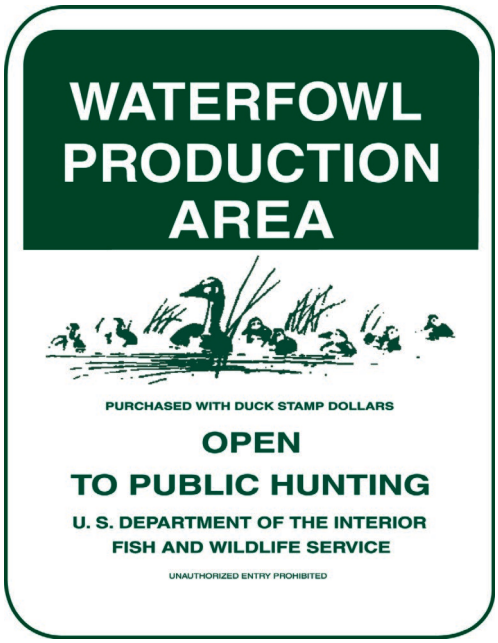
Herman WPA

Prescribed Burn Plan



US Fish & Wildlife Service Region 6

North Dakota Fire Zone

Kulm WMD

January 2016

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Element 1: Signature Page

PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT NAME(S): Kulm WMD – Dickey County

PRESCRIBED FIRE NAME:
Prescribed Fire Unit (Ignition Unit): Herman WPA

PREPARED BY:
Name (print): Jason Wagner Qualification/Currency: RXB2

Signature: _____ Date: _____

TECHNICAL REVIEW BY: *See Appendix B: Technical Reviewer Checklist*
Name (print): _____ Qualification/Currency: _____

Signature: _____ Date: _____

COMPLEXITY RATING: Moderate

MINIMUM BURN BOSS QUALIFICATION: RXB2

APPROVED BY:
Name – Agency Administrator (print): Mick Erickson, Project Leader

Signature – Agency Administrator: _____ Date: _____

Element 1: Signature Page

PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT NAME(S): Kulm WMD – Dickey County

PRESCRIBED FIRE NAME:
Prescribed Fire Unit (Ignition Unit): Herman WPA

PREPARED BY:
Name (print): Jason Wagner Qualification/Currency: RXB2

Signature: _____ Date: 1-27-16

TECHNICAL REVIEW BY: *See Appendix B: Technical Reviewer Checklist*
Name (print): Jeff Meadows Qualification/Currency: RXB2, Yes

Signature: _____ Date: 2/23/2016

COMPLEXITY RATING: Moderate

MINIMUM BURN BOSS QUALIFICATION: RXB2

APPROVED BY:
Name – Agency Administrator (print): Mick Erickson, Project Leader

Signature – Agency Administrator: _____ Date: _____

Element 1: Signature Page

PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT NAME(S): Kulm WMD – Dickey County

PRESCRIBED FIRE NAME:

Prescribed Fire Unit (Ignition Unit): Herman WPA

PREPARED BY:

Name (print): Jason Wagner Qualification/Currency: RXB2

Signature:_____ Date:_____

TECHNICAL REVIEW BY: *See Appendix B: Technical Reviewer Checklist*

Name (print):_____ Qualification/Currency:_____

Signature:_____ Date:_____

COMPLEXITY RATING: Moderate

MINIMUM BURN BOSS QUALIFICATION: RXB2

APPROVED BY:

Name – Agency Administrator (print): Mick Erickson, Project Leader

Signature – Agency Administrator: Mick Erickson Date: 3/22/2016

Administrative Unit Name: Kulm WMD – Dickey County

Prescribed Fire Name: Herman WPA

Element 2A: AGENCY ADMINISTRATOR IGNITION AUTHORIZATION

See LAP

Element 2B: PRESCRIBED FIRE GO/NO-GO CHECKLIST

See LAP

Element 3: Complexity Analysis Summary

See Appendix:C Complexity Analysis for complete Complexity Analysis.

ELEMENT	RISK	POTENTIAL CONSEQUENCE	TECHNICAL DIFFICULTY
1. Potential for escape	Moderate	Moderate	Low
2. The number and dependence of activities	Low	Low	Low
3. Off-site Values	Moderate	Moderate	Moderate
4 On-Site Values	Low	Low	Low
5. Fire Behavior	Moderate	Moderate	Moderate
6. Management organization	Low	Low	Moderate
7. Public and political interest	Low	Moderate	Low
8. Fire Treatment objectives	Low	Low	Low
9. Constraints	Moderate	Low	Moderate
10. Safety	Low	Low	Low
11. Ignition procedures/methods	Moderate	Moderate	Moderate
12. Interagency coordination	Low	Low	Low
13. Project logistics	Low	Low	Moderate
14 Smoke management	Moderate	Moderate	Low

COMPLEXITY RATING SUMMARY	OVERALL RATING
RISK	Moderate
CONSEQUENCES	Moderate
TECHNICAL DIFFICULTY	Moderate
SUMMARY COMPLEXITY DETERMINATION	Moderate

RATIONALE:

This project requires a moderate rating due to fact that all three final ratings were viewed as being moderate. There is a moderate risk of escape which would in all cases affect private land. The higher level of coordination and communication required to conduct the burn adds to the risk of escape.

Administrative Unit Name: Kulm WMD – Dickey County

Prescribed Fire Name: Herman WPA

Element 4: Description of Prescribed Fire Area

A. Physical Description:

Burn Unit	**Herman WPA**		
Legal Description:	T 132 N, R 65 W, Sec. 7	**Latitude**	46.262
Township	Young Township	**Longitude**	-98.874
County	Dickey	NAD 83 (Decimal Degree)	
Acres	165		

Topography: The topography of the unit is flat with elevations ranging from 1800 – 1900ft.

Project Boundary: The burn unit is clearly marked at all corners.

B. Vegetation/Fuels Description:

The unit consists of Fuel Model 1 upland sites with mixed grass prairie containing smooth brome, blue grass and little bluestem and Fuel Model 3 Tall Grass Prairie sites (Big Bluestem and Switchgrass) and the emergent vegetation around the peripheral edges of wetlands (cattails, bull rush, reed canary).

C. Description of Unique Features, Natural Resources, Values:

Values at risk will include boundary fences along the burn perimeter that will need active protection.

D. Maps - Attach in Appendix A

1. Vicinity (Required)
2. Project/Ignition Unit(s) (Required)
3. Contingency (R6 FWS): ☒ Included ☐ Not Included
4. Ignition Sequence (R6 FWS): ☒ Included ☐ Not Included
5. Smoke Trajectory (R6 FWS): ☒ Included ☐ Not Included

Element 5: Objectives

A. Resource objectives:

See IAP(ICS 202)

B. Prescribed fire objectives:

See IAP(ICS 202)

Element 6: Funding

A. Cost:

Agency Administrator and FMO will coordinate any/all costs associated to the burn prior to ignition, including - not limited to, travel, OT, fuel and mechanical repairs.

B. Funding source:

Agency Administrator and FMO will coordinate any/all funding sources associated with completion of the plan prior to ignition.

Element 7: Prescription

A. Prescription Narrative:

1. Describe how fire behavior will meet objectives
   Prescribed fire is used as a management tool to mimic natural wildfires that developed the prairie as it is today. Fire will remove the litter and allow native warm season grasses & forbs to grow in areas heavily dominated by exotic invaders. FM's 1 & 3 are light and flashy fuels primarily wind driven. Fire behavior parameters are listed below. Values will vary with lower end found on the backing and flanking fires and high end on the head fires. Similar fire behavior will be found outside of the unit.

B. Prescription Parameters:

1. Environmental or fire behavior (or both)

   See IAP

2. Fire Modeling or empirical documentation (or both)

   See Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation for Behave Plus Runs.

C. Predicted Fire Behavior Outside Project Boundary

- Predicted fire behavior outside the unit is expected to be the same or less then the unit being burned.

Element 8: Scheduling

A. Implementation Schedule:

1. Ignition Time Frames or Season(s) (or both)
   Implementation schedule is determined by the agency administrator and is not limited to any day of the year provided that the prescription parameters are met and the Agency Administrator Ignition Authorization has been signed approving such actions. Ignition may be implemented any time of the day provided all attempts are made to extinguish smoke before night time conditions fall out of prescription.

B. Projected Duration:

Project will take one operational period to complete during normal working hours. This does not include site prep which will be completed prior to ignition date. Mop-up and/or patrol activities may occur on the following day.

C. Constraints:

Burning may only be conducted during preparedness level 4 or 5 with approval from the National office provided approval included feedback from the Geographic Area MAC group (see Interagency Standards for Fire and Aviation Operations, NFES 2724, Chapter 18). Controlled burning may not be conducted during Red Flag Warning Days or when the Rangeland Fire Danger Index is in the Extreme category.

Element 9: Pre-burn Considerations and Weather

A. Considerations:

1. On-site

   A mowed fire break (14' min.) will be established along areas of the burn unit that do not have natural barriers. Sprinkler lines or wet-lines may be substituted for mowed fire breaks where practical or where terrain does not lend itself to mowing (too steep, rocky areas, etc…). Pre-established black lines at least 10 feet wide may also be substituted for mowed fire breaks. Black lines may be established around values at risk including, but not limited to, power pole locations and wood sign locations. *See Appendix A. Maps for locations of mowed fire breaks and further details of physical site preparations.*

   Section 7 consultations were completed for the Kulm WMD as part of CCP process for North Dakota Wetland Management Districts CCP (2008). The CCP states that management actions within the CCP should not adversely affect Threatened and Endangered Species or their habitats. These Section 7 Intra-Service consultations are an appendix to the CCP and are on file at the Refuge. The agency administrators are responsible for determining the need for additional consultation on an annual basis: 1) whether any new ESA listings or designations of critical habitat have occurred for species in the vicinity; 2) whether any new T&E surveys have revealed species locations in or near proposed projects; and 3) whether the projects conducted the previous year had the intended effects on T&E species and habitat. Prescribed burning in areas where threatened and endangered species exist will not be conducted if the prescribed fire will be detrimental to the species or any adverse impacts cannot be mitigated.

   Cultural resources are scattered throughout the Complex as the area was heavily used by Native Americans, but is a relatively un-researched archeological area. Cultural resource records are maintained at Kulm WMD. Archeological clearance for prescribed burning will be obtained from the regional archeologist. All restrictions and recommendations will be adhered to.

2. Off-site

   None.

B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):

See IAP

C. Notifications:

See Appendix A. Maps for Notification Map and contacts.

Element 10: Briefing

A. Briefing Checklist; including, but not limited to: (additional items may be added)

See IAP

Element 11: Organization and Equipment

A. Positions:

Burn boss will determine if additional positions are required based on current weather, fire danger, fuel conditions and experience of crew. *See IAP (ICS 204).*

B. Equipment:

Type 6 Wetliner can be substituted with a standard Type 6 Engine and additional FFT2. *See IAP (ICS 204).*

C. Supplies:

Drip torches, torch fuel, hand tools & portable pump - equipment is readily available on engines.

Element 12: Communication

Burn Boss will identify radio frequencies and communication procedures *See IAP.*

Element 13: Public and Personnel Safety, Medical

A. Safety Hazards:

See IAP (ICS 202), Appendix D: Job Hazard Analysis for additional safety hazards and mitigation.

B. Mitigation: Measures Taken to Reduce the Hazards:

All crew members will wear proper PPE and adhere to the Ten Standard Fire Orders at all times. All crew members will be briefed on LCES, potential Watch Out Situations, hazards and mitigation measures prior to ignition. Caution signs will be placed on the road to warn public. *See Appendix D: Job Hazard Analysis for mitigation of safety hazards.*

C. Emergency Medical Procedures:

On scene personnel will follow the IAP (ICS 206) Medical Plan. Further guidance on emergency procedures can be found in the Incident Response Pocket Guide (NFES 1077) and Chapter 1 on the Fireline Handbook (NFES 0065).

D. Emergency Evacuation Methods:

See IAP (ICS 206) Medical Plan.

E. Emergency Facilities:

See LAP (ICS 206) Medical Plan.

Element 14: Test Fire

A. Planned Location:

A test fire will be ignited in a representative fuel type, in an area that can be easily controlled prior to the start of ignition operations. This area will generally be on the downwind side of the unit and adjacent to an established control line or natural barrier. Analysis of the initial ignitions may provide adequate test fire results.

B. Test Fire Documentation:

1. Weather conditions on site - Current weather conditions will be documented in Element 20: On-Site WX & Fire Behavior Obs. Table.
2. Test fire results - Burn Boss will verify that the prescribed fire behavior characteristics will meet management objectives and smoke dispersion is favorable before ignition may continue as planned. If test fire results are unfavorable, the test fire will be extinguished and the prescribed fire will not continue until conditions are favorable. Test fire results will be documented in Element 20: Unit Log Table.

Element 15: Ignition Plan

A. Firing Methods:

1. Techniques – Strip and Spot fires to ignite backing, flanking, and head fires utilizing hand-held firing devices by personnel on foot or ATV mounted firing devices.
2. Sequences - Exact ignition sequences to be used will be determined and approved by the Burn Boss prior to ignition of the unit. Local factors may influence on-site weather conditions, therefore the ignition sequence will not be determined until all resources arrive on site at which time the planned ignition sequence will be provided during the operational briefing.
3. Patterns – Working towards the upwind side, a backing fire along the downwind side, followed by flanking fires with interior chevron or strip fires would be typical patterns for a unit of this size to manage fire behavior and smoke. A solid strip head fire would be used on the upwind side to complete the burn.

B. Devices:

Drip torches, ATV drip torch, fusees and flare pistols. ATV ignitions will be performed in accordance with National and Regional Fish and Wildlife Service guidelines with a properly qualified operator.

C. Minimum Ignition Staffing:

Ignition staffing typically requires 1-3 personnel coordinated by the Burn Boss or assigned personnel on their side of the unit. Interior ignitions will be coordinated through the Burn Boss.

Element 16: Holding Plan

A. General Procedures for Holding:

The burn boss may elect to have a portable pump set up at a convenient location for engines to fill. Locations of re-fill sites will vary depending upon the season of the burn and water levels in nearby wetlands. *See Appendix A. Maps for locations of potential refill sites.*

Wet-lines will be established immediately prior to any ignition along established control lines, unless a natural or

manmade control line provides a barrier to fire spread such as a gravel road, disked fire break or harvested crop field that has been worked. At least one holding resource such as an engine, ATV, or firefighter will follow up each ignition to monitor for creeping or spotting of fire outside of control lines. Additional resources, typically an ATV, will continually patrol all lines of the unit extinguishing all smokes within 10 ft. of the line or until otherwise directed by the burn boss.

After ignition is completed, crews will immediately begin mop-up actions. Burn boss will establish mop-up standards based on adjacent fuels and expected weather conditions. At a minimum, control lines adjacent to readily available fuels will be cold–trailed and extinguished a minimum of 50 ft. in from the edge. The burn boss will decide whether or not a unit needs subsequent monitoring based on current and expected weather. This unit will be completed within one operational period. Fuel types and burning conditions outlined within this plan will generally not support fire activity overnight.

B. Critical Holding Points and Actions:

Critical holding areas will typically be the mowed fire break lines, especially downwind lines. A type 6 engine or ATV/UTV will be assigned to these lines for constant patrol until line is secure to ensure there is no possibility of fire creeping outside the unit. Timing and speed of ignition will depend on ability of holding resources and good communications between the two. *See IAP (ICS 204) for detailed Critical Holding Points and Actions.*

C. Minimum Organization or Capabilities Needed:

Ignition crew may be used as needed for holding as they complete their ignition operation. *See IAP (ICS 204).*

Element 17: Contingency Plan

A. Management Action Points or Limits:

1. Project objectives are not being met:
This situation is typically the result of inadequate burning conditions. If it appears that project objectives are not being met the Burn Boss will immediately evaluate current environmental and fire behavior conditions and determine if they are within prescription.

2. Prescription Parameters:
One or more environmental or fire behavior prescription parameters are exceeded due to unexpected changes in weather or other factors.

3. Smoke Impacts:
Changes in weather, burning conditions or other factors occur that cause imminent smoke problems such as poor visibility on public roadways, significant impacts to the general public, residences or communities, or smoke that may have significant negative impacts to firefighters on the line.

4. Minimum Implementation Organization:
Implementation organization falls below minimum requirements due to injury, illness or any other factor.

5. Unit Boundary:
The fire exceeds the unit boundaries as defined on unit maps within this plan.

6. Contingency Resources:
Contingency resources as identified in this plan are not available prior to the start of ignition operations, or identified contingency resources become unavailable after ignition operations have commenced.

B. Actions Needed:

1. Project Objectives are not being met:

If current conditions are within prescription parameters the Burn Boss will evaluate expected environmental conditions for later in the operational period. If environmental conditions are expected to improve the Burn Boss may elect to temporarily suspend further ignition operations and hold resources until conditions improve or cancel any further ignition operations for the operational period and begin with control and mop-up of the unit. If environmental conditions are not expected to improve ignition operations will be cancelled and control and mop-up of the unit will begin immediately.

2. Prescription Parameters:

All resources will work at keeping active fire contained within the unit boundaries. The Burn Boss will continue to direct resources as long as active fire remains within the unit. If environmental and/or fire behavior conditions are expected to fall back within acceptable parameters the Burn Boss may elect to continue with ignition operations later in the operational period when prescription parameters can be met. If environmental and/or fire behavior conditions are not expected to fall back within acceptable parameters resources will work at control and mop-up of unit and no further ignition operations will commence unless deemed necessary for control of the unit by the Burn Boss.

3. Smoke Impacts:

If changes in weather conditions or other factors occur that cause imminent smoke problems, the following plan will be initiated:

a. 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 portion of the unit still on fire. Mop-up will also be initiated in an attempt to reduce smoke production to the furthest possible extent.

b. If additional resources are required to extinguish the burn and eliminate further smoke production, they will be requested through State Radio and may include local fire departments, personnel from other refuges or other state and federal agencies in the area.

c. Smoke signs will be placed on impacted roads, traffic control will be initiated and the county sheriff or other law enforcement personnel may be called in through State Radio to assist with local traffic control, including temporary closure of area roads if deemed necessary. Locations and assignments of any traffic control personnel will be determined by the Burn Boss and law enforcement personnel immediately prior to assignment. Weather variables may exist during any potential smoke problem that would prevent one from predicting the best location for traffic control measures prior to the event itself.

d. 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 areas can occur.

e. The burn boss will remain on scene until smoke problems are resolved or until relieved by an individual appointed by the line officer.

4. Minimum Implementation Organization:

The Burn Boss will temporarily halt ignition operations and evaluate the potential for successful completion of the burn with the current organization. At a minimum, the Burn Boss will consider current and expected fire behavior and weather, condition of downwind control lines, adjacent fuels, experience level of current organization, and capability of on-site equipment. If the Burn Boss feels that the burn can continue safely and successfully he/she may elect to continue with operations. If a determination is made that problems may arise with continuation then operations on the unit will shift to control and mop-up. At no time may ignition operations continue if organization or equipment levels fall below 80% of the minimum requirements.

5. Unit boundaries:

Minor escapes if readily controlled by on-site resources will be extinguished and ignition activities may resume. If a significant escape occurs and has significant spread potential, holding forces will take immediate suppression actions while ignition crews will hold up and perform holding duties on the current prescribed fire. The controlled burn may be extinguished and all resources moved to suppression responsibilities at the discretion of the Burn Boss. If fire burns onto adjacent private lands and the Burn Boss determines the fire will not be contained with on-site resources the Burn Boss will contact State Radio and request contingency resources. At this time the Burn Boss, or highest qualified individual on scene, will assume the duties of incident commander.

6. Contingency Resources:

If contingency resources as identified in this plan are not available ignition operations may not commence. If identified contingency resources become unavailable after commencement of ignition operations the Burn Boss may choose to secure the unit until alternate contingency resources can be identified and their availability confirmed or may choose to finish ignition operations if that is the prudent decision to be made.

C. Minimum Contingency Resources and Maximum Response Time(s):

Two wildland capable engines (equivalent to a Type 7 or larger) with a staff of two will be the minimum required available contingency resource. If the incident commander determines that structures are threatened as a result of the escaped fire, a minimum order of one structure engine with crew per threatened structure will be ordered. It can generally be assumed that if a local fire department is not currently involved in any suppression efforts that at least two engines with a minimum of two personnel can be ordered and on scene within 30 min.

Element 18: Wildfire Declaration

A. Wildfire Declared By:

The Burn Boss is responsible for determining if an escape has become a wildfire. An escaped fire will be declared a wildfire if:

1. If a slop over, spot fire, or multiple spot fires occur and it is immediately obvious that the fire will not be able to be controlled with on-site resources.
2. If lives are threatened, private property, resources, or other structures are threatened, regardless of pre-determined time frames for control determination.
3. If a slop-over or multiple slop-overs occur on private lands outside the burn unit greater than 1 acre in size.
4. If a slop over/spot fire or multiple slop overs/spot fires occur in areas outside the burn unit on U.S. Fish and Wildlife Service Lands and are not able to be contained within 30 minutes with an appropriate management response from on-site resources.

B. IC Assignment:

The Incident Commander will be determined during the operational briefing. The Incident Commander will be at least ICT4 qualified. The Burn Boss will assume the duties of Incident Commander unless an alternate or trainee is identified during the operational briefing. IC will announce wildfire declaration over radio and instruct all resources to convert over to State Fire channel for communications.

C. Notifications:

Upon declaration of a wildfire the Burn Boss, or someone designated by the Burn Boss, will notify State Radio and request additional resources as needed. The Burn Boss or designated individual will also contact the North Dakota Dispatch Center and the Kulm Project Leader.

D. Extended Attack Actions and Opportunities to Aid in Fire Suppression (Optional):

Extended attack is very unlikely in this project area due to the nature of the fuels involved (1 hour time lag). If extended attack is necessary all resource orders will be placed through the North Dakota Dispatch Center. If containment operations are expected to extend into the next operational (burning) period a fully qualified Type 3 Incident Commander (ICT3) will be requested.

Element 19: Smoke Management and Air Quality

A. Compliance:

All burning will be done in compliance within guidelines established by the North Dakota Department of Health. No burning will be done on days when smoke dispersal is forecasted to be poor for the entire day.

B. Permits to be Obtained:

A permit to conduct open burning is required from the North Dakota State Department of Health, Environmental Health Section. The appropriate permit will be requested from the state, and required conditions adhered to. The request will be made prior to the prescribed fire season.

C. Smoke-Sensitive Receptors:

See See IAP (ICS 204) and Appendix A. Maps for location of smoke sensitive areas/receptors.

D. Potential Impacted Areas:

Adjacent roads may have short term visibility issues. Fire crew or additional traffic control personnel will control any traffic until visibility clears up. Burn boss will coordinate ignition and utilize favorable combination of prescription parameters to minimize any impact to residence.

E. Mitigation Strategies and Techniques to Reduce Smoke Impacts:

Burns will be conducted within acceptable prescription parameters including wind speed and direction, dispersion and atmospheric stability. Burning will not be conducted when an inversion is in place and is not predicted to break by early afternoon. Burns will be conducted as quickly as possible, while adhering to unit objectives and safety guidelines. This burning technique typically produces a convective column that will move smoke off the ground and into the atmosphere where it is dispersed by transport winds further limiting smoke concerns in the area. Fire crew personnel will be rotated out of heavy impact areas as needed. Mop-up will be conducted by Holding and Ignition personnel immediately after ignition operations are concluded. Mop-up will continue until all smokes are extinguished or until the possibility of escape or smoke management problems are eliminated.

Element 20: Monitoring

A. Fuels Information Required and Procedures:

One hour fuels are the sole carriers of fire throughout the project area. One hour fuel moistures may be calculated to predict conditions based on weather observations and forecasts with the use of tables such as those found in Appendix B of the NWCG Fireline Handbook. *See Element 7: Prescription, B. Prescription Parameters.*

B. Weather Monitoring (Forecasted and Observed) Required and Procedures:

Environmental prescription parameters including temperature, relative humidity, and winds will be monitored prior to initiating any burn. Weather conditions will continue to be monitored throughout the burn as often as deemed necessary by the Burn Boss. Weather observations will typically be taken on site with a standard belt weather kit or a kestrel. The day's observations can be compared to those taken by the remote automated weather stations in the area. Unit Log (ICS 214) with On-Site WX & Fire Behavior Observations is located in the IAP.

C. Fire Behavior Monitoring Required and Procedures:

Fire behavior will be monitored visually by the Burn Boss or other designee. Observations will typically focus on flame lengths. Unit Log (ICS 214) with On-Site WX & Fire Behavior Observations is located in the IAP.

D. Monitoring Required to Ensure that Prescribed Fire Plan Objectives are Met:

First order fire effects will be monitored and documented in the On-Site WX & Fire Behavior Obs. to determine results of the burn. This monitoring will predominately involve ocular observations to determine if fuels are being consumed in a manner that meets objectives in section 5 of this plan. Long term monitoring will not be possible on all units but representative plots may be established on random units to determine long term fire effects. Long term monitoring will be the responsibility of the refuge biologist. Unit Log (ICS 214) with On-Site WX & Fire Behavior Observations is located in the IAP.

E. Smoke Dispersal Monitoring Required and Procedures:

Smoke dispersal will be monitored by the Bun Boss or other person designated to do so. Smoke dispersal will be evaluated to determine its impacts on nearby roadways, residences and general public. Unit Log (ICS 214) with On-Site WX & Fire Behavior Observations is located in the IAP.

Element 21: Post-burn Activities

A. Post-Burn Activities that must be Completed:

Mop-up will be conducted by Holding and Ignition personnel immediately after ignition operations are concluded. Mop-up will continue until all smokes are extinguished or until the possibility of escape or smoke management problems are eliminated. A minimum 100 foot wide perimeter will be used for mop-up standards with further evaluation by the Burn Boss upon completion. Burning materials within this area will be extinguished with water and hand tools. Traffic control operations will conclude as soon as mop-up is completed and all smoke concerns to roadways have been eliminated. Caution Smoke signs may be left overnight if Burn Boss deems necessary.

No rehabilitation to the burn unit should be necessary. Soft soils may become significantly rutted due to equipment travel. Fence posts and wire may also need repairs. Any equipment rehabilitation needs will be addressed during the AAR and completed on scene if possible.

An After Action Review (AAR) should be conducted after every operational period. This may not be possible until the next day. Guidelines for an effective AAR can be found in the Incident Response Pocket Guide.

The Burn Boss will be responsible for immediately notifying local dispatch of fire status and briefing agency administrator as soon as practical. Burn boss will monitor and declare the fire out 24 hours after last smoke is sited. Burn boss may select a crew member to monitor and declare fire out if burn boss is absent.

Administrative Unit Name: Kulm WMD – Dickey County

Prescribed Fire Name: Herman WPA

Prescribed Fire Plan Appendices

Appendix A: Maps:

- Vicinity,
- Project,
- Contingency,
- Ignition Sequence,
- Smoke Trajectory

Appendix B: Technical Reviewer Checklist

Appendix C: Complexity Analysis

Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment

Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation

Appendix F: Medical Plan

Appendix G: NEPA Compliance Checklist

Appendix H: Unit Log & Weather Obs. Sheets

Administrative Unit Name: Kulm WMD – Dickey County

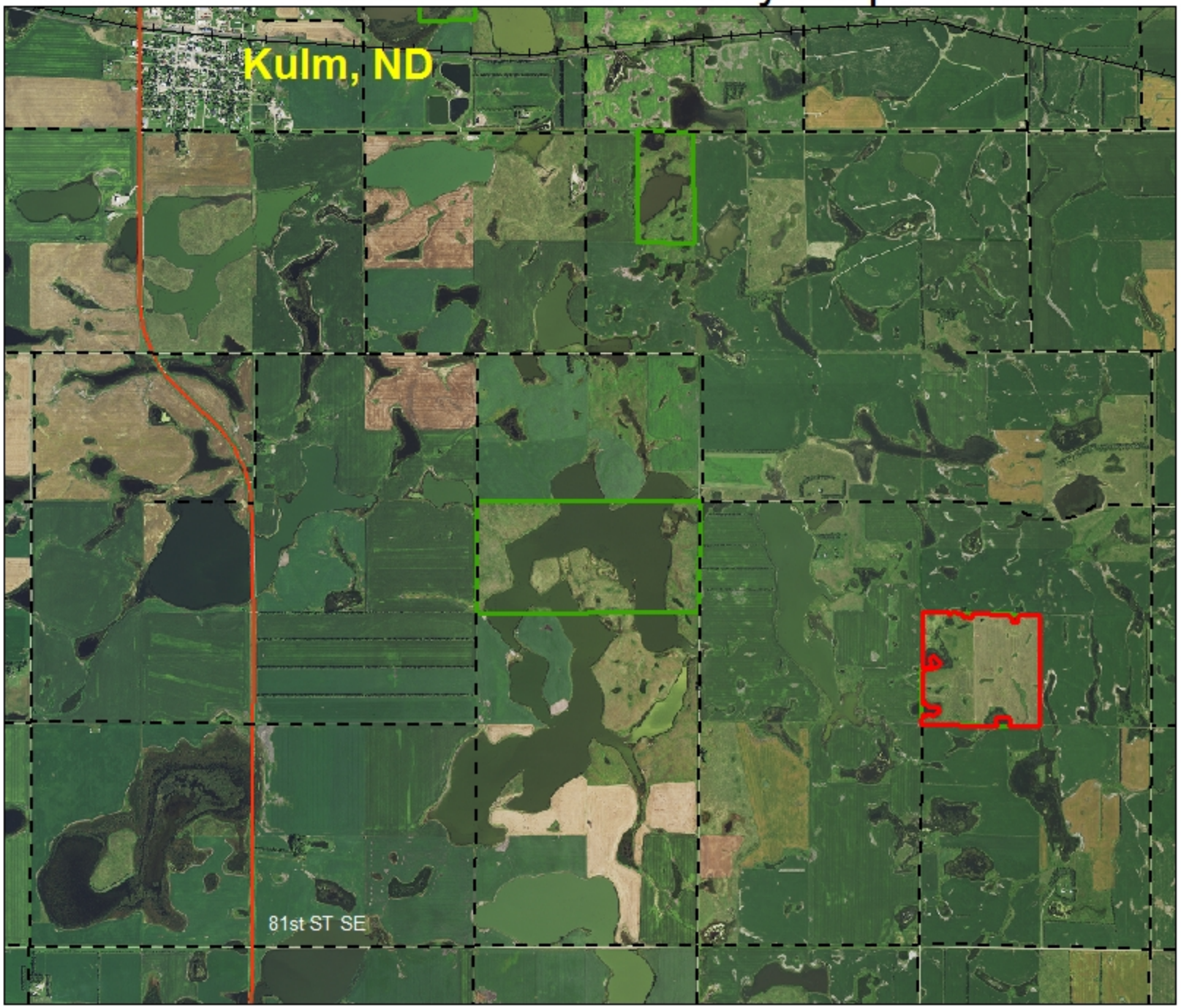
Prescribed Fire Name: Herman WPA

Prescribed Fire Complexity Rating System Guide Worksheet

1. Potential for Escape

Risk	Rationale
Preliminary Rating: ***Low Moderate High***	Potential for escape is moderate due to the use of mow lines with a moderate amount of fuel loading adjacent to the planned unit.
Final Rating: ***Low Moderate High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	Overall, resource values won't be negatively affected by an escape. Fences and signs may be damaged. An escape should be quickly contained due to the surrounding features.
Final Rating: ***Low Moderate High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	Holding operations will generally be supervised at the engine boss level. All portions of the perimeter will be accessible to some type of holding forces (engines or hand tools). Wind, temperature and RH parameters in the burn plan are common in the spring.
Final Rating: ***Low Moderate High***	No change.

Herman WPA Vicinity Map



N
W E
S

WPA Boundary
Burn Unit
Highway 56
Roads

0 0.3 0.6 1.2 1.8 2.4 Miles

Prepared by:
Jason Wagner 1/27/16

US FISH & WILDLIFE SERVICE

Kulm WMD - Herman WPA Unit 1, 2 - Project Map 129 Acres

N

Burn Unit Boundary
FWS Fee Title
Mow Line
Section Line

Highways
Interestate
State Hwy
US Hwy

0 0.13 0.25 0.5 Miles

Scale: 1:7,602

Produced by: M. Hill
March 2021
NAD83 StatePlane North Dakota S FIPS 3302 (US Feet)

Herman WPA Unit Map

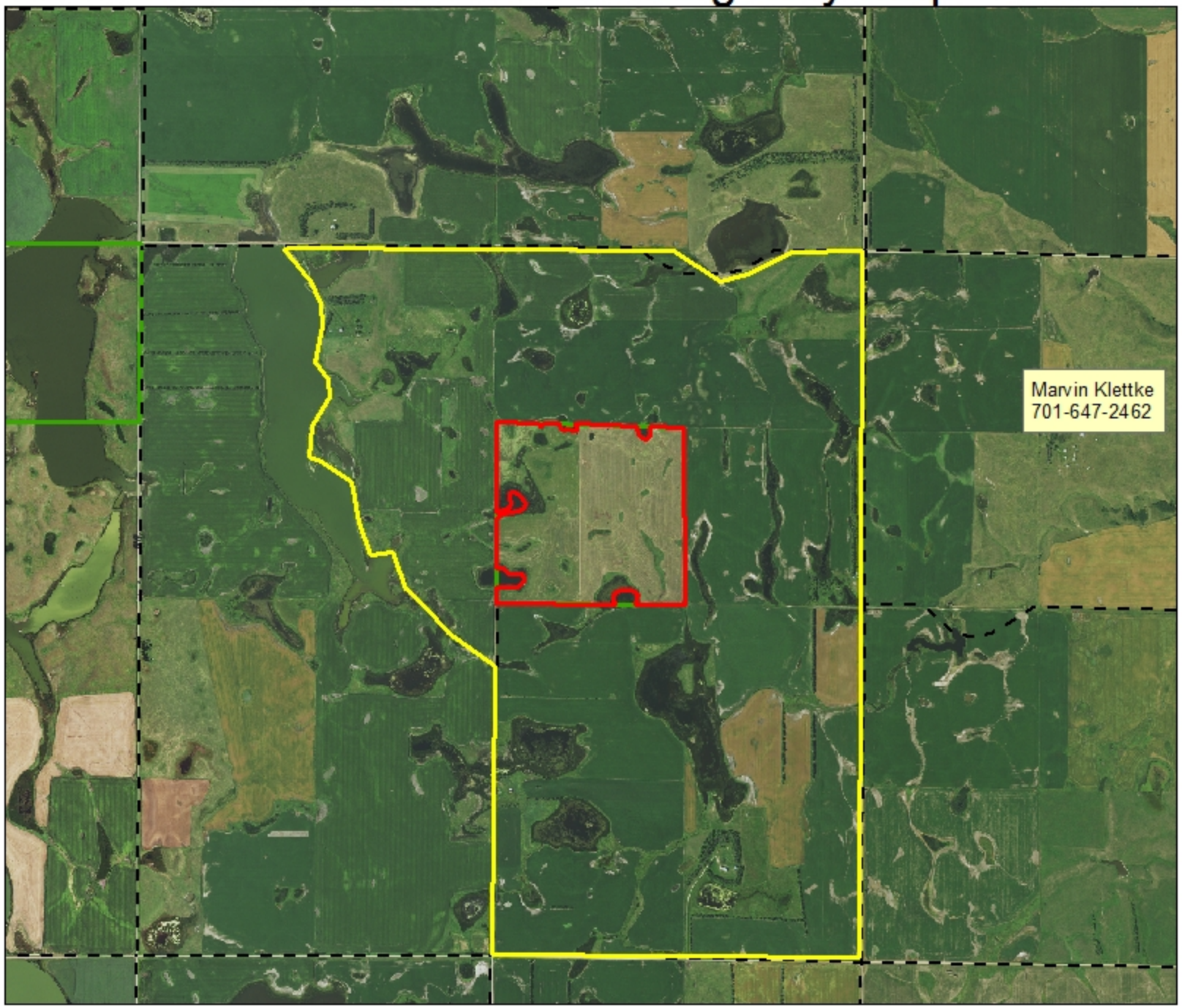
N
W
E
S

WPA Boundary
Burn Unit
Roads
Mow Break

Miles
0 0.0375 0.075 0.15 0.225 0.3

Prepared by:
Jason Wagner 1/25/16

Herman WPA Contingency Map



N
W E
S

WPA Boundary
Burn Unit
Roads
Contingency Line

Miles
0 0.175 0.35 0.7 1.05 1.4

Prepared by:
Jason Wagner 1/27/16

Herman WPA Ignition Sequence Map

N
W
E
S

WPA Boundary
Burn Unit
Roads
Mow Break

Ignition Sequence
w/West Wind
Group 1: 6 - 5 - 4 - 3 - 2 - 1
Group 2: 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 1

Miles
0 0.0375 0.075 0.15 0.225 0.3

Prepared by:
Jason Wagner 1/25/16

Herman WPA Smoke Trajectory Map

N
W E
S

WPA Boundary
Burn Unit
Roads

Miles
0 0.175 0.35 0.7 1.05 1.4

Prepared by:
Jason Wagner 1/25/16

APPENDIX B. TECHNICAL REVIEWER CHECKLIST - USFWS R6

Administrative Unit	Burn Unit	Burn Subunit(s)	Burn Dates		Review Date	Valid Through	Reviewed By
			From	To			
Kulm WMD	Herman		Jan	Dec	2/23/2016	2/23/2020	Jmeadows

Prescribed Fire Elements		S / U	Comments
1	Signature Page	S	
2	GO/NO-GO Checklists	S	
3	Complexity Analysis Summary	S	
4	Description of the Prescribed Fire Area Must Include:		
A.	Physical Description:	S	
	* Location	S	
	* Size	S	
	* Topography	S	
	* Project Boundary	S	
B.	Vegetation / Fuels Description:	S	
	* Describe the structural and composition of the vegetation type(s) and fuel characteristics	S	
	* Describe the percent of the unit composed of each vegetative type and the corresponding fuel model(s).	S	
	* Identify conditions (fuels, slope, aspect) in or adjacent to boundaries that may be a potential threat for escaped fire	S	
	* Identify any abiotic conditions like airshed, climate, soils, etc. as appropriate.	S	
C.	Description of Unique Features and Resources:	S	
	* Plan adequately addresses T&E species concerns both within burn unit and adjacent	S	
	* Plan adequately addresses Archeological, Cultural, or Historical issues both within burn unit and adjacent	S	
D.	Maps (all maps to include: Title; Name of Preparer(s); Date; North Arrow; Scale; & Legend) (Appendix A)		
	* Vicinity Map	S	
	* Project Map	S	
	* Contingency Planning Map (FWS R6 Required)	S	
	* Ignition Sequence Map (FWS R6 Required)	S	
	* Smoke Trajectory Map (FWS R6 Required)	S	

		** Optional Maps	S	

5	**Goals & Objectives**		S	
6	**Funding**		S	
7	**Prescription Must Include:**			
	A.	Acceptable ranges of fire behavior and environmental conditions	S	
	B.	Fire Behavior Discussion	S	
	C.	Predicted Fire Behavior Outside Project Boundary	S	
	D.	Modeled	S	
8	**Scheduling**		S	
9	**Pre-Burn Considerations Must Include:**			
	A.	Site Preparation	S	see my notes..
	B.	Spot Weather Forecast	S	
	C.	Required Permits	S	
	D.	Pre-Burn Contact List	S	
10	**Briefing**		S	
11	**Organization & Equipment Must Include:**			
	A.	Positions, Minimum Qualifications, Equipment, Supplies	S	
	B.	Organization Chart(s) Included	S	see notes
12	**Communication**		S	
13	**Public / Personnel Safety & Medical Procedures Must Include:**			
	A.	PPE	S	
	B.	Safety Hazards / Mitigation	S	see note
	C.	Emergency Medical Plan Included	S	
	D.	Job Hazard Analysis (JHA) Attached (Appendix D)	S	
14	**Test Fire**		S	see notes
15	**Ignititon Plan Must Include:**			
	A.	Ignition Plan(s) Description	S	
	B.	Ignition Sequencing Map(s) Attached (FWS R6 required)	S	

16	**Holding Plan Must Include:**			
	A.	Critical Control Holding Points Identified	S	
	B.	Resources	S	
	C.	Water Resupply	S	
	D.	Mop-up Standards in Quantifiable tems (FWS R6 required)	S	
	E.	Quantifiable Patrol Standards Identified (FWS R6 required)	S	

17	**Contingency Plan Must Include:**			
	A.	Trigger Points Established	S	
	B.	Identification of additional resources & response time(s)	S	
	C.	Verify / Document Availability	S	
	D.	Procedures to be followed. (FWS R6 Required)	S	

18	**Wildfire Conversion Must Include:**			
	A.	Who has authority to declare a wildfire	S	
	B.	Actions to be taken	S	
	C.	Communications	S	

19	**Smoke Management & Air Quality Must Include:**			
	A.	Permit Requirements	S	
	B.	Sensitive Receptors Identified	S	
		* Smoke Trajectory Map (FWS R6 Required)	S	
	C.	Modeling Outputs Included (if required)	S	
	D.	Traffic Control Addressed (FWS R6 Required)	S	

20	**Monitoring Must Include:**			
	A.	Minimum specify weather, fire behavior & fuels info	S	
	B.	Identifies monitoring procedures inc. who and when	S	

21	**Post-burn Activities Must Include:**			
	A.	Rehabilitation Standards are Established	S	
	B.	Criteria to declare burn out and by whom	S	

Appendices				
A.	**Maps:**			
B.	**Technical Reviewer Checklist**		S	
C.	**Complexity Analysis**		S	
D.	**Job Hazard Analysis**		S	
E.	**Fire Behavior Modeling Documentation**		S	
F.	**NEPA Checklist & Environmental Action Statement**		S	

S = Satisfactory

U = Unsatisfactory

Recommended For Approval

Not Recommended For Approval

'meadows
Technical Reviewer

RXB2, Yes
Qualifications & Currency (Y/N)

2/23/2016
Date

Approval is recommended subject to the completion of all requirements listed in the comments section, and / or on the Prescribed Fire Plan.

2. The Number and Dependency of Activities

Risk	Rationale
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Burn day activities are generally independent of one another. A low to moderate level of coordination between resources may be necessary.
Final Rating: ***Low*** ***Moderate*** ***High***	In some instances, multiple burn units may be ignited in one day, making dependency on other resources more vital, however, these units will be simpler in overall complexity, therefore keeping final rating low.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Coordination problems should not increase the risk of escape using allowed wind directions and prescription parameters.
Final Rating: ***Low*** ***Moderate*** ***High***	No change, Low.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Minimal difficulty in coordinating the required activities. Communication and operations will be consistent with other burns around the district.
Final Rating: ***Low*** ***Moderate*** ***High***	No change, Low.

3. Off-Site Values

Risk	Rationale
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Off-site values include fences, water control structures, signs, and utility lines. No farm houses or out buildings are located within a mile of the unit. None of these resources face an inordinate amount of risk in the event of an escape.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Public visitation won't be allowed during burn days. Surrounding grass and marsh will quickly recover if burned. Limited serious consequences present if improvements are damaged.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Preferred and allowed winds and Rx parameters will reduce threat to off-site values. However, in the event of a wind switch, the private interests will need aggressive protection.
Final Rating: ***Low*** ***Moderate*** ***High***	No change, Moderate.

4. On-Site Values

Risk	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Few or no special internal features are present that require special attention in planning or implementation.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	No special internal features are present that require special attention in planning or implementation.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	No special skills or operating procedures are required. Limited resource values within the unit are easy to protect.
Final Rating: ***Low*** ***Moderate*** ***High***	Pre-burn mitigation will allow on-site improvements to be more easily protected during ignitions of the unit. Rating remains low.

5. Fire Behavior

Risk	Rationale
Preliminary Rating: ***Low Moderate High***	Fuels vary moderately within the units, both in loading and arrangement. Medium loading with some concentrated areas of high fuel loading are both present within the units. Two fuel models (FM 1 & 3) are represented.
Final Rating: ***Low Moderate High***	No Change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	Fire behavior outside the unit would be similar or the less than that inside the unit depending on neighboring land use. Primarily lower fire behavior can be expected off federal lands. If fire escapes and burns additional refuge lands, similar fire behavior can be expected.
Final Rating: ***Low Moderate High***	No Change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	Crews on hand will usually be successful employing direct attack on spot fires and slop over. After the initiating stages, direct attack may not catch an escape; however, there are numerous roads, canals, lakes and areas of light fuel available as contingency lines.
Final Rating: ***Low Moderate High***	No change.

6. Management Organization

Risk	Rationale
Preliminary Rating: ***Low*** ***Moderate*** ***High***	This burn will require a single level of supervision (Burn boss plus lighters and holders). FIRB is advised.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Problems with supervision or communication are expected to be minimal. Unit and operations consistent throughout the district.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Some team members may need to come from outside of the local unit (refuge) because the number of qualified personnel from the local unit is limited. An RXB2 is required.
Final Rating: ***Low*** ***Moderate*** ***High***	Coordination with both neighboring agency and interagency is important. Previous experience and partnerships with cooperators has been established which should help in getting the needed additional resources.

7. Public and Political Interest

Risk	Rationale
Preliminary Rating: ***Low Moderate High***	The prescribe fire will be visible to the public and will generate a moderate amount of public interest.
Final Rating: ***Low Moderate High***	No Change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	Adverse events would attract little attention except with damage to private improvements, which could lead to additional claims and setback for the district fire program. Fires of larger unit size in the general area may be unusual, and result in some concern.
Final Rating: ***Low Moderate High***	Pre-burn contacts with neighboring landowners and county officials should help with concerns about larger or more complex units. Rating remains Moderate.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	Routine phone calls and notifications will be adequate.
Final Rating: ***Low Moderate High***	No change.

8. Fire Treatment Objectives

Risk	Rationale
Preliminary Rating: ***Low*** ***Moderate*** ***High***	The reduction of grass litter is easily achieved using a level of fire behavior that is easily achieved, managed and monitored.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Burning some other time, treating mechanically, or grazing can approximate objectives. Failure to burn would have no adverse impacts to natural resources.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	There are few or no restrictions on techniques to achieve fire objectives.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.

9. Constraints

Risk	Rationale
Preliminary Rating: ***Low Moderate High***	No constraints related to access, water sources, specific tactics, or equipment and aircraft use exist. Spring burn scheduling may conflict because other agencies and refuges may also be burning in the spring, tying up needed personnel. Mow line and landowner contacts should be in place before burn season starts.
Final Rating: ***Low Moderate High***	Weather and scheduling conflicts are the most common limiting constraint on any of the units that are planned to be burned. Some scheduling conflicts can be avoided with pre-season planning and use of additional resources.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	Lack of available personnel may keep the burn from occurring whenever it is in prescription. Other opportunities should arise later in the season when adequate staffing and weather occur.
Final Rating: ***Low Moderate High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	Constraints could significantly increase the difficulty in completing the project due to the increased minimal staffing requirements, and narrower window for weather prescription parameters.
Final Rating: ***Low Moderate High***	If weather or fuel conditions increase fire behavior and holding concerns, a step up of equipment and personnel will be implemented to lessen chance for escape. Rating remains Moderate.

10. Safety

Risk	Rationale
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Safety issues are easily identifiable and mitigated. The burn will be consistent with numerous other burns around the district and present no special safety concerns. Safety concerns will be addressed in pre-burn briefings. Any unit specific safety issues (ie. powerlines, wet spots, abandoned wells etc. . .) will highlighted during these briefings. A Job Hazard Analysis will be attached to the plan as well, outlining common hazards and mitigating steps.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	There is minimal potential for serious accidents/injury to firefighters or the public on this burn.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Safety concerns can be easily mitigated through LCES. A standard safety briefing as part of the project briefing should be sufficient to cover the safety concerns. Special mitigation to protect public health and safety are not needed.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.

11. Ignition Procedures/Methods

Risk	Rationale
Preliminary Rating: ***Low Moderate High***	Firing sequence and timing is critical to maintain safe burn conditions and to meet project objectives. The entire project will not be visible to the FIRB/burn boss.
Final Rating: ***Low Moderate High***	Coordination and communication will be vital throughout ignitions to ensure a safe and effective burn. No change, Moderate.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	Firing methods and procedures must be coordinated to provide for adequate safety and to meet project objectives.
Final Rating: ***Low Moderate High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	Two ignition groups will typically be used on the Rx burns within the county. On more complex units, a FIRB may be advised. Multiple layers of supervision will be used creating a moderate complexity.
Final Rating: ***Low Moderate High***	No change.

12. Interagency Coordination

Risk	Rationale
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Contingency and dispatch resources will generally be interagency. National preparedness levels are rarely prohibitive in the spring. If burns are to occur in the fall, National preparedness levels may be high enough that regional and GACC approval will be necessary.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Project can be completed as planned. Interagency coordination should not be a problem.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Interagency agreements aren't specific to these projects. Communication and coordination is simple and routine.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.

13. Project Logistics

Risk	Rationale
Preliminary Rating: ***Low*** ***Moderate*** ***High***	The burn will have no adverse project logistics. All travel will be local and within 1 day drive. No specialized equipment is needed. Project duration will be less than two days.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Problems related with logistics will not increase the risk of escape, affect the completion of the project or create a safety concern.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	The burn boss, FIRB, and engine bosses will handle most support needs. Additional equipment might be required (water tender, sprinkler system, etc. . .) increasing logistical planning.
Final Rating: ***Low*** ***Moderate*** ***High***	No change.

14. Smoke Management

Risk	Rationale
Preliminary Rating: ***Low Moderate High***	Potential impacts include a few neighboring farmhouses and nearby roads.
Final Rating: ***Low Moderate High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	Any impacts would be minimal and temporary because of the 1 hour fuels present in the unit.
Final Rating: ***Low Moderate High***	Impacts will be mitigated by insuring smoke lift and dispersal will lessen impacts to any smoke sensitive features. No change, moderate.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	Prescription limitations needed to mitigate smoke impacts are typical and routine. Standard safety procedures will limit crew exposure.
Final Rating: ***Low Moderate High***	No change, Low.

COMPLEXITY RATING SUMMARY: see Element 3

Prepared by: Jason Wagner – Fire Management Specialist Date: 1/27/16

Approved by: _____ Date: _____
(Agency Administrator)

Administrative Unit Name: Kulm WMD – Dickey County

Prescribed Fire Name: Herman WPA

14. Smoke Management

Risk	Rationale
Preliminary Rating: *Low* ***Moderate*** *High*	Potential impacts include a few neighboring farmhouses and nearby roads.
Final Rating: *Low* ***Moderate*** *High*	No change.
Potential Consequences	**Rationale**
Preliminary Rating: *Low* ***Moderate*** *High*	Any impacts would be minimal and temporary because of the 1 hour fuels present in the unit.
Final Rating: *Low* ***Moderate*** *High*	Impacts will be mitigated by insuring smoke lift and dispersal will lessen impacts to any smoke sensitive features. No change, moderate.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low*** *Moderate* *High*	Prescription limitations needed to mitigate smoke impacts are typical and routine. Standard safety procedures will limit crew exposure.
Final Rating: ***Low*** *Moderate* *High*	No change, Low.

COMPLEXITY RATING SUMMARY: see Element 3

Prepared by: Jason Wagner – Fire Management Specialist Date: 1/27/16

Approved by: Mark Emerson Date: 3/22/2016
(Agency Administrator)

JOB HAZARD ASSESSMENT (JHA)

Activity: Prescribed Fire & Fire Suppression

(Certification of Hazard Assessment – 29 CFR 1910.133)

STATION: Kulm WMD

DATE PREPARED: February 2018

PREPARED BY: Jason Wagner

CERTIFIED BY:

PERSONAL PROTECTIVE EQUIPMENT REQUIRED:

- ☑ **Hearing - ANSI approved hearing protection (85 decibels and higher)**
- ☑ **Eyes/Face – Approved safety glasses/goggles, neck shroud**
- ☑ **Foot – ANSI approved 8" leather boots with lug soles**
- ☑ **Hand – leather gloves**
- ☑ **Head – ANSI approved hard hat w/chin strap, DOT approved helmet**
- ☑ **Leg – Nomex pants**
- ☑ **Body/Other – Nomex pants/shirt, fire shelter, insect repellant**

QUALIFICATIONS, EXPERIENCE, OR TRAINING REQUIRED:

- ☑ **Basic Firefighter Training (S-130, S-190, L-180, I-100)**
- ☑ **FFT2 (minimum)**
- ☑ **Annual Refresher**
- ☑ **Work Capacity Test (Pack Test)**

BASIC JOB STEPS	HAZARDS	SAFE JOB PROCEDURE
Break work down to basic elements (such as remove, lift, carry, stop, start, apply, return, squeeze, weld, saw, walk, hold, grind, place, etc.). Describe what is done, not how it is done.	**For each job step, state what accident could occur and/or what hazard is present. To determine this, ask yourself: Can the person fall; overexert; be exposed to burns, fumes, rays, gas, etc.; hit against; be struck by; in contact with; be caught in, on, or between?**	**State how each element of work should be performed to prevent the accident or avoid the hazard. What should the person do or not do? Be specific. What precautions should be taken? Ask yourself: What can I do to eliminate, modify, guard, identify, or protect against the potential hazard or accident, including such things as how the worker stands, holds, uses, carries, dresses, etc.?**
General Prescribed Fire and Fire Suppression	**Serious Injury or Death - apply to all hazards**	**Adhere to the STANDARD FIRE ORDERS, WATCH OUT SITUATIONS and LCES**
	Entrapment	• Observe STANDARD FIRE ORDERS, WATCH OUT SITUATIONS, AND LCES. • Maintain Situational Awareness (SA) • Annual entrapment avoidance & fire shelter deployment training.
	Snags, falling trees, debris rolling downhill	• Post lookouts. • Fall hazardous trees and snags or flag and direct traffic around hazardous trees. • Alert crews about rolling debris.
	Burns Radiant Heat	• Use standard PPE. (Sleeves down, gloves on, safety glasses on, neck shrouds down) • Wear and maintain fire shelter properly • Watch for burned-out stump holes • Flag or otherwise identify hazardous areas • Work at a suitable distance from fire. • No patches or decals are allowed on nomex, fire shirts, or tee-shirts.

BASIC JOB STEPS	HAZARDS	SAFE JOB PROCEDURE
General Prescribed Fire and Fire Suppression ***(continued)***	Poor visibility due to smoke or darkness	• Refer to STANDARD FIRE ORDERS • Use headlamp • Keep 10-foot spacing between people • Reduce rate of travel – slow down • Scout terrain during daylight or acquire a good map & talk with someone familiar with the area. • Consider fire spread potential, values at risk versus safety.
	Inhalation (dust, smoke, carbon monoxide)	• Use bandana and safety glasses/goggles • Avoidance to prolonged exposure; work upwind • Training on CO and smoke hazards • Rotate personnel out of smoke as often as possible.
	Fatigue	• Limit shifts to 12 hours (when possible) • Set a reasonable work pace • Allow adequate rest breaks while on the fireline • Provide showers and comfortable eating areas • Supply adequate nutrition and water • Provide quite, shaded sleeping areas away from noise and dust. Sign & rope off sleeping areas • Locate rest and recuperation sites away from running fire, falling trees & snags, rolling rocks, moving vehicles, heliports, helispots, etc. • Alert personnel to local elements • Standard First Aid Training • Comply with established Work/Rest Guidelines (2:1 work/rest ratio, 1 day off in 14 days worked, 2 days off in 21 days worked)
	Snakes & Insects	• Insects • –use standard PPE • –fasten pant cuffs to boot top • –repellents • –inspect body & clothing twice daily; pay special attention to crevices and creases • Snakes • –leave them alone • –keep alert
	Poisonous Plants	• Use standard PPE • Change clothing that come in contact with poisonous plants • Wash exposed skin • Avoid smoke of burning poisonous plants

BASIC JOB STEPS	HAZARDS	SAFE JOB PROCEDURE
General Prescribed Fire and Fire Suppression ***(continued)***		• Learn to identify poisonous plants
	Heat-related Illnesses: heat cramps heat exhaustion heat stroke	• Reduce fatigue (#1-6) • During period of continued extreme temperatures (90º +) crew members must be monitored closely for signs of "heat syndrome" – heat cramps, exhaustion and stroke. • Acclimatize crewmembers to hot weather activity gradually • Set a moderate work pace and gradually slow down as temperatures increase. Schedule the hardest work during the cooler morning & evening hours • Keep plenty of water available & encourage crewmembers to drink it. Monitor canteens to ensure that crewmembers are getting their needed liquids. Thirst alone will not make a person drink enough water. Do not allow water for drinking to run out before you order more • Crew members may want to eat less. High protein and other foods increase metabolic heat production and water loss • Have table salt readily available during meals, but *do not* issue salt tablets • Prevent sunburn • Encourage crewmembers to keep their hardhats on in the sun. Hats provide a very effective air conditioning system • Encourage crew members to bathe or wash thoroughly each day to keep their pores & hair clean. Dirty, clogged skin and matted hair slow down heat dissipation • As the temperature increases, give crewmembers frequent rest period of at least 15 minutes. Encourage them to relax in cool locations if at all possible • No synthetic clothing should be worn. T-shirts and other under garments should be 100% cotton
	Lightning & Thunderstorms	During Storms: • Stay out of dry creek beds • Put down all tools • If in open country, sit or lie down • Avoid grouping together • Do not handle flammable materials in open containers • Stay in your vehicle (unless it is metal-tracked). Take shelter in vehicles if possible • When there is no shelter, avoid high objects such as lone trees. If only isolated trees are nearby, the best protection is to crouch in the open, keeping a distance of twice the height of the tree. Keep away from wire fences, telephone line, and electrically conductive elevated objects

BASIC JOB STEPS	HAZARDS	SAFE JOB PROCEDURE
General Prescribed Fire and Fire Suppression ***(continued)***	Lightning & Thunderstorms *(continued)*	• Avoid tops of ridges, hilltops, wide-open spaces, outcrops of rocks and sheds or shelters in exposed locations • Get away from horses and stock • Turn off generators & electrical equipment
Pump Operation (portable pump)	Slips and falls	• Use extra caution working in wet areas
	Noise	• Use PPE
	Broken hoses	• Shut down and replace broken hoses
	Flying debris	• Use PPE • Avoid excessive nozzle pressure and keep nozzles a safe distance from the ground
	Lifting strains	• Lift with two people • Use proper lifting techniques
	Burns	• Use PPE • Use extra caution around muffler and exhaust pipe
Hand Tool (Use & Maintenance)	Cuts, Punctures, Blisters, Slivers	• Check handles and tool heads for tightness and condition • Use PPE • Carry tool on downhill side • Use tool guard when tool is not in use • Never throw tools • When not being used, place tool on ground in plain sight • Take a comfortable stance with feet spread and well anchored • Check for overhead hazards • Maintain a 10-foot distance between personnel • Identify tools needing repair • Training (S-130) • File must have handle and guard • Sharpen away from cutting edge
Firing Operations	Burns	• Use PPE • Avoid spills • Change clothing that has had fuels spilled on it • Proper training on firing operations (S-234)
	Explosions	• Use proper fuel mixture • Use safety cans for transporting fuel • Proper grounding of larger containers
	Fumes/Inhalation	• Mix fuels in adequately ventilated areas

JOB HAZARD ASSESSMENT

JOB ACTIVITY: Prescribed Fire & Fire Suppression

(CONTINUATION SHEET)

BASIC JOB STEPS	HAZARDS	SAFE JOB PROCEDURE
Traffic Control	Passing vehicles Serious Injury or Death	• Use headlights and overheads (if equipped) at all times. • Post traffic controllers on roads as needed. • Wear high visibility vests or clothing. • Place warning signs on road.
Mop-up & Water Application	Burns	• Use PPE
	Sprains	• Avoid stepping in holes or depressions • Warn crew of such dangers
	Flying debris	• Use PPE (especially, goggles) • Avoid excessive nozzle pressure and keep nozzles a safe distance from the ground • Use fog stream
	Carbon Monoxide concentrations of smoldering fuels	• Limit work shifts in concentrations of smoldering fuels • Take breaks and camp in areas which minimize exposure to Carbon Monoxide
	Snags	• Flag hazardous trees • Use lookouts • Work in pairs
	Lackadaisical attitude	• Be alert • Keep the lookup, look down, look around attitude at all times
Hazardous Materials	Spills & Leaks	• Approach cautiously from upwind • Secure the scene • Identify the hazards • Assess the situation • Obtain help • Respond in an appropriate manner • Avoid touching material or inhalation of fumes, smoke and vapors.
Retardant Use	Impact from falling retardant and/or flying debris	• Wear PPE • Move out of drop area • Stay clear of large old trees/snags and loose rocks/debris
	Slips & falls	• Retardant is slick when wet . . . walk & drive slowly and carefully through these areas
Fire Shelter Deployment	Shelter in poor condition	• Check shelter periodically for rips, tears and date
	Not knowing proper deployment procedures	• Annual Entrapment Avoidance and Shelter Deployment Training • Practice

BASIC JOB STEPS	HAZARDS	SAFE JOB PROCEDURE
Fire Shelter Deployment ***(continued)***	Deployment in dense fuels	• Clear area • Deploy in light fuels • Scout a safety zone
	Hesitation and timely deployment	• Follow crew leader orders • Drop all equipment and run to safety zone
	Lungs and airway threatened	• Face down in dirt • Hold shelter down with gloved hands and feet
	Bad positioning in shelter	• Feet toward on-coming fire • Hold shelter down with gloved hands and feet • Get rid of line gear because of flammable material inside
	Exiting shelter prematurely	• Communicate with crew • Wait until supervisor lets you know it is safe to come out
	No gloves	• Keep gloves on • Have a spare pair readily available
Urban Interface Fire Suppression	**STRUCTURAL *WATCH-OUT* SITUATIONS** • Wooden construction, shake roofs • Poor access, narrow one-way roads • Inadequate water supply • Natural fuels 30 feet or closer to structures • Extreme fire behavior • Strong winds(25 mph plus) • Evacuation of public = panic • Structures located in chimneys, box or narrow canyons, on slopes 30% or more in continuous, flashy fuel types • Bridge load limits	• Keep at least 100 gallons of water reserve in engine tank for your protection. Never pass up an available water source when tank is less than full • Have a dedicated protective line for your crew and engine • Park engine in safe area, with front toward escape route. Do not block escape routes. Back into driveways, or narrow access roads • Use 1½ inche lines when possible • Post lookouts as needed • Do not park in saddles or chimneys • Do not enter a burning structure • Observe and do not exceed bridge load limits • Utilize law enforcement authorities to conduct evacuations and maintain traffic control • Keep headlights and warning light on for increased visibility
Working Around Fire Vehicles	Serious Injury or Death	• Make visual or radio contact with operator before approaching vehicle. • When working with or around, obtain briefing from operator on vehicle safety. • Maintain visual with vehicle operator at all times. • Avoid resting or leaving equipment around unattended vehicles. • Avoid areas of frequent travel by fire vehicles. • Personnel will not ride outside cab of moving vehicle • Parked vehicle must have emergency brake set and wheels chocked.

JOB HAZARD ASSESSMENT

JOB ACTIVITY: Prescribed Fire & Fire Suppression

(CONTINUATION SHEET)

BASIC JOB STEPS	HAZARDS	SAFE JOB PROCEDURE
Working Around ORUV/ATVs	Serious Injury or Death	• Make visual or radio contact with operator before approaching ORUV/ATVs. • When working with or around, obtain briefing from operator on ORUV/ATVs safety. • Avoid resting or leaving equipment around unattended ORUV/ATVs • Avoid areas of frequent travel by ORUV/ATVs. • Personnel will not ride outside cab of ORUV or as a passenger on an ATV. • Parked vehicle must have emergency brake set and wheels chocked.
Working Around Chain Saw Operations	Serious Injury or Death Cuts (lacerations) Eye and ear damage Falling or Rolling Debris	• Use PPE • Maintain safe distance from Chainsaw operations. Avoid working downhill from operations. • Make visual or radio contact with sawyers prior to entering work area. • Never approach sawyer while operating saw.
Working Around Power Lines	Electrocution	• Downed conductor on vehicle: do not leave vehicle until power company arrives • Do not operate heavy equipment under power lines • Do not use rights-of-way as a jump or cargo drop spot • Do not drive with long antennas under power lines • Do not fuel vehicles under power lines • Do not stand near power lines during retardant drops • Do not park under power lines • Do not apply straight stream to power line
Working Around Heavy Equipment Operations Dozer /Maintainer/Tractor	Falling or Rolling Debris Serious Injury or Death	• Do not work downhill of equipment • Do not work within 100 feet of heavy equipment • Make visual or radio contact with operator before approaching equipment. Never approach moving heavy equipment. • Obtain briefing from operator on Equipment safety and assignment.

Fire Behavior Runs (Fuel Models 1 and 3)

FUEL MODEL ----- 1 -- SHORT GRASS, 1 FT (30 CM)
1-HR FUEL MOISTURE, % -- 5.0 7.0 9.0 11.0 13.0
MIDFLAME WIND SPEED, MI/H 2.0 4.0 6.0 8.0 10.0 12.0 14.0
TERRAIN SLOPE, % ------- .0
DIRECTION OF WIND VECTOR .0
DIRECTION OF SPREAD ---- .0 (DIRECTION OF MAX SPREAD) **HEAD FIRE**

RATE OF SPREAD, CH/H (V4.4) **HEAD FIRE FM1**

1-HR MOIS (%)	**MIDFLAME WIND, MI/H** **2.0**	**4.0**	**6.0**	**8.0**	**10.0**	**12.0**	**14.0**
5.0	19.	64.	143.	255.	297.*	297.*	297.*
7.0	17.	57.	127.	228.	242.*	242.*	242.*
9.0	13.	45.	101.	136.*	136.*	136.*	136.*
11.0	6.	13.*	13.*	13.*	13.*	13.*	13.*
13.0	0.	0.	0.	0.	0.	0.	0.

* MEANS YOU HIT THE WIND LIMIT.

FIRELINE INTENSITY, BTU/FT/S **HEAD FIRE FM1**

1-HR MOIS **(%)**	**MIDFLAME WIND, MI/H** **2.0**	**4.0**	**6.0**	**8.0**	**10.0**	**12.0**	**14.0**
5.0	32.	109.	242.	433.	504.*	504.*	504.*
7.0	27.	93.	206.	369.	392.*	392.*	392.*
9.0	18.	62.	138.	186.*	186.*	186.*	186.*
11.0	4.	9.*	9.*	9.*	9.*	9.*	9.*
13.0	0.	0.	0.	0.	0.	0.	0.

* MEANS YOU HIT THE WIND LIMIT.

FLAME LENGTH, FT **HEAD FIRE FM1**

1-HR MOIS **(%)**	**MIDFLAME WIND, MI/H** **2.0**	**4.0**	**6.0**	**8.0**	**10.0**	**12.0**	**14.0**
5.0	2.2	3.9	5.6	7.3	7.9*	7.9*	7.9*
7.0	2.0	3.6	5.2	6.8	7.0*	7.0*	7.0*
9.0	1.7	3.0	4.3	5.0*	5.0*	5.0*	5.0*
11.0	.8	1.2*	1.2*	1.2*	1.2*	1.2*	1.2*
13.0	.0	.0	.0	.0	.0	.0	.0

* MEANS YOU HIT THE WIND LIMIT.

FUEL MODEL ---- 1 -- SHORT GRASS, 1 FT (30 CM)
1-HR FUEL MOISTURE, % -- 5.0 7.0 9.0 11.0 13.0
MIDFLAME WIND SPEED, MI/H 2.0 4.0 6.0 8.0 10.0 12.0 14.0
TERRAIN SLOPE, % ------- .0
DIRECTION OF WIND VECTOR .0
***DIRECTION OF SPREAD ---- 90 DEGREES CLOCKWISE FROM THE WIND VECTOR* FLANKING FIRE**

RATE OF SPREAD, CH/H (V4.4) **FLANKING FIRE FM1**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	5.	9.	12.	15.	15.	15.	15.
7.0	4.	8.	11.	13.	13.	13.	13.
9.0	3.	6.	8.	9.	9.	9.	9.
11.0	1.	2.	2.	2.	2.	2.	2.
13.0	0.	0.	0.	0.	0.	0.	0.

FIRELINE INTENSITY, BTU/FT/S **FLANKING FIRE FM1**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	8.	15.	20.	25.	26.	26.	26.
7.0	7.	12.	17.	21.	22.	22.	22.
9.0	5.	8.	11.	13.	13.	13.	13.
11.0	1.	1.	1.	1.	1.	1.	1.
13.0	0.	0.	0.	0.	0.	0.	0.

FLAME LENGTH, FT **FLANKING FIRE FM1**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	1.2	1.5	1.8	2.0	2.0	2.0	2.0
7.0	1.1	1.4	1.7	1.8	1.8	1.8	1.8
9.0	.9	1.2	1.4	1.5	1.5	1.5	1.5
11.0	.4	.5	.5	.5	.5	.5	.5
13.0	.0	.0	.0	.0	.0	.0	.0

FUEL MODEL ------- 1 -- SHORT GRASS, 1 FT (30 CM)
1-HR FUEL MOISTURE, % -- 5.0 7.0 9.0 11.0 13.0
MIDFLAME WIND SPEED, MI/H 2.0 4.0 6.0 8.0 10.0 12.0 14.0
TERRAIN SLOPE, % ------- .0
DIRECTION OF WIND VECTOR .0
***DIRECTION OF SPREAD ---- 180.0 DEGREES CLOCKWISE FROM THE WIND VECTOR* BACKING FIRE**

RATE OF SPREAD, CH/H (V4.4) **BACKING FIREFM1**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	3.	5.	6.	8.	8.	8.	8.
7.0	2.	4.	6.	7.	7.	7.	7.
9.0	2.	3.	4.	5.	5.	5.	5.
11.0	1.	1.	1.	1.	1.	1.	1.
13.0	0.	0.	0.	0.	0.	0.	0.

FIRELINE INTENSITY, BTU/FT/S BACKING FIRE FM1

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	5.	8.	11.	13.	13.	13.	13.
7.0	4.	7.	9.	11.	11.	11.	11.
9.0	3.	4.	6.	7.	7.	7.	7.
11.0	1.	1.	1.	1.	1.	1.	1.
13.0	0.	0.	0.	0.	0.	0.	0.

FLAME LENGTH, FT BACKING FIREFM1

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	.9	1.2	1.3	1.5	1.5	1.5	1.5
7.0	.8	1.1	1.2	1.3	1.4	1.4	1.4
9.0	.7	.9	1.0	1.1	1.1	1.1	1.1
11.0	.3	.4	.4	. 4	.4	. 4	.4
13.0	.0	.0	.0	.0	.0	.0	.0

FUEL MODEL ------------ 3 -- TALL GRASS, 2.5 FT (75 CM)
1-HR FUEL MOISTURE, % -- 5.0 7.0 9.0 11.0 13.0
MIDFLAME WIND SPEED, MI/H 2.0 4.0 6.0 8.0 10.0 12.0 14.0
TERRAIN SLOPE, % ------- .0
DIRECTION OF WIND VECTOR .0
***DIRECTION OF SPREAD ---- .0 (DIRECTION OF MAX SPREAD)* HEAD FIRE**

RATE OF SPREAD, CH/H (V4.4) **HEAD FIRE FM3**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	42.	97.	162.	234.	312.	395.	482.
7.0	36.	82.	137.	198.	264.	335.	409.
9.0	32.	73.	122.	176.	234.	296.	362.
11.0	29.	67.	111.	161.	214.	271.	331.
13.0	27.	62.	103.	149.	198.	251.	306.

FIRELINE INTENSITY, BTU/FT/S HEAD FIRE FM3

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	606.	1398.	2329.	3363.	4481.	5672.	6926.
7.0	466.	1076.	1792.	2588.	3449.	4365.	5330.
9.0	390.	901.	1500.	2167.	2887.	3655.	4463.
11.0	347.	800.	1333.	1925.	2565.	3247.	3965.
13.0	316.	728.	1213.	1752.	2334.	2955.	3608.

FLAME LENGTH, FT HEAD FIRE FM3

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	8.6	12.6	15.9	18.9	21.5	24.0	26.3
7.0	7.6	11.2	14.1	16.7	19.1	21.3	23.3
9.0	7.0	10.3	13.0	15.4	17.6	19.6	21.5
11.0	6.6	9.7	12.3	14.6	16.6	18.6	20.3
13.0	6.3	9.3	11.8	14.0	15.9	17.8	19.5

FUEL MODEL ---------- 3 -- TALL GRASS, 2.5 FT (75 CM)
1-HR FUEL MOISTURE, % -- 5.0 7.0 9.0 11.0 13.0
MIDFLAME WIND SPEED, MI/H 2.0 4.0 6.0 8.0 10.0 12.0 14.0
TERRAIN SLOPE, % ------- .0
DIRECTION OF WIND VECTOR .0
DIRECTION OF SPREAD -- 90.0 DEGREES CLOCKWISE FROM THE WIND VECTOR **FLANKING FIRE**

RATE OF SPREAD, CH/H (V4.4) **FLANKING FIRE FM3**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	11.	13.	14.	13.	13.	13.	12.
7.0	9.	11.	11.	11.	11.	11.	10.
9.0	8.	10.	10.	10.	10.	9.	9.
11.0	7.	9.	9.	9.	9.	9.	8.
13.0	7.	8.	9.	9.	8.	8.	8.

FIRELINE INTENSITY, BTU/FT/S **FLANKING FIRE FM3**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	154.	187.	194.	192.	187.	180.	173.
7.0	119.	144.	150.	148.	144.	139.	133.
9.0	99.	121.	125.	124.	120.	116.	112.
11.0	88.	107.	111.	110.	107.	103.	99.
13.0	80.	98.	101.	100.	97.	94.	90.

FLAME LENGTH, FT **FLANKING FIRE FM3**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	4.6	5.0	5.1	5.1	5.0	4.9	4.8
7.0	4.0	4.4	4.5	4.5	4.4	4.3	4.3
9.0	3.7	4.1	4.2	4.1	4.1	4.0	3.9
11.0	3.5	3.9	3.9	3.9	3.9	3.8	3.7
13.0	3.4	3.7	3.8	3.7	3.7	3.6	3.6

FUEL MODEL ---------- 3 -- TALL GRASS, 2.5 FT (75 CM)
1-HR FUEL MOISTURE, % -- 5.0 7.0 9.0 11.0 13.0
MIDFLAME WIND SPEED, MI/H 2.0 4.0 6.0 8.0 10.0 12.0 14.0
TERRAIN SLOPE, % ------- .0
DIRECTION OF WIND VECTOR .0 BACKING FIRE
DIRECTION OF SPREAD --180 DEGREES CLOCKWISE FROM THE WIND VECTOR

RATE OF SPREAD, CH/H (V4.4) **BACKING FIRE FM3**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	6.	7.	7.	7.	7.	6.	6.
7.0	5.	6.	6.	6.	6.	5.	5.
9.0	5.	5.	5.	5.	5.	5.	5.
11.0	4.	5.	5.	5.	5.	4.	4.
13.0	4.	4.	4.	4.	4.	4.	4.

FIRELINE INTENSITY, BTU/FT/S **BACKING FIRE FM3**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	88.	100.	101.	99.	95.	92.	88.
7.0	68.	77.	78.	76.	73.	70.	67.
9.0	57.	65.	65.	64.	61.	59.	56.
11.0	51.	57.	58.	57.	55.	52.	50.
13.0	46.	52.	53.	52.	50.	48.	46.

FLAME LENGTH, FT **BACKING FIRE FM3**

1-HR MOIS (%)	MIDFLAME WIND, MI/H 2.0	4.0	6.0	8.0	10.0	12.0	14.0
5.0	3.5	3.7	3.8	3.7	3.7	3.6	3.5
7.0	3.1	3.3	3.3	3.3	3.2	3.2	3.1
9.0	2.9	3.1	3.1	3.0	3.0	2.9	2.9
11.0	2.7	2.9	2.9	2.9	2.8	2.8	2.7
13.0	2.6	2.8	2.8	2.8	2.7	2.7	2.6

F. MEDICAL EMERGENCY PROCEDURES

MEDICAL EMERGENCY PROCEDURES
In an emergency contact the Burn Boss. The Burn Boss will contact emergency services through 911 or state radio by contacting 1-800-472-2121. If air medivac is used a temporary helispot will be located in a safe area. Staff personnel and/or EMT's present will stabilize the victim. The Burn Boss will: **-Utilize appropriate frequencies to coordinate a response-do not use names.** **-Obtain and facilitate nearest EMT's to scene, request a medical unit respond.** **-Convey the nature of problem, number injured, conditions, location (coordinates).** **-Scene area and identify witnesses for later investigation-keep a log.**

AMBULANCES				
NAME:	**ADDRESS:**	**PHONE NUMBER:**	**PARAMEDICS** YES	NO
Jamestown Ambulance	**Jamestown, ND**	**911 or through Dispatch**	X	

AIR AMBULANCES				
NAME:	**ADDRESS:**	**PHONE NUMBER:**	**PARAMEDICS** YES	NO
Merit Care Life Flight	**Fargo, ND**	**911 or request through dispatch**	X	
St. Alexius	**Bismarck, ND**	**911 or 234-6000**		

HOSPITALS						
NAME:	**LOCATION:**	**PHONE NUMBER:**	**TRAVEL TIME** **AIR**	**GROUND**	**HELIPAD?** **YES**	**NO**
Jamestown Hospital	**Jamestown, ND**	**701-252-1050**			**X**	
Oaks Hosptial	**Oaks, ND**	**701-742-3291**			X	
Merrit Care	**Fargo, ND**	**701-234-6000**			X	
		BURN CENTERS				
NAME:	**LOCATION:**	**PHONE NUMBER:**	**TRAVEL TIME** **AIR**	**GROUND**	**HELIPAD?** **YES**	**NO**
Regions Hospital	**St. Paul, MN**	**911 or 800-922-2876**	**2 hrs**	**8 hrs**	**X**	

U.S. Department of the Interior
U.S. FISH AND WILDLIFE SERVICE

ENVIRONMENTAL ACTION STATEMENT

Within the spirit and intent of the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA; 40 CFR 1500-1508), and other statutes, rulings, orders, and policies to ensure environmental factors are weighted equally when compared to other factors in the decision making process, I have established the following administrative record and have determined that the proposed action of Herman WPA Prescribed Fire .

X is a categorical exclusion as provided by 516 DM 8.5 and/or [43 CFR 46.210] (see attached documentation).

___ is found not to have significant environmental effects as determined by the attached Finding of No Significant Impact and Environmental Assessment.

___ is found to have special environmental conditions as described in the attached environmental assessment. The attached Finding of No Significant Impact will not be final nor any actions taken pending a 30-day period for public review [40 CFR 1501.4(e)(2)].

___ is found to have significant effects and, therefore, a notice of intent will be published in the Federal Register to prepare an environmental impact statement before the project is considered further.

___ is denied because of environmental damage, Service policy, or mandate.

___ is an emergency situation. Only those actions necessary to control the immediate impacts of the emergency will be taken [40 CFR 46.150] (see attached documentation). Other related actions remain subject to NEPA review.

Other Supporting Document(s) (list):

TODD FRERICHS Digitally signed by TODD FRERICHS
Date: 2021.03.11 08:15:16 -06'00'

Agency Administrator **Date**

U.S. Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Wildland Fire Management

ENVIRONMENTAL ACTION STATEMENT
For Documenting Project NEPA Compliance and/or Categorical Exclusion (CE) Use

Within the spirit and intent of the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA; 40 CFR 1500-1508), and other statutes, rulings, orders, and policies to ensure environmental factors are weighted equally when compared to other factors in the decision making process, I have established the following administrative record and have determined that the proposed action is Categorically Excluded (CE) from EA or EIS documentation requirements consistent with [40 CFR 1508.4]; [43 CFR 46.150]; [43 CFR 46.210]; [43 CFR 46.215]; 516 DM 2.3A; 516 DM 2.8; and 516 DM 8.5.

Treatment Information				
Treatment Name: Herman WPA		Treatment Location: Kulm WMD		
NFPORS Project # (if applicable)	Planned Start Date:	Planned Completion Date:	Estimated Duration:	Estimated Costs $

Project Coordinator:	Phone No:	
	E-Mail:	

Categorical Exclusion(s) (CE) for this treatment: *(check all that apply)*

516 DM 8.5	**X**	Note: 516 DM 8.5 are Service specific CEs;
43 CFR 46.210	_____	Note: 43 CFR 46.210 are DOI specific CEs and includes Hazardous Fuel Reduction and Burned Area Rehab;
43 CFR 46.150	_____	Note: 43 CFR 46.150 addresses Emergency Responses (such as Emergency Stabilization).

1. <u>Proposed Action and Alternatives:</u>

a.) Briefley describe the proposed action and any alternatives explored.

b.) Describe and/or list pertinent facts, such as land description, statutory citations (i.e. applicable laws that require you to do this action), to tie this action to the ground.

c.) Briefly discuss why the proposed action was selected and/or why other alternatives were not selected.

2. Management Plan Conformance

a.) State that the proposed action is consistent with land and/or resource management plans and cite the area of the plan(s) that this will address.

b). Describe how the proposed action was designed in conformance with FWS standards and specific desired conditions.

c). Insert findings for other applicable laws or new ruling approved since the signing of the land management plan. Document no impact to current management plans.

3. Compliance with the National Environmental Policy Act

This is for all Programmatic NEPA and CEs, including the Service's CEs and DOI Hazardous Fuels Reduction (HFR) or Burned Area Rehabilitation (BAR), and Emergency Stablization (ES) CE use:

a). Quote the specific NEPA documents (EA, EIS, or other NEPA utilized), and/or Categorical Exclusion(s) that are being used for the action.

b). Explain why the action fits the NEPA documents and/or CE(s) selected.

c). State that the action does not present any Extraordinary Circumstances (see checklist below).

d). If extraordinary circumstances do (or appear to) exist relative to the action, discuss circumstances and explain why the action is still categorically excluded.

If 43 CFR 46.210 (k) [Hazardous Fuels Reduction] or 43 CFR 46.210 (l) [Burned Area Rehabilitation] used: *State that the Proposed Action is categorically excluded from futher documentation under NEPA in accordance with 43 CFR 46.210 (k) or (l), or both.*

If 43 CFR 46.150 used for Emergency Stabilization (ES):

a). State that the Proposed Action is an emergency action not having significant environmental impacts in accordance with 43 CFR 46.150 and 516 DM 2.8. and insert any reasons.

b). Insert any pertinent situations that were brought up during the design of the activities to explain why there is no potential for significant impacts.

c). State that the emergency stabilization action is appropriate in this situation because there are no significant impacts and that the action is funded as an emergency stabilization project under the [Incident Name].

4. Permits/Approvals

Discuss any permits/approvals needed before the proposed action can be implemented.

5. Public Involvement/Interagency Coordination:

a.) List the public, other agencies, and/or States or Tribes that have been involved with the proposed action.

b.) Describe the extent of their participation.

6. Supporting Documents

Collect supporting documents for the determination. Include relevant office file material and put together a document list to include the key references.

Extraordinary Circumstances (43 CFR 46.215)

Any action that is normally categorically excluded must be evaluated to determine whether it meets any of the extraordinary circumstances in section 46.215; if it does, further analysis and environmental documents must be prepared for the action. [43 CFR 46.205 (c)(1)].

Below are the Extraordinary Circumstances from [43 CFR 46.215].

Check Yes or No for each item.

Yes ___	No X	1.	The proposed action will have significant adverse affects on public health.
Yes ___	No X	2.	The proposed action will have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (EO 11990); floodplains (EO 11988); national monuments; migratory birds; and other ecologically significant or critical areas.
Yes ___	No X	3.	The proposed action will have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA section 102(2)(E)].
Yes ___	No X	4.	The proposed action will have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.
Yes ___	No X	5.	The proposed action will establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.
Yes ___	No X	6.	The proposed action will have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.
Yes ___	No X	7.	The proposed action will have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by the bureau.
Yes ___	No X	8.	The proposed action will have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species or have significant impacts on designated Critical Habitat for these species.
Yes ___	No X	9.	The proposed action will violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment.
Yes ___	No X	10.	The proposed action will have a disproportionately high and adverse effect on low income or minority populations (EO 12898).
Yes ___	No X	11.	The proposed action will limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (EO 13007).
Yes ___	No X	12.	The proposed action will contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and EO 13112).