

IOWA DEPARTMENT OF NATURAL RESOURCES

FIRE POLICY

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Effective Date: 3/30/2017

Chuck Gopp
Director/Appointing Authority

3/30/2017
Date

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The most current version of this Policy will always be the version found on the DNR website www.iowadnr.gov/fire or more specifically at <http://www.iowadnr.gov/Conservation/Forestry/Fire-Prevention/Fire-Programs>.

The *Prescribed Fire Policy* portion of this document is designed to provide direction and an overview to how Department of Natural Resources (DNR) employees plan for and implement prescribed burning activities. The *Brush Pile Burning Policy* portion of this document is designed to provide direction in the construction and burning of brush piles on state-owned and/or managed lands. The *Attachments* are integral to this policy and are necessary for its implementation. They must be utilized, not just referenced.

PRESCRIBED FIRE POLICY

Section 1: Purpose

The purpose of the Iowa Department of Natural Resources Prescribed Fire Policy is to guide the effective and safe use of fire as a tool for ecological restoration and maintenance of Iowa's natural areas on state owned, leased, or managed lands, other public lands, and private lands for which landowners seek the advice and consult of the DNR and declare their intention to use fire as a management tool. Prescribed fire is any fire ignited by intentional management actions, under specific conditions to meet defined objectives, and undertaken in accordance with a burn plan developed for that area. The use of prescribed fire contributes to the DNR goals of improving habitat and forest health by implementing fire treatments that approximate the natural ecological role of fire, and conserving resources that DNR holds and manages for the public trust.

Section 2: Scope

This policy will define the minimum requirements for both DNR-approved Burn Plans and the participation of DNR employees in developing and/or executing approved Burn Plans. This Prescribed Fire Policy requires the use of a DNR-approved Burn Plan when DNR employees and its participants are conducting prescribed burns on state-owned and/or managed lands, public lands, and private lands.

- Private lands, for purposes of this policy, include those managed under DNR habitat agreements.

A burn conducted on State-owned land that is being managed by another public entity under a formal Management Agreement does not require an approved Burn Plan; however, DNR employees may not participate in such a burn unless an approved Burn Plan is in place.

Section 3: Roles and Qualifications

DNR staff, volunteers, cooperators, and contractors (collectively "participants") participating in prescribed burning activities shall have training and experience commensurate to their involvement in the prescribed burn. Training and experience requirements will vary based on the individual's level of involvement.

Physical fitness requirements will be specified by the individual's condition of employment or determined by their supervisor where no employment condition exists. Individuals working directly on a prescribed fire should be capable of walking two miles in less than 35 minutes. Employees are responsible for informing their supervisor if they are not capable of performing that task or of any condition that may limit them in performing a job on a prescribed burn. In addition, it is the responsibility of the employee's supervisor, lead worker, or the Burn Leader to take preventive action in situations where an employee appears physically incapable of performing without risk of injury due to work demands.

Required Training and Experience

All permanent DNR employees working on prescribed burns shall successfully complete the following National Wildfire Coordinating Group (NWCG)¹ training courses¹ or other equivalent state or federal training: Basic Incident Command System (I-100 or IS-100), Fire Fighter Training (S-130), and Wildland Fire Behavior (S-190). DNR employees participating

¹ NWCG training programs and tools are used by a number of governmental and non-governmental organizations, including without limitation US Forest Service, US Fish & Wildlife Service, US Department of the Interior, many states and the Nature Conservancy.

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in prescribed burns must also complete a fire training refresher course at least once every two years. The Burn Leader shall make appropriate assignments to any participant who has not completed the above courses. Such assignments shall be based on the individual's observable or known physical condition, stated experience, level of training, and observable leadership qualities. Additional training beyond the minimum requirements may be prescribed by the employee's supervisor to build upon and enhance prescribed burning skills and to meet specific DNR needs. All participants are responsible for documenting their training, and must be able to provide proof of such training upon request of a supervisor or Burn Leader overseeing the participant.

Requirements for Writing and Approving Burn Plans

DNR supervisors will designate who will write and approve Prescribed Burn Plans (Burn Plans) based on individual training and experience level. Burn Plans will be written in accordance with the form found in *Attachment B*. Burn Plans will be reviewed by supervisors or the supervisors' designee(s); however the reviewer may not be the person who wrote the Burn Plan. All reviews should be clearly documented. An approved Burn Plan is valid for 3 years unless the plan states otherwise or the unit conditions change.

Requirements and Role of the Burn Leader

The Burn Leader is responsible for all activities relating to the on-site execution of the burn, including review of the Burn Plan, completion of the Burning Operations, Crew Briefing, and Go/No-Go Checklist (*Attachment E*). The Burn Leader shall evaluate the level of burn crew expertise needed for a particular burn and will ensure that the appropriate crew is in place prior to initiating such a burn. In addition to the minimum training required for all DNR employees participating in prescribed burns (I-100 or IS-100, S-130, and S-190), a Burn Leader must have participated in five (5) prescribed burns and served an apprenticeship under a Burn Leader on two (2) burns prior to a first assignment as a Burn Leader.

Volunteers and Cooperators

Volunteers: Non-DNR personnel will be considered volunteers if they are **not** being paid by their own employer to assist the DNR with prescribed burning. These individuals will be required to sign the appropriate volunteer forms, including *Attachment K (Volunteer Participation Waiver)*².

Cooperators: Non-DNR personnel will be considered cooperators if they are being paid by their own employer to assist the DNR with prescribed burning.

Volunteers and cooperators may be involved in burning on DNR owned and/or managed lands, or on other public or private lands, when DNR personnel are acting in leadership capacities for the burn, as long as they agree to work under the supervision and direction of the Burn Leader. The Burn Leader shall have the right to exclude any person, including non-DNR personnel, from participating in a burn, if in the Burn Leader's sole opinion the participant is not following this Prescribed Fire Policy or if their participation may otherwise detrimentally impact their own safety, the safety of the burn crew, the public's safety, or Burn Plan implementation.

Section 4: Training

DNR shall provide the requisite training and opportunities for experience to its employees as part of their professional development plans when prescribed fire participation is a part of an employee's position description or is otherwise an expected activity for that employee. This Prescribed Fire Policy encourages the different sections, bureaus, and divisions of the DNR to coordinate their interests in and share their respective expertise with regard to prescribed fire.

Section 5: Safety Equipment

The safety of all participants is paramount in this Policy. All DNR personnel working on prescribed burns near open flames shall have access to and wear the following National Fire Protection Association (NFPA) or NWCG approved Wildland Firefighter Personal Protective Equipment (PPE):

² *Attachment K (Volunteer Participation Waiver)* is to be retained by the Burn Leader with the Burn Plan and implementation notes and documents.

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1. Hardhat (not Fireman's Helmet)
2. Goggles/Eye Protection
3. Fire Shirt
4. Leather Gloves
5. Fire Pants: Jean or "BDU" style (may be large enough to be used as an "overpant") or Fire Coveralls
6. Fireline Boots - minimum requirements: minimum of 8-inch high, lace-type exterior, all leather uppers (no synthetic collars or panels), work boots with Vibram-type (oil resistant, non-slip, melt-resistant) soles and a defined heel. No steel toes. The 8-inch height requirement is measured from the bottom of the heel to the top of the boot.

Other participants not wearing the protective gear listed above may participate directly on the burn provided they wear 100% cotton clothing, leather boots (non-steel toe), leather gloves, and appropriate head and eye protection.

All participants wearing clothing made of synthetic fibers (e.g., nylon, lycra,) or common permanent-press materials shall be **prohibited** from working near open flames from the time the prescribed burn is initiated until the Burn Leader declares that the fire is extinguished. These materials may melt or stick to the skin when exposed to flame or heat.

All participants shall have access to drinking water. Individual fire approved drinking water containers shall be made available so participants are not required to leave their work activity in order to obtain access to water.

Any participant that will be working in the road right-of-way or as a traffic control "flagger" is required to wear a Class 3 high-visibility safety vest. *Note that prescribed fire participants acting in roles that may directly expose them to flame, fire, heat, and/or hazardous materials are exempted from wearing high-visibility safety vests.*

When prescribed fire activity is expecting to put smoke on a road or there is a road adjacent to the burn, signage will be required and "stop/slow" paddles manned by assigned "flaggers" may be required. *See Attachment D – Smoke Management and Traffic Control Guidelines for Prescribed Burns, for specific details.*

The Burn Leader shall assign radios, cell phones, or any other equipment as necessary.

Section 6: Burn Plans

The Burn Plan is an important document in the fire-use planning process that is completed prior to each specific prescribed burn. It is a field document that sets forth the details for conducting a particular burn treatment on a specified site to ensure the burn will be ecologically and technically feasible given the specific characteristics of the site. The details that are included in this plan are those necessary to conduct a safe and effective burn that will accomplish the specific goals and objectives specified in the Burn Plan.

This Burn Plan may be adapted in the field on the day of the burn under circumstances that require modification to insure safety or the achievement of the stated goals, provided the Go/No Go Checklist is satisfied. Modifications must be clearly documented and justified. The Go/No Go Checklist is discussed more in Section 7 of this Prescribed Fire Policy.

A Prescribed Burn Plan shall be used for all DNR led prescribed burns (*All elements of Attachment B must be present in the plan*). The Burn Plan must be adhered to during the burn to the extent practicable and must include, at a minimum, the following information, which is discussed in detail below:

1. area background information
2. area/site objectives of the burn
3. site-specific fire operations
4. burn plan execution

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Area Background Information

This portion of the Burn Plan will include a general description of the area, including location, topography, vegetation, conservation targets, and species of concern. A Burn Plan may be specific to a burn unit or to a whole property comprised of several burn units.

Area/Site Objectives of the Burn

The Burn Plan shall state an objective or group of objectives that the Burn Plan should achieve. The objectives will reflect the DNR's conservation interest at the site, which specifically identifies how the prescribed fire will improve area biodiversity, overall ecological health, and/or reduce hazardous fuels. These goals will assist the Burn Plan writer in defining management actions that will contribute to the goals and will assist the Unit Manager in monitoring how successful management has been. Ecological goals should focus on the desired results of fire management.

Site-Specific Information for Fire Operations

This section of the Burn Plan will address how the burn is to be accomplished. It should outline logistics that pertain to all burn units and should include both background information about the unit and the objectives outlined above.

Logistics addressed here should include:

- ◆ Target dates for the burn to be conducted
- ◆ Location of the burn, as shown on high-quality maps that will orient the reader, and fully illustrate the features of the burn. GIS maps are appropriate. The necessary maps shall include sufficient detail to show the following:
 - location of burn unit
 - property boundaries
 - access and trails
 - burn unit boundary
 - smoke sensitive sites (housing, livestock facilities, hospitals, businesses, schools, airports, nursing homes, roads, etc.) - *See Attachments C and D*
 - all above ground utilities and other hazards
 - Species of Concern: plant and animal
 - alternate local water sources/dry hydrants
 - firebreaks
 - adjacent land use/fuels
 - proposed ignition pattern and sequence
- ◆ Will smoke be on or adjacent to the road and what will you do to mitigate that situation - *See Attachment D*
- ◆ Minimum number of participants needed
- ◆ Equipment necessary to facilitate the burn
- ◆ Firebreak preparation (where, how, and who)
- ◆ Preferred wind and weather conditions (temperature, wind speed, wind direction, and relative humidity)
- ◆ Radio frequencies to be used
- ◆ Communication needs, including:
 - notifications required by law
 - notifications to local residents
 - notifications to the Environmental Services Division's local field office
 - notifications to emergency responders who may be called upon to assist
 - location and phone number of nearest medical emergency facility
- ◆ Special safety concerns or regulations not otherwise addressed in the Burn Plan.
 - Primary constraints to burning operations at the unit, including smoke management problems, legal restrictions or requirements, need for permits, hazards, public relations problems, and proximity to neighbors, and how these have been addressed. This section should also consider special requirements for federal lands or lands subject to special agreements and easements.
 - Significant hazards and limitations associated with the burn unit, including adjacent fuels, topography, size and fire treatment objectives.
- ◆ Smoke Management Plan - *See Attachment C*
- ◆ Contingency Plan in the event the fire escapes - *See Section 9*

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- ◆ Recommendations for post-burn reporting and monitoring.

Burn Plan Execution

This portion of the Burn Plan will describe how the Burn Leader will execute the approved Burn Plan and complete the Burning Operations, Crew Briefing, and Go/No-Go Checklist, as described in Section 7 of this Prescribed Fire Policy.

Section 7: Burning Operations, Crew Briefing and Go/No-Go Checklist

The Burning Operations, Crew Briefing, and Go/No-Go Checklist is a document to be used prior to initiating a burn, for the purpose of ensuring that the proper protocol is being followed, and as a final checklist to eliminate overlooking any important details. The Checklist also serves as an educational tool for all burn crew members to fully understand their specific duties, the Burn Plan, procedures, smoke management issues, and safety measures. The Burn Leader shall use the Burning Operations, Crew Briefing, and Go/No-Go Checklist provided in this Prescribed Fire Policy (*See Attachment E*) prior to every burn.

The Burn Leader shall assess factors on the day of the burn that may influence fire behavior, such as weather, quality of the crew, and allocation of emergency resources. The Burn Leader will assess the fire resources on the day of the burn to determine if the appropriate resources are available to the burn, and document those determinations in the Burning Operations, Crew Briefing, and Go/No-Go Checklist.

If any element of the Go/No-Go portion of the Checklist is not satisfied, the Burn Plan shall not be deemed approved by the DNR, and either the Burn Plan must be mitigated to satisfy the Go/No-Go portion of the Checklist, or the burn must be postponed. Any burn-day mitigations to the Burn Plan must be justified and documented.

Burn Bans Require a Permit

The Iowa Department of Public Safety - State Fire Marshall Division is the issuing authority for burn bans in the State of Iowa. When burn bans are in place, DNR prescribed burning activities may not be conducted by DNR staff, cooperators, volunteers, or contractors participating on state-owned and/or managed lands, other public lands, or private lands unless they have been issued a permit by the local fire chief. When conducting day of the burn notifications, advise the contact that a permit has been issued by the local fire chief to conduct the prescribed fire.

To access a list of Iowa counties under an active burn ban go to: <http://www.dps.state.ia.us/fm/main/burnbans/>

Fire Weather Watches and Red Flag Warnings

DNR prescribed burning activities under a DNR-approved Burn Plan may be conducted by DNR staff, volunteers, cooperators, and contractors participating on state-owned and/or managed lands, other public lands, or private lands during Fire Weather Watches and Red Flag Warnings if the wind and weather conditions outlined in the Burn Plan are within prescription of the site specific wind and weather conditions at the location of the burn unit, and are forecasted to stay within that prescription until mop-up is complete.

For Fire Weather Watches and Red Flag Warnings go to: <http://www.crh.noaa.gov/dmx/>

Section 8: Post Burn Evaluation

The Post Burn Evaluation (*Attachment F*) shall be completed prior to leaving the burn unit. The Post Burn Evaluation gathers actual, on-site summary data of the prescribed fire. The completed form is to be retained in the Unit files with the Burn Plan. The Post Burn Evaluation shall include the following information, which is discussed more thoroughly below:

1. operational data
2. on-site weather monitoring and vegetation conditions
3. fire summary

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Operational Data

The Burn Leader shall summarize the operational data related to the burn, including the date of the burn, time of ignition, time ignition is completed, time mop-up is completed, acres burned, name of Burn Plan writer, name of Burn Leader, Apprentice Burn Leader, and the total number of personnel in the crew.

On-Site Weather Monitoring and Vegetation Conditions

The Burn Leader shall summarize the *on-site* weather and vegetative conditions, including the vegetation stage, wind speed, wind direction, temperature, and relative humidity. On-site wind speed, wind direction, relative humidity, and temperature are to be monitored and recorded at a minimum of once prior to conducting the test burn, and once following the burn before leaving the unit. On-site weather monitoring at intervals throughout the burn is recommended but is not mandatory.

Note: Tools used to conduct on-site weather monitoring may vary. The two recommended options to meet this requirement are a fire weather instrument kit, also referred to as fire belt weather kit, or an electronic weather instrument such as Kestrel®.

Fire Summary

The Burn Leader shall summarize the conditions and quality of the fire, including type of fire used, fire escapes or problems of note, smoke behavior and impacts, immediate observed results of the prescribed burn, and any recommendations for future burning or management.

Since prescribed fire is a tool used for the management of resources, the Unit Manager should use this data to summarize the short and long-term post-burn fire effects in relation to burn objectives on species and community responses. This data and the effects to the burn unit should be considered in future management of the unit or similar units.

Section 9: Wildfires, Escaped Prescribed Burns, and Reporting Requirements

Any fire, regardless of ignition source, which is unplanned (other than minor slopovers), has escaped control, or is not authorized under state law or local ordinance, is considered a wildfire. An escaped fire is when there is fire outside the prescribed burn perimeter that requires additional resources beyond those planned to be on-site in the Burn Plan, or which causes significant property damage. Fire that crosses the fire line, but is contained with resources on-site, is not an escaped fire.

Every DNR-approved Burn Plan must include a *Contingency Plan* (e.g., trigger points, water sources, other firefighting resources available, emergency contact numbers, rendezvous locations, safety zones) that addresses what actions must be taken in the case of a wildfire resulting from the DNR's activities. In the event of unplanned or escaped fire, once the emergency has passed, and the fire is contained, the Burn Leader will:

- notify his/her immediate supervisor of the event.
- make every attempt to make initial contact with all affected landowners the day of the escape.

Within 24 hours of containment, the Burn Leader will provide the supervisor and the Forestry Bureau – Fire Supervisor with copies of the following:

- the Burn Plan (*Attachment B*)
- the Burning Operations, Crew Briefing and Go/No-Go Checklist (*Attachment E*)
- the Iowa Wildland Fire Report Form (*Attachment J*)
- any other supporting documentation that may be necessary to investigate the event or be provided to legal counsel if needed.

Prescribed Fire Accomplishment Reporting

Bi-annually, at the end of June and November, each Burn Leader is responsible for preparing and submitting a seasonal report showing their prescribed burn accomplishments. The Iowa Prescribed Fire Report Form (*Attachment I*) or the

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Iowa Wildfire and Prescribed Fire Reporting Spreadsheet (available at www.iowadnr.gov/fire) shall be used to report the data for each prescribed fire. This report should be sent to Forestry Bureau– Fire Supervisor.

Wildfire Reporting

Generally, wildfire reports are submitted by the responding fire departments. However, if any DNR activities result in a wildfire, the Burn Leader shall complete the Iowa Wildland Fire Report Form (*Attachment J*) or the Iowa Wildfire and Prescribed Fire Reporting Spreadsheet (available at www.iowadnr.gov/fire) and submit it to the Forestry Bureau– Fire Supervisor.

Section 10: Special Considerations for DNR Assistance on Private Lands and Other Public Lands

DNR supports and encourages the use of prescribed fire on private lands and other public lands when used for habitat or forest management goals which are consistent with the State Wildlife Action Plan or the Forest Resource Assessment and Response Plan. Burning on private lands and other public lands enhances DNR activities on adjacent lands under its jurisdiction, allows for valuable demonstration of its benefits, and promotes natural and native habitat development.

DNR personnel may assist in the planning, permitting, execution, and report writing for prescribed burns conducted on private lands and other public lands. An approved Burn Plan (*all elements of Attachment B must be present in the plan*) is required for DNR staff to participate in any prescribed burn, the prescribed burn must be led by a qualified Burn Leader, and the execution of the burn must otherwise conform to the requirements of this Prescribed Fire Policy. In addition, for DNR to conduct prescribed burns on private or other public lands, DNR must inform the landowner that they are liable for their own acts, and should encourage landowners to contact their insurance providers to discuss whether damages arising from or related to prescribed burns are covered within their policies. The State and DNR shall be liable only for their own acts, and only as legally allowed under the Iowa Constitution and Iowa Code chapter 669. The DNR in no way waives its sovereign immunity or discretionary function defense by participating in prescribed burns on private or other public lands.

Nothing in this Policy prohibits DNR personnel from participating in prescribed burns on private or other public lands on their own time. However, in doing so, those DNR personnel are not acting in an official capacity and are not, therefore, protected from liability by the Iowa Tort Claims Act.

Section 11: Smoke Management

Air Quality

The DNR shall strive to ensure that the goals of the Clean Air Act are satisfied in DNR led prescribed burns. Practices to maintain air quality during prescribed burns are explained in detail in the Smoke Management Plan and Procedures (*Attachment C*).

Each DNR-approved Burn Plan shall include a Smoke Management Plan that addresses the following elements:

1. Actions to minimize smoke impacts
2. Smoke Dispersion Map
 - predicted smoke behavior
 - expected smoke dispersion area
 - smoke sensitive sites within the smoke dispersion area
3. Notifications
 - Pre Burn-Season Notification: The DNR shall provide pre burn-season notification to adjacent land owners and smoke sensitive sites in the area
 - Identified Smoke Sensitive Site Notification: In some cases, it may be appropriate to provide a follow-up notification closer to the anticipated burn date to adjacent landowners and other smoke sensitive sites
4. Smoke Monitoring

These elements and other recommendations for basic smoke management practices are described in more detail in Smoke Management Plan and Procedures (*Attachment C*).

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Traffic Control Management

When prescribed fire activity is expecting to put smoke on a road or there is a road adjacent to the burn, signage will be required and “stop/slow” paddles manned by assigned “flaggers” may be required. *See Attachment D - Smoke Management and Traffic Control Guidelines for Prescribed Burns* for specific details.

Section 12: Legal Requirements

DNR prescribed burns shall comply with all applicable federal, state, and local laws, ordinances, regulations, or emergency declarations. A discussion of relevant legal considerations and a list of relevant laws are in *Attachment H* of this Policy.

Section 13: Retention Schedule

As with Wildlife and Forest Management Plans, Burn Plans and their related documentation and materials are to be retained for 5 years from the end of the activities fiscal year. At a minimum, they are to be retained in the office for 2 years, after which time they can then be moved to the state records center for the remaining 3 years. They may be destroyed after those 5 years.

BRUSH PILE BURNING POLICY

Section 1: Purpose and Scope

The purpose of the Brush Pile Burning Policy is to provide field staff with guidance in safely assembling and burning piles of natural landscape waste that is accumulated on state owned, leased, or managed lands.

Section 2: State Laws Governing Burning Activities

Brush pile or landscape waste burns are classified as “open burning” under Iowa law. The burning of landscape waste is exempt from the general open burning prohibition (567 IAC 23.2(1)) through a specific landscape waste exemption (567 IAC 23.2(3)“d”). However, there are certain requirements that must be met to comply with this exemption. Those requirements are:

1. The landscape waste must have originated on the premises.
2. Large volumes of landscape waste produced during clearing, grubbing, and construction operations (this would refer to very large fuel loads consisting of root balls, whole trees, etc. that would result in long burning periods and long term smoldering) shall be limited to areas located at least one-fourth mile from any building inhabited by other than the landowner or tenant conducting the open burning.

Note: If there is not a one-fourth mile separation distance, a variance can be applied for from the Air Quality Bureau. This variance application will require approval from all residents within that one-fourth mile separation distance.

The burning of brush piles or landscape waste that result from an officially declared emergency condition (disaster) are exempt from the general open burning prohibition under a specific disaster rubbish exemption (567 IAC 23.2(3)“a”). During disaster response and cleanup, you should contact your local ESD field office prior to establishing your pile to ensure that the burn site is approved. In many cases, FEMA will want a letter from the local ESD field office stating that the burn site was approved and operated in compliance with state regulations prior to reimbursing DNR for costs incurred during the cleanup.

Brush Piles are to consist of landscape waste only. “Landscape waste” is defined as any vegetable or plant wastes except garbage. The term includes trees, tree trimmings, branches, stumps, brush, weeds, leaves, grass, shrubbery and yard trimmings (rule 567-20.2).

Section 3: Training

All DNR employees implementing brush pile burns shall have successfully completed the following National Wildfire Coordinating Group (NWCG)³ training courses or other equivalent state or federal training: Basic Incident Command System (I-100 or IS-100), Fire Fighter Training (S-130), and Wildland Fire Behavior (S-190). DNR employees are responsible for documenting their training, and must be able to provide proof of such training upon request of a supervisor or Burn Leader overseeing the participant.

Section 4: Safety Equipment

All DNR personnel working on brush pile burns near open flames shall have access to and wear NFPA or NWCG approved fire resistant clothing or 100% cotton clothing, leather gloves, leather boots, and appropriate head and eye protection.

All participants wearing clothing made of synthetic fibers (e.g., nylon, lycra) or common permanent-press materials shall be **prohibited** from working near open flames from the time the burn is initiated until the burner declares that the fire is extinguished. These materials may melt or stick to the skin when exposed to flame or heat.

³ NWCG training programs and tools are used by a number of governmental and non-governmental organizations, including without limitation US Forest Service, US Fish & Wildlife Service, US Department of the Interior, many states and the Nature Conservancy.

Section 5: Smoke Management

The DNR will take appropriate and reasonable actions to keep smoke away from smoke sensitive sites. Examples of smoke sensitive sites include: roads, residential dwellings, businesses, schools, airports, nursing homes, childcare facilities, livestock facilities, and hospitals.

If the National Weather Service (NWS) has issued an Air Pollution Alert the day before or the day of the burn, the Brush Pile will not be ignited. The burner may wish to contact the DNR Air Quality Bureau (AQB) air monitoring staff the morning of the burn to determine if air dispersion will improve enough to burn in a particular location.

DNR Air Quality Bureau websites

- <http://www.iowadnr.gov/Environmental-Protection/Air-Quality/Monitoring-Ambient-Air> Provides Iowa's current air quality, including air quality information at specific locations, and a map of Iowa's air monitoring network. Or call 515-725-9500 and ask to speak to Air Monitoring staff.
- www.iowadnr.gov/air For general information on air quality. Or call 515-725-9500.

Section 6: Preparing for a Brush Pile Burn

No formal written burn plan will be required for brush pile burning; however the following guidance must be adhered to:

- All participating personnel will have completed required NWCG training.
- Brush pile consists of landscape waste only – no prohibited materials.
- Adjacent fuels will be unavailable (non-flammable) or have sufficient moisture content to not ignite from radiant heat or falling embers (snow-covered, high moisture content, gravel, bare mineral, etc.).
- On-site weather conditions will be adequate to provide suitable lift and dispersion of smoke away from roads, houses, and other smoke sensitive sites.
- Locally required permits will be obtained.
- Local authorities will be notified of the location and expected duration of the brush piles being burned.
- Personnel will have a cell phone or radio and be able to communicate directly with local authorities and emergency responders.
- Equipment needed to complete the burn must be identified, available on-site, and in working order prior to ignition.
- Holding, patrolling, and mop-up must be scheduled.

Section 7: Brush Pile Burn Operations - Go/No-Go Checklist

When conducting Brush Pile Burns on DNR owned, leased, or managed lands, the burner will utilize the Brush Pile Burn Operations - Go/No-Go Checklist (*Attachment G*) prior to and through the completion of the burn. This checklist is used to ensure that proper protocol is being followed, and as a final checklist to eliminate overlooking any important details.

If any element of the Go/No-Go portion of the Checklist is not satisfied, the burn must be postponed.

Burn Bans

The Iowa Department of Public Safety - State Fire Marshall Division is the issuing authority for burn bans in the State of Iowa. When Burn Bans are in place, brush pile burning activities may **not** be conducted on state-owned and/or managed lands.

To access a list of Iowa counties under an active burn ban go to: <http://www.dps.state.ia.us/fm/main/burnbans/>

Fire Weather Watches and Red Flag Warnings

DNR brush pile burning activities may **not** be conducted on state-owned and/or managed lands during Fire Weather Watches and/or Red Flag Warnings.

For Fire Weather Watches and Red Flag Warnings go to: <http://www.crh.noaa.gov/dmx/>

Section 8: Wildfires, Escaped Brush Pile Burns, and Reporting Requirements

Any fire, regardless of ignition source, which is unplanned (other than minor slopovers), has escaped control, or is not authorized under state law or a local ordinance, is considered a wildfire. An escaped fire is when there is fire outside the brush pile burn perimeter that requires additional resources beyond those planned to be on-site, or which causes significant property damage. Fire that stays on state-owned and/or managed lands, and is contained with resources on-site, is not an escaped fire.

Every burner must consider contingencies (e.g., trigger points, water sources, other firefighting resources available, emergency contact numbers, rendezvous locations, safety zones) that address what actions must be taken in the case of an escape or wildfire resulting from the DNR's activities. In the event of unplanned or escaped fire, once the emergency has passed and the fire is contained, the burner will:

- notify his/her immediate supervisor of the event.
- make every attempt to make initial contact with all affected landowners the day of the escape.

Within 24 hours of containment, the burner will provide the supervisor and the Forestry Bureau – Fire Supervisor with copies of:

- the Brush Pile Burning Operations and Go/No-Go Checklist (*Attachment G*)
- the Iowa Wildland Fire Report Form (*Attachment J*)
- any other supporting documentation that may be necessary to investigate the event or be provided to legal counsel if needed.

PRE BURN-SEASON CHECKLIST

Wildlife Unit/Park/Forest: _____

Burn Unit Name: _____

- Write Burn Plan
- Write Smoke Management Plan
- Document that the Burn Plan has been reviewed and approved
- Pre Burn-Season Notification completed
 - Adjacent Landowners
 - Smoke-Sensitive Sites
 - Environmental Services Field Office
- Identify participating staff
- Verify that staff are trained to Fire Policy standards
- Verify that staff have appropriate personal protective equipment
- Verify that fire equipment and tools are functional

Reminder: Bi-annually, at the end of June and November, submit ***Iowa Prescribed Fire Report Form*** or Spreadsheet (*Attachment I*) to the Forestry Bureau – Fire Supervisor.

Pre Burn-Season Notifications

The DNR shall provide pre burn-season notification to adjacent land owners and smoke sensitive sites in the area. The DNR shall determine the best notification method for the affected area and shall establish how far in advance the pre burn-season notification shall occur.

- Methods may include, but are not limited to: press releases, radio or TV announcements, newsletter articles (electronic or hard-copy), website postings, in-person notification, phone notification, USPS notification, e-mail notification or hand-delivered notification.
- The DNR shall also coordinate to the extent practicable with the immediate Environmental Services Division (ESD) Field Office to notify the field office prior to the burn. This notification ensures that field office staff is knowledgeable of the burn and can work cooperatively with the burn crew and the public if the field office receives complaints.

Example of Pre Burn-Season Notification:

The following is intended as an example of a **direct mailing to neighbors and holders of easements on DNR lands** preceding a prescribed burn. This is intended only as an example and can be modified as necessary. These direct mailings should be issued roughly 30 days prior to the planned date of the burn.

Using DNR Letterhead

Name

Address1

Address2

City, State Zip

Date

Re: Department of Natural Resource Prescribed Fire Activity – Spring 2017

Dear Sir or Madam:

The purpose of this letter is to inform neighbors and holders of easements on Department lands that the Department plans to conduct management activities, including the use of prescribed (i.e., Controlled) fire, at the following locations this spring:

Location name/description

If you have any questions or concerns you may contact the area manager:

DNR Fire Policy- Attachment A

Area manager contact information

Sincerely,

The following is intended as an example of a **press release** preceding a prescribed burn. This is intended only as an example and can be modified as necessary. The press release should be issued at least 5 days prior to the planned date of the burn.

The Iowa Department of Natural Resources will be conducting a prescribed burn on *(date)* at *(name of site)*. The site is located *(give a general description that the general public will understand such as 4 miles north of Manchester and 1 mile east of Highway 13)*. They plan to begin the burn at *(time)* and should finish by *(time)*. The purpose of the burn is to *(brief description of the reason for burning this particular site)*. Should weather conditions be unfavorable for a burn it will be postponed *(if an alternate burn date is known it can be included here)*. If you have any questions about the prescribed burn you can contact the DNR at *(your phone number)*.

Example of Environmental Services Field Office Pre-Burn Season Notification:

The ESD field office that covers the county in which the prescribed burn will take place must be notified prior to the burn season with a list of planned burns for the upcoming season. If there are any questions regarding the notification contact the appropriate Field Office <http://www.iowadnr.gov/fieldoffice>.

Note: You may list all of the burn units that you have planned and scheduled for the season that are located in the field offices jurisdiction.

Please include the following information in your field office notification:

Date:

Contact Name:

Work Unit:

Phone: (office) (cell)

Wildlife Unit/Park/Forest:

Burn Unit Name:

County:

Location (Section, Township, Range):

Planned Acres:

Approx. Burn Date(s):

PRESCRIBED BURN PLAN

Wildlife Unit/Park/Forest: _____

Burn Unit Name: _____ County: _____

Location (Section, Township, Range): _____ Burn Unit Acres: _____

Latitude/Longitude (<http://itouchmap.com/latlong.html>): _____

Plan Prepared by:

Print Name: _____

Signature: _____ Date: _____

Reviewed and Approved by:

Print Name: _____

Signature: _____ Date: _____

A. Background Information

History of previous burn management:

Topography: _____

Vegetation description (*target species*):

Status of Threatened or Endangered Species (*refer to Attachment H*):

B. Objectives

Objectives of the burn (*clearly state*):

C. Site Specific Information

Target burn dates (*range*): _____

Temperature		Relative Humidity		Wind Speed		Wind Direction	
Min	Max	Min	Max	Min	Max	Primary	Alternate

Unit to be burned (*attach map or aerial photo*):

Attached maps will include the following:

- Location of site within the county
- Property boundaries
- Access and Trails
- Burn Unit Boundary
- Smoke Sensitive Area

DNR Fire Policy- Attachment B

- All above ground utilities and other hazards
- Species of Concern (plant/animal)
- Alternative local water source/dry hydrants
- Firebreaks
- Adjacent land use/fuels
- Proposed ignition pattern and sequence

Are you planning to put smoke on the road or is there a roadway adjacent to the burn unit?

Yes: Who owns the roadway? **Federal** **State** **County** **Municipality** **Private**
See Scenario 2 or 3 in Appendix D – Smoke Management and Traffic Control Guidelines for Prescribed Burns

No: *See Scenario 1 in Appendix D – Smoke Management and Traffic Control Guidelines for Prescribed Burns*

Minimum # of Personnel: _____

Equipment needed:

Firebreak Preparation (where, how, and who):

Preferred wind and weather conditions:

Communication needs:

Radio Frequencies to be used: _____

Special Regulations; permits needed; etc.:

Potential hazards/Safety concerns:

Smoke Management Plan *(refer to Smoke Management Procedures and Guidelines – Attachment C and Attachment D):*

Contingency Plan:

Mop-Up Instructions:

DNR Fire Policy- Attachment B

D. Notifications

Pre Burn-Season Contacts:

Contact	Location	Phone #	Who Will Notify?
Environmental Services Division Field Office			
Land Owners/Local Cooperators			
Smoke Sensitive Sites			

*Guidelines for notifying adjacent landowners and other potential downwind receptors are explained in *Attachment C – Smoke Management Procedures*.

Day of Burn Contacts:

Contact	Location	Phone #	Who Will Notify?
Public Safety Com. Center (<i>Dispatch</i>)			
Land Owners/Local Cooperators (<i>as requested</i>)			
Smoke Sensitive Sites (<i>as requested</i>)			

Emergency Response Notifications

Contact	Location	Phone #	Who Will Notify?
Fire Department			
Public Safety Com. Center (<i>Dispatch</i>)			
Medical Emergency Facility			
National Weather Service			
Supervisor			
Alternate Supervisor			
Bureau Chief			

SMOKE MANAGEMENT PLAN AND PROCEDURES

Smoke management is becoming a larger concern with respect to public health and environmental quality. The DNR shall strive to ensure the goals of the US Clean Air Act as enacted through the DNR's regulatory authority are satisfied in these natural resource burns. More information on the Clean Air Act is available at <https://www.epa.gov/clean-air-act-overview/plain-english-guide-clean-air-act>.

Smoke Management Plan (Basic Smoke Management Practices)

Each DNR prescribed burn plan (Burn Plan) shall include a smoke management plan that describes the basic smoke management practices to be employed for the prescribed burn. The designated Burn Leader shall ensure that all DNR staff, volunteers and contractors participating in the prescribed burn adhere to the smoke management plan.

Each smoke management plan included in a DNR Burn Plan shall address the following elements:

1. Actions to minimize smoke impacts
2. Smoke dispersion map, including:
 - Predicted smoke behavior
 - Expected smoke dispersion area
 - Smoke sensitive sites within the smoke dispersion area
3. Notifications
 - Pre burn-season notifications
 - Identified Sensitive Site notifications
4. Smoke monitoring

1. Actions to minimize smoke impacts

The DNR will take appropriate and reasonable actions to keep smoke away from smoke sensitive sites. Examples of smoke sensitive sites include: residential dwellings, businesses, schools, airports, nursing homes, childcare facilities, livestock facilities, hospitals, and roads. The Burn Plan should describe how smoke impacts to the public will be minimized or mitigated before, during, and after the burn.

Depending on the objectives of the burn and current weather and fuel conditions, mitigation techniques may include, but are not limited to, the following:

- Reduce the fuel loading in the burn area by mechanical means
- Reduce the size of the burn area
- Use frequent, low-intensity burns to gradually reduce fuels
- Reduce the amount of fuel consumed by the fire by burning when fuel moistures for larger fuels are high
- Rapid and complete mop-up after the burn or mop-up of certain fuels.

In addition to providing notification of the burn (see #3 below), DNR may, as appropriate, include in its notification suggested actions that smoke sensitive individuals may take to minimize their exposure. Suggestions may include, but are not limited to: leaving the area during the burn, remaining indoors, avoiding rigorous activities, and avoiding exposure to other respiratory stressors.

If the National Weather Service (NWS) has issued an Air Pollution Alert the day before or the day of the burn, the Burn Leader will not burn. The Burn Leader may wish to contact the DNR Air Quality Bureau (AQB) air monitoring staff the morning of the burn to determine if air dispersion will improve enough to burn in a particular location (see the list of resources at the end of this attachment).

2. Smoke Dispersion Map

Each Burn Plan shall include a smoke dispersion map. The purpose of the smoke dispersion map is to assist the burn plan writer, the Burn Leader and other prescribed burn participants in determining proper smoke mitigation options,

DNR Fire Policy- Attachment C

estimating smoke dispersion, establishing the public notification area, and selecting appropriate smoke monitoring activities.

The smoke dispersion map shall identify adjacent land owners and all downwind smoke sensitive sites that could experience smoke from the prescribed burn. A description accompanying the map should explain how the burn plan writer estimated the smoke dispersion area for the burn. If the burn plan writer has determined that a smoke dispersion map is not necessary, the Burn Plan shall include an explanation of why a smoke dispersion map is not needed.

Predicted Smoke Behavior

There are many methods for predicting smoke behavior from prescribed natural resource burning. As of the date of this Policy, the US Environmental Protection Agency (EPA) has not officially recommended or approved specific tools or models for estimating air quality impacts from prescribed natural resource burning. However, the US Forest Service (USFS) and other federal land management agencies have developed several tools for smoke prediction and for estimating the air quality impacts from prescribed burns.

AQB Analysis

Air quality impacts from prescribed burns are affected by numerous factors, including, but not limited to: fuel characteristics, fuel conditions, size of the burn area, meteorological conditions and burning techniques. To assist in estimating possible air quality impacts from prescribed burns in Iowa, AQB staff collaborated with both DNR and non-DNR prescribed burn professionals and USFS smoke prediction experts to develop an air quality analysis.

Because of the numerous variables inherent in prescribed burning, the analysis necessitated making a number of assumptions. Additionally, the analysis was specifically designed to produce results that are conservative. The analysis is best used as a tool in conjunction with actual, on-site fuel bed information and based on the expected meteorological conditions on the day of the burn.

AQB analyzed eight Iowa burn scenarios using United States Forest Service (USFS) software to estimate air pollution concentrations. Based on the air quality analysis, it is recommended that the DNR consider notification of the smoke sensitive sites located downwind and within the distance specified for the following burn scenarios:

- Prairie burn (1 acre or less) = 0.25 miles from the burn area.
- Prairie burn (> 1 acres -10 acres) = 1 mile from the burn area.
- Prairie burn (> 10 acres -50 acres) = 1.5 miles from the burn area.
- Prairie burn (> 50 acres -100 acres) = 2 miles from the burn area.
- Prairie burn (over 100 acres) = 3 miles from the burn area.
- Forest burn (5 acres or less) = 1.5 miles from the burn area.
- Forest burn (> 5 acres -10 acres) = 2.5 miles from the burn area.
- Forest burn (> 10 acres - 50 acres) = 4 miles from the burn area.
- Forest burn (> 50 acres -100 acres) = 5 miles from the burn area.
- Forest burn (over 100 acres) = 7 miles from the burn area.

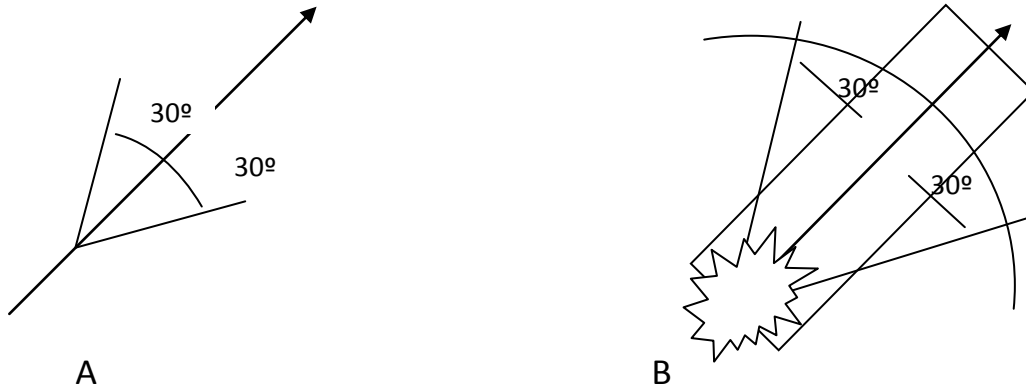
Note: *With the exception of the 1 acre prairie scenario, the acreages and distances from the air quality analysis are shown here rounded to the nearest half acre and half mile. Additionally, the scenarios "Prairie burn (over 100 acres)" and "Forest burn (over 100 acres)" were not included in the air quality analysis, but were very generally extrapolated based on the results from the other modeled scenarios. If a burn is a mix of prairie and forest (such as Oak Savannah), DNR will lean toward the distance specified for forest burns for notification purposes.*

Smoke Dispersion Area

The goal of proper smoke management is to perform the burn when atmospheric conditions will disperse the smoke so that air quality standards to protect public health will not be exceeded. Unless the burn plan writer has determined that it is unnecessary, the Burn Plan shall include a map showing the expected smoke dispersion area. One method that may be used to determine the smoke dispersion area is as follows:

DNR Fire Policy- Attachment C

1. Locate on a map the prescribed fire and all potential smoke sensitive sites that could be affected. The distances indicated above from the air quality analysis may be used. However, a site-specific analysis or other factors may indicate that an alternative distance is more appropriate.
2. Determine the optimal transport wind (wind direction) for the burn that will, to the extent practicable, have the least impact on smoke sensitive sites while also achieving the natural resource objectives for the burn.
3. Draw a line representing the centerline of the path of the smoke plume using the optimal transport wind identified in the previous step.
4. To allow for horizontal dispersion of the smoke, as well as shifts in wind direction, draw two other lines from the burn at an angle of at least 30 degrees from the centerline(s). If a prescribed fire is represented as a spot, draw as in Figure A. If larger, draw as shown in Figure B.



Smoke Sensitive Sites

All smoke sensitive sites within the predicted smoke dispersion area shall be identified on the smoke dispersion map.

Other Considerations For Smoke Dispersion And Smoke Sensitive Sites

Each Burn Plan shall indicate how the Burn Leader will assess meteorological and air quality conditions prior to the burn and on the day of the burn to ensure that conditions are within prescription and that impacts to smoke sensitive sites will be minimized.

A valuable resource for smoke management planning and meteorological information is the NWS Fire Weather Planning program. This easy to access forecast provides specific burn parameters essential for smoke management, such as transport winds, precipitation, temperature, relative humidity and smoke dispersion. Another available resource to check air quality conditions prior to and on the day of the burn is EPA's AIR NOW website.

In addition, the Burn Leader may wish to check the current air quality the day before or the morning of the burn by checking the DNR's air monitoring website or contacting AQB's air monitoring staff (see the list of resources at the end of this attachment).

3. Notifications

As an essential aspect of basic smoke management techniques, DNR shall make a reasonable effort to notify all adjacent land owners and other smoke sensitive sites identified on the smoke dispersion map. A description of the notification strategy shall be included in the Burn Plan.

Pre Burn-Season Notifications

The DNR shall provide pre burn-season notification to adjacent land owners and smoke sensitive sites in the area. The DNR shall determine the best notification method for the affected area and shall establish how far in advance the pre burn-season notification shall occur.

- Methods may include, but are not limited to: press releases, radio or TV announcements, newsletter articles (electronic or hard-copy), website postings, in-person notification, phone notification, USPS notification, e-mail notification or hand-delivered notification.

DNR Fire Policy- Attachment C

- The DNR shall also coordinate to the extent practicable with the immediate Environmental Services Division (ESD) Field Office to notify the field office prior to the burn. This notification ensures that field office staff is knowledgeable of the burn and can work cooperatively with the burn crew and the public if the field office receives complaints.

Identified Sensitive Site Notification

In some cases, it may be appropriate to provide follow-up notification closer to the anticipated burn date to adjacent landowners and other smoke sensitive sites. Examples of other smoke sensitive sites that shall be considered for follow-up notification closer to the anticipated burn date include sites occupied by citizens who expressed health-related concerns to the DNR in response to the pre-season notification, as well as airports, schools, childcare facilities, hospitals, retirement or nursing homes, operators of local livestock facilities, etc.

4. Smoke Monitoring

The Burn Plan shall include a description of how the burn crew will monitor the smoke plume during the burn to ensure that unanticipated smoke impacts do not occur. Smoke monitoring will help ensure that any needed mitigation activities will be underway as quickly as possible.

Smoke monitoring should match the size of the fire. For small or short duration fires (less than one day), such as most prairie burns or small forest burns, visual monitoring of the smoke plume and monitoring complaints from the public may be sufficient. Other monitoring techniques may include, but are not limited to:

- Posting personnel at vulnerable roadways to look for visibility impacts;
- Posting personnel at other smoke sensitive areas to look for smoke intrusions; and
- Continuous tracking of meteorological conditions (such as spot forecasting) during the fire.

Air Quality & Smoke Management Resources

DNR Air Quality Bureau websites –

- <http://www.iowadnr.gov/Environmental-Protection/Air-Quality/Monitoring-Ambient-Air>: To check Iowa's current air quality, including air quality information at specific locations and a map of Iowa's air monitoring network. Or call 515-725-9500 (ask to speak to Air Monitoring staff).
- www.iowadnr.gov/air: For general information on air quality. Or call 515-725-9500.

NWS Fire Weather Planning Forecast website – <http://www.crh.noaa.gov/dmx/firewx.php> or www.weather.gov/dmx (click on Fire Weather link): Get fire weather and smoke management information for Iowa, including transport wind, mixing height, relative humidity and smoke dispersion. Request a spot forecast and get other fire weather information.

V-Smoke Web (model for estimating prescribed fire impacts) - <http://weather.gfc.state.ga.us/GoogleVsmoke/vsmoke-Good2.html>

NWCG Smoke Management and Smoke Committee websites – <http://www.nifc.gov/smoke/>: Sharing information on smoke management issues, air quality regulations, strategies for managing smoke from wildland fire, approaches to technical smoke questions, and fire environment issues that affect smoke generation, transport, impacts and measurement. Links to other smoke management resources.

DNR ESD Field Services Bureau website - <http://www.iowadnr.gov/fieldoffice>: Includes list of ESD field offices and their jurisdictions.

USFS Fire and Environmental Research website - <http://www.fs.fed.us/pnw/fera/>: Research and development in fuels and combustion science including tools and software for predicting fire behavior and air pollutant emissions from prescribed burning.

EPA AIR NOW website - <http://airnow.gov/>: Includes interactive maps showing current national, regional, state and local air quality.

SMOKE MANAGEMENT AND TRAFFIC CONTROL GUIDELINES FOR PRESCRIBED BURNS

Purpose

The purpose of this section is to provide guidance for situations where smoke from a prescribed burn may have an impact on a nearby roadway. The safety of the public traveling on roads near DNR burns, and the safety of burn crews working near roads, must be a top priority. Smoke from a prescribed burn has the potential to reduce visibility on roadways, impairing the vision of drivers and those working near the roadway. DNR burn crews must follow all laws regarding the proper management of traffic in situations where smoke from a burn will, or may potentially, impact visibility on a roadway, including proper use of signage, high visibility clothing, and flagging operations.

Ownership of Roadways

The authority to regulate a roadway, and any activities impacting its use, lies with the owner of the roadway (federal, state, county, municipal, etc.) Requirements for posting signs to alert drivers to the presence of personnel working along the roadway or potential smoke on the roadway vary by ownership. The burn plan shall identify the ownership of the roadways adjacent to the burn unit and adhere to the relevant guidelines for temporary traffic control. The information outlined in this section is intended to comply with state guidelines. For county guidelines, consult the county engineer. For municipal roadways, consult the city manager to determine the appropriate contact person. Ownership of roadways within state parks, or where state lands exist on both sides of a roadway, may vary and should be identified on a case by case basis.

Smoke Impacts to Visibility on the Roadway

The goal of managing smoke impacts to roads is to ensure adequate visibility for drivers of vehicles on the roadway, thereby helping ensure their safety and the safety of burn crew members working near the roadway. The required temporary traffic control methods outlined in this policy vary based on the following levels of impact to the roadway:

Scenario 1: No smoke on the road is planned; however there is a road adjacent to the burn unit.

Scenario 2: Smoke is planned on the roadway. Traffic will be controlled by a flagger.

Scenario 3: Smoke is planned on the roadway. The roadway will be temporarily closed.

Required Warning Signs

In all of the above scenarios, signage and flagging operations must use equipment consistent with standards found in the Manual on Uniform Traffic Control Devices (MUTCD). These standards cover the number of signs used, placement of signs, and physical characteristics of signs. The following requirements apply to all warning signs used for prescribed fire operations:

Shape and Size: The standard warning sign is a 48 inch by 48 inch diamond shaped sign.

Markings: Warning signs must be orange with a black written message or symbol. Appropriate text for fire operations may include, but is not limited to the following:

Scenario 1: Message options are:

- Controlled Burn Ahead
- Prescribed Burn Ahead
- Caution Smoke Ahead
- Smoke Limited Visibility

Scenario 2: Required messages are:

- Workers Ahead (First sign encountered by traffic)
- Prepare to Stop (Last sign encountered by traffic prior to flagger)

Message options (may be placed between the two mandatory signs):

- Controlled Burn Ahead
- Prescribed Burn Ahead

DNR Fire Policy- Attachment D

- Caution Smoke Ahead
- Smoke Limited Visibility

Retro-reflectorization: Warning signs used during the hours of darkness must be made of retroreflective material or must be illuminated.

Placement and Mounting of Signs: Warning signs must be placed on the right hand side of a two-way roadway and on both the right and left hand sides of a multi-lane roadway. For signs mounted on portable supports, the bottom of the sign must be at least one foot above the roadway. If a ballast system is needed, the approved ballast system for signs mounted on portable supports is sandbags. All signs must be constructed and mounted in a manner that will yield upon impact so as to minimize damage if struck by a vehicle. For appropriate spacing of warning signs, see the Warning Sign Placement Chart below. Note that the proper placement of warning signs may change during the course of the burn based on the location of the smoke impact to the roadway.

Number of Signs: The number of warning signs required varies based on the smoke impact level.

Scenario 1:

- A single sign on each relevant road, of the type and messaging described above, is the minimum requirement.
- Additional signs may be added if site specific road and traffic conditions warrant.

Scenario 2:

- A minimum series of two signs per road is required. The first sign encountered by traffic should have a message stating “Workers Ahead” or similar.
- The last sign encountered by traffic prior to the flagger must state “Prepare to Stop”.
- A third sign, with one of the burn/smoke related messages listed above, may be placed between the two required signs.

Spacing of signs is dependent on the type of roadway being impacted--see the Warning Sign Placement Chart for spacing information.

Removal of Signs: When fire operations no longer have the potential to impact traffic, warning signs must be removed, covered, turned, or laid flat so that they are not visible to drivers.

Warning Sign Placement Chart

Type of Roadway	Distance from smoke impacted area to Flagger	Distance from Flagger to “Prepare to Stop” sign	Distance to next sign	Distance to next sign
Urban (<35 mph)	site specific	100 feet	100 feet	100 feet
Urban (35-45 mph)	site specific	350 feet	350 feet	100 feet
Rural	site specific	500 feet	500 feet	500 feet
Freeway	site specific	1000 feet	1500 feet	2640 feet

Flagging

Scenario 1: Members of the burn crew should be designated as “emergency flaggers” and must have the appropriate equipment accessible onsite (vest and paddle sign) in the event that a shift in wind direction unexpectedly puts smoke on the road. The number of emergency flaggers designated will vary based on the proximity of the burn unit to one or more roads.

Scenario 2: Where smoke is planned to go on the roadway, flaggers are required. The flaggers will use mounted “Stop/Slow” paddle-type signs, in conjunction with the required warning signs, to control traffic on the impacted roadway. The Iowa Department of Transportation (IDOT) has developed a handbook to provide guidance for carrying out flagging operations. It is recommended that personnel assigned to flagging operations for temporary traffic control review the IDOT Flagger’s Handbook on an annual basis. The handbook is available at: <http://www.iowadot.gov/erl/current/FM/flagger.pdf>.

Required Equipment for Flagging

The following equipment is mandatory for all flagging operations:

Paddle: The “Stop/Slow” paddle is the primary traffic control device. This sign must be at least 24 inches by 24 inches with 6 inch high letters. It must be mounted on a ridged handle at a minimum height of 5 feet.

Vest: Class 3 High-visibility safety vests are required for any person working within ANY public right-of-way. This will always include the flagger. *Note that prescribed fire participants acting in roles that may directly expose them to flame, fire, heat, and/or hazardous materials are exempted from wearing high-visibility safety vests (i.e. those controlling a fire burning in a road right-of-way).*

Road Closures

Closure of a roadway not owned by the DNR (Scenario 3) requires the cooperation and prior permission of the owning authority. The burn organizer should obtain permission from, and discuss closure and signage requirements with, the owning authority prior to the burn season.

BURNING OPERATIONS, CREW BRIEFING AND GO/NO-GO DECISION

Wildlife Unit/Park/Forest: _____

Burn Unit Name: _____

A. PRIOR TO CREW BRIEFING

- Burn Unit is as described in plan.
- Required firebreaks complete.
- Permits obtained if required (*i.e., burn bans, city permits*)
- Communications Center/fire officials notified.
- Neighbor notifications, made as needed.
- Required equipment is onsite and functioning.
- Radio frequencies to be used are identified.
- Planned ignition and containment methods are appropriate.
- List of emergency phone numbers are available.
- Planned contingencies and mop-up are appropriate.
- Volunteer Participation Waivers are signed (*Attachment K*)

Number of people participating in burn: _____

List Names & Agency

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

B. CREW BRIEFING

- Burn Unit size and boundaries discussed.
- Burn Unit hazards discussed.
- Anticipated fire and smoke behavior.
- Review of equipment and troubleshooting.
- Review organization of crew and assignments.
- Review methods of ignition, holding, mop-up, communications.
- Radio frequency check.
- Review public traffic concerns.
- Location of vehicles, keys and nearest phone or police band radio.
- Location of back-up equipment, supplies and water.
- Location of first aid kit
- Plan and review all contingencies including safety hazards, escape routes, safety zones.
- Answer questions from crew.
- Give crew members the opportunity to decline participation.

C. PRIOR TO IGNITION GO/NO GO DECISION

- Onsite weather has been taken and recorded on Post Burn Evaluation form.
- Weather and fuel conditions are within prescriptions; no air pollution alerts exist
- Weather forecast, obtained prior to ignition indicating suitable burning conditions.
- Necessary fire lines/breaks are constructed and checked.
- Crew members have required protective clothing.
- Crew members have ignition device.
- Conduct test burn.
- In your opinion, can the burn be carried out according to the plan and will it meet the planned resource management objectives?** Yes No

D. IF AN ESCAPE OCCURS

- Contact additional fire services if required.
- Contact supervisor at containment
- Affected landowners notified that day.
- Wildland Fire Report Form submitted (*Attachment I*).

E. BEFORE LEAVING BURN UNIT

- Mop-up completed as described in prescription.
- Onsite weather has been taken and recorded
- Post burn Evaluation Form has been completed.
- Post Mop-up site inspection scheduled (if required).
- Notifications of completed burn (if required).

F. NOTE ANY MODIFICATIONS TO PRESCRIPTION DURING OPERATIONS (Provide justification. Document what you did to mitigate the situation and be specific):

Burn Leader: _____ **Date** _____

POST BURN EVALUATION

Wildlife Unit/Park/Forest: _____

Burn Unit Name: _____ County: _____

Location (Section, Township, Range): _____

Latitude/Longitude (<http://itouchmap.com/latlong.html>): _____

A. OPERATIONAL DATA

Date of prescribed burn: _____ Acres burned: _____

Time ignition started: _____ Time ignition completed: _____

Time mop-up completed: _____

Fire Planner: _____

Burn Leader: _____

Apprentice Burn Leader: _____

Total number personnel in fire crew: _____

B. WEATHER & VEGETATION CONDITIONS

Vegetation stage (cured, transitional, green): _____

at start at completion

Wind speed _____

Wind direction _____

Temperature _____

Relative Humidity _____

C. FIRE SUMMARY

Type fire used (head, back, strip back, ring, combination): _____

Fire escapes or problems of note: _____

Summarize immediate results (litter reduction, areas of incomplete burn, etc.):

Recommendations for future burning or management:

Burn report completed by: _____

Signature

Date

Brush Pile Burning Operations Go/No-Go Checklist

Wildlife Unit/Park/Forest: _____

Burn Unit Name: _____

Burn Pile Location: _____

A. PRIOR TO CREW BRIEFING

- Burn pile consists of naturally occurring woody material or landscape waste.
- Permits obtained, if required (*city permits*).
- Notifications to neighbors within the ¼ mile separation distance made, as needed.
- Notifications to smoke sensitive sites within the ¼ mile separation distance made, as needed.
- Staff have completed required training.
- Participants have appropriate personal protective equipment.
- Volunteer Participation Waivers are signed and collected, if required. (*Attachment K*).
- Required equipment is on-site and functioning.
- No air pollution alerts exist.
- Adjacent fuels are unavailable (*non-flammable*) or have sufficient moisture content to not ignite from radiant heat or falling embers (*snow covered, high moisture content, gravel, bare mineral, etc.*).
- Weather forecast, obtained prior to ignition indicates:
 - Suitable burning conditions.
 - Suitable smoke dispersion conditions.
- Communications Center, fire officials and local authorities have been notified.
- Contingencies are considered.
- Future weather and mop-up is considered.
- On-site weather has been taken and recorded.
 - Wind speed at start: _____
 - Wind direction at start: _____
 - Temperature at start: _____
 - Relative Humidity at start: _____

B. IF AN ESCAPE OCCURS

- Contact additional fire services if required.
- Contact supervisor at containment
- Affected landowners notified that day.
- Wildland Fire Report Form submitted (*Attachment J*).

C. BEFORE DECLARING A BURN COMPLETE

- No flame or smoke is visible.
- Periodic monitoring is scheduled.
- Notifications of completed burn, if required.

Burn Leader: _____ Date _____

LIST OF APPLICABLE LAWS

Authority for Prescribed Burns

Prescribed burns are open burns allowed pursuant to 567 Iowa Administrative Code (IAC) paragraph 23.2(3)“d”. Burns that involve cleared materials may not occur closer than ¼ mile from any building inhabited by other than the landowner or tenant conducting the burn. Additional disaster declarations may allow for additional burning if an emergency condition exists.

The air quality rules for open burning are set forth under 567 IAC chapter 23 (rule 567-23.2). Copies of the current rule provisions and definitions applicable to open burning are available on the DNR Air Quality Bureau (AQB) website at www.iowadnr.gov/air (click on “open burning” on the left-side menu). DNR AQB does not issue burn permits.

Currently, prescribed natural resource burning is allowed under the “landscape waste” exemption (paragraph 23.2(3)“d”) in most areas of the state, unless prohibited as noted below or unless prohibited under local ordinances or regulations.

General Prohibitions

Locations

Prescribed burns are generally prohibited in the cities of:

- Cedar Rapids
- Marion
- Hiawatha
- Council Bluffs
- Carter Lake
- Des Moines
- West Des Moines
- Clive
- Windsor Heights
- Urbandale
- Pleasant Hill

If planning a burn within one of these cities, the Burn Leader must contact the city fire department and the following offices:

- Polk County Public Works (Air Quality Division): For burning in Polk County and within the city limits of Des Moines, West Des Moines, Clive, Windsor Heights, Urbandale, or Pleasant Hill.
- DNR Air Quality Bureau: For burning in Council Bluffs, Carter Lake, and in all areas outside of Polk County and within the city limits of Des Moines, West Des Moines, and Urbandale.
- Linn County Health Department (Air Quality Division): For burning within the city limits of Cedar Rapids, Marion or Hiawatha.

In addition, any local government entity, such as a municipality or a county, may enact local open burning regulations that are more stringent than state open burning rules. Local governments are not required to notify DNR of any such local ordinances. In particular, Linn County and Polk County have their own state-approved air quality programs and require permits for most open burning activities. Council Bluffs also has a burn permit program. DNR staff who are writing and approving burn plans should check with local governments regarding local open burning ordinances and regulations. The Burn Leader is responsible for overseeing compliance with local ordinances and regulations related to prescribed burning.

Materials

Prescribed burns may not include the burning of asbestos, rubber tires or other hazardous materials. If asbestos is found in any structure that is part of a prescribed burn, the Burn Leader must contact DNR’s Realty Services Bureau, who will then work with the AQB to safely remove the asbestos prior to the prescribed burn. No prescribed burn shall occur until the asbestos has been removed and properly mitigated.

Deleterious Impacts to Water Quality

Prescribed burning activities are intended to promote a healthy environment and should not create or contribute to water quality defects in the state. While the DNR is not required to obtain NPDES permits for prescribed burns (unless

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the burning is part of a construction project, in which case the project may require a permit), the DNR is prohibited from undertaking activities that would cause pollutants to enter into waters of the state. Information about pollution prevention and best management plans is available by contacting the Environmental Services Division field office in your area.

Threatened and Endangered Species

Iowa law prohibits the taking of a listed species. <http://www.iowadnr.gov/Conservation/Threatened-Endangered>
Burn plans should minimize possible negative effects to listed species. During the development of a burn plan, and prior to the initiation of any prescribed burn, the Burn Leader shall check the Iowa Natural Areas Inventory (INAI) database, and review other local observation data, to determine whether threatened or endangered species may be present. If a threatened or endangered species is present or has the potential to be present, the burn plan requires consultation. Contact the DNR Threatened and Endangered Species Coordinator for consultation.

Required Permits

The DNR, the United States Fish and Wildlife Service, and the State Historical Preservation Office (SHPO) have a programmatic agreement that addresses our compliance with Section 106 of the National Historical Preservation Act. Under this agreement prescribed burn activities using accepted prescribed burn techniques do not require SHPO review.

Linn and Polk counties and the City of Council Bluffs have air quality programs that require air permits for prescribed burns. The Burn Leader must contact those permitting entities to obtain all necessary permits prior to conducting a burn in Council Bluffs or in Linn or Polk County.

Burn Bans Require a Permit

The Iowa Department of Public Safety - State Fire Marshal Division is the issuing authority for burn bans in the State of Iowa. Prescribed burning activities may not be conducted by DNR staff, volunteers, or contractors participating on state-owned and/or managed lands, private, or other public lands unless they have been issued a permit by the local fire chief. When conducting day of the burn notifications, advise the contact that a permit has been issued by the local fire chief to conduct the prescribed fire.

To access a list of Iowa counties under an active burn ban go to: <http://www.dps.state.ia.us/fm/main/burnbans/>

Building Disposal

Building disposal by burning is not considered to be a component of prescribed burning and is not addressed in the DNR Burn Policy. Refer to 567 IAC chapter 23 (rule 567-23.2), or contact the AQB for more information.

List of Applicable Laws

(As of the date of this policy revision)

City:

- City of Council Bluffs Open Burning Ordinance – Council Bluffs Municipal Code section 4.02.020

County:

- Linn County Open Burning Ordinance – Linn County Ordinances section 10.10
- Polk County Open Burning Rules – Polk County Board of Health Rules and Regulations section 5-7

State:

- Air Quality Duties of the Environmental Protection Commission – Iowa Code section 455B.133
- Liability of Landowners Allowing Public Use of Private Property – Iowa Code section 461C.3
- Liability of State Employees under the State Tort Claims Act – Iowa Code sections 669.21 and 669.23
- Liability of State Volunteers under the State Tort Claims Act – Iowa Code section 669.24
- Open Burning, including building disposal – 567 Iowa Administrative Code rule 23.2
- State Threatened and Endangered Species Act – Iowa Code chapter 481B and 571 Iowa Administrative Code chapter 77

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- Requirements for Traffic Control Signs and Flagging along Smoke Impacted Roads – 761 Iowa Administrative Code chapter 130 and the Manual on Uniform Traffic Control Devices (MUTCD) located at:
<http://mutcd.fhwa.dot.gov/>

Federal:

- Clean Air Act (CAA) – 42 U.S.C. chapter 85
- National Emission Standards for Hazardous Air Pollutants (NESHAP) – 40 C.F.R. part 61
- National Environmental Policy Act (NEPA) – 42 U.S.C. chapter 55
- National Primary and Secondary Ambient Air Quality Standards (NAAQS) – 40 C.F.R. part 50
- Protection of Historic Properties – 16 U.S.C. 470 and 36 C.F.R. Part 800



Iowa Prescribed Fire Report Form

PLEASE SUBMIT TO Iowa DNR Fire Supervisor Gail Kantak
E-MAIL: Gail.Kantak@dnr.iowa.gov or FAX: 515-233-1131

Agency/Bureau: _____	County: _____
Burn Unit: _____	Location of Fire: _____ <small>(Use http://itouchmap.com/latlong.html or http://www.latlong.net/ to provide Latitude and Longitude)</small>
Contact: _____	Latitude: _____
Phone/Cell: _____	Longitude: _____
E-Mail: _____	Type of Fire: PRESCRIBED FIRE
Property Ownership: _____	
Date of Fire: _____	Vegetation Type: _____
Acres Burned: _____	Notes/Comments: _____
Names of the people participating on the burn (For Incident Qualifications (IQS) Tracking): _____	

Agency/Bureau: _____	County: _____
Burn Unit: _____	Location of Fire: _____ <small>(Use http://itouchmap.com/latlong.html or http://www.latlong.net/ to provide Latitude and Longitude)</small>
Contact: _____	Latitude: _____
Phone/Cell: _____	Longitude: _____
E-Mail: _____	Type of Fire: PRESCRIBED FIRE
Property Ownership: _____	
Date of Fire: _____	Vegetation Type: _____
Acres Burned: _____	Notes/Comments: _____
Names of the people participating on the burn (For Incident Qualifications (IQS) Tracking): _____	

Agency/Bureau: _____	County: _____
Burn Unit: _____	Location of Fire: _____ <small>(Use http://itouchmap.com/latlong.html or http://www.latlong.net/ to provide Latitude and Longitude)</small>
Contact: _____	Latitude: _____
Phone/Cell: _____	Longitude: _____
E-Mail: _____	Type of Fire: PRESCRIBED FIRE
Property Ownership: _____	
Date of Fire: _____	Vegetation Type: _____
Acres Burned: _____	Notes/Comments: _____
Names of the people participating on the burn (For Incident Qualifications (IQS) Tracking): _____	

IOWA WILDLAND FIRE REPORT FORM

Please Submit to: Iowa DNR Fire Supervisor Gail Kantak
2404 S Duff Ave, Ames IA 50010
Fax: 515-233-1131; Phone: 515-233-8067
Email: Gail.Kantak@dnr.iowa.gov

State: Iowa County: _____ Fire Department: _____

Contact: _____ Phone: _____

Email: _____

Location of Fire: _____ Date of Fire: _____

Use <http://itouchmap.com/latlong.html> or <http://www.latlong.net/> for Lat/Long

Coordinates:

Latitude: _____ Longitude: _____

Number and Type of Apparatus Used: _____

Total Acres
Burned

Fire Cause

- _____ a. Lightening
- _____ b. Campfire
- _____ c. Smoking
- _____ d. Debris Burning (Controlled Burn that got out of control)
- _____ e. Arson
- _____ f. Equipment Use
- _____ g. Railroads
- _____ h. Children
- _____ i. Miscellaneous
- _____ j. Controlled Burn that DID NOT get out of control

9. Injuries:

10. Notes:

Prescribed Fire Activity Volunteer Participation Waiver

INSTRUCTIONS: Before you can participate in Iowa DNR sponsored prescribed fire activity, this participation waiver must be completed, signed by you and **returned to your Burn Leader. Participant must be 18 years of age or older.** Please read this form carefully as it is a legal document that can affect your rights.

(Please PRINT)

Participant's Full Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ E-mail: _____

In exchange for and as a condition of being allowed to participate in the Iowa DNR sponsored prescribed fire activities, the Participant agrees as follows:

1. Participant acknowledges that the Iowa DNR sponsored prescribed fire activities include the use of hand equipment, arduous activity, motorized fire equipment and live fire.
2. Participant understands that there are risks and dangers associated with the use of fire tools and equipment, arduous activity, motorized equipment and live fire, including serious bodily injury, death and property damage. Participant agrees to assume all risks, inherent or otherwise, that may occur due to, arise out of or be in connection with Participant's participation, including without limitation the risk of serious bodily injury, death and property damage. Participant further agrees to assume all risks, inherent or otherwise, that may occur due to, arise out of, or be in connection with the participation of others in the prescribed fire activity, including without limitation other participants; instructors/coaches; staff or volunteers.

NOTE: Please be advised that it is not possible to list all of the activities and related risks that Participant may encounter by participating in the prescribed fire activity. There may be risks that are not known to Participant, or to other participants involved in the prescribed fire activity, including staff or volunteers, Iowa DNR, and may not be foreseen or reasonably foreseeable by anyone at this time or at the time of the activities in which Participant participates. Participant agrees to assume all risks of serious bodily injury, death and property damage, and all other risks of participation in prescribed fire activity, whether or not described to Participant.

3. Participant further covenants not to sue and agrees to release, waive, and discharge the Iowa DNR, host organizations and each of their respective directors, officers, employees, agents or volunteers (collectively, "Released Parties"), from any and all claims, demands, actions, suits, proceedings, liabilities, damages, losses, judgments and expenses (including reasonable attorney's fees and costs) that Participant may suffer, directly or indirectly, due to, arising out of or in connection with Participant's participation or conduct (negligent or otherwise) in the prescribed fire activities or the conduct (negligent or otherwise) of other participants in the prescribed fire activity, including without limitation, the conduct (negligent or otherwise) of the Released Parties.
4. To the fullest extent allowed by law, Participant agrees to defend, indemnify and hold the Iowa DNR, host organizations and each of their respective directors, officers, employees, agents or volunteers, harmless from and against any and all claims, demands, actions, suits, proceedings, liabilities, damages, losses, judgments and expenses (including reasonable attorney's fees and costs) by third parties (including Participant's own family) for any bodily injury, death or property damage or other incident occurring due to, arising out of or in connection with Participant's own participation or conduct (negligent or otherwise) in the prescribed fire activity.
5. **Medical Attention:** Participant gives his/her consent to Iowa DNR, and the host organization of any prescribed fire activities to provide, through a medical staff of their choice, customary medical/athletic training attention, transportation and emergency services as warranted in the course of participation in prescribed fire activity.
6. Participant grants to the Iowa DNR permission to reproduce, publish, distribute, or otherwise use in any reasonable manner Participant's name, photograph, likeness and statements in connection with the promotion of the Iowa DNR, in all media, including, without limitation, the Internet, news articles, advertisements or other electronic or print materials. Participant further covenants not to sue and agrees to waive, release and discharge the, Iowa DNR from and against any and all claims, demands, actions, suits, proceedings, liabilities, damages, losses, judgments and expenses (including reasonable attorney's fees and costs) arising out of or in connection with the use of Participant's name, photograph, likeness and statements, including, without limitation, any and all claims for invasion of privacy, publicity, defamation and/or portrayal in a false light, copyright infringement and any claims and/or demands for compensation or royalties.
7. Participant's signature below indicates that Participant has read and fully understands this entire Consent & Waiver, and that it shall be binding upon Participant, his representatives, heirs, assigns and next of kin.
8. For purposes of this document, any reference to the Iowa DNR shall include their respective directors, officers, authorized agents, employees and volunteers of those organizations.

Signature: _____ Date: _____