



MN DNR Prescribed Burn Unit Plan

NA-01990-04

Burn Unit Name and ID:			Glipi Slash Rx Burn D215-06-03								
County Name	Lat/Long	Sec	Township	Range	Forty	Management Unit Name and Number		Administrator			
St. Louis	47 55.419 91 40.492	24	63	11		Glipi Road		Lake County			
Burn Unit Description											
Fuel Model ¹		MN Native Plant Community		Size of Burn (acres) ¹		Fuel Loading (tons/acre) ¹					
8 & 10		Northern Mesic Mixed Forest		7		4-8 tons/acre					
<p>Additional Burn Unit Descriptors (e.g. land management goals, overstory/understory, soil, water, other ownerships/administration within burn area, other descriptors (power lines, roads etc)). This site is administered by Lake County and is within the Garden Lake Deer Yard. The objective is to establish conifer cover on the site by seeding. Soil types are primarily sandy loam. The closest private residence is northeast ¼ mile on a small unnamed lake. Water sources are found .4 miles east at the Pickerel Lake access, at the small unnamed lake ¼ mile northeast and from a permanent stream 1.4 miles west on the Glipi Road. The burn unit can be accessed from the Glipi Forest Management Road. There is an access road along and through the south side of the unit and adjacent to the east side of the unit. The site was logged in the last 2-3 years.</p> <p>**Note used max. mid-flame wind speed of 6 mph or less to reduce intensities in adjacent Fuel Model 10 in the event of an escape.</p>											
Objectives											
<p>Purpose of burn (measurable treatment objectives): Reduce 1 hour fuels by 80-100% and 10 hour fuels by 50-75%. Kill or stress 50-80% of the trees and brush within the burn unit. Expose mineral soil on 50-75% of the unit</p> <p>Long term resource objectives: Establish a mixed conifer/hardwood stand with 50-75% crown closure.</p> <p>Range of acceptable results: Reduce 1 hour fuels by 50-100 % and 10 hour fuels by 25-75%, expose mineral soil on 40-60% of site.</p> <p>Timing of treatment (in calendar terms and phenological terms): 4/20-10/15</p>											
Burn Complexity: Use NWCG Complexity Rating Guide (NFES 2474) to Determine Burn Complexity (keep on file)				Low		Moderate X		High			
Burn Prescription Window											
		Outputs Prescription Parameters				Guidance Prescription Parameters					
Wind Direction		Spread Rate		Flame Length		Wind Speed		Temp.	Relative Humidity	1 Hr Fuel Moisture	1000 Hr Fuel Moisture or Drought Code
		Head	Backing	Head	Backing	20'	Mid flame				
NW, N, NE, E, SE, W	Maximum Prescription	4.2 ch/hr	0.1 ch/hr	1.3'	0.3'	Max 18	Max 6	Max 75	Min 25%	5%	16%
	Minimum Prescription	0.6 ch/hr	0.1 ch/hr	0.6'	0.2'	Min 4	Min 1	Min 45	Max 50%	10%	19%
Additional Considerations											
Consideration				Mitigation							
Cultural site(s): None											
Natural Heritage Elements: None											
Adjacent Land Concerns: Yes				Private cabin, wind direction prescription will reduce impacts.							
Peat Soils or Wet Soils: No											
Other:											
Emergency Telephone Numbers				Burn Activity Contacts							
Forestry-Tower				Lake County Forester							
Midway Dispatch											
Sheriff-Lake County				Ely Fire Department							
Superior Dispatch											



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Personnel Needs

Burn Boss Level (Note: tied to the burn complexity level):		MRXB2
Number Needed	Position	Names(Optional)
1	Burn Boss	
0-1	Ignition Spec.	
1-2	Lighters (FF2)	
2-4	Engine Bosses	
0-1	J5 Operator + Hoseman	
0-1	Type 4 Water Tender Operator	
2-4	FF2 w/ engines	
1-2	Squad Bosses	
4-8	FF2	
1	Safety/Weather	

Equipment Needs

Number needed	Equipment Type	Source
2-4	Type 6 or Type 7 Engine	
1	Drop Tank	
1	Six-wheeler with slip-on	
0-1	J5	
0-1	J5 Operator Headset	
0-1	Type 4 Water Tender	
3-6	Drip Torches + Fuel	
4-8	Bladder Bags	
1000'	1.5" Hose	
500'	1" Hotline Hose	
10	1.5" Nozzles	
10	1" Nozzles	
10	Y-Valves	
10	Reducers	
	Pump & draft horse	
	Hand Tools	
	PPE	
6-10	Radios	

Operations Plans

Pre-burn Site Preparation Plan: A Fire break will be established around the perimeter of the unit by dozing and clearing of debris by hand.

Ignition/Firing Plan: (Include provisions for a test fire, firing pattern, firing device, preferred wind direction, hazards/special considerations):

The site will be lit by hand with drip torches. Firing will begin on the down wind side with a test fire. If it is determined that fire behavior is within acceptable parameters firing will continue on the down wind side establishing approximately 30 feet of black line. With established black line on the down wind side, firing will continue with a combination of perimeter, chevron and strip head firing until the unit is complete.

Lighting will cease should a spot occur and the lighters will work to help suppress the spot.

***The final firing plan will be established in the shift plan on the day before or the day of the burn based on wind direction.**

Holding Plan: (Staging area, holding lines, resources and positions): Resources will stage in the southeast corner of the burn unit in the gravel pit. A drop tank will be established and filled in the gravel pit prior to ignition. A T6 or T7 engine will establish a hose lay along the downwind half of the burn unit using the drop tank as the water source. Either a Type 6 Engine or a Type 4 Water Tender will serve as the nurse truck for the drop tank-**the Water Tender will be on site if the DMC is > 20 and the 1000 hour fuel moisture is < 17%**. Y-valves with reducers and hot line hose will be placed in line every 200'. Firefighters with bladder bags and hand tools along with the six-wheeler will serve the primary holding function. The hose lay will serve as a backup if the bladder bags and hand tools are not sufficient to hold the line. **A J5 and a third engine will be on site to assist with holding if the FFMC is forecasted to be > 87 or the PIG is projected to be > 60%.**

A pump will be set up either on the Glipi Road or at the Pickerel Lake Access to expedite refilling an engine.

This may also function as an Engine Boss training opportunity.

***The final holding plan will be established in the shift plan on the day before or the day of the burn.**



MN DNR Prescribed Burn Unit Plan

NA-01990-04

Burn Unit Name and ID:**Glipi Slash Rx Burn D215-06-03**

Patrol/Mop-up Plan: (Mop-up instructions, safety concerns, weather, contingency, rehab, patrol instructions): After ignition is complete initial mop-up will focus on the down wind side of burn unit. Initial mop-up will focus on any burning material within 25 feet of the line. All burning snags will be felled. Other burning material within the unit will be allowed to burn to consume the slash on the site. After most of the slash has been consumed the site will be mopped up 100% due to the small size of this unit. The Burn Boss or their designee will remain on the site until they feel it is safe to leave.

The site will be checked the following morning and any mop-up needed will be completed at that time.

***The final mop-up plan will be established on the morning after the burn.**

Contingency Plans

(Include secondary control lines, termination of ignition procedures, list of contingency resources and approximate response times, trigger points, backup plan for equipment failure etc.): Secondary control lines include the Glipi Road, the private access road east of the burn unit and fuel breaks in wet areas.

Should a spot fire occur all ignition will immediately cease and the spot fire sized up and suppressed. Ignition will not continue again until the burn boss gives the approval to proceed. If spot fires continue to be a problem the burn boss will re-evaluate the conditions and decide if the burn should continue.

Contingency resources include Kawishiwi (25 min.) and Ely VFD (35 min.).

An up to date contingency plan will be developed the day before or the morning of the burn detailing available resources.

Should an escape fire occur and the ability to control the escape is beyond the capabilities of the resources on site the burn boss will declare the burn a wild fire. Requests for contingency resources to suppress the wild fire will be coordinated through Superior Dispatch.

The following trigger points will be used as indicators to decide if tactics need to be changed:

1. RH lower than forecasted
2. Winds higher than forecasted.
3. A spot fire occurs with initial ignition and/or spots continue throughout the day.
4. A spot fire becomes established south of the Glipi Road.
5. A spot fire becomes established east of the private access road.
6. Contingency resources are dispatched to a wild fire.
7. A piece of equipment has a mechanical failure.
8. An injury occurs on the fire.

If one or more of these trigger points are reached tactics will be re-evaluated and a decision will be made if the burn will continue.

Should a spot fire become established south of the Glipi Road the Burn Boss will alter tactics to primarily a holding action. This holding action will continue as the spot fire is sized up. The Burn Boss will exercise one or more of the following options:

1. Initial attack spot fire with resources on hand.
2. Request a forth engine to assist with initial attack.
3. Request contingency resources.
4. The holding action increases the likelihood that the RX fire will become a wild fire and the best choice is to complete the RX fire.
5. The holding action increases the likelihood that the RX fire will become a wild fire and the best choice is to extinguish the RX fire.

Should a spot fire become established east of the private access road the Burn Boss will immediately order a forth engine.

Tactics on the Rx burn will change to primarily a holding action until the spot fire is sized up. The Burn Boss will exercise one or more of the following options:

1. Initial attack spot fire with resources on hand.
2. Request contingency resources.
3. The holding action increases the likelihood that the RX fire will become a wild fire and the best choice is to complete the RX fire.
4. The holding action increases the likelihood that the RX fire will become a wild fire and the best choice is to extinguish the RX fire



MN DNR Prescribed Burn Unit Plan

NA-01990-04

Burn Unit Name and ID:

Glipi Slash Rx Burn D215-06-03

Should contingency resources for the RX fire be dispatched to a wild fire than the Burn Boss will alter tactics to primarily a holding action. This holding action will continue until one or more of the following occurs:

1. The wild fire is contained and contingency resources are released from the wild fire.
2. Alternate contingency resources are identified and contacted.
3. Continuing the holding action increases the likelihood that the RX fire will become a wild fire and the best choice is to complete the RX fire.
4. Continuing the holding action increases the likelihood that the RX fire will become a wild fire and the best choice is to extinguish the RX fire.

Should an equipment failure occur and a repair cannot be made the situation will be evaluated. The following are options that will be considered:

1. Order a replacement for the failed piece of equipment and continue the burn.
2. Cancel the burn, if it is prior to ignition and a replacement can't be obtained.
3. If the burn is on going, determine if it is best to complete ignition or if all running fire should be extinguished with equipment on site.
4. If the burn is on going, order a replacement piece of equipment to aid in holding or extinguishing running fire.

Should an injury occur on the fire the situation will be evaluated as to the best course of action. Requests for medical assistance and evacuation will be coordinated through Orr Forestry. The Burn Boss will change tactics to primarily a holding action until one or more of the following occurs:

1. The injured party is successfully evacuated.
2. The injured party does not need immediate evacuation and the burn can continue.
3. Continuing the holding action increases the likelihood that the RX fire will become a wild fire and the best choice is to complete the RX fire.
4. Continuing the holding action increases the likelihood that the RX fire will become a wild fire and the best choice is to extinguish the RX fire.

Smoke Management Plan¹

Smoke Dispersion Category (should be fair or better to burn): Fair to Excellent.

Distance and Direction from Smoke Sensitive Area(s)¹:

The nearest home is approximately ¼ mile north-northeast of the burn unit. The Fernberg Road is ¾ mile north of the burn unit and the Glipi Forest Mgmt Road is immediately adjacent. Smoke impacts will be minimized to residences and roads due to the distance between the burn unit and prescribed winds. Residual smoke will be minimal after mop-up and should provide few problems other than minor concentrations in low-lying areas adjacent to the burn. Area roads close to the burn are will receive minimal smoke to obscure visibility due to prescribed wind directions and lift of the smoke. Signs will be placed on the road to alert motorist of the prescribed burn.

Smoke Management Plan (Describe how you intend to mitigate the effects of smoke on roads, firefighters, neighbors and other sensitive receptors. Include safety considerations)¹:

The prescription for this burn will minimize smoke impacts on local residences and roads. The prescription, wind direction, duration of the burn, and the distance between the burn unit and homes and roads should allow for smoke to lift and have minimal impacts on these sites.

It will be important for people working on this fire to be aware of their exposure to smoke and to rotate out of downwind areas at regular intervals. The Burn Boss, Ignition Specialist, Engine Bosses and Squad Bosses will need to be aware of this and ensure that people are rotated out of the smoke

Safety Plan

Identify safety zones, escape routes, communications plan:

Safety zones for this fire will initially be a gravel pit and Pickeral Lake. After ignition commences the black will serve as an additional safety zone in areas of light fuels. Escape routes include fire breaks, roads and trails.

¹ Required for MN Pollution Control Agency reporting requirements



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NA-01990-04

Burn Unit Name and ID:	Glipi Slash Rx Burn D215-06-03
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Communication on the burn will be on DNR tactical channel 1 (151.475). Area communication will be on the Superior Net (169.925) or on the Fernberg Repeater (169.925 tone 100.0). Communication on a wild fire will be on Forest Service tactical channel 1(168.050), Fire Mutual Aid (154.295) and DNR Air/Ground (151.340). Cell phone communication will also be available at the burn, however it will not be the primary means of communication.

Medical Plan

(In addition to notification of 9-1-1 dispatcher, identify nearest ground and air ambulance service, availability of paramedics, location of nearest hospital and list what first aid supplies are available at the burn site and what person or equipment they are assigned to):

A medical plan will be developed for the Ely Area for the entire season and will be part of the burn packet on this burn outlining area medical resources and how to contact them. Any medical evacuations will be coordinated through Superior Dispatch. A 20 person first-aid kit will be on site and will be in the Tower Wildlife Engine. An individual trained in first-aid, a first responder or an EMT will be part of the burn crew.

List of Attachments

Project Map	X	Fire Behavior Calculations (optional)		
Permission to Burn on non-DNR Land		Road Control Plan (optional)		
Risk/Safety Assessment (optional)		Organization Chart (optional)		

Signatures

Prepared by:	Qualification Title: RxB2	Date:
Reviewed by ² :	Qualification Title:	Date:
Reviewed by ³ :	Title:	Date:
Approved by ³ :	Title:	Date:

² All burn plans must be reviewed and signed by a qualified Burn Boss 1 or 2 as specified by Commissioner's Operational Order 47

³ As per Division policy



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NA-01990-04

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Go/No Go Checklist

ALL burn prescription elements met.	ALL personnel have the required PPE with them.
ALL smoke management specifications met.	ALL pre-burn considerations (line preparation) identified in the plan addressed.
ALL current and projected fire weather forecasts have been obtained and are favorable.	ALL the required notifications been made. (landowners, media, cooperators, sheriff etc)
ALL planned operations personnel and equipment on-site, available and operational.	ALL permits and approvals been obtained. (open burning permit, Non-DNR land permission)
APPROPRIATE contingency resources have been confirmed and are available	ALL on-site holding forces adequate for containment under the expected conditions.
ALL personnel briefed on the burn objectives, their assignment, safety hazards, escape routes, communications and contingency plans.	Burn Boss believes the burn can be carried out according to the Prescribed Burn Unit Plan and will meet the planned objectives.

Prescribed Burn Unit Report

Weather

	Time	Wind Direction	Wind Speed	Temperature	Relative Humidity	Comment
Forecasted Fire Weather						
Spot weather forecast						
Observed weather						

Observed Fire Behavior

Time	Spread Rate	Flame Lengths	Scorch Height

Acres Burned by Cover Type

Fuel Model	Completed Acres	ECS Type Sub Type	Completed Acres

Post Burn Observations

Recommendations

Burn Boss Signature

Name:	Title:	Date:
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