



**PRESCRIBED FIRE PLAN**

Refuge or Station Fergus Falls WMD

Unit Hoff-Fronning (East)

Subunit(s)

Prepared By: Seth HALL Date: 01-13-03

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_  
Prescribed Fire Specialist

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_  
Zone Fire Management Officer

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_  
Additional Reviewers (As Required)

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_  
Refuge Manager

The approved Prescribed Fire Plan constitutes the authority to burn, pending approval of Section 7 Consultations, Environmental Assessments, or other required documents. No one has the authority to burn without an approved plan or in a manner not in compliance with the approved plan. Prescribed burning conditions established in the plan are firm limits. Actions taken in compliance with the approved Prescribed Fire Plan will be fully supported, but personnel will be held accountable for actions taken which are not in compliance with the approved plan.

Prescribed Fire Plans Approved in prior years must be recertified by the Refuge Manager in the year in which they are to be burned

I certify that I have re-reviewed this Prescribed Fire Plan, that conditions described in this Plan are substantially still the same, and that the plan is still valid

\_\_\_\_\_ Date:  
Refuge Manager

I certify that I have re-reviewed this Prescribed Fire Plan, that conditions described in this Plan are substantially still the same, and that the plan is still valid

\_\_\_\_\_ Date:  
Refuge Manager

Valid Until

**Prescribed Fire Plan Implementation**

To be completed prior to the burn. Attach additional copies of this page to the burn plan as necessary.

**DELEGATION OF AUTHORITY**

(To be completed only if the Burn Boss is NOT a U.S. Fish and Wildlife Service employee)

Effective this date, \_\_\_\_\_ is hereby delegated the authority to execute this approved prescribed burn plan subject to the stipulations listed below under "Burn Boss Concurrence".

Refuge Manager/Agency Administrator

Date

**Burn Boss Concurrence**

(To be completed in all cases)

As the burn boss who will conduct this prescribed burn, I certify that I have reviewed this Prescribed Fire Plan, that conditions described in this Plan are substantially still the same, and I believe the prescribed burn can meet the planned objectives when carried out according to this Plan

I also understand that:

- Any changes to this plan must be approved by the Agency Administrator or his/her acting in writing
- ALL questions on the Go/No Go Checklist must be honestly answered "Yes" before the burn proceeds
- The execution of this plan shall be halted if the prescribed burning conditions established in the plan are no longer present.
- I am responsible for all aspects of the burn until relieved by the Agency Administrator or his/her acting.

I accept the responsibility of conducting this burn.

Date:

Prescribed Fire Burn Boss

## Prescribed Burn Briefing Outline

### I. Burn Organization

- A. Organizational Chart/Personnel Assignments
- B. Equipment Assignments
- C. Other Resources

### II. Burn Objectives

### III. Description of Burn Area

- A. Review Map of Burn/Topographical Features/Acreage
- B. Values at Risk
- C. Problem Areas
- D. Fuel Type (Both Inside and Outside the Burn Unit)
- E. Roads/Access
- F. Water Sources
- G. Natural/Manmade Barriers

### IV. Expected Weather

- A. Wind Direction and Speed
- B. Relative Humidity
- C. Temperature
- D. Fuel Moisture
- E. Atmospheric Stability
- F. Predicted Changes

### V. Communications

- A. Procedures
- B. Frequencies/Channels
  - 1. Burn Crew
  - 2. Dispatch
  - 3. Cooperators
  - 4. Others

### VI. Firing Sequence

- A. Test Burn
- B. Ignition Equipment (Type, Number, Etc.)
- C. Pattern and Sequence of Firing (Map)

### VII. Contingency Plan

- A. Slop Over vs. Escape
- B. Assignments/Organizational Chart
- C. Strategy
- D. Tactics

### VIII. Safety

- A. Inspect Personal Protective Equipment
- B. Lookouts, Escape Routes and Safety Zones
- C. Hazards (Footing, Natural, Man made, Smoke [visibility], Etc.)
- D. Potential Problems
- E. Other (Air Operations, Flammable Fuel Handling, Etc.)

## PRESCRIBED FIRE PLAN

Refuge: Fergus Falls WMD Refuge Burn Number: \_\_\_\_\_  
Sub Station: \_\_\_\_\_ Fire Number: \_\_\_\_\_  
Name of Area: Hoff-Fronning (East) WPA Unit No.: OT-32  
Acres To Be Burned: 109 Perimeter Of Burn: 10,510 ft  
Legal Description: Lat. 46.18663618 Long. 96.03661641  
Township 131 N Range 43W Section 1  
County and State: Ottertail, Minnesota

Is a Section 7 Consultation being forwarded to Fish and Wildlife Enhancement for review? Yes (**No**) (circle).

### I. GENERAL DESCRIPTION OF BURN UNIT

#### Physical Features and Vegetation Cover Types:

- The Hoff-Fronning WPA is a 224 acre WPA. The 109 acre burn unit consists of introduced cool season grasses, native prairie, and wetland emergents. Brome, quack grass and native grasses are the main fuels present. Fuel model 3 will be the main carrier of fire. This portion of the WPA has no previous burn history. The terrain is flat to rolling and topography will pose little threat to holding operations.
- Engines are able to access this unit.
- The north side of the burn unit is adjacent to black agriculture land.
- The south side of the WPA is adjacent to a gravel road (150<sup>th</sup> St). South of 150<sup>th</sup> St. is black agriculture land and Bakke WPA which contains warm season natives. One residence (Hieb) is (2400 ft) south of the burn unit.
- The west side of the burn unit is adjacent to a gravel road (215<sup>th</sup> Ave). West of 250<sup>th</sup> Ave. is agriculture land and the rest of Hoff-Fronning WPA. Two residences (Gutzmer and Hoff) are located west of the burn unit (Hoff 1000ft, Gutzmer 2700 ft).
- The east side of the burn unit is adjacent to black agriculture land. There are two residences (Nettestad and Thorness) located east of the burn unit (Nettestad 2200 ft, Thorness 34000 ft). State Highway 59 is located ½ mile east of the burn unit.

#### Primary Resource Objectives of Unit:

- Maintain and enhance the Hoff-Fronning Waterfowl Production Area as productive wildlife habitat by reducing cool season exotics, noxious weeds, and invasive woody species, as well as stimulating native plant species.

#### Objectives of Fire:

- Preserve and enhance mixed grass native prairie.
- Reduce exotic plant species throughout the burn unit.
- Reduce hazardous fuel loadings.

**Acceptable Range of Results:**

- Burn 75-100% of the unit and 50-100% of the available fuels.
- Reduce litter by 50-100%.
- Reduce woody species by 10% or greater.

**Type of Transects:**

- No transects will be established.

**Photo Documentation:**

- Pre and post-burn photographs will be up to station personnel.

**II. Pre-Burn Monitoring**

Vegetation Type	Acres	%	FBPS Fuel Model
Mixed grass prairie	109	100	FM 3 grass
Total	109	100	FM 3 grass

**PLANNING AND ACTIONS**

**Complexity Analysis Results:**

- This is a low rated complexity burn unit requiring at minimum a Prescribed Fire Burn Boss Type III. See attached worksheet.

**Site preparation:**

- No site prep needed if adjacent agriculture land is black. If agricultural stubble or standing crop is present the need for mow lines will be evaluated by the burn boss prior to ignition.

**Weather information required:**

- The Burn Boss will request a spot weather forecast the morning of the scheduled burn from the National Weather Service in Grand Forks (701-795-5119). Information regarding fronts, inversions, wind speed, direction and changes will be used to determine if weather will meet prescription. On site weather information (wind speed and direction, temperature, and relative humidity) will be collected just prior to ignition. If information is inconsistent with the weather forecast, another spot weather forecast will be obtained from the National Weather Service. On site weather information will be collected every hour, more often if conditions warrant. On-site weather observations will be recorded and added to fire report (DI-1202).

**Safety considerations and protection of sensitive features:**

- Prescribed fires are not permitted when the area is in a fire danger preparedness level of V, or if the national preparedness level is V.
- Burn crew members will use caution when working off of established roadways.

# Complexity Worksheet

Station: Fergus Falls WMD

Burn Unit Name: Hoff-Fronning (East)

Element	Sub Element	Rating Value (L-M-H)		Rationale
Potential for Escape	Risk	Preliminary	L	The black ag land, and gravel road around the perimeter of the burn lower the risk for escape.
		Final	L	No change
	Potential Consequences	Preliminary	L	An escaped fire could result in little damage unless cured ag. Stubble or standing crops are present.
		Final	L	An escaped fire is highly unlikely because of the black ag land and gravel road located on burn perimeter. If cured ag. Stubble or standing crops are present mow lines and or additional holding forces and equipment needs will be addressed by the burn boss.
	Technical Difficulty	Preliminary	L	Holding will be done at the single resource boss level. Burn unit is easily accessible with engines.
		Final	L	No change
Number & Dependency of Activities	Risk	Preliminary	L	Activities are generally independent
		Final	L	No change
	Potential Consequences	Preliminary	L	Coordination problems are minimal
		Final	L	No change
	Technical Difficulty	Preliminary	L	Minimal difficulty
		Final	L	No change
Off-Site Values	Risk	Preliminary	L	There are few values at risks, adjacent WPA's would only burn themselves out without damage to the resources.
		Final	L	No change
	Potential Consequences	Preliminary	L	The vegetation potentially affected has rapid recovery rates
		Final	L	No change
	Technical Difficulty	Preliminary	L	Protection of offsite values requires no special management, equipment, or skills
		Final	L	No change
On-Site Values	Risk	Preliminary	L	No special features present.
		Final	L	No change.
	Potential Consequences	Preliminary	L	No special features present.
		Final	L	No change.
	Technical Difficulty	Preliminary	L	Same as above
		Final	L	No change
Fire Behavior	Risk	Preliminary	L	Fuels are uniform

		Final	L	No change
	Potential Consequences	Preliminary	M	Fire behavior outside of unit would be about the same as that experienced within the burn unit.
		Final	L	Very little chance of escape with the black ag land and township roads surrounding the burn unit. Adjacent WPA's are separated from the burn unit by township roads. These WPA's are also surrounded by black ag land and township roads. The fuels present on adjacent WPA's have rapid recovery rates.
	Technical Difficulty	Preliminary	L	Standard fire safety precautions are adequate to ensure personnel safety.
		Final	L	No change
Management Organization	Risk	Preliminary	L	A small number of people are required.
		Final	L	No change
	Potential Consequences	Preliminary	L	Problems related to supervision or communication is expected to be minimal.
		Final	L	No change
	Technical Difficulty	Preliminary	M	May have detailers assist with burn.
		Final	L	Will have qualified personnel from local unit working with detailers.
Public & Political Interest	Risk	Preliminary	L	The RX fire is located in an isolated area.
		Final	L	No change
	Potential Consequences	Preliminary	L	Unexpected or adverse events would attract little public, political, or media attention
		Final	L	No change.
	Technical Difficulty	Preliminary	L	Requires no special fire information function.
		Final	L	No change.
Fire Treatment Objectives	Risk	Preliminary	L	Objectives are easily achieved.
		Final	L	No change.
	Potential Consequences	Preliminary	L	Other opportunities to meet objectives will be available.
		Final	L	No change.
	Technical Difficulty	Preliminary	L	Measures to achieve the objectives are easy to complete.
		Final	L	No change.
Constraints	Risk	Preliminary	L	No constraints
		Final	L	No change
	Potential Consequences	Preliminary	L	Project can be implemented whenever it is in prescription.
		Final	L	No change.
	Technical Difficulty	Preliminary	L	Constraints do not increase the difficulty of completing the project.
		Final	L	No change.

Safety	Risk	Preliminary	L	Safety issues are easily identified and mitigated.
		Final	L	No change.
	Potential Consequences	Preliminary	L	Minimal potential exists for serious accidents.
		Final	L	No change.
	Technical Difficulty	Preliminary	L	Safety concerns can easily be mitigated through LCES.
		Final	L	No change.
Ignition Procedures Methods	Risk	Preliminary	L	Firing sequence and timing are not critical.
		Final	L	No change.
	Potential Consequences	Preliminary	L	Minimal potential.
		Final	L	No change.
	Technical Difficulty	Preliminary	L	Firing procedures are simple.
		Final	L	No change.
Interagency Coordination	Risk	Preliminary	L	The project does not involve other agencies.
		Final	L	No change.
	Potential Consequences	Preliminary	L	Project can be completed as planned.
		Final	L	No change.
	Technical Difficulty	Preliminary	M	A burn permit from the Department of the Natural Resources is required.
		Final	L	The permit process is a simple process.
Project Logistics	Risk	Preliminary	L	The project requires minimal logistical support.
		Final	L	No change.
	Potential Consequences	Preliminary	L	Problems related to logistics will not increase the risk of escape.
		Final	L	No change.
	Technical Difficulty	Preliminary	L	No special logistical support issues.
		Final	L	No change.
Smoke Management	Risk	Preliminary	L	Smoke concerns are few or easily mitigated
		Final	L	No change.
	Potential Consequences	Preliminary	M	Some minor impacts to isolated roads will happen if we burn with an easterly or northerly wind component.
		Final	L	The roads have a low volume of traffic. We will follow Region 3 smoke policy procedures in order to manage safe travel.
	Technical Difficulty	Preliminary	L	No special operational procedures are required.
		Final	L	No Change

## **SUMMARY COMPLEXITY RATING**

RISK OVERALL RATING Low

POTENTIAL CONSEQUENCES OVERALL RATING Low

TECHNICAL DIFFICULTY OVERALL RATING Low

**SUMMARY COMPLEXITY RATING** Low

**RATIONALE:** This project received a low complexity rating because the burn unit is surrounded by black agriculture land and gravel Township roads. If burned with ag. Stubble or standing crop the use of mow lines and or additional holding resources will be addressed by the burn boss prior to ignition. The WPA's West and South of the unit have big wetlands that can be used to pinch off a slop-over, or they can burn to the black ag land without putting any resources at risk. Escapes into adjacent burned fuels will be on FWS land. Fire on adjacent WPA's is acceptable on these units. There are no residences at risk.

Prepared by: Seth Grimm Date:02-06-2003

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

(Agency Administrator)

**Communication and Coordination on the Burn:**

Burn crew members will be briefed by the Burn Boss or Ignition Specialist concerning the ignition plan and safety routes and assignments. All burn crew members will have portable radios or be paired with someone who does to keep in contact with the Burn Boss during the fire. There are currently a total of 7 hand held high band radios and 3 King radios available through Fergus Falls WMD. For this burn every firefighter will be issued a radio. Engines will have 2 way communications with burn crew.

**Emergency frequencies or numbers**

FIRE COMMUNICATIONS CHANNELS AND FREQUENCIES FOR THE Fergus Falls COMPLEX			
Channel	Name	Rx Frequency	Tx Frequency
zone 1 channel 4	FF C-C AN	164.62500	164.62500
zone 1 channel 1	FF RPTR DI	164.6250	163.15000
zone 1 channel 2	FF C-C DI	164.62500	164.62500
zone 2 channel 1	Fire DNR Forest	151.47500	151.47500
zone 2 channel 2	Fire MNICS	170.47500	170.47500
zone 2 channel 3	Fire Mutual Aid	154.29500	154.29500
zone 2 channel 4	Fire Otter Tail	154.44500	154.44500
zone 2 channel 5	Fire Douglas	154.17500	154.17500
zone 2 channel 6	Fire Grant	154.25000	154.25000
zone 2 channel 7	Fire Wilkin	154.51500	154.51500

Zone 1 channel 4 FF C-C AN will be used in most cases. The radio channel will be given out during the pre-burn briefing.

If working with rural volunteer fire departments use the county fire channel associated to them.

Cell phone will be on site.

Fergus Falls WMD Fire Cell Phone Number: 218-770-6192

**Special Constraints and Considerations:**

- There is a parking lot on the South side of the burn unit. The posts will need to be wet down prior to ignition.
- Special considerations will be given to extra crew members and equipment for smoke management with specific winds and the presence of ag. stubble or standing crops on adjacent ag land.

**Special Safety Precautions Needing Attention:**

- It will be important to establish minimally adequate control line width (100') on downwind perimeter of unit to prevent potential spotting and increase fire intensities.

**PUBLIC AND MEDIA CONTACTS**

Name Address (if required)	Location/ Description	Phone Number	Remarks	Date of Contact	Time of Contact
Ottertail County Dispatch	Sheriff's Dept.	218-736-5421			
External Affairs*	RO	612-713-2341			
DNR	Alexandria	320-762-3214			
Alan Gutzmer	Residence	218-589-0897			
M. Hoff	Residence	218-736-2131			
Clifford Hieb	Residence	218-589-3453			
Steve Thorburg	Residence	218-589-4554			
Mike Nettstad	Residence	218-589-8866			

- Contact External affairs and inform them on proposed acres to be burned and time of ignition.

**Media Contacts: A general news release pertaining to the prescribed fire program will be submitted to local newspapers prior to the initiation of prescribed burning program in the spring.**

Daily Journal 914 E. Channing Ave., Fergus Falls, MN 56537

Grant County Herald 35 Central Ave. P.O. Box 2019

Fargo Forum 101 N 5<sup>th</sup> Fargo, ND 58102

## IGNITION, BURNING AND CONTROL

	Planned or Proposed	Actual
Scheduling: Approx. Date(s)	April 1 - Nov. 15 –Annually	
Time of Day	1000-1800	
	Acceptable Range	

FBPS Fuel Model 3	Low Fire Behavior	High Fire Behavior	Actual
Temperature	40	90	
Relative Humidity	70	25	
Wind Speed (20' forecast)	2	25	
Wind Speed (mid-flame)	2	14	
Wind Direction	<b>All Winds</b>		
Cloud Cover (%)	100	0	
<b>ENVIRONMENTAL CONDITIONS</b>			
Soil Moisture	N/A	N/A	
1 hr. Fuel Moisture	15	5	
10 hr. FM	N/A	N/A	
100 hr. FM	N/A	N/A	
Woody Live Fuel Moisture	N/A	N/A	
Herb. Live Fuel Moisture	N/A	N/A	
Litter/Duff Moisture	N/A	N/A	
<b>FIRE BEHAVIOR</b>			
Type of Fire (H,B,F)	H - B - F	H - B - F	
Rate of Spread	25   4   6	297   8   15	
Fire line Intensity	283   41   72	3363   101 194	
Flame Length	6   2   3	19   4 5	
Energy Release Component			

### **Cumulative effects of weather and drought on fire behavior:**

- Prolonged drought will cause drying of larger fuels and possibly litter, duff, and soil layers which do not normally burn. The fuel models do not account for these fuels burning. With a drought situation, you can expect higher flame lengths, highly increased fire line intensity, resistance to control efforts, prolonged smoldering of large logs and duff layers, difficult mop-up, and lingering smoke problems.
- Wet areas that you were counting on as a barrier may be much lower than necessary to conduct a safe burn. Water sources may be dried up.
- Drought will have much less effect on grasses (FBPS fuel model 1 and 3) since fuels are composed mostly of 1-hour fuels which will be more affected by temperature and relative humidity than prolonged drought.
- Drought may have a profound effect on marsh-type fuels since the organic soils may add to the intensity, mop-up problems, and smoke production if they are dry.
- Spring burning often has wet woody fuels from winter precipitation. If winter precipitation has been below average for the area, consider postponing burning for the season or until after a rain.
- If drought conditions are severe enough you may have to postpone the burn, use additional resources for holding, burn under the low fire behavior conditions within the prescription, and monitor fire behavior more closely.
- State or area-wide burn bans may be imposed if drought conditions warrant it. All burn bans will be honored.

### **Where to get information on cumulative drought conditions**

- Monitor whether precipitation is below normal at your station (But be careful - precipitation can be above normal for the year, but BELOW normal for the last 4 or 5 months, leading to abnormally dry conditions)
- Nearby automated weather stations will probably calculate fuel moistures and NFDRS (National Fire Danger Rating System) indices which indicate what the burning conditions are for a general area.
- The nearest fire dispatch may have current conditions including what the live fuel moistures are doing
- The ERC (Energy Release Component) is a good indicator of when burning conditions are getting severe. Many refuges use the Burning Index - another NFDRS output, but it fluctuates more rapidly than the ERC (not as good for long-term trends)
- Internet - Keetch-Byram drought index, departure from average greenness, Palmer Drought Index are sources that can be accessed for information on regional conditions, sometimes down to county level. This data can be found at the Wild land Fire Assessment System (WFAS) on the Internet
- NRCS may have soil moisture data.
- Some states have issue range fire indices daily. Consult with the National Weather Service. These are sometimes available on the Internet.

### **If you are in drought conditions you may have to do something to mitigate the effects**

- Postpone burn
- Have additional holding forces on hand

- Have additional water sources available
- Burn under less severe conditions
- Spend greater effort on mop-up
- Monitor the fire more often to make sure it's out
- IF NOTHING ELSE: make a note that you should consult with your Zone FMO if the nearest weather station is showing below normal precipitation.

### **Ignition Technique:**

**Ignition Sequence:** See attached map

**Preferred wind direction:** Any wind

**Test Fire:** A test fire will be conducted in the downwind corner of the burn unit. The burn boss will observe the test fire to ensure wind direction and burning conditions are within predicted and required parameters. However, the use of a single test fire at one moment is not sufficient. During all times of active ignition the prescribed fire will be monitored, and will be terminated if objectives and safety requirements are not being met. If conditions are not within these parameters the test fire will be extinguished and burn postponed until conditions allow for continuation. The downwind perimeter will be ignited allowing the fire to back/flank into the wind. A control line of at least a minimum of 100 feet will be established before teams continue with ignition along flanks. Unit will be completed by lighting a head fire on upwind perimeter of unit.

**Ignition Teams:** Two ignition teams will be used. Both teams will be made up of 2 fire crew members. If cured stubble or standing crops are present a track truck or a pumper will be added along with an additional crew member to both teams. Both teams will ignite and hold as they proceed. A **minimum** of 100' of black line will be established before teams head fire unit.

### **Preferred Wind Direction Example Ignition Sequence:**

Wind: See Ignition Sequence map for ignition sequence.

<b>Prescribed Fire Organization</b> (Following is the minimum list of qualified positions and equipment to safely accomplish this burn. If additional personnel and/or equipment are available they may be used to fill various positions at the discretion of the burn boss):	
Positions/Equipment	Quantity
RXB3	1
ENOP	2
FFT2	3
IADP (refuge)	
Pumper units with a minimum capacity of 200 gallons of water.	2-3
Track vehicle with 125 gal pumper unit.	1-2
ATV	0-1
1200 gallon (water tender)	
“Caution-Smoke Ahead Signs”	2
“Flagger Ahead”	2
“Be Prepared to Stop”	2
“Stop/Slow” paddle	2
Floto-Pump, Mini Mark, other pump	1
**Total of 6 person minimum	

- **Other:** Minimum crew size required will be 6 crew members but more people will be utilized if available.
- If burning with northerly or easterly winds two additional people will be needed for smoke management on the roads, if using a NE wind up to four people will be utilized for smoke management.
- If burning with a westerly wind a monitor will be in place to monitor smoke on hwy 59
- If ag. stubble or standing crop are present a track truck or pumper and an additional fire crew member will be added to the ignition and holding teams

**Prescription monitoring:**

- The Burn Boss or a designated fire crew member will take and record on-site weather observations prior to and periodically (as needed) throughout the ignition. These observations along with the spot weather forecast will be used to determine if conditions are within prescription to ignite and continue firing operations.

## SMOKE MANAGEMENT

### Permits required:

- A permit will be acquired from the MN DNR prior to the spring and fall burning season.

### Station will follow the current Minnesota Smoke Management Plan.

DISPERSION INDEX	DISPERSION CATEGORY
<13,000	Poor
13,000-29,000	Fair
30,000-59,000	Good
60,000 or greater	Excellent

### Acceptable dispersion category which the burn will be conducted.

Fair

The burn unit size is medium.

Fuel is grass.

Proximity of closest downwind smoke sensitive area is < 0.25 mile (Hoff residence).

If burning later in the spring the dispersion category will be bumped to good if burning with a westerly wind, or the westerly wind dropped completely depending green up and firing tactics.

### Distance and Direction from Smoke Sensitive Area(s) and Visibility Hazards:

- Alan Hoff residence located 1000 ft west of burn unit
- M. Gutzmer residence located 2700 ft west of burn unit
- Clifford Hieb residence located 2400 ft south west of burn unit
- Mike Thorness residence located 3400 ft east of burn unit
- Steve Nettetstad residence located 2200 ft east of burn unit
- Highway 59 is ½ mile east of burn unit. Hwy 59 has moderate to heavy traffic volume. A monitor will be put in place to observe smoke impacts if burning with a westerly wind
- 215<sup>th</sup> Ave is adjacent to the west side of the burn unit, 215<sup>th</sup> has low traffic volume. 2 additional people will be available to perform smoke management duties if burning with an easterly wind.
- 150<sup>th</sup> St is adjacent to the south side of the burn unit, 150<sup>th</sup> has low traffic volume. 2 additional people will be available to perform smoke management duties if burning with a northerly wind.

### Necessary Transport Wind Direction, Speed and Mixing Height:

- Any wind can be used for this burn unit. Test fires will indicate if smoke dispersal and wind direction objectives are being met. Test fires will consist of a 50-100 foot backing strip fire at the designated point of ignition (see site-specific plan maps) for each unit. Mixing heights must be a minimum of 1640 feet. Transport winds must be a minimum of 8 MPH. Any ignition that is not meeting smoke dispersal objectives will be terminated until conditions allow for those objectives to be met. Smoke dispersal information will be obtained from the National Weather Service Office as a part of the spot weather forecast.

### Actions to Reduce Visibility Hazard(s):

- All burning parameters as specified in this plan will be followed. Planned wind and atmospheric conditions will allow smoke to rise and disperse.
- All attempts will be made to reduce smoke emissions from the burn as quickly as possible. This may include immediate shut down of the burn and suppression of any area of the unit still on fire.

Mop up will also be initiated in order to eliminate as much smoke production as possible.

- If additional resources are needed to extinguish the burn and eliminate further smoke production, they will be called in through the refuge dispatch system and may include fire departments, personnel from other refuges or other state and Federal agencies in the area.
- If it appears that smoke from the burn will impact local communities or other smoke sensitive locations, all efforts will be made to identify the potential problem areas and inform the public so that local actions to reduce impacts such as closing up buildings and moving smoke sensitive individuals away from the impacted area can occur.
- Visibility hazards will be discussed during the pre-burn briefing. Fire engines on the fire lines should travel slowly with headlights on at all times. Communication between engine operators and fire line personnel will be maintained for the duration of the burn, and all line personnel will be made aware of equipment movements.
- Station will follow Region 3 Prescribed Burn Smoke Management Policy effective as of August 21, 2002.
- If smoke does become a problem the appropriate signs will be on site, and the following will take place. Smoke signs will be placed on all potentially impacted roads following DOT requirements. A refuge employee will be assigned to monitor the road on each end of the area of concern and will be equipped with a radio, cell phone and a vehicle with emergency lights for high visibility. If possible, staff should wear high visibility vests when working on roads. If conditions warrant, traffic control will be initiated using appropriate "stop" and or "caution" signs, and the county sheriff or other law enforcement personnel will be called to assist with local traffic control, including temporary closure of area roads if deemed necessary.

**Residual Smoke Problems:**

- Residual smoke will be limited due to the short residency time of grass fuel models. Where holdover smoke may be a concern, rapid and complete mop-up will be completed. Some areas of particular concern will be the wetland units where organic soils may pose a problem. All burning should be completed one hour prior to sunset to prevent as much residual smoke as possible.

**Particulate emissions in Tons/Acre and how calculated: N/A**

## FUNDING AND PERSONNEL

**RX Project Cost Estimate:** (Budget Estimate. A matrix which provides an estimate and will capture the actual expenses will be used. Capture all costs associated with the project relate to FIREBASE.)

Category	Phase			Total	
	Crew Size	Regular hours	Avg. wage		
<b>Burn Crew</b> (man hrs.)	6	48	20.00	0	960.00
Administration	1	40	20.00	0	800.00
Site Prep.	1	8	20.00	0	160.00
Overtime	0	0		0	
<b>Equipment</b>				0	500.00
<b>Miscellaneous</b> (fertilizer,foam )	0	0	0	0	
<b>TOTAL</b>				0	2420.00

**Estimated Cost per Acre**        \$ 22.20  
**9263 Funds Requested**       \$2420.00  
**Other Funds Requested**        0.00

**Crew Briefing Points:**

(Show water sources on Map) A thorough briefing emphasizing all hazards, escape routes, and any special considerations relative to the burn will be discussed on site prior to ignition. All crew members will have maps of the unit. This will include a drive around review with all crew. The Go-No-Go

checklist will be completed prior to the burn.

Prescribed Burn Briefing Outline attached.

- Park all vehicles in a safe area, pointed away from fire. Leave keys in the ignition and close all windows.
- Provide for plenty of drinking water, juices or other non-caffeinated drinks. Rotate ignition crews when necessary.
- Limit exposure of personnel to smoke and CO exposure, rotate personnel.
- Always keep track of personnel working next to you, and make your where-about know when you change positions.
- Give clear and concise instructions, and make sure they are understood.
- Wear proper PPE and keep shirt sleeves down.
- Avoid spilling fuel on PPE. Fill torches and fuel containers ONLY on the ground. Label and date all fuel containers.
- Use of class A foam or fertilizer is recommended to assist holding crews and with mop-up. However, care should be given not to spill large concentrated doses of foam near wetlands.
- Communicate any changes in weather or other significant events to burn boss immediately.
- Make sure everyone is on the correct radio channel .

**Personnel Escape Plan:**

- Safety zones for this unit will include; black, cultivated fields, areas of no or light fuel, open water, and roadways.
- Escape routes will include; black, areas of light fuel, roadways and open water.
- It will be the responsibility of every individual that they have escape routes and safety zones picked out at all times.

**Special Safety Requirements:**

- ATV operators will have agency determined 'ATV Operators Course'.
- All vehicles will be required to have a set of fence cutters at easy access when working on this prescribed fire.

**Go-No-Go Checklist:**

- See attached Go-No-Go checklist.

**Holding and Control:**

**Critical Control Problems:** Little control problems are anticipated. If ag. stubble or standing crops are present resources will be added (personnel and equipment) to the ignition and holding teams as specified in the staffing and equipment chart, by the burn boss.

**Water Refill Points:** The large wetland located adjacent to burn unit can be used to refill.

**Other:** An extra mini-striker pump will be available off of the type six engine.

**Contingency Plan for Escaped Fire:**

- In the event of slop over, the Burn Boss will be notified immediately and will decide if it is necessary to continue or cease ignition. The slop over will be declared an escaped fire if it can not be contained within an hour with on-site resources or if structures are threatened regardless of the containment time. If the slop-over has been considered an escaped/wildfire, the most qualified fire crew member will then assume the role of the Incident Commander. The IC will determine the most appropriate suppression strategy to contain and control the fire. Direct attack is the preferred method of control and will be used unless otherwise directed by the IC.
- It shall be covered in the briefing the current qualifications and red-card status of the entire fire crew on-site.
- Available holding forces will perform initial attack.
- If additional resources are needed to contain the escape, outside resources can be ordered directly through the Ottertail County Dispatcher 218-736-5421. The dispatcher will, in turn, contact the local RVFDs and/or other emergency service.
- The fire cannot escape to the north due to the black agricultural field located adjacent to north side of burn unit.
- The South side of the burn unit is adjacent to 150<sup>th</sup> St. South of 150<sup>th</sup> St. is black ag. land and Bakke WPA (SE corner of Hoff-Fronning) If a slop-over occurred we can pinch it off between the wetlands and ag land, or let it burn itself to the surrounding ag land.
- The fire cannot escape to the east due to the black agricultural field located adjacent to east side of burn unit.
- The West side of the burn unit is adjacent to 215<sup>th</sup> Ave. West of 215<sup>th</sup> Ave. is black ag land and the rest of Hoff-Fronning WPA. The West portion of the WPA burned in a wildfire in 2000. We can pinch off any slop-over using the road, ag land and large wetlands, or let the fire burn to the surrounding ag land.
- An escaped fire is highly unlikely, how ever if one occurs, tactics for an escaped fire in any direction will consider direct attack (anchor, flank, and pinch off the head). Indirect tactics will be used depending on fire behavior and access
- See attached map for contingency lines.

**Contingency Plan for Escaped Fire (Are there crews standing by to initial attack or will people doing other jobs be called upon to do initial attack, who must be called in case of an escape, what radio frequencies will be used, etc.)**

Burn Day contacts will include Alexandria MN DNR Forestry Office and the County Dispatch Office. The Burn Boss or his/her designee will advise; burn location, size, ignition time, and name of burn boss.

The Burn Boss or designee will check on available contingency resources (through Ottertail County dispatch, and Alexandria DNR) and the Minnesota Daily Situation Report. National preparedness level, MN State preparedness level, and conflicting rx burns and wildfires will be considered prior to ignition and as part of the Go No Go Checklist.

If fire escapes the following actions will be taken:

- A. If fire burns outside the specified perimeter limits, and cannot be quickly contained by on-site resources, the fire will then become a wildfire.
- B. All prescribed firing operations will cease.
- C. Available holding forces will perform initial attack.
- D. The burn boss or highest wildfire qualified individual on site will assume the duties of Incident Commander until relieved.
- E. Safety and protection of private property will be the highest priorities.
- F. If in the opinion of the burn boss, on-site resources cannot contain the fire, Ottertail county dispatch will be contacted (218-736-5421).

Contingency resources will be requested via radio or cell phone from Ottertail County Dispatch. The closest fire resources to the burn unit are the Dalton Fire Department, located approximately 6 miles from the burn unit, and Fergus Falls Fire Department located approximately 7 miles from the burn unit.

Resources at risk:

- Adjacent burnable land is FWS owned, and will not be negatively impacted by fire. The adjacent fuels are similar to the burn unit consisting of light fuels with rapid recovery rates.
- In the event the escaped fire has the potential to threaten private individuals, structures, livestock, or other non government property, the county dispatch office will be notified with a request for law enforcement to contact home owners and assist with possible evacuation, road closures, and to request structure protection with Volunteer Fire Department structural fire equipment. County dispatch will also be notified should assistance be needed with traffic control and road closings due to hazardous smoke conditions.

## **Medical Emergencies**

## Medical Plan

### Medical Emergency Procedures

In the event that a medical emergency beyond the capability of the people on site occurs, **911** or calling County dispatch needs to be initiated, identifying the extent of injuries, location, access and contact person on site. This can be done with a cellular phone on site or through the Refuge office dispatcher. First aid will be administered on site, and the Burn Boss will determine if the burn operation can safely continue without jeopardizing the well being of the injured party or the safety of the remaining firefighters.

Each individual firefighter will be carrying an individual first aid kit on their person, and each vehicle will have a complete kit with it.

Brief Description: In case of injury needing immediate medical attention, the burn boss or designated fire crew member will contact County Dispatch Office (911) for dispatching of nearest ambulance. The nature of injury will need to be conveyed from burn site through dispatchers to ambulance crew to insure proper response. If the nature of the injury requires medi-vac to trauma or burn center request air ambulance from Fargo or Minneapolis through dispatchers. Allow ambulance crew to coordinate communications with air ambulance.

### Ambulances

Name	Address	Phone Number	Paramedics	
			Yes	No
Ottertail County Dispatch	Fergus Falls MN	911 or 218-736-5421	<b>X</b>	

### Air Ambulances

Name	Address	Phone Number		
			<b>x</b>	
Air Medical LLC	Fargo ND	1-866-424-7633	<b>x</b>	
Life Flight “Merit Care”	Fargo ND	701-234-6303	<b>x</b>	
Life Link 3	Minneapolis MN	1-800-792-1052	<b>x</b>	
North Memorial North Air	Minneapolis MN	1-800-247-0229	<b>x</b>	

### Hospitals

Name	Location	Phone Number	Travel Time (Air/Ground)
<b>Helipad</b>			
Lake Region Healthcare Corporation	Fergus Falls, MN Helipad is at the airport located 1 mile west of town.	218-736-8000	30 minutes by ground
Douglas County Hospital	Alexandria, MN Helipad available.	320-762-1511	30 minutes by ground

Meritcare Medical Center	720 4 <sup>th</sup> St. N Fargo, ND	701-234-2000 Helipad available.	90 minutes by ground
Nearest Burn Center			
Name (Air/Ground)	Location	Phone Number	Travel Time
Hennepin County Burn Center	Minneapolis, MN	1-800-321-2876	150 minutes by ground
Regions Burn Center	640 Jackson St. St Paul, MN	1-800-922-2876	150 minutes by ground
Supplies to the Field			
Item		Person Responsible	
First Aid Kits (All Engines)			

**Mop Up and Patrol:**

- All fires will be mopped up and patrolled commensurate with the threat of smoke and/or escape problems. In all cases, each burn will be patrolled a **minimum** of once immediately prior to abandoning for the evening. The unit will be mopped up no less than 100 feet off of the control line. This may be increased if strong winds are forecasted after completion of the prescribed burn at the burn boss' discretion.

**Rehabilitation Needs:-**None anticipated

**DI 1202 Submission Date:**

**Special Problems:**

**VIII: CRITIQUE OF BURN**

**Were Burn Objectives Within Acceptable Range of Results:**

**What Would be Done Differently to Obtain Better Results:**

**Was There Any Deviation from Plans (why):**

**Problems and general Comments:**

## **IX. POST BURN MONITORING**

**Visual Inspection - Date:**

**Length of Time After Burn:**

**Vegetative Transacts:**

**Comments on Habitat Conditions, etc.:**

**Photo Documentation:**

**Other:**

## **X. FOLLOW-UP EVALUATION**

**Follow-up Date: \_\_\_\_\_ Refuge Burn Number:**

**Length of Time After Burn:**

**Vegetative Transects:**

**Comments on Habitat Condition:**

**Photo Documentation:**

**Other:**

## GO-NO-GO CHECKLIST

Unit:           Hoff-Fronning (East)WPA          

- Yes\_\_\_ No\_\_\_ Do you have an **APPROVED** prescribed fire plan?
- Yes\_\_\_ No\_\_\_ Are **ALL** fire prescription elements met?
- Yes\_\_\_ No\_\_\_ Are **ALL** smoke management specifications met?
- Yes\_\_\_ No\_\_\_ Are **ALL** permits and clearances obtained?
- Yes\_\_\_ No\_\_\_ Has an area spot weather forecast been obtained and is it favorable?
- Yes\_\_\_ No\_\_\_ Are **ALL** required personnel in the prescribed fire plan on site?
- Yes\_\_\_ No\_\_\_ Has the contingency planning process adequately considered fuels adjacent to and within a reasonable proximity to the burn area?
- Yes\_\_\_ No\_\_\_ Has the availability of **ALL** contingency resources been checked, and are they available?
- Yes\_\_\_ No\_\_\_ Have **ALL** personnel been briefed on the project objectives and their assignment?
- Yes\_\_\_ No\_\_\_ Have **ALL** personnel been briefed on their safety hazards, escape routes, and safety zones?
- Yes\_\_\_ No\_\_\_ Have **ALL** the required notifications been made?
- Yes\_\_\_ No\_\_\_ Are the on-site holding forces adequate for containment under the expected conditions?
- Yes\_\_\_ No\_\_\_ In **YOUR OPINION**, can the prescribed fire meet the planned objectives, and can it be carried out according to the approved plan?

I certify that I have reviewed the burn objectives and that I am in agreement that the Prescribed Fire Complexity Analysis is correct and that all the above questions were answered "**YES.**"

\_\_\_\_\_  
Prescribed Fire Burn Boss

\_\_\_\_\_  
Date

\_\_\_\_\_  
Refuge Manager

\_\_\_\_\_  
Date

Proceed with a test fire and document the current conditions, location, and results.