected that staff burning out the line and working with tractor/plows in line operations will be wearing their shelters as safety would dictate that these personnel will at times be more than 100’ from the tractor/plow. Staff working with an ORV (UTV, ATV, Argo) are expected to wear a fire shelter while on foot.

One fire shelter will be permanently assigned on each Forestry tractor-plow and heavy dozer and mounted to provide for fast access in an emergency situation. The fire shelter will be mounted in front of the operator for easy access in case of emergency. All tractor-plows and Forestry heavy dozers will have mounting brackets suitable to meet this requirement. If not, contact the Forestry Equipment R&D Center for brackets, placement and mounting instructions.

All Forestry low ground units will have permanently assigned the number of fire shelters equal to the cab seating capacity.

Fire shelters on fire suppression equipment do not take the place of the required standard PPE personal fire shelter and web belt/gear.

## FIRE CURTAIN USE POLICY

The fire curtains are to be used as an additional tool for operator protection like the shower system. They are to be used as a heat shield during an escape to get to a safety zone (into the black). Testing and experience has shown that one major factor in firefighter injuries during a burn over is the inhalation of superheated air. Even small distances above ground are significantly hotter than on the ground. Generally, the safest place in a burn over is in a fire shelter, on the ground.

If escape routes are blocked and a burnover situation is likely, the preferred policy is to dismount the unit and deploy a fire shelter. However, if conditions outside the cab/canopy are unsuitable for survival, there are documented cases of successful use of fire curtains for operator survival.

The curtains are **NOT** to be deployed as a tool to use more aggressive tactics and "to get closer to the fire". When a fire curtain is deployed, the employee will notify the IC and a Rapid Lesson Sharing Document will be developed and sent to the Fire Suppression Specialist for dissemination to all DNR fire suppression staff. For more information on Rapid Lesson Sharing, please see the Suppression chapter of this Handbook.

Operators will deploy the curtains at least twice per year for familiarization and inspection per the weekly and annual inspection form procedure. Curtains should be removed from the unit to avoid damage when performing non-fire projects and the station is not in fire staffing.

## TRAFFIC CONE USE

All fire suppression heavy units have been outfitted with four (4) traffic safety cones. They are for deployment around a parked heavy unit to increase visibility and help provide a safety zone for ground personnel. Generally a transition and buffer zone should be established to direct traffic around the incident. The length of transition and buffer zones needs to increase as the speed limit of the road increases.

The following is guidance for heavy unit operators on cone placement to best meet the needs of the individual parking scenario. The intent is to surround the parked heavy unit and "funnel" traffic away from the parked heavy unit. The general scenario for use of the cones is for when the unit is parked on the shoulder and out of the traffic lane. Suggested placement of cones is as follows:

1. One cone should be placed at the front, traffic side corner of the truck

2. One cone placed at the truck-trailer junction on the traffic side of the unit

3. One cone placed at the rear, traffic side corner of the trailer, and

4. One cone approximately 100 feet behind the trailer, aligned with the center of the trailer

If the trailer is unhooked and left by itself along the roadway, the cone from the front of the truck can be placed approximately 150 feet behind the trailer, at the non-traffic side of the trailer.

While one should avoid parking a unit immediately over a hill or around a blind corner, sometimes this is not possible. In these scenarios it would be prudent to place some cones on top of the hill or around the corner from the parked unit. This will provide traffic with advanced warning of the parked heavy unit.

If heavy units are parked such that a lane of traffic is blocked then additional measures must be taken to insure safety of responders and the public, including requesting law enforcement to close the roadway or direct traffic on scene.

## CHAINSAW USE

The Department has established policy for chain saw use by all employees. Refer to Manual Code 9185.3 – Safety Requirements for Chainsaw Operations. The Department's Policy, as applicable to fire suppression and prescribed burning, is summarized below:

1. For fire suppression and prescribed burning, employees must be certified as Basic Faller (FAL3) or higher as established in the Wisconsin Wildland and Prescribed Fire Qualification System Guide.

2. Forestry Division Standard Fire PPE shall be worn.

3. Cut resistant leg protection meeting USFS Specification 6170-4F shall be worn.

4. Cut resistant footwear is NOT required when on the fireline.

5. A fire extinguisher and Loggers First Aid Kit shall be within a reasonable distance of the worksite.

## SAFETY TRAINING REQUIREMENTS

The Department has a health, safety and risk management program to prevent/minimize the risk of injuries and illnesses for all Department employees through recognition, evaluation and management of identified health and safety hazards and concerns. All new permanent and LTE employees must complete the "Basic Safety Training" prior to receiving work assignments, however no later than 30 days after the beginning of employment. The Basic Safety Training includes the training topics listed below. Employees must complete other job specific safety training as it relates to their particular position or potential hazards they may encounter.

**Basic Safety Training**

- Hazard Communication (Chemicals)
- Back Injury Prevention
- Emergency Action Plans
- Fire Prevention
- Electrical Equipment (Bldg)
- Vehicle Operation (also needed if a Vehicle Use Agreement was signed)
- Violence in the Workplace

A powerpoint presentation on the "Basic Safety Training" is available for use.
For specific guidance on individual safety training needs, supervisors should consult or contact:

- Safety and Risk Management Section
- Health and Safety Training Checklist [Word 66KB]
- Regional Safety Coordinator

For additional information, contact the Regional Safety and Risk Management Specialist or the DNR Safety Manager for assistance

**DIVISION OF FORESTRY**

**EMPLOYEES WORKING ALONE**

**STANDARD OPERATING PROCEDURES**

## I. PURPOSE

DNR *Manual Code 9187.91 – Employees Working Alone* directs each DNR program the responsibility to develop program specific procedures on working alone. These procedures must include the following:

- A list of hazardous activities and areas where employees are prohibited from working alone.
- Areas and/or activities where check-in/check-out procedures are required.
- Reasonable check-in/check-out procedures for employee safety when working alone, in remote locations or in potentially hazardous situations.
- A procedure to account for employees who do not check-in at their designated time.

## II. DEFINITIONS *(per M.C. 9187.91)*

- **Working alone**: Working by oneself in an area where the only contact with another person is via cell phone or radio, or an area so isolated that there is no visual or audible contact with anyone.
- **Hazardous Activity or Area**: An activity or area that has inherent dangers due to the type of equipment, chemicals, or the environment being worked in. A hazardous area may also include contacts with the public who have a history of threatening behavior, or when an employee feels uncomfortable about a person's behavior.
- **Remote Area**: An area that is not served by a major road, is not in a populated area or physically separated, and is not traveled frequently by the public or patrolled regularly by law enforcement.

## III. POLICY

Many Division of Forestry personnel work independently in the field on a daily basis. The risk of serious injury exists to these employees that may leave them incapable of returning to their vehicle or office. Many times, other office personnel or family do not know the whereabouts of these employees if something were to happen to them. In addition, the possibility exists that an employee may be injured or incapable of returning to the office and no one would know that they were missing for hours or perhaps days.

Forestry field personnel should provide someone in their home/office/workplace with a daily itinerary to the best of their ability before leaving for the field. In addition, notification upon their return should be given for the safety of the employee working in the field.

## IV. PROCEDURES

**For the purposes of the Division, it is assumed that a hazardous activity may occur anywhere in the state. The following activities are considered hazardous activities where employees are prohibited from working alone.**

1. Making contact with individuals whom they have knowledge of engaging in threatening behavior or are a known threat to DNR or law enforcement personnel.
2. Whenever wind chills exceed -15 degrees Fahrenheit. *(DNR's Cold Weather Handbook, M.C. 9181.1)*
3. Any type of fieldwork; or site visit where an employee and/or their supervisor perceives it is unsafe to perform the work activity alone.
4. Entering of a confined space *(per Comm 32 and DNR M.C. 9181.5).* [NOTE: Special training and equipment is required to enter these areas and a trained team is needed.]
5. Other hazardous activities as identified by manual code or management.

**List of activities and remote work areas where Forestry staff are required to follow a Mandatory Check-In and Check-Out procedure:**

1. Working alone in the field in remote areas as defined by *DNR M.C. 9187.91*.
2. Working alone in the field after normal work hours.
3. Forestry staff making any type of law enforcement contact with the public (burning complaint, timber theft investigations, forest fire investigations, tax law enforcement, etc.).
4. Forest fire suppression activities.
5. Operation of any chainsaw *(per DNR Manual Code 9185.3)*

6. Operation of heavy equipment.
7. Loading or off-loading any heavy equipment, including forklifts.
8. Activities that involve significant waterways or ice crossings (working in or on, boating, canoeing, island inspections, etc.)
9. Operation of a boat.
10. All aviation missions flown by DNR aircraft or Forestry contracted aircraft (see #4 & 5 below).
11. Other work activities identified by either a supervisor or employee as potentially hazardous.

Except for the above listed situations, mandatory check-in or check-out is NOT required where the work area or destination is served by a major road, is in a populated area where frequent public or law enforcement patrol is expected, or you are working with someone. Nevertheless, employees are still encouraged to implement check-in/check-out procedures whenever they depart the office.

**Recommended Check-in and Check-out Situations:**

Checking in and checking out is an employee safety issue. All forestry employees are encouraged to check-in/check-out whenever leaving the office. A check-in/check-out habit is an important safety practice whether meeting a landowner, attending a meeting, traveling the interstate or leaving for personal reasons. This simple and courteous action may save your life or that of a co-worker. Being accountable to help protect your safety and well-being is a personal choice and responsibility.

**For voluntary check-in/check-out, consider these options:**

1. Update your voicemail or out-of-office reply daily, giving specific destinations, departure and return times.
2. Write your destination, departure and return times on a posted/outlook calendar or on a dry erase board in your office.
3. Designate and tell a "buddy", other office staff, or a family member.

**Check-in/Check-out Procedure:**

1. Forestry personnel should provide to a family member, friend, co-worker(s), dispatcher or supervisor a brief itinerary of their day when working alone in the field in remote areas, including specific locations of work activities and anticipated return time. This can be a calendar book on the desk, a Post-it note, sign-out board, electronic schedule, or more formal documentation.

2. Employees shall check in before the end of the normal work day for accountability purposes with the individual/office that they checked out with, be it a family member, friend, co-worker, dispatcher or supervisor. This can be accomplished by leaving a voicemail, email, dispatch recorded radio message, or other form of confirmation that you have safely left the field.

3. Employees that utilize a non-DNR individual (family member or friend) as their primary check-out/check-in contact should provide that individual with key contact information (name and phone numbers) for DNR employees, including their supervisor, in case of a situation that the employee does not check back in or arrive home.

4. Pilots will be responsible to utilize whatever means are available to ensure adequate flight following on all flights (Sidetracks – near real time flight tracking, DNR dispatch centers, FAA control centers, other DNR personnel, etc.). Adequate flight following is understood to mean that in the event of an aircraft accident the safety of the pilot and passengers is not compromised due to an untimely search effort.

5. For fire control aviation missions there will be positive flight following accomplished between DNR, or contract, aircraft and the DNR dispatch center. Positive flight following will continue during the entire mission until the aircraft is safely on the ground or has been released to change frequencies to FAA ATC, an IMT, or another agency. Spidertracks is an approved method of flight following.

**Procedure When an Employee Does NOT Check back in after the Initial Contact:**

1. When an employee is late checking in at the end of the normal work day or by more than 30 minutes after their scheduled return time, and they have been working alone in the field in a remote area, the following procedure will be followed by the individual/office that the employee checked out with:

    - Attempt to contact the employee by cell phone or DNR radio.
    - Attempt to contact employee at home by phone.
    - Attempt to contact the employee's supervisor or another supervisor if primary supervisor is unavailable, who shall then coordinate all further attempts to locate the employee.
    - Send DNR personnel to area where employee indicated they would be working to attempt to locate employee and/or employee's vehicle.

- If vehicle is still on site and employee is not immediately found, contact local enforcement agency to coordinate and conduct a thorough search of the site for the employee.
- If the vehicle is not on site, continue to attempt to contact employee by cell phone, DNR radio and at home.

2. When a Forestry employee checks in with DNR dispatch at a law enforcement contact (i.e. burning complaint, forest fire, etc.), that employee shall contact DNR dispatch within an appropriate timeframe to update their status (usually no more than 5 or 10 minutes). If DNR dispatch is not staffed (i.e. night time response), the employee shall contact the local law enforcement agency or county dispatch center. If the employee does not initiate contact within 5 or 10 minutes, DNR dispatch shall attempt to contact the employee by radio and/or cell phone. After repeated attempts fail, DNR dispatch shall contact local law enforcement personnel immediately and request the assisting agency respond to scene to check on employee safety.

3. If a Forestry employee independently responding to a night time or weekend work activity does not make contact in an appropriate time or does not respond to requests from county dispatch, law enforcement personnel should be dispatched immediately to scene to check on employee safety by that county dispatch per their protocol. Process and procedure need to be communicated to county dispatch centers on each program's expectation.

4. When in accordance with a station's flight following procedure, it becomes apparent that an aircraft is overdue, search and rescue efforts will immediately be implemented in accordance with the ***Emergency Notification Plan*** found on page 30-12 of the Aviation Operations Handbook.

**Additional Safety Measures:**

1. Communication - All field staff, when working alone, must be able to communicate in the case of an emergency. This can be accomplished by carrying a cell phone (personal or DNR issued) and/or portable radio.
2. Maintain a list of staff telephone numbers - All supervisors need to maintain or have available an up to date list of home, cell and pagers numbers to be able to contact staff, if needed in an emergency.
3. Staff are encouraged to leave a situation where they feel unsafe or threatened.
4. Staff that believe a high hazard activity exists or an unsafe condition may exist needs to make their supervisor aware of that activity. It is the expectation that staff and supervisors will discuss the situation and develop an approach to assure that the activity can be done safely.
5. Staff should routinely use Outlook Calendar to indicate out of office activity. The calendar access to read must be made available to everyone in DNR. In those situations where using the Outlook Calendar is impractical (staff are already in the field), staff should leave a message on their supervisor's voicemail.

## V. CONCLUSION

This set of standardized operating procedures implements the DNR's Work Alone Manual Code. This list is NOT all-encompassing, and it is the intent of the Division to periodically review and/or update this guidance.

REV: 09-20-2019

# CHAPTER 6: PARTNER AGREEMENTS

## PARTNER AGENCIES IN FIRE SUPPRESSION AND MANAGEMENT

The Division of Forestry (Division) fire management program is predicated on the cooperation of many partners. Fire staff need to develop and maintain relationships with those cooperating agencies to collaborate effectively. These relationships help meet the needs of the public and the Division's statutory responsibilities related to forest fires. The following are examples of some of the primary partners that the Department works with and broad agreements that the Department has entered into. There are other agreements more specific to certain properties or Forestry Areas; this is not a comprehensive list.

### Fire Departments

Local fire departments are a vital partner in the suppression of forest fires. Fire departments look to the Division for guidance, training, and expertise in forest fire issues. To support this partnership fire staff should implement the following activities:

1. Annually offer the "Basic Wildland Fire Suppression for Wisconsin Fire Departments" training course at the county level.

   Easy access to basic wildland training will help ensure that new fire department members are introduced to the skills and knowledge required to perform safely and efficiently on the fireground. Frequent offerings will benefit fire departments that have high member turnover rates.

2. Annually offer every fire department a forest fire training course

   Offering a one-night wildland fire training to all fire departments in Intensive and Extensive Protection areas will enhance and improve skill levels in each fire department. Division expectations and leadership in wildland fire can be showcased in these trainings. A prepackaged training session will be provided by the Forest Fire Protection Section for use in these trainings. A different training package will be released each year for use in fire department winter training sessions.

3. Quarterly contact of local Fire Chiefs

   Continued training and contact with local fire departments is essential to maintain relationships and trust. Quarterly contact maintains connection with fire department partners on issues such as Forest Fire Protection Grants, fire equipment, and training.

4. DNR response on every forest fire

   The Department of Natural Resources (Department or DNR) is tasked with the responsibility for forest fires in ch. 26, Wis. Stats. Fire departments have a concurrent responsibility for fire in towns; however, the DNR has the primary authority and responsibility. To fulfill that responsibility, DNR response to all forest fires is essential, and expected whenever possible.

Fire Department Advisory Council (FDAC)

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| Purpose: | A ten-member Fire Department Advisory Council serves to strengthen partnerships between the Department and the rural fire service in Wisconsin. It advises and assists the state forester on operational issues related to the Department's forest fire program and helps provide for an effective rural community fire protection program. It also assists the Department by advising in the management of the Forest Fire Protection Grant Program. |
| Membership: | Members are appointed by the DNR Secretary to indefinite terms. The FDAC has statewide geographic representation along with Intensive, Extensive and Cooperative fire protection area representation. Major state-wide fire service organizations including the |

State Fire Chief's Association and Wisconsin State Firefighters Association are also represented.

Memorandums of Understanding

The Fire Department/DNR Memorandum of Understanding for Mutual Aid and Fire Suppression Services (Form 4300-061) serves as the basis for the FD/DNR fire suppression relationship. It provides for reciprocal mutual aid. That is, the DNR agrees to assist fire departments when possible, and the fire departments agree to assist the DNR when possible.

This agreement applies to all fire department wildfire suppression efforts in Extensive or Intensive DNR forest fire control areas. In the Cooperative forest fire control areas, the agreement only applies to FD wildfire suppression efforts on DNR-owned lands.

Fire departments entering into agreement with the DNR choose whether to bill the DNR for fire suppression efforts on initial attack and extended attack fires. Initial attack fires are defined as the first hour of forest fire suppression. Extended attack fires are defined as those fires that require additional resources to control and suppression efforts generally exceed one hour.

Fire departments that choose not to bill the DNR for initial attack receive extra points when scoring their Forest Fire Protection Grant application. Higher scoring grant applications get their requests in a funded category before lower scoring applications. The fire department can still bill for suppression costs through their own billing system.

The MOU agreements will be in effect as soon as signatures are obtained. A signed fire suppression agreement is an eligibility requirement for the Forest Fire Protection Grant program.

Forest Fire Protection Grant Program

The Wisconsin Department of Natural Resources, Division of Forestry offers grants to fire departments statewide. These grants, called Forest Fire Protection (FFP) grants, are funded through State Forestry Funds and Federal dollars through grants from the United States Forest Service. The intent of the FFP grants is to improve initial attack wildland fire suppression capabilities of fire departments. Successful applicants have a positive impact on the prevention, detection, and suppression of wildland fires in the communities that they serve.

The FFP grant program is a 50/50 cost share program. The grantee must use its own resources to fund the entire project and, upon completion, request reimbursement for up to 50 percent of the eligible costs. For example, an FFP grant of $10,000 could be awarded for a project with a total cost of $20,000. County fire associations may also be eligible to apply for FFP grants. Refer to the FFP Grant Program website for current requirements including minimum and maximum grant limits.

The following factors are considered when evaluating FFP applications:

1. The fire department must have a signed fire suppression agreement (MOU) with the DNR.
2. Projects must have a wildland fire emphasis.
3. Fire department within DNR organized fire protection area receive preference.
4. Fire department with a majority of members meeting NFPA 1051 standards for firefighter training receive preference.
5. Fire departments not awarded an FFP grant in the last funding cycle receive preference.

Applications can typically include projects in the following categories. These categories and priorities are subject to change each grant cycle. A current listing of eligible items can be found on the FFP Grant Program website

- Firefighter Personal Protective Equipment
- Wildland Fire Training

- Wildland Fire Prevention/ Wildland Urban Interface Materials
- Wildland Fire Suppression Tools, Equipment, Supplies or Materials
- Communications Equipment
- Dry Hydrants/Water Resources
- Mapping, Rural Numbering or Location Devices (GPS)
- Off Road Vehicles for primarily Wildland Fire Suppression (Brush Trucks, ½ to 5 ton and ATVs).

The annual timeline for each FFP grant cycle follows:

**May 1** - FFP grant opens for applications
**July 1** – Deadline for applications
**Oct 1** – Successful applications awarded FFP grants
**Oct 15** – Signed grant agreements due
**Apr 15** – All FFP grant reimbursements due and all grants closed out.

The FFP grant application packet is available online. A DNR Community Financial Assistance grant manager and the Fire Department Liaison oversee the grant.

Additional grants are available from the federal government at https://www.usfa.fema.gov/a-z/grants/

Field staff are required to conduct an in-person field check of all FFP grants awarded. The Forest Fire Protection Grant Program Field Check Sheet (Form 4300-048) document is required as part of NR 47 and the Federal Cooperative Forestry Assistance Act. This form provides the final check to ensure the intent and requirements of the FFP grant program are being met.

*Considerations for field checks*

1. For the field check ensure the FD has the items on hand which were purchased and reimbursed. Ensure the FD followed proper purchasing and inventory procedures (obtained **three** quotes [from catalog pages, web pages, etc.] on items > $5,000), and has kept documentation/receipts/records to substantiate everything. It is also an opportunity to obtain feedback from the grant recipients.

2. The Field Check Form will refer to the grant being federally or state funded. In the grant name, the middle section represents the fiscal year and then either F or S, indicating federal or state funding (i.e., FFP-14**F**-123 would mean federally funded in fiscal year 2014).

3. If the FD purchased federally funded items over $5,000 a federal inventory sticker must be attached to the item and the item must be tracked in the state inventory system.

Mutual Aid Box Alarm System (MABAS)

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| Purpose: | MABAS is a mechanism to be used for mutual aid for fire, rescue, and emergency medical services (EMS) and special operations services.<br><br>Definition: MABAS is a prearranged mutual aid plan to provide assisting resources to an emergency situation in accordance with guidelines set by members of the system. |
| Law: | In 2005, the Wisconsin legislature passed Wisconsin Act 257 which gives the Department of Military Affairs through the Division of Emergency Management the authority to establish standards (through administrative rules; WEM 8) for a MABAS system to be used by emergency responders. **NOTE:** Act 257 does NOT require emergency agencies to participate in MABAS. |

Current Status: MABAS is in place for FDs in most of WI.

Explanation: MABAS establishes "Box Cards" for specific types of emergency calls. A "Box Card" is a printed form containing details of departments, equipment and specialized personnel to respond to a given geographical area for a specific emergency.

For example; a structure fire occurs south of Montello. The Montello Fire Department (responsible agency) is dispatched as normal operating procedure. If the IC needs additional assistance, they would request a "first box alarm for a structure fire" from dispatch. The dispatcher would pull the MABAS box card for a structure fire and send the resources printed on that card: an engine from Pardeeville FD, a water tender from Kingston FD and an aerial from Portage FD. If additional assistance is needed, a "second box alarm for a structure fire" can be requested by the IC. An engine from Dalton FD, water tenders from Harris FD and Endeavor FD would be sent.

Box cards preplan lists of resources for each specific emergency, structure fires, automobile extrications, floods, wildland fires, etc.. Under MABAS, dispatchers just pull out box cards for specific emergencies as they are requested by the IC and contact that list of resources for response to the emergency.

*Advantages*

1. MABAS preplans mutual aid resources making decisions easier for the IC.
2. MABAS provides a written plan and agreement about mutual aid resources.
3. MABAS provides a framework to expand mutual aid regionally & statewide.
4. MABAS provides interoperability on large complex incidents.
5. Generally, MABAS pulls resources from a variety of locations which provides better emergency coverage by leaving some resources back. Ideally no station should be left empty under MABAS.

*Division of Forestry Local Actions*

Local DNR staff should work for the continued inclusion of DNR suppression resources with county dispatch for initial attack on wildland fires. This is necessary whether a county becomes a signatory or not into MABAS. Local DNR input into initial attack wildland fire dispatching is essential to maintain statutory responsibilities.

It should also be clear that the ordering of additional DNR resources will be the responsibility of a DNR employee. The design of additional MABAS wildland box alarms should include a "special instructions" comment that the DNR IC/forest ranger will call for additional DNR resources from within the DNR dispatch system. This will maintain Division of Forestry control and integrity of a statewide forest fire suppression system.

As per the DNR/FD MOU, should the fire department respond with more than the recommended or requested dispatch, only that equipment and personnel needed and actually used for suppression will be compensated at the predetermined rate. Compensation for additional equipment and personnel may not be made to the fire department unless the DNR agrees it was reasonably necessary for suppression.

Further discussions with county MABAS about segregating wildland fire box cards into "wildland suppression" and "structural protection" wildland fire box cards to meet the needs of the local ICs will have to be addressed.

MABAS wildland fire box cards in Cooperative forest fire protection areas can include a "special instructions" comment to contact local DNR dispatch/area forestry leaders for the availability of DNR fire suppression resources. Notification of the DNR duty officer should be made on the "3rd alarm" MABAS box card in the Cooperative protection area whether DNR resources are requested to respond or not. DNR fire suppression resources will only respond to Cooperative fires with the approval of the area forestry leader or their designee.

Federal Excess Personal Property (FEPP)

Purpose: USDA Forest Service loans property to State Foresters under Cooperative Forestry Assistance Act of 1978. Title remains with USFS and must be inventoried within

program guidelines.

WI Program Objectives: Only acquire trucks for use by fire departments. No longer acquire any items for state use.

Disposal: Contact FEPP disposal person who is responsible as the contact for FEPP disposal, maintains records, works through GSA web auction, cleaned up inventory list for FEPMIS (Federal Excess Property Management Information System). State inventory follow up will remove the FEPP item from the local state inventory list.

Use of FEPP: Fire use only, 90% of use of FEPP equipment must be fire-related.

FEPP Use Agreements: Federal requirements FEPP Agreement (Form 4300-030) lays out responsibilities of fire departments and the state DNR.

FEPP Inspections: Federal requirements include physical check every two years. State requirements include annual inspection. Field personnel assigned FEPP inventory items are required to conduct an annual inspection. Federal inventory items are included on the local State inventory. Local Foresters are responsible for annual verification of the State inventory, which includes those Federal inventory items listed. The FEPP Annual Inspection Sheet (Form 9200-074) is the mechanism to conduct and document annual inspections.

Obtaining FEPP Equipment:

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| Local Fire Department | 1. | Contacts local Department representatives. |
| | 2. | Submits request for fire suppression equipment. |
| Local DNR Representative | 3. | Sends request to Area Forestry Leader. |
| Area Forestry Leader | 4. | Meets with fire department and determines equipment needs. |
| | 5. | Requests equipment from the Director of the Bureau of Forestry Operations through District Forestry Leader. |
| | 6. | Meets with representatives of governing body for fire department to complete Form 4300-30. Governing body is group responsible for fire department; it could be town board, village, or other body. |
| Governing Body | 7. | Signs three copies of Form 4300-30 and returns to Area Forestry Leader. |
| Area Forestry Leader | 8. | Sends all three copies of Form 4300-30 to District Forestry Leader. |
| District Forestry Leader follows: | 9. | Approves and signs three copies of Form 4300-30. Distributes forms as |
| | | a. Original, Director, Bureau of Foresty Operations. |
| | | b. Second copy, user fire department. |
| | | c. Third copy, area forestry leader concerned. |

**County Dispatch**

County dispatch centers are the first link in wildland fire response. Local DNR fire units are dependent on county dispatchers to notify and direct DNR and fire departments to initial attack incidents. Furthermore, county dispatch offices provide communications coverage during after-hours wildland fires and serve as the safety loop for DNR fire resources. Local DNR staff must maintain a relationship with the local county dispatch office. This can be achieved through regular contacts and through attending dispatch meetings.

**County Sheriff's Offices**

County Sheriff's Offices (SO) provide additional assistance on wildland fires. Sheriff's deputies can provide traffic control, additional law enforcement presence, criminal investigation expertise and a gateway to additional law enforcement resources. The SO is vital to effective, efficient and safe wildland fire operations. Building a strong relationship with this office and these deputies is essential.

**Local Police Departments**

Local police officers provide additional assistance on wildland fires. Officers can provide traffic control, additional law enforcement presence, criminal investigation expertise and a gateway to additional law enforcement resources. The local police are vital to effective, efficient and safe wildland fire operations. Building a strong relationship with these departments and these officers is essential.

**Wisconsin State Patrol**

The Wisconsin State Patrol is the primary law enforcement agency on Interstate Highways. The State Patrol will be involved in any wildland fire along the Interstate. Requesting traffic control and/or help in traffic management will be filled with State Patrol cars. Furthermore, shutting down traffic or traffic lanes will require coordination with State Patrol.

**Emergency Medical Services (EMS)**

Local Emergency Medical Services are also an essential partner on the scene of wildland fires. Division of Forestry Emergency Medical protocols utilize local EMS for the treatment and transportation of victims. On major wildland fires, local EMS may be asked to stand by in case of accidents. If local EMS is requested to stand by at an incident for an extended period (i.e., project fire), compensation for the EMS unit may be required.

**Wisconsin Emergency Management**

Wisconsin Emergency Management (WEM) ensures that responders from multiple services, jurisdictions and levels of government can effectively communicate, coordinate, and integrate during emergency responses. WEM has Region Directors throughout the state that work with County and Tribal Directors to prepare for, respond to, and recover from disasters.

WEM creates and maintains the Wisconsin Emergency Response Plan (WERP) to manage multi-agency state response to large-scale emergencies that exceed local response capacity, whether natural or man-made. DNR has a lead role in wildland fire portion of the WERP. When an emergency incident necessitates state support, WEM can direct state agencies (including DNR) to provide staffing and support.

**Department of Defense (DOD)**

There are several military installations in Wisconsin (Fort McCoy, Volk Field/Camp Williams, and the Hardwood air-to-ground range) that are restricted areas and require special procedures and instructions to gain access if the Department is requested to assist with wildland fire suppression. If there is a military installation within your area boundaries, become aware of the correct procedure to gain entry for that specific property and of any restrictions into that airspace.

**Federal Wildland Suppression Agencies (USFS, NPS, FWS and BIA)**

The Department has entered into a Master Cooperative Wildland Fire Management and Stafford Act Response Agreement (Master Agreement) with the federal suppression agencies in the state. An Operating Plan within the Master Agreement defines the specific working relationship between each of those Federal agencies and the department. The agreement addresses prescribed fire, suppression, prevention, detection, and billing provisions within the state. Annual meetings occur between these agencies to discuss and review that agreement. Most local staff provide fire protection or mutual aid on one or more types of lands under federal jurisdiction and should be familiar with the agreements in place.

The Master Agreement also provides for mobilization of interagency resources nationally for both wildland fire incidents and other disasters under the Stafford Act. The Master Agreement can be viewed in the Agency Agreements folder on the Fire Drive. The Fire Operations Specialist is responsible for maintaining the agreement.

### Great Lakes Forest Fire Compact (GLFFC)

Signatories to this compact include the states of Wisconsin, Minnesota, Michigan and the Provinces of Ontario and Manitoba. Compact members agree to assist one another in all issues related to wildfires such as training, prevention, and suppression.

In accordance with the GLFFC agreement, Wisconsin DNR maintains mutual aid agreements with both Minnesota DNR and Michigan DNR for initial attack of border fires. Annual meetings between border stations of each state should be held to review those suppression agreements. The agreements can be viewed under the Agency Agreements on the Fire Drive. The Fire Operations Specialist is responsible for maintaining these agreements.

## SALE OF FIRE SUPPRESSION EQUIPMENT TO FIRE DEPARTMENTS & NON-PROFIT ORGANIZATIONS

To enhance the Department's ability to meet its statutory responsibilities to suppress forest fires in the State of Wisconsin, to strengthen the partnerships between the Department's fire fighting forces and the local fire departments that assist in meeting those responsibilities, and to ensure that those cooperating fire departments possess the proper equipment required for the suppression of wildfires, the Division will provide, when available stock/materials allow, such equipment, at a cost, to those cooperating fire departments through the LeMay Forestry Center Stockroom at Tomahawk.
The Division will also provide, when available stock/materials allow, fire suppression equipment, at cost, to any bona fide nonprofit organization that has been certified by the Forest Fire Protection Section Chief to be an active cooperator in any Department program that utilizes prescribed fire as a tool to meet Department goals in management and restoration of ecosystems.

### Authorization to Purchase

No fire department or non-profit organization will be allowed to procure equipment through the LeMay Forestry Center Stockroom unless there is a written authorization for that department or organization to do so on file at the LeMay Forestry Center. The written authorization must certify that the fire department or non-profit organization meets the above criteria.

Authorization for cooperating fire departments must be signed by the appropriate Area Forestry Leader. Authorization for cooperating non-profit organizations must be signed by the Forest Fire Protection Section Chief.

# CHAPTER 7: RADIO COMMUNICATIONS

## ADMINISTRATION

### Authority and Responsibility

The following procedures are established to provide clear areas of authority and to minimize administrative overlap or conflict in the Department of Natural Resources (Department or DNR) Radio Communications Program.

Radio Communications Specialist – Department Forestry Equipment R&D Section

1. Coordinates the Radio Communications Program with the Department of Transportation, Division of State Patrol, Bureau of Network Engineering and Data Infrastructure (BNEDI) as defined in this handbook.

2. Establishes a system for reporting and monitoring status of radio maintenance requests.

3. Provides both long range and specific communications system plans.

4. Provides or approves plans and specifications covering new construction, installations, andsystem modifications of DNR communications equipment and coordinates infrastructure work with DOT/BNEDI.

5. For the Secretary, provides supervision of all construction, operation, and maintenance of DNR communications systems in the following areas:

    a. Adherence of all applicable Federal Communications Commission (FCC) rules and regulations.
    b. Compliance with directives, engineering specifications, and directions in the construction, installation, maintenance, and testing of DNR communications equipment.

6. Determines what equipment qualifies to be maintained by the DOT/BNEDI.

7. Establishes a standard radio operating procedure.

8. Represents the DNR on the Wisconsin Interagency Committee on Radio Tower Sites (WICORTS), theForestry Conservation Communications Association (FCCA), the Association of Public Safety Communications Officials, International (APCO), the Great Lakes Forest Fire Compact (GLFFC) Radio Communications Committee, the FEMA - Regional Emergency Communications Work Group (RECWG), WI Public Safety Broadband, WI Land Mobile Radio Committee and the WISCOM Sub-Committee.

9. Prepares joint-use agreements approved by the Bureau of Facilities and Lands for transmitter buildings and towers

10. Manages DNR Tower Infrastructure and oversees the following:

    a. Coordination of utility payments for DNR tower sites.
    b. Contracts for tower lighting maintenance.
    c. Coordination the annual inspection of towers and notifies the regions of necessary maintenance to the transmitter buildings and grounds.
    d. Vendor maintenance of DNR Radio Equipment.
    e. Vendor contract for radio installations.
    f. Maintenance and infrastructure associated with Dispatch Consoles, aircraft radios, and the non-networked DNR repeaters.

11. See Guidebook for radio communications staff roles and responsibilities.

Division of State Patrol, Bureau of Network Engineering and Data Infrastructure (DOT/BNEDI)

DOT/BNEDI is responsible for installation, maintenance, repair, and adjustment of networked repeater equipment owned and operated by DNR. This shall be conducted by or under the supervision of either a DNR Radio Team member or a DOT/BNEDI radio communications technician. DOT/BNEDI will maintain an adequate supply of parts to maintain the equipment and notify the DNR Radio Communications Specialist of needed maintenance to the transmitter buildings and grounds.

### Radio Equipment Account Operations

Continuing cost for tower and repeater operations and maintenance is paid by the radio pool equipment account. A monthly charge is assessed to each program based on agreed upon rates.

Services provided by the Radio Equipment Account for Authorized Radios (no additional charge)

1. Payments to DOT/BNEDI for radio communication technicians for maintenance of microwave and networked repeaters.
2. Initial installation of networked repeaters and antennas. Building and antenna support structure that meets all state, local and Bureau of Facilities and Lands specifications to be provided by the program.
3. Lighting, painting, and mechanical maintenance of DNR towers associated with base stations.
4. Utilities on DNR towers.
5. Payment for WISCOM.

## ESSENTIAL RULES FOR RADIO COMMUNICATION

### Nature of Communications

Radio equipment in the Department is authorized to transmit only communications essential to official activities of the licensee.

False calls, false or fraudulent distress signals, superfluous and unidentified communications and obscene, indecent and profane language and the transmission of unassigned call signs are specifically prohibited.

### Plain Language Requirement

Plain language will be used during an emergency response. This is a matter of public safety, especially the safety of first responders and those affected by the incident. It is critical that all responders know and utilize commonly established operational structures, terminology, policies and procedures.

### Prevention of Interference

Most radio transmissions are conducted on radio channels shared among many stations. It is necessary that precautions be observed to avoid congestion and interference. Some precautions include:

- Listen briefly before transmitting to avoid talking over another user,
- Think before speaking; keep transmissions short,
- Follow communication plans; select appropriate channels.

### Station Identification

Stations are subject to a station identification requirement. Stations are identified to the listener continuously by radio users utilizing the prefix “DNR” and the tower name during repeater use. This ensures that the listener identifies the channel as belonging to the department and can provide the tower name if interference is detected on another radio system.

### Frequency Use, Restrictions, Authorizations

Use of frequencies must be authorized by the appropriate agencies prior to programming and use. The Radio Communications Specialist coordinates the licensing and management of frequencies for use by the DNR, and can authorize other agencies to use these frequencies within the state. Other agencies can authorize the DNR to use their frequencies within the limits of their licenses. Frequencies and channel names must be programmed to established standards for proper operation and within guidelines and regulations set forth by the Federal Communications Commission (FCC) which regulates private, state and local government users, and the National Telecommunications and Information Agency (NTIA) which regulates the federal government users.

Three Rules of Frequency Management:

1. Do not transmit on any frequency unless authorized/licensed to do so.

2. Do not use frequencies outside their licensed areas.

3. Never randomly select a frequency to use; follow the comm plan. For example, do not use the Washburn County fire channel in another county. Do not use DNR RED in another state.

### Radio Use and Troubleshooting

Information on radio communications, how to use a DNR-issued radio, and troubleshooting help can be found in the DNR Radio Communications Guidebook which is located on the intranet.

## MAINTENANCE AND REPAIR

The proper care and use of the radio equipment is the responsibility of the employee whom each unit is assigned. The employee assigned a mobile or portable knows the condition under which the radio unit is being used daily and must accordingly take steps to protect it from undue wear and tear. Proper daily use and care will make a more efficient radio system by minimizing outages, maintenance time, and expenses. Additional information on proper radio maintenance can be found in the DNR Radio Communications Guidebook.

Unauthorized modification or tampering with DNR radios, associated electronic equipment, standard control panels, and consoles is prohibited. Any unauthorized installations or modifications will result in charges to the user's budget for necessary repairs or standardization.

### Radio Programming

All radios must be programmed by personnel approved by the Department’s Radio Communications Specialist. Each area, park or dispatch group is responsible to work with the Radio Communications Team to design a specific radio program that will be used by all personnel within their geographic response area. Individualized programming templates are not allowed.

Cloning at the user level is the preferred method of adding additional frequencies to radios while in or out of state. However, when staff report to an incident out-of-state, radios may be reprogrammed by a credentialed communication technician (COMT) or communication unit leader (COML).

### Access to Transmitter

Access should be restricted to DOT/BNEDI communications personnel, FCC inspectors, the Radio Communications Specialist, and DNR Radio Team Staff. Where such buildings are shared with other agencies, access is granted to their technical personnel only.

Keys to these buildings shall be provided only to the qualified personnel, and a spare set should be kept under tight security at the control point or dispatch office.

Within the buildings or vehicles, radio cabinets or dust covers shall be locked, where applicable, and keys shall be available only to the technician and other such personnel as the Radio Communications Specialist designates

**Radio Maintenance/Repair Service Shops**

A complete list of radio maintenance/repair contacts can be found in the DNR Radio Communications Guidebook.

DOT/BNEDI Accountability

The DOT/BNEDI is "responsible for proper functioning of the networked repeater equipment" as set forth in the FCC Rules and Regulations Governing Public Safety Radio. Assigned radio equipment shall be maintained so as to comply with the DNR Radio Communications Program guidelines, FCC standards and licensing, and the equipment manufacturer's specifications.

Use of Commercial Shops

Use of commercial shops is authorized with the approval of the Radio Communications Specialist. The complete cost of any unauthorized commercial shop maintenance or equipment will be charged back to the appropriate DNR program.

**Additional Services**

The following maintenance/repair services may be available. Requests for the following services must be approved by the DNR Radio Communications Specialist or designee.

1. Removal and reinstallation of mobile radios and associated approved consoles, when the vehicle is not being removed from the Department fleet.

2. Standby status for DOT/BNEDI radio technician(s).

3. After hour or weekend emergency maintenance of radios.

4. Maintenance of electronic sirens.

5. Maintenance of portable red lights associated with radio installations. Roof and grill mounted emergency signal lights will not be maintained.

6. Any commercial shop maintenance.

**Recommended Operational Checks**

To ensure all parts of the radio system are operating as designed, these user checks are recommended to enable quick detection and repair of any problems before they become critical.

Dispatchers should do the following checks daily during times of elevated fire preparedness, and monthly during the off season:

- Ensure all buttons on Dispatch Console are functioning
- Checked that recorder is operational
- Check connectivity to all towers
- Check base radio located in dispatch office

Radio operators should do the following checks daily when they are required to fire staff and before annual radio reprogramming each winter to check for any repairs that may be needed:

- Mobile radio check in truck and tractor plow (if applicable)
- Portable radio check on each assigned portable
- Headset check (equipment operators only)
- Base radio check (IMT Trailer and ICP base radios are to be checked annually)

## PURCHASING AND INSTALLATION

The Radio Communications Specialist is responsible for acquisition and disposal of ALL DNR radio equipment. No radio equipment may be acquired through any other source (such as GSA or FEPP) unless approved in writing in advance by the Radio Communications Specialist.

Radio equipment owned by the Department, operating on public safety frequencies, and licensed by the Department is required to be part of the radio equipment account.

If an addition to the radio fleet is desired, the following procedure must be followed:

1. A written request must be made for a radio fleet addition. The request must be consistent with the program's radio plan. Details must be provided regarding what position will be assigned the radio and how it will be used. The cost must be justified (initial purchase money plus the yearly charge). The written request shall include a statement as to how the addition will be financed, i.e., via budget request, or from currently available funds in the requester's budget. The requester must include the program budget code to be charged.

2. If the radio addition is to be purchased and maintained by current funds already included in the requester's budget, the request must be approved by the Radio Communications Specialist.

3. If the radio addition requires new funding in the requester's budget, the request must be recommended by the Radio Communications Specialist and approved by the Secretary via normal budgeting procedures.

4. The radio will then be purchased by the Radio Communications Program and become an authorized addition to the radio fleet.

### Acquisition of Test Equipment

The Radio Communications Team will be the sole purchaser of test equipment for DNR radio communications equipment.

### Mobile Installations

Standard Two-Way Mobile Radio Installations

1. Assigned mobile radio equipment transmitting on frequencies authorized by FCC licenses KA4273 and KA6570 may be installed in DNR vehicles.

2. Assigned marine mobile radio equipment operating on FCC authorized marine channels may be installed in DNR water vessels. Marine mobile equipment can only be installed in water vessels. A copy of the DNR marine license WZC4749 must be posted on the vessel at a point close to the controls of the microphone.

3. Installation of such mobile stations shall only be conducted by DNR Radio Team approved vendor, by personnel under the supervision of such technicians or Forestry Equipment R&D Technicians.

4. Mobile stations shall be installed in the vehicle in a manner that ensures protections from crushing, abrasion and moisture insofar as is practical, and they shall be located in a manner that provides adequate ventilation of the heat sink radiators and/or radiating surface. Any materials which could cut off free ventilation or crush or abrade the radio case must not be stored on or against the case or cabling.

5. Control and power cables shall be routed for maximum protection from corrosive materials, shearing, abrasion, or excessive heat. Cables shall be adequately supported and clamped to reduce vibration fatigue and shall be protected from shear or abrasion by protective coverings and clamps.

6. Where electronic sirens and/or switch panels are required as part of the radio installation, they will be incorporated into a standardized console. The package will be designed to accommodate the approved functions of all the equipment, the physical size of the specific equipment involved, and the constraints imposed upon it by the intended vehicle.

7. Mobile installations of a radio, any associated console, and any other related equipment, such as the antenna or the siren speaker, shall be in accordance with any and all standards specifically established for that combination of radio equipment and vehicle type.

8. No modification shall be made to standardized consoles or standardized installations, except as approved by the Radio Communications Specialist. No attachments shall be made to the mobile radio, console, or associated equipment except as approved by the Radio Communications Specialist. Repair of unauthorized installations or modifications will be charged back to the program's budget.

Non-Standard Two-Way Mobile Radio Installations

This applies to radios owned by governmental agencies other than the Department of Natural Resources. Any Department personnel requiring installation of non-DNR, government-owned mobile radio equipment in State vehicles must follow this procedure:

1. Specify the Department vehicle fleet number involved.

2. Specify the government agency owning the radio.

3. Obtain the written approval of the Equipment R&D Superintendent.

4. Obtain the written approval of the Radio Communications Specialist.

The following conditions will apply to all such installations:

1. Radio technicians will not install, maintain, or remove the equipment.

2. The installation and operation of the equipment shall not damage or interfere with the normal operation of maintenance of any Department-owned radio and associated equipment that is installed in the vehicle.

3. The Department will not license the equipment; it must be included in the FCC license issued to the governmental agency providing the radio.

Privately-Owned Radios in Department Vehicles.

Privately-owned mobile radio equipment is generally not authorized in state vehicles; however, exceptions may be made with the email approval of the Equipment R&D Superintendent and the Radio Communications Specialist. The Department and DOT/BNEDI radio technicians shall not install nor maintain privately-owned mobile radios. The installation and operation of such equipment must not interfere in any way with the operation and maintenance of any assigned mobile radio and associated equipment that may be installed in the state vehicle.

**Additional Services**

The following purchasing services may be available. Requests for services must be approved by the DNR Radio Communications Specialist.

1. Supplying accessories and adapters not originally provided with the radios.

2. Installation of any electronic siren not installed with a radio.

## DNR Repeater Channels and Systems

The area relay channels are DNR-owned and maintained radio systems designed to provide communications throughout Wisconsin. The relay channels are divided into smaller overlapping area systems, each of which provides local dispatching service and coordination for all DNR functions.

The area relay channel is designed for long range communications within an area system. A transmission from one unit on the

relay channel is not received directly by the other units. Rather, a transmission is received by the area relay station (repeater) that retransmits (relays, repeats) the signal automatically to all other units. The mobile or portable unit thus has the effective range of a base station. Dispatching is done on the relay channel, giving the dispatcher the greatest possible coverage. To minimize the problem of interference caused by the overlap of the relay channel between adjacent systems, four different frequencies, designated Green (GRN), Yellow (YEL), Blue (BLU) and White (WHI) are used in alternating patterns across Wisconsin. Within a given area, only one of these channels will be the relay channel for that area radio system. More information including the repeater map can be found on the radio communications intranet page.

DNR BROWN repeater is an analog repeated frequency, utilized primarily for Parks and/or Forestry communications, and is designed to provide communications within specific properties. A typical system consists of a base station with mobile and portable units assigned to a specific property. The base station is controlled from a primary office within the property and provides local dispatching service. Mobile and portable units can communicate either with the local dispatcher or directly with other mobile and portable units within range. Some properties may also have additional secondary dispatch points.

DNR (GREEN, YELLOW, BLUE, and WHITE) GOLF repeaters are analog repeaters that are strategically located in some parts of the state for project fire and event use, and in suitcase repeaters. These repeaters must be turned on before they can be used. Suitcase repeaters must be set up with and antenna and power source, and fixed repeaters must have the repeat function activated; this is typically done by transmitting a unique DTMF code to the repeater. Golf repeaters must be turned off after the incident.

**DNR Repeater Naming Convention**

Use the preface DNR followed by the tower location name. For example: DNR Baraboo for the Baraboo Repeater, or DNR Neillsville for the repeater near Neillsville. For sites with two repeaters, use the name followed by the dispatch groups. For example:

DNR LOOKOUT WOD would be “DNR Lookout Woodruff”
DNR LOOKOUT PST would be “DNR Lookout Peshtigo”

Here are two sample transmissions using the DNR Repeater naming convention:
“Dodgeville Dispatch, Boscobel 1, DNR Blue Mounds”……..”Go ahead Boscobel 1”…… “on scene of Goose Creek fire”…… “Copy Boscobel 1 on scene”

“Dodgeville Dispatch, Boscobel 1, DNR Oxford Dodgeville”……”Go ahead Boscobel 1”…….. “beginning mop up” …….. “Copy, beginning mop-up”

**DNR Tactical Channels**

DNR RED is for short range, unit to unit communications. The primary use and priority for this channel is tactical fire communications.

DNR BROWN is an alternative simplex frequency for initial attack fire. Do not use this frequency near a park or forest that uses a DNR BROWN repeater.

DNR TAN is a Project 25 digital channel used primarily for Parks, but may be used by other programs to conduct public safety activities.

DNR PINK is a Project 25 digital channel used primarily for forestry and conservation tactical communications in the state.

DNR AIRGRD is primarily used for air to ground communications.

DNR PURPLE provides short range, unit to unit communications. Law enforcement is the primary user of this channel. As a last alternative, it can be used for tactical fire communications.

DNR GRAY is a Project 25 digital channel. This channel is used for Law Enforcement only in encrypted mode.

DNR GREEN1, GREEN2, YELLOW1, YELLOW2, BLUE1, BLUE2, WHITE1, and WHITE2 are simplex frequencies whose primary purpose are as the transmit and receive frequencies of our digital repeater network so misuse would interfere

with the DNR towers and repeaters. Use should be restricted to when all other tactical frequency options have been exhausted. Notify the dispatcher when planning to use them.

Example: Use of these simplex frequencies in or near dispatch zones of the same color will cause interference. So to illustrate, in Necedah, which is in a Blue Dispatch Group and near both a Green Dispatch Group and White Dispatch Group (refer to WI DNR Digital Repeater Sites Map), do not use DNR Blue1 and Blue2, DNR Green1 and Green2, or DNR White1 and White2.

## STATE PATROL AND COUNTY CHANNELS

DNR law enforcement officers are authorized to operate on the State Patrol channels. The State Patrol provides 24 hour dispatch service on a statewide basis.

All communications on the State Patrol channels must be limited to official law enforcement business. All personal messages and messages not essential to official Department law enforcement business are prohibited. DNR channels shall be used for all traffic that does not require contact with the State Patrol personnel.

Each State Patrol post has a primary dispatch channel on WISCOM and several alternate channels. Additionally, there are WISCOM talkgroups that are discussed in the WISCOM section. A full listing of statewide WISCOM talkgroups is available in the DNR Radio Communications Program Guidebook.

### Radio Etiquette

Always check in with dispatch when in the vehicle to make the best use of the radio. Make a habit of listening before you call in; you may be interrupting traffic. Organize your message before calling the dispatcher. Give the dispatcher all the information, rather than have him/her request it and begin a see-saw transmission that ties up the airways. In case of emergency traffic, go ahead with your call to get the dispatcher's attention. Limit traffic on State Patrol channels to an absolute minimum to permit other cars with emergency traffic to get through. It is recommended that a radio user only scan a maximum of 3 three channels at a time.

To communicate on the area relay net, refer to the DNR mobile relay tower sites map (available on the intranet) and find your approximate location. Identify the DNR tower closest to your location and switch your radio to that channel. Communication is now possible with other units within that relay tower's area or dispatch.

Calling procedure on the area relay nets should identify the net color (GREEN, YELLOW, BLUE, or WHITE) and the letter the Multiple Tone Selector is set on (A, B, C, D, E, F, etc…). To avoid misunderstanding, use the fire phonetic alphabet to refer to the relay tones:

The law enforcement phonetic alphabet should be used for spelling out unusual names of persons or locations. They should always be given as: Adam, Boy….. not as "A" as in Adam, or "B" as in Boy, etc.

| Fire Phonetic Alphabet | |
|---|---|
| A – ALPHA | N – NOVEMBER |
| B – BRAVO | O – OSCAR |
| C – CHARLIE | P – PAPA |
| D – DELTA | Q – QUEBEC |
| E – ECHO | R – ROMEO |
| F – FOXTROT | S – SIERRA |
| G – GULF | T – TANGO |
| H – HOTEL | U – UNIFORM |
| I – INDIA | V – VICTOR |
| J – JULLIETT | W – WHISKEY |
| K – KILO | X – X-RAY |
| L – LIMA | Y – YANKEE |
| M – MIKE | Z – ZULU |

| LE Phonetic Alphabet | |
|---|---|
| A – ADAM | N – NORA |
| B – BOY | O – OCEAN |
| C – CHARLES | P – PAUL |
| D – DAVID | Q – QUEEN |
| E – EDWARD | R – ROBERT |
| F – FRANK | S – SAM |
| G – GEORGE | T – TOM |
| H – HENRY | U – UNION |
| I – IDA | V – VICTOR |
| J – JOHN | W – WILLIAM |
| K – KING | X – X-RAY |
| L – LINCOLN | Y – YOUNG |
| M – MARY | Z – ZEBRA |

# WISCOM AND TRUNKED RADIO SYSTEMS

## Interoperability Talkgroups

Statewide Tactical (STAC)

The statewide tactical talkgroups are available to any WISCOM user and available on any WISCOM tower statewide. The DNR is required to program these talkgroups on all trunking capable radios. These talkgroups are not for routine traffic and should be used for interoperable communications only.

- SCALL1s
- STAC2
- STAC3
- STAC4
- STAC5
- STAC6
- STAC7
- STAC8

Region Tactical (RTAC)

The RTAC Talkgroups are based on Homeland Security Council planning regions (also referred to as Wisconsin Emergency Management or WEM regions). They are available to any WISCOM user in each region. These talkgroups are not for routine traffic and should be used for interoperable communications only. The DNR is required to program these talkgroups on all trunking capable radios. A map of WISCOM Regional Talkgroups can be found in the DNR Radio Communications Guidebook.

- Southwest – RCALL11SW, RTAC12-14 SW
- Southeast – RCALL21SE, RTAC22-24 SE
- East-central – RCALL31EC, RTAC32-34 EC
- West-central – RCALL51WC, RTAC52-54 WC
- Northwest – RCALL61NW, RTAC62-64
- Northeast – RCALL41NE, RTAC42-44 NE

## WISCOM Technical Issues

The WISCOM System is managed by the Wisconsin Office of Emergency Communications. All concerns and issues with WISCOM usage or coverage should be reported to the DNR radio staff or the WISCOM Help Desk at (608) 2-WISCOM (947266).