

PRESCRIBED BURN PLAN

US Army Corps of Engineers

McAlpine Locks & Dam

Burn Unit: Area A



Prepared by: Keith C. Chasteen
Keith C. Chasteen, Natural Resources Management Specialist,
OPT-O

Reviewed by: Theodore D. Takacy
Theodore D. Takacy, Lockmaster, McAlpine Locks & Dam

Approved by: Waylon Humphrey
Waylon Humphrey, Operations Manager, OP-L

Date prepared: 1/12/2017

PRESCRIBED BURN PLAN

US Army Corps of Engineers
McAlpine Locks & Dam
Burn Unit: Area A

Planned Burn Date: Between May 1 and 20, 2017 (excluding May 5 and 6)

Site: McAlpine Locks & Dam, Area A, Louisville, KY

Burn Unit Size/fuel type: 1.5 acres/fine fuels – grasses and forbs

1. **LOCATION:** McAlpine Locks & Dam
805 North 27th Street
Louisville, KY 40212

Burn unit is on Louisville side of canal between the Resident Engineer office and the landside 1200' lock chamber.

2. **EMERGENCY ASSISTANCE: 911**

Louisville Fire Department/Louisville Metro Police

3. **NOTIFICATIONS:**

Kentucky Division of Forestry, 502-573-1085 (24 hours prior)
 Falls of the Ohio SP, 812-280-9970 (day of ignition)
 Louisville Fire Department, 502-574-3701 (day of ignition)
 Louisville Gas & Electric, Ohio Falls Gen. Station, 502-627-2831 (day of ignition)
 Louisville FSDO (FAA), 502-753-4200 (day of ignition)
 US Coast Guard, Ohio Valley Sector, 502-779-2242 (day of ignition)

4. **CREW ORGANIZATION**

Burn Boss: Keith Chasteen, mobile – 502-751-5442
Ignition Boss: Dewey Takacy, mobile – 859-242-0194
Crew Members: 2 – ignitions (USACE), 2 – backpack sprayers (USACE), 2 – hand tools (flapper/shovel) (USACE), 1 – 25 gallon sprayer on UTV (USACE), 1 – smoke monitor (USACE)

5. **PLANNING AND BURN MANAGEMENT**

Firebreak preparations: Most unit boundary lines (see Map #1) consist of concrete, including sidewalks, concrete apron and concrete patio. The southern boundary consists of mowed lawn.

Fence lines will have standing vegetation removed by weed eating/mowing at least 18 inches out from fencing and posts. Dead thatch within this area may have to be raked by hand to reduce potential heating of fencing materials.

The southern boundary will be closely mowed prior to ignition and monitored during all burning activities.

Wet lining will be utilized as ignition conditions require.

Reason for burn: Prescribed fire will be used to promote the growth of native grasses and herbaceous vegetation (warm season). It is anticipated that cool season grasses will be well sprouted at time of burning. This kill-back will provide conditions for rapid sprouting of perineal plants and germination of native seed. Additionally, the burn should be hot enough to kill the tree seedlings (cottonwood, sycamore, etc.) and other woody plants beginning to establish within some portions of the unit.

Weather conditions:

Weather conditions are critical for the effectiveness of a prescribed fire, for the safety of burn personnel and the public, and for the management of smoke during burning activities.

- Ideal transport wind speed measured at 20 feet above ground level should range from 6 to 18 mph from a S-SW direction for smoke dispersion.
- Surface winds from the S-SW should range from 1 to 7 mph.
- Relative humidity should range from 20% to 50%.
- Air temperature should range from 35 to 70 degrees Fahrenheit.
- Fine fuel moisture will ideally range from 10 to 25%. A rough estimate can be obtained by taking the relative humidity and divide by 2 ($RH/2 = FFM$).
- Unstable atmospheric conditions are preferred for smoke dispersal. Ignition will not take place if stable atmospheric conditions are creating haze, layered clouds or little to no wind due to smoke concerns.
- Air quality – ignition will not occur during periods of air quality alerts within the Louisville Metro area.

Topography:

Area A consists of 1.5 acres laying in mostly an east to west pattern. It is nearly 1285' long (east to west) and approximately 50 to 55 feet wide (north to south) along the entire length. The entire unit slopes to the north.

Communications:

Seven (7) handheld radios will be utilized during the prescribed burn. Radios will be assigned to the following positions:

- Burn boss
- Ignition boss
- Ignition crew #1
- Hand tool #1
- Ignition crew #2
- Hand tool #2
- UTV sprayer

Additionally, the Burn boss, Ignition boss and Smoke monitor will each have cell phones for communications with each other and in order to contact emergency services, if needed.

Members operating handheld radios will operate on local maintenance channel 14 during prescribed burn activities.

Firing techniques and ignition pattern:

The prescribed burn is scheduled to occur between May 1 and May 20, 2017, depending on site and weather conditions. The days of May 5 and 6 will be avoided due to Kentucky Derby activities in the Louisville area.

The vegetation to be burned consists of moderately thick grasses with interspersed forbs. An occasional tree seedling of less than .5 inches diameter at ground level can be found in some portions of site, as well as an occasional shrub (such as bush honeysuckle). The entire unit has a north facing aspect. All ignitions will be by use of drip torches.

The unit will be divided into 3 sections (Map #2) for ignition purposes. Section 1 (Map #3) will be the test burn area running from the far-east end of the unit to the obelisk indicating the historic 1937 flood level. Ignition of this test burn area will commence from the obelisk towards the east along the north fence line to the pinch point at the eastern end of the unit. Once this line has been ignited, ignition will take place from the obelisk towards the east along the south fence line.

If the test burn is successful, ignition operations will proceed within Section 2 (Map #4). This section lies from the cross fence in the middle of the Unit proceeding east to the obelisk. Ignition will begin near the obelisk and proceed west along the fence line (north side of section). As Igniter #1 proceeds along the fence line, Igniter #2 will begin lighting along the top of the slope, heading from east to west, while maintaining a pace somewhat behind Igniter #1 (~20 – 30 feet behind). At the west end of the section, Igniter #1 will proceed up the slope along the cross fence prior to Igniter #2 reaching the cross fence. The section will be ringed at this point.

Section 3 (Map #5) is the western most portion of the unit. Ignition will begin at the NE corner with Igniter #1 proceeding along the concrete apron towards the west. Igniter #2 will begin from the SE corner, lighting along the top of the slope towards the west, while maintaining a pace somewhat behind Igniter #1.

All ignitions along fence line will be followed along with a backpack sprayer to knock down any excessive heat directly to the fence structures (chain link fencing, posts, etc.). Personnel with sprayers must maintain relatively close proximity to the igniter during ignition operations in order to maintain verbal communications.

In areas where vegetation will not carry fire through the unit, the areas will be strip-burned to increase effectiveness of treatment with fire.

Smoke management:

The site to be burned can give one the incorrect impression of being “out in the wild.” However, McAlpine Locks & Dam is located basically in the middle of an urban area with downtown Louisville only a few miles away. To the south of the project is Louisville and the Portland neighborhood, to the north approximately 1 mile away on the Indiana side of the Ohio River is New Albany and to the northeast is Clarksville.

Additionally, along the southern boundary of the project is an elevated portion of Interstate 64. It is critical that smoke movement be in a direction away from this highway.

Prior to burning operations, temporary roadway warning signs will be placed at the entrance onto the project and on the north side of the bridge coming from Shippingport Island.

With light winds from the S-SW and high mixing heights, it is anticipated that smoke will disperse prior to affecting any communities north of the river. Low level smoke should ideally travel northward into the Silver Creek drainage, in the event that it does not disperse prior to arriving there. The Silver Creek drainage has a lower population density than the surrounding communities of New Albany and Clarksville. Smoke will be monitored by USACE personnel from the boat ramp below Bicentennial Park in Clarksville. This person will have mobile phone access with the Burn Boss. Monitoring will also occur by personnel at the project site.

Burning will be of a short duration due to the small area being treated. The existing fine fuels will burn quickly, especially if fuel moisture is on the lower end of the prescription. In the event of smoke impacts on any community, burning operations will be shut down immediately.

Once ignition operations are ended, the entire unit will be mopped up in order to extinguish any smoldering fuels. Total duration of smoke production is anticipated to be approximately one hour at most.

Holding, mop-up and patrol

All fire found outside of the burn unit boundary will be suppressed. In the event of fire escaping outside of the contingency boundary (indicated on Map #1), emergency services must be notified immediately for suppression response. Burn personnel will have access to water at the fire hydrant located between the burn unit and the Resident Engineer Office building (upper side of Section 2). Additionally, a 25 gallon portable sprayer and hand tools will be on-site during ignition operations and for containment/mop-up activities.

Prior to departing the burn unit area, personnel will be in place until unit is determined to be completely out. Mop-up will take place by all active personnel following ignition operations.

The unit area will be patrolled for 2 hours following mop-up completion in order to ensure all fuels are out. The burn will be declared completely out after 2 hours following the last smoke being observed.

Monitoring/determining success:

The goal of this prescribed burn is to treat 50 – 100% of the area (i.e. 50 – 100% black). Upon completion, burned areas will be bare of vegetation and thatch. Black ash will remain on site after burning operations are completed.

Fuel consumption will be completed with head fire and backing fire. Flame lengths will be up to 4 feet high in fuel concentrations.

Within 10 days of burning, green sprouting of warm season species will begin to occur. Tree and shrub sprouts previously found in some areas of the site have been killed back to the ground. Monitoring will be conducted by project staff and OPT-O personnel.

PRE-BURN CHECKLIST AND CREW BRIEFING

Landowner: USACE, McAlpine Locks & Dam

Site: Area A, 1.5 acres of grasses and forbs

A. PRIOR TO CREW BRIEFING

- Burn unit is as described in plan?
- Required permits approved/in hand?
- Required firebreaks complete?
- Official and neighbor notification complete?
- Required/trained personnel on site?
- Required equipment on site?
- Planned ignition and containment methods are appropriate?
- Emergency phone numbers provided to all personnel?
- Planned contingencies and mop-up are appropriate?

B. CREW BRIEFING

- Each crew member has burn unit map?
- Fire unit size and boundaries discussed?
- Fire unit hazards discussed?
- Purpose of burn?
- Organization of crew and assignments reviewed?
- Ignition/containment/mop-up issues discussed?
- Communications discussed?
- Location of back-up equipment, supplies and water reviewed?
- Escape routes discussed?
- Mop-up procedures reviewed?
- All crew questions answered/discussed?

C. PRIOR TO IGNITION

- Weather and fuel conditions within prescription?
- Weather forecast obtained within 2 hours of ignition indicates prescribed weather will hold for 2 hours past expected duration of burn?
- Crew members have required training/certifications?
- Crew members have required personal protective equipment/clothing?
- Crew members in place as indicated in plan (smoke observers, crews)?
- Test burn conducted?

D. BEFORE LEAVING BURN UNIT

- Mop-up completed as described in prescription?
- Next morning inspection arranged?

McAlpine Locks & Dam
Prescribed Fire – Area A (1.5 ac.)

Burn Boss – Keith Chasteen (Radio, Cell)

Ignition Boss – Dewey Takacy (Radio, Cell)

CREW #1

Ignition crew #1 (Radio) _____

Backpack sprayer #1 _____

Hand tool #1 (Radio) _____

CREW #2

Ignition Crew #2 (Radio) _____

Backpack sprayer #2 _____

Hand tool #2 (Radio) _____

OTHER

UTC Sprayer (Radio) _____

Smoke monitor (Cell) _____

Personnel organization – fill-in prior to burn execution.







