



MN DNR Prescribed Burn Unit Plan

NA-01990-04

Burn Unit Name and ID:			Maplewood State Park, 2005				
County Name	Lat/Long	Sec	Township	Range	Forty	Management Unit Name and Number	Administrator
Ottertail	46.5387 -95.9532		136 135	42 42		Restoration East Shop Cataract Drayton West	Parks

Burn Unit Description

Fuel Model ¹	MN Native Plant Community	Size of Burn (acres) ¹	Fuel Loading (tons/acre) ¹
1, 8	Old Field, MNNPC Upn12	Restoration 92 East 156 Shop 20 Cataract 60 Drayton 298 West 310 Total 936	Fuel model 1 2-3 tons/acre Fuel model 8 6 tons/acre

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))

Units contain varying amounts of Maple-Basswood, bur oak forest and old field. Most of the units are in the northern 1/3 of the park and are interspersed with private hayfields that were hayed late in 2004 (no duff, green). These burns are a follow up to buckthorn treatment (cut stump, chemical) which was done over the past 3 field seasons.

All units are bounded by a combination of park roads or trails, county/township roads, green hayfields, or lake with the following exceptions: Unit West-- the east break will follow the farm (hayfield) lane which is partly an abandoned township roadway thru the hayfield, and partly the mowed park boundary. Unit Drayton: All park roads/trails except the NW boundary will follow an old farm lane (mowed). Unit Restoration: partly follow park boundary. Unit East: Follow mowed boundary breaks.

There are several small lakes contained within these burn units that were formerly ringed with buckthorn. Several of the wetlands included also had dense stands of buckthorn. Periodically burning these units will control the buckthorn sprouts that will arise from the seedbank now that the overstory buckthorn has been removed.

Objectives

Purpose of burn (measurable treatment objectives):

Long term resource objectives:

Range of acceptable results:

Timing of treatment (in calendar terms and phenological terms):

All Units: reduce young buckthorn sprouts <1" diameter by 50%.

Burn Complexity: Use NWCG Complexity Rating Guide (NFES 2474) to Determine Burn Complexity (keep on file)	Low	Moderate X	High
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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				
All directions except No S wind, Unit West, Restoration, East	Maximum Prescription	FM1: 307 ch/hr		8'		Max 20	Max 8	Max 80	Min 20%	3	20%
	Minimum Prescription	FM1: 15 ch/hr FM8: 4 ch/h		2' 1'		Min 5	Min 2 10	Min 40	Max 44	8	NA

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Additional Considerations			
Consideration		Mitigation	
Cultural site(s): unknown		No digging into ground.	
Natural Heritage Elements: none known			
Adjacent Land Concerns:		Burning adjacent to private homes. Station engine at pocket of residences (Lida Lake) when burning Unit West. Also several units bounded by County #108. No south wind for those units. Press release needed in local (Pelican) newspaper re. Buckthorn control efforts at Maplewood.	
Peat Soils or Wet Soils: NA			
Other:			
Emergency Telephone Numbers		Burn Activity Contacts	
Forestry DL	218-847-1596	Chris Weir-Koetter (cell)	218-766-xxxx
Fire Dept FF (Pelican dispatches thru here)	218-736-6983	Cindy Lueth (cell)	218-766-xxxx
Sheriff Dispatch	218-736-5421		
Medical Pelican	218-863-3636		
Park Office	218-863-8383		
Personnel Needs			
Burn Boss Level (Note: tied to the burn complexity level):		RxB2	
Number Needed	Position	Names(Optional)	
1	RxB2	Weir-Koetter/Lueth	
1	FIRB	(Lueth/Weir-koetter), Horn, Stebleton, Olsen,	
5-8	FFT2	Petersen, (Hanson, Fjestad, Webb, Nelson)	
	Note: additional resources will be added to the minimum listed above for the north side, West unit burn.	STS Ottertail County	
Equipment Needs			
Number needed	Equipment Type	Source	
3	Type 6 Engine	Parks, all	
2	Gator, 30 gal tank		
1	Misc radios, tools, saws, torches etc standard on trucks		
2	300 gal water tender (northern units) Smoke Over Road Signs		
Operations Plans			
Pre-burn Site Preparation Plan: Check fuels close to fire lines. Remove 100/1000 hour fuels within 10' of line on all units with newly mown breaks (crew) Mow breaks (park or crew).			



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

1. Lighting method: drip torch
 - a) radio communications between burn boss (or ignition specialist) and ignitors.
 - b) All ignitors know where escape routes and safety zones are throughout the fire.
 - c) All ignition only at direction of burn boss (or ignition spec)
 - d) Ignitors watch for sudden wind shifts and flare ups and report them immediately to burn boss (or ignition spec)
 - e) Ignitors keep sleeves buttoned and shrouds and goggles on to protect from flames and heat.
2. Burn boss (or ignition spec) check burn unit perimeter for potential problem areas, fuel changes, weak line spots, etc
3. Anchor ignition in burn unit (usually corner) opposite current prevailing wind.
4. Burn out secure line by igniting parallel to burn break in strips. Black line needs to hold against head fire flame lengths.
5. Strip across (side to side) frequently to minimize head fire intensity in order to accomplish burn objectives.
6. Cease lighting if spot fires occur until under control. Cease lighting if a running spot fire occurs until controlled and burn boss gives the signal to resume.
7. Holding crews will pre-treat signs, power poles, etc prior to ignition. **Holloway Hill**, a steep hill, no engine access, has benches and signs that need pre-treatment and backfiring. Do this under the direction of the burn boss.

Holding Plan: (Staging area, holding lines, resources and positions):

Staging: Park Shop Area. Lines: In general, each line will have 2 water units which can be a 2 Type 6 engines or an engine and gator/Ranger. Backup engines/gators will be staged close to the burn unit. On each line, Engine 1 will lay wet line as needed (units with dirt trails or blacktop roadways will not need wetline) while Engine 2 (or gator) monitors and holds after ignition. On larger units use gator to run line to monitor for spots etc. Resources may be adjusted in response to actual fire behavior or line condition. **All units:** Water refill either at shop, park office or RV fill. Water Tender will be staged on days when northern units are burned. Stage one engine at houses in NW corner of Unit West during burnout of that corner of the unit.

Patrol/Mop-up Plan: (Mopup instructions, safety concerns, weather, contingency, rehab, patrol instructions):

Mop up any smoldering wood within a minimum of 20' of line. More specific instructions will be given the day of the fire, in response to 1000 hour fuel moisture and current and projected wind conditions.

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.):

1. Secondary control lines for all units are closest trails/roads or river/lake.
2. If fire crosses the line, ignition ceases, holding forces take action at direction of the burn boss or their designee to anchor, flank and pinch escape while containing existing burn unit. If fire is not contained by that action, holding forces will fall back to secondary lines and burn out under the direction of the burn boss. Contingency resources may be drawn from: other park staff (35 min) Pelican Rapids RFD(45 min) DL Forestry (1.5 hour).
3. If spot fires continue over the line, prescribed fire will stop and full mop-up will commence.
4. Rotate out failed equipment and fix in field, time permitting

Smoke Management Plan¹

Smoke Dispersion Category (should be fair or better to burn)¹:

Good

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

Pelican Rapids, West 20 miles

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

¹ Required for MN Pollution Control Agency reporting requirements

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Burn Unit Name and ID: **Maplewood State Park, 2005**Include safety considerations¹:

-Avoid smoking out roads. –Rotate firefighters out of smoke regularly to minimize their exposure. Use adequate breaks and wetline to minimize smoke exposure. Burn under good dispersal conditions. Smoke duration on woodland units estimated at 24 hours.

Safety Plan

Identify safety zones, escape routes, communications plan:

Identify safety zones, escape routes, communications plan: Safety zones and escape routes will change as the burns progress and from unit to unit. This will be monitored and communicated clearly to the firefighters in pre-burn briefings and during the burns. In general, mowed breaks and roads provide good escape routes. Black areas are safety zones. Lights on for all engines, gators. Use a second firefighter to direct all engines when backing up during a fire. Monitor and communicate extreme fire behavior (whirlwinds, fire devils) as well as significant wind shifts. Radio communication will be announced at the briefing (either park' repeater channel or Forestry Tac 1).

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):

Closest ambulance Pelican Rapids (20 min). Closest hospital is Fergus Falls (35 miles). First Aid kit is on Engine PK1. Cell phones for emergency use are located with Chris Weir-Koetter, Cindy Lueth. Cindy Lueth is trained advanced First Aid/CPR and Outdoor Emergency Care.

List of Attachments

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

Signatures

Prepared by: Cindy Lueth	Qualification Title: RxB2	Date: 3/29/05
Reviewed by ² : Chris Weir-Koetter	Qualification Title: RxB2	Date: 3/30/05
Reviewed by ³ :	Title:	Date:
Approved by ³ : Chris Weir-Koetter	Title: Regional Parks Resource Spec, Sr	Date: 3/30/05

² All burn plans must be reviewed and signed by a qualified Burn Boss 1 or 2 as specified by Commissioner's Operational Order 47³ As per Division policy



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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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