Appendix 1

Massachusetts Division of Fisheries & Wildlife (MassWildlife)
Prescribed Fire Policy
April 19, 2017

I. Purpose and Need:

A. The purpose of this policy is to authorize the use of prescribed fire by MassWildlife to achieve natural resource management objectives while providing for the protection of public safety including human life, health, and property; and to establish procedures that must be followed when carrying out operations related to prescribed burning, including burn planning, permitting, record keeping, burning with conservation partners, and staff training, qualifications, and responsibilities. The Massachusetts Division of Fisheries and Wildlife (MassWildlife) is charged with the stewardship of all native wild amphibians, reptiles, birds, mammals, and freshwater and diadromous fishes in the state, as well as endangered, threatened, and special concern species, including native wild plants and invertebrates. This policy is needed to conserve, restore, and manage fire-influenced natural communities throughout Massachusetts, and the diversity of plants and animals that they support.

II. General Policies:

A. All prescribed fire activities on MassWildlife lands and/or other priority lands involving MassWildlife personnel shall be conducted in accordance with the MassWildlife Prescribed Fire Handbook (the "Handbook"), which is incorporated by reference into this Policy. This includes all aspects of MassWildlife's Prescribed Fire Program, as described in the Handbook, including adherence to all applicable laws and regulations (Section I), prescribed fire priorities, planning, and documentation (Section II), prescribed fire qualifications, agreements, and contracts (Section III), safety (Section IV), and notifications and public outreach (Section V). All prescribed burning must be implemented in compliance with a written and approved burn plan.

B. The Director shall appoint qualified technical and administrative staff to fulfill key prescribed fire planning, program management, record keeping, and operational functions as set forth in the Handbook (i.e. Fire Program Manager, Agency Administrator).

C. The Handbook and associated attachments (e.g. Position Task Books) shall be updated from time to time by MassWildlife staff, as necessary to improve or clarify procedures, update forms, and/or maintain currency with National Wildfire Coordinating Group (NWCG) standards. When the Director approves changes to the Handbook, the Director shall update the Fisheries and Wildlife Board about said changes.

Appendix 2a: Fire Influenced Natural Communities of Massachusetts

Community Type	Rank	Community Type	Rank
Rocky Summits and Outcroppings		**Wetland Communities**	
Acidic Rocky Summit and Rock Outcrops	S5	Coastal Atlantic White Cedar Bog/Swamp	S2
Calcareous Rocky Summit and Rock Outcrops	S2	Inland Atlantic White Cedar Swamp	S2
Circumneutral Rocky Summit and Rock Outcrops	S2S3	Acidic Graminoid Fen	S3
Dry Riverside Bluffs	S5	Acidic Shrub Fen	S3
Riverside Rocky Outcrops	S3	Coastal Plain Pondshore	S3
Grasslands		Coastal Plain Pondshore – Inland Variant	S1
Sandplain Grassland	S1	Calcareous Pondshore/Lakeshore	S2
Sandplain Heathland	S1	Calcareous Sloping Fen	S2
Sandplain Heathland – Inland Variant	S3	Calcareous Seepage Marsh	S2
Cultural Grassland	S5	Calcareous Basin Fen	S1
Shrublands		Riverside Seep	**S2**
Maritime Shrubland	S3	Sea-level Fen	S1
Maritime Juniper Woodland/Shrubland	S1	Wet Meadow	S5
Maritime Oak and Pine Woodland	S2	Kettlehole Wet Meadow	S3
Pitch Pine-Scrub Oak Community ≤25% tree canopy	S2	Shallow and Deep Emergent Marsh	S4
Scrub Oak Shrubland	S2		
Ridgetop Heathland	S2		
Forest and Woodland Communities			
Black Oak – Scarlet Oak Forest/Woodland	S3S4		
Hickory – Hop Hornbeam Forest/Woodland	S2		
Mixed Oak Forest	S5		
Oak – Hickory Forest/Woodland	S3S4		
Oak – Tulip Tree Forest	S1		
Pitch Pine – Oak Forest/Woodland	S3S4		
Ridgetop Pitch Pine-Scrub Oak Woodland	S2		
Ridgetop Chestnut Oak Forest/Woodland	S5		
Dry, Rich Acidic Oak Forest	S5		
Yellow Oak Dry Calcareous Forest	S1		
Forest Seep Community	S5		
Calcareous Forest Seep Community	S3		

Natural Community Ranks

Each type of natural community is assigned an “element rank”, based on the species element ranking developed for the Natural Heritage system by The Nature Conservancy and maintained by NatureServe. The state rank (S) reflects the rarity and threat within Massachusetts. Every state assigns its own “S” rank based on the rarity and threat within that state, with regard to regional conditions. Global ranks for communities are not included because Massachusetts’ classification system is different from the US National Vegetation Classification system.

State Ranks (Definitions derived from NatureServe, accessed December 2013) http://www.natureserve.org/explorer/ranking.htm

S1 = Critically Imperiled in Massachusetts —Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very few remaining acres or miles of stream or other factors making it especially vulnerable to extirpation from the state.

S2 = Imperiled in Massachusetts —Imperiled in the state because of rarity (typically 6 -20 occurrences), very restricted range, few remaining acres, or miles of stream or other factors making it very vulnerable to extirpation from the state.

S3 = Vulnerable in Massachusetts—Vulnerable due to a restricted range, relatively few occurrences (often 80 or fewer), limited acreage, or miles of stream, recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

S4 = Apparently Secure in Massachusetts —Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 = Secure in Massachusetts —Common, widespread, and abundant in the state.

Appendix 2b: Rare and Declining Fire-influenced Plants of Massachusetts

	Scientific Name	Common Name	MA Status	Federal Status
1	*Actaea racemosa*	Black Cohosh	E	
2	*Adlumia fungosa*	Climbing Fumitory	SC	
3	*Agalinis acuta (cf. decemloba)*	Sandplain Gerardia	E	E
4	*Ageratina aromatica*	Lesser Snakeroot	E	
5	*Agrimonia parviflora*	Small-flowered Agrimony	E	
6	*Agrimonia pubescens*	Hairy Agrimony	T	
7	*Amelanchier nantucketensis*	Nantucket Shadbush	DL	
8	*Anemone virginiana var. alba*	Thimbleweed	SH	
9	*Arabidopsis lyrata*	Lyre-leaved Rock-cress	E	
10	*Arethusa bulbosa*	Arethusa Orchid	T	
11	*Aristida purpurascens*	Purple Needlegrass	T	
12	*Asclepias purpurascens*	Purple Milkweed	E	
13	*Asclepias tuberosa*	Orange Milkweed	WL	
14	*Asclepias verticillata*	Linear-leaved Milkweed	T	
15	*Aureolaria flava*	Smooth False Foxglove	S4	
16	*Aureolaria virginica*	Downy False Foxglove	S4	
17	*Boechera laevigata*	Smooth Rock-cress	SC	
18	*Boechera missouriensis*	Green Rock-cress	T	
19	*Calystegia spithamaea*	Low Bindweed	E	
20	*Calystegia silvatica spp. fraterniflora*	Short-stalked False Bindweed	SH	
21	*Carex bushii*	Bush's Sedge	E	
22	*Carex formosa*	Handsome Sedge	E	
23	*Carex mitchelliana*	Mitchell's Sedge	T	
24	*Carex polymorhpa*	Variable Sedge	E	
25	*Carex schweinitzii*	Schweinitz's Sedge	E	
26	*Carex sterilis*	Dioecious Sedge	T	
27	*Carex striata*	Walter's Sedge	E	
28	*Carex tetanica*	Fen Sedge	SC	
29	*Castilleja coccinea*	Scarlet Painted Cup	H	
30	*Ceanothus americanus*	New Jersey Tea	UC	
31	*Celastrus scandens*	American Bittersweet	SC	
32	*Chamaelirium luteum*	Devil's Bit	E	
33	*Chenopodium foggii*	Fogg's Goosefoot	E	
34	*Clematis occidentalis*	Purple Clematis	SC	
35	*Corema conradii*	Broom Crowberry	WL	
36	*Crataegus bicknellii*	Bicknell's Hawthorn	E	
37	*Crocanthemum dumosum*	Bushy Rockrose	SC	
38	*Cyperus houghtonii*	Houghton's Flat Sedge	E	
39	*Cypripedium arietinum*	Ram's Head Lady's Slipper	E	
40	*Cypripedium parviflorum v. makasin*	Small Yellow Lady's Slipper	E	

41	*Cypripedium reginae*	Showy Lady's Slipper	E	
42	*Desmodium cuspidatum*	Large-bracted Tick-Trefoil	T	
43	*Desmodium sessilifolium*	Sessile-leaved Tick Trefoil	SH	
44	*Dicanthelium dichotomum ssp. Mattamusketense*	Mattamuskeet Panic Grass	E	
45	*Dicanthelium ovale ssp. pseudopubescens*	Common's Panic Grass	SC	
46	*Draba reptans*	Carolina Whitlow-grass	SH	
47	*Galium boreale*	Northern Bedstraw	E	
48	*Galium labradoricum*	Labrador Bedstraw	T	
49	*Gamochaeta purpurea*	Purple Cudweed	E	
50	*Gentiana andrewsii*	Andrew's Bottle Gentian	E	
51	*Hypericum stragulum*	St Andrew's Cross	E	
52	*Isotria medeoloides*	Small Whorled Pogonia	E	
53	*Isotria verticillata*	Large Whorled Pogonia	WL	
54	*Juncus debilis*	Weak Rush	E	
55	*Lechea intermedia var. juniperina*	Maine Pinweed	SH	
56	*Lechea minor*	Thyme-leaf Pinweed	WL	
57	*Lechea pulchella v. monliformis*	Beaded Pinweed	E	
58	*Lespedeza angustifolia*	Narrow-leaved Bush Clover	WL	
59	*Lespedeza frutescens*	Violet Bush Clover	WL	
60	*Lespedeza stuevei*	Stueve's Bush Clover	SNR	
61	*Liatris scariosa v. novae-angliae*	New England Blazing Star	SC	
62	*Linum intercursum*	Sandplain Flax	SC	
63	*Linum medium v. texanum*	Rigid Flax	T	
64	*Linum sulcatum var. sulcatum*	Grooved Yellow Flax	SH	
65	*Lobelia kalmii*	Brook Lobelia	WL	
66	*Lobelia siphilitica*	Great Blue Lobelia	E	
67	*Lupinus perennis*	Wild Lupine	WL	
68	*Lythrum alatum*	Winged Loosestrife	WL	
69	*Magnolia virginiana*	Sweetbay Magnolia	E	
70	*Malaxis bayardii*	Bayard's Green Adder's Mouth	E	
71	*Mimulus alatus*	Winged Monkey-flower	E	
72	*Minuartia michauxii*	Michaux's Sandwort	T	
73	*Nabalus serpentarius*	Lion's Foot	E	
74	*Onosmodium virginianum*	False Gromwell	SH	
75	*Ophioglossum pusillum*	Adder's Tongue Fern	T	
76	*Opuntia humifusa*	Prickly Pear	E	
77	*Paspalum laeve*	Field Bead Grass	SH	
78	*Paspalum setaceum var. psammophilum*	Sand Bead Grass	WL	
79	*Penstemom hirsutus*	Hairy Beardtongue	T	
80	*Pinus resinosa*	Red Pine	WL	
81	*Platanthera ciliaris*	Orange-fringed Orchis	SH	
82	*Platanthera cristata*	Crested Fringed Orchis	E	

83	*Poa saltuensis ssp. languida*	Drooping Speargrass	E	
84	*Polygala nuttallii*	Nuttall's Milkwort	WL	
85	*Polygala senega*	Seneca Snakeroot	SH	
86	*Polygala verticillata*	Whorled Milkwort	WL	
87	*Prunus pumila*	Sandbar Cherry	T	
88	*Quercus muhlenbergii*	Yellow Oak	T	
89	*Quercus stellata*	Post Oak	WL	
90	*Ranunculus micranthus*	Small-flowered Buttercup	E	
91	*Rhynchospora capillacea*	Capillary Beak Sedge	E	
92	*Rubus cuneifolius*	Sand Blackberry	WL	
93	*Sabatia campanulata*	Slender Marsh Pink	E	
94	*Salix candida*	Hoary Willow	WL	
95	*Salix pedicillaris*	Bog Willow	WL	
96	*Salix serissima*	Autumn Willow	WL	
97	*Schwalbea americana*	American Chaffseed	SH	E
98	*Scirpus ancistrochaetus*	Northeastern Bulrush	E	
99	*Scirpus longii*	Long's Bulrush	T	
100	*Scirpus pendulus*	Pendulous Bulrush	WL	
101	*Scleria pauciflora*	Papillose Nut Sedge	E	
102	*Scleria triglomerata*	Tall Nut Sedge	E	
103	*Senna hebecarpa*	Wild Senna	E	
104	*Sisyrinchium fuscatum*	Sandplain Blue-eyed Grass	SC	
105	*Sphenopholis nitida*	Shining Wedgegrass	T	
106	*Spiranthes romanzoffiana*	Hooded Lady's Tresses	E	
107	*Spiranthes vernalis*	Grass-leaved Lady's Tresses	T	
108	*Sporobulus neglectus*	Small Dropseed	E	
109	*Symphyotrichum concolor*	Eastern Silvery Aster	E	
110	*Triosteum perfoliatum*	Broad Tinker's Weed	E	
111	*Verbena simplex*	Narrow-leaved Vervain	E	
112	*Veronicastrum virginicum*	Culver's Root	T	
113	*Viola adunca*	Sand Violet	SC	
114	*Viola brittoniana*	Britton's Violet	T	

Definitions

"Endangered" (E) species are native species which are in danger of extinction throughout all or part of their range, or which are in danger of extirpation from Massachusetts, as documented by biological research and inventory.

"Threatened" (T) species are native species which are likely to become endangered in the foreseeable future, or which are declining or rare as determined by biological research and inventory.

"Special concern" (SC) species are native species which have been documented by biological research or inventory to have suffered a decline that could threaten the species if allowed to continue unchecked, or which occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become threatened within Massachusetts.

"Watch List" (WL) species are native species which are of conservation concern and tracked on a separate non-regulatory list in Massachusetts.

“Uncommon” (UC) native species in Massachusetts.

Note: Any native species listed as endangered or threatened by the U.S. Fish and Wildlife Service is also included on the state list. The rules and regulations and precise definitions relative to the establishment of the Commonwealth's list of endangered, threatened, and special concern species are set forth in 321 CMR 10.00 et seq.

Appendix 2c: Rare and Declining Animals of Fire-Influenced Natural Communities in Massachusetts

	Scientific Name	Common Name	MA Status	Federal Status
	Invertebrates			
1	*Abagrotis nefascia*	Coastal Heathland Cut Worm	SC	
2	*Acronicta albarufa*	Barrens Dagger Moth	T	
3	*Anthophora walshii*	Walsh's Anthophora	SWAP	
4	*Apodrepanulatrix liberaria*	New Jersey Tea Inchworm	E	
5	*Callophrys irus*	Frosted Elfin	SC	
6	*Catocala herodias gerhardi*	Herodias Underwing	SC	
7	*Chaetaglaea cerata*	Waxed Sallow	SC	
8	*Cicindela patruela*	Barrens Tiger Beetle	E	
9	*Cicindela purpurea*	Purple Tiger Beetle	SC	
10	*Cicindela rufiventri hentzii*	Hentz' Red Bellied Tiger Beetle	T	
11	*Cicinnus melsheimeri*	Melsheimers sack bearer	T	
12	*Cingilia catenaria*	Chain-dotted geometer	SC	
13	*Cycnia inopinatus*	Unexpected cycnia	SC	
14	*Dargida rubripennis*	The Pink Streak	T	
15	*Eacles imperialis*	Imperial Moth	T	
16	*Erynnis persius persius*	Persius Duskywing	E	
17	*Euchlaena madusaria*	Scrub Euchlaena	SC	
18	*Euphyes dion*	Dion Skipper	T	
19	*Grammia phyllira*	Phyllira Tiger Moth	E	
20	*Hemaris gracilis*	Slender Clearwing	SC	
21	*Hemileuca maia*	Buck Moth	SC	
22	*Heterocampa varia*	Sand Plain Heterocampa	T	
23	*Hypomecis buchholzaria*	Buchholz' Gray	E	
24	*Lycia rachelae*	Twilight Moth	E	
25	*Lycia ypsilon*	Wooly Gray	T	
26	*Metarranthis apiciaria*	Barrens Metarranthis	E	
27	*Metarranthis pilosaria*	Heath Metarranthis	SC	
28	*Nicrophorus americanus*	American Burying Beetle	E	E
29	*Papaipema stenocelis*	Chain Fern Borer	T	
30	*Psectraglaea carnosa*	Pink Sallow	SC	
31	*Ptichodis bistrigata*	Southern Ptichodis	T	

32	*Pyrria aurantiago*	Orange Sallow	SC	
33	*Speranza exonerate*	Pine Barrens Speranza	SC	
34	*Stenoporpia polygrammaria*	Faded Gray	T	
35	*Sympistis riparia*	Dune Sympistis	SC	
36	*Zale lunifera*	Pine Barrens Zale	SC	
37	*Zanclognatha Martha*	Pine Barrens Zanclognatha	T	
	Vertebrates			
38	*Agkistrodon contortrix*	Northern Copperhead	E	
39	*Alces americana*	Moose	SWAP	
40	*Ammodrammus henslowi*	Henslow's Sparrow	E	
41	*Ammodrammus savannarum*	Grasshopper Sparrow	T	
42	*Antrostomus vociferous*	Eastern Whip-poor-will	SC	
43	*Asio flammeus*	Short- eared Owl	E	
44	*Asio otus*	Long-eared Owl	SC	
45	*Bartramia longicauda*	Upland Sandpiper	E	
46	*Bonasa umbellus*	Ruffed Grouse	SWAP	
47	*Carphophis amoenus*	Eastern Wormsnake	T	
48	*Chordeiles minor*	Common Nighthawk	SWAP	
49	*Circus cyaneus*	Northern Harrier	T	
50	*Cistothorus palustris*	Marsh Wren	SWAP	
51	*Cistothorus platensis*	Sedge Wren	E	
52	*Clemmys guttata*	Spotted Turtle	SWAP	
53	*Coccyzus erythopthalmus*	Black-billed Cuckoo	SWAP	
54	*Colinus virgianus*	Northern Bobwhite	SWAP	
55	*Coluber constrictor*	North American Racer	SWAP	
56	*Crotalus horridus*	Timber Rattlesnake	E	
57	*Dolichonyx orizivorus*	Bobolink	SWAP	
58	*Eremophila alpestris*	Horned Lark	SWAP	
59	*Falco sparverius*	American Kestrel	SWAP	
60	*Geothlypis Philadelphia*	Mourning Warbler	SC	
61	*Glyptemys muhlenbergii*	Bog Turtle	E	T
62	*Heterodon platirhinos*	Eastern Hog Nosed Snake	SWAP	
63	*Myotis septentrionalis*	Northern Myotis	E	T
64	*Myotis sodalist*	Indiana Bat	E	E
65	*Oceanodroma leucorhoa*	Leach's Storm Petrel	E	
66	*Opheodrys vernalis*	Smooth Greensnake	SWAP	
67	*Oreothlypis ruficapilla*	Nashville Warbler	SWAP	
68	*Pantherophis allehaniensis*	Eastern Ratsnake	E	
69	*Pipilo erythophthalmus*	Eastern Towhee	SWAP	
70	*Poocetes gramineus*	Vesper Sparrow	T	

71	*Scolopax minor*	American Woodcock	SWAP	
72	*Setophaga discolor*	Prairie Warbler	SWAP	
73	*Setophaga pensylvanica*	Chestnut-sided warbler	SWAP	
74	*Spizella pusilla*	Field Sparrow	SWAP	
75	*Sterna dougallii*	Roseate Tern	E	
76	*Sternella magna*	Eastern Meadowlark	SWAP	
77	*Sylvilagus transitionalis*	New England Cottontail	SWAP	
78	*Synaptomys cooperi*	Southern Bog Lemming	SWAP	
79	*Terrapene Carolina*	Eastern Box Turtle	SC	
80	*Toxostoma rufum*	Brown Thrasher	SWAP	
81	*Tyto alba*	Barn Owl	SC	
82	*Ursus americanus*	Black Bear	SWAP	
83	*Vermivora chrysoptera*	Golden-winged Warbler	E	
84	*Vermivora cyanoptera*	Blue-winged Warbler	SWAP	
85	*Zonotrichia albicollis*	White-throated Sparrow	SWAP	

Appendix 3: Permit and Approval Forms (Section IIC)

MassDEP Prior Approval for Open Burning

Since MassDEP has not yet created an e-DEP application or statewide application form for this approval, contact the regional MassDEP office to determine what procedure to use. The following form was developed by the MassDEP western region office in conjunction with MassWildlife.

To: MassDEP Regional Office

Attached is a burn notification form for prescribed burning on MassWildlife lands for your approval under M.G.L. c. 111 s. 142A and 310 CMR 7.07. Please also inform us if MassDEP has approved any local Board of Health rules or regulations under M.G.L. c. 111 s. 31C or s. 122 for the towns in this notification.

MassDEP Western Regional Office – Burn Notification Form

HABITAT MANAGEMENT & WILDFIRE CONTROL

Subject to written approval of the Department under 310 CMR 7.07

Submit Form as Far In Advance as Possible Prior to Planned Burn Event

APPROVAL REQUESTED BY:

Name:	Title:	Affiliation:	
Address:	Town:		Zip:
Phone: Cell-phone:	Fax: e-mail:		

BURN LOCATION / DATE / OWNER IDENTIFICATION:

Property Owner: Name & Full Address	Property Owner Phone: e-mail:
Burn Date/s:	Burn Duration (hours/start to finish):
Burn Location: No/ Street Address:	Burn Location: Town

PROPOSED BURN DESCRIPTION:

Describe Necessity of Burn:
Consideration of no-burn alternatives:
Fuel Type/Vegetation Description:
Burn Acreage/Tons per Acre:
Closest Structure Description / Local Sensitive Receptors (i.e.: roads, airports, hospitals, nursing homes, schools, day care facilities, recreation areas, etc)
Ignition Method/Aids Used: Emergency Extinguishing Method(s):

WATERSHED CONCERNS:

Closest open water-body, or, stream? Distance from the burn site?	Source of water used to extinguish the fire?
Run-off: How will the run-off be handled? Where will it go?	Distance to nearest wetlands?

If any incidental surface runoff will occur within the jurisdiction of the Massachusetts Wetland Protection Act, GL c. 131, s. 40, the Massachusetts Rivers Protection Act, c. 258 of the Statutes of 1996, or the Massachusetts Clean Waters Act, GL c. 21, s. 26 through 53, you must obtain the appropriate permits from your municipal conservation commission and/or the Massachusetts Department of Environmental Protection, Wetland's Program prior to implementing the training exercise. For further information contact your municipal conservation commission or the Department's Wetlands Program.

APPLICANT SIGNATURE:

"I certify that I have personally examined the foregoing and am familiar with the information contained in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment."

Responsible Party for Burn/Affiliation: *(signature)*	Date:
Print above Name:	

POINT OF CONTACT DURING BURN:

3-2

Name of Local Fire Department: _____
Address of Local Fire Department: _____
Name of Local Fire Department primary contact: _____ Title: _____
Land Phone: _____ Cell Phone: _____ FAX: _____
POC Name: _____ Title/Affiliation: _____
Land Phone: _____ Cell Phone: _____
Other information relative to POC for the burn, and, during the burn:

ATTACH MAP with TOPOGRAPHIC CONTOURS IDENTIFYING
THE LOCATION OF THE BURN and NEAREST STRUCTURES/WATER BODIES IDENTIFIED

Report any changes in submitted information to the department as soon as possible prior to burning.

Submit form to letterhead address or Western Regional Office MassDEP fax (413) 784-1149,

Attn: BWP/OPEN BURN.

BURN NOTIFICATION FORM – Western Region Habitat Wildfire Jun13

Fire Chief/Forest Warden Burn Permit Application Letter

To: _____, Fire Chief/Forest Warden, Town of _____

The Massachusetts Division of Fisheries and Wildlife seeks permission under Mass. General Laws Chapter 48 Section 13 to conduct open burning on state-owned land within your town as shown on the attached map and burn permit form.

Please find attached a copy of a burn permit and log form that you could use for our proposed open burning. If this meets with your approval, please add any additional instructions you have, sign it, keep a copy at the station, and send me the original. We will call your department within two days of any anticipated prescribed burn to confirm that burning is allowed on that date.

Fire Chief/Forest Warden Burn Permit and Log

In accordance with Chapter 48 Section 13 of the Massachusetts General Laws, permission is hereby granted to the Division of Fisheries and Wildlife, or their agent, to set, maintain, and increase a fire for the following purpose(s) (Check all that apply):

- ☐ training 310 CMR 7.07(3)(a)
- ☐ restoration and maintenance of wildlife habitat 310 CMR 7.07(3)(f)
- ☐ wildfire prevention 310 CMR 7.07(3)(f)
- ☐ other (specify): _____

Open burning is subject to a letter of approval from Mass MassDEP under 310 CMR 7.07 and must be conducted:

1. during periods of good atmospheric ventilation,
2. without causing a nuisance,
3. with smoke minimizing starters if starters or starting aids are used, and
4. under the provisions of this properly executed permit issued under the provisions of M.G.L. c. 48, § 13,

and may be subject to other restrictions from MassDEP.

Permission is granted on condition that the person setting the fire is the owner of the land or the owner's agent, and complies with any additional instructions at the bottom of this sheet.

The Fire Department must be notified by telephone no more than two days in advance of each day of burning at (___)___ - ____ in order to renew this permit.

_____ (signature)
Fire Chief and Forest Warden, Town of _____

Written record required by M.G.L. c. 48, § 13 for verbal permit renewal.

Date Permission Granted	Dates Covered	Person Permission Granted To
_____	_____	_____
_____	_____	_____

Additional Instructions:

NHESP Request for Letter of Determination

To: MassWildlife NHESP
Re: Request for letter of determination

Attached is a copy of the habitat management plan for _____ Wildlife Management Area, previously developed in conjunction with MassWildlife NHESP staff. This management plan includes provisions for the active management of state-listed species habitat, including prescribed burning and related activities, for the purpose of maintaining or enhancing the habitat for the benefit of rare species. We request that you review the attached management plan to determine if the proposed activities are exempt from MESA review under 321 CMR 10.14(15).

Wetlands Protection Act permitting

WPA Form	Form name	Abbr	Use when:	Link to forms
Form 1	Request for Determination of Applicability	RDA	Conservation commission agrees in advance that prescribed burning with the conditions proposed is not in a resource area or buffer zone, is within a resource area but will not alter the area, is within the buffer zone but will not alter a resource area, or is an exempt activity (e.g., maintenance of fire breaks).	http://www.mass.gov/eea/agencies/massdep/service/approvals/wpa-form-1.html
Form 3	Notice of Intent	NOI	Conservation commission would like the opportunity to review the activity and potentially require additional conditions. Use eDEP on-line filing.	https://edep.dep.mass.gov/DEPLogin.aspx (http://www.mass.gov/eea/agencies/massdep/service/approvals/wpa-form-3.html)
Form 3 Appendix A	Ecological Restoration Limited Project Checklists	ERLP-App. A	Conservation commission would like the opportunity to review the activity and potentially require additional conditions, and MassWildlife decides to submit as an Ecological Restoration Limited Project.	http://www.mass.gov/eea/docs/dep/water/approvals/year-thru-alpha/m-thru-s/noiappa.doc
Form 3A	Notice of Intent for an Ecological Restoration Project	ERP-NOI	Conservation commission would like the opportunity to review the activity and potentially require additional conditions, and MassWildlife decides to submit as an Ecological Restoration Project.	http://www.mass.gov/eea/docs/dep/water/approvals/year-thru-alpha/w/wpaform3a.doc
Form 4	Abbreviated Notice of Intent		Proposed work is within the Buffer Zone, Land Subject to Flooding, or Riverfront Area; will disturb less than 1,000 square feet of surface area within these areas; there is no practical alternative; and neither a Department of Army permit nor a Chapter 91 Waterways license is required.	http://www.mass.gov/eea/agencies/massdep/service/approvals/wpa-form-4.html

APPENDIX 4a:

SAMPLE PRESCRIBED BURN PLAN TEMPLATE

Including NWCG Planning Elements for Prescribed Fire

Element 1: Signature Page

Administrative Unit Name(s):

Prescribed Fire Name:

Prescribed Burn Unit (Ignition Unit): _____

Project Area: _____

Prepared By:

Name (print): _____

Signature: _____ Date: _____

Technical Review By:

Name (print): _____

Signature: _____ Date: _____

Complexity Rating: _____

Minimum Burn Boss Qualification: _____

Approved By:

Name and Title – Agency Administrator (print): _____

Signature – Agency Administrator: _____ Date: _____

Project Name:
Unit Name:

Management Summary

This brief summary is intended as an overall project summary for internal and external use. The paragraph should be used to summarize the burn project. The prescribed fire project is located in XXX town and County, XXX miles (direction) of (name of nearby community). Previous treatment on this project included XXX. The project consists of XXX acres located (geographical location). The primary objective of this burn is to maintain X fire influenced communities, restore habitat for XX species, and reduce hazardous fuels.

Project Name:
Unit Name:

Table of Contents

Project Name:
Unit Name:

Element 2a: Agency Administrator Authorization

AGENCY ADMINISTRATOR IGNITION AUTHORIZATION

Instructions:

The Agency Administrator Ignition Authorization must be completed before a prescribed fire can be implemented. If ignition of the prescribed fire is not initiated prior to expiration date determined by the agency administrator, a new authorization will be required.

Prior to signature the Agency Administrator should discuss the following key items with the Agency Fire Manager or burn boss. Attach any additional instructions or discussion documentation (optional) to this document.

Key Discussion Items:

A.	**Has anything changed since the Prescribed Fire Plan was approved or revalidated?** *Such as drought or other climate indicators of increased risk, insect activity, new subdivisions/structures, smoke requirements, Complexity Analysis Rating.*
B.	**Have compliance requirements and pre-burn considerations been completed?** *Such as preparation work, mitigation requirements related to cultural, threatened and endangered species, DEP permits, local fire department authorizations.*
C.	**Can all of the elements and conditions specified in Prescribed Fire Plan be met?** *Such as weather, scheduling, smoke management conditions, suitable prescription window, correct season, staffing and organization, safety considerations, etc.*
D.	**Are processes in place to ensure all internal and external notifications and media releases will be completed?**
E.	**Have key agency staffs been fully briefed about the implementation of this prescribed fire?**
F.	**Are there circumstances that could affect the successful implementation of the plan?** *Such as preparedness level restrictions, resource availability, other prescribed fire or wildfire activity*
G.	**Have you communicated your expectations to the Burn Boss and Agency Fire Manager regarding if and when you are to be notified that contingency actions are being taken?**
H.	**Have you communicated your expectations to the Burn Boss and Agency Fire Manager regarding decisions to declare the prescribed fire a wildfire?**

Implementation Recommended by:

Agency Fire Program Manager or Prescribed Fire Burn Boss Signature: _____ Date: _____

Ignition Authorized by Agency Administrator:
I am authorizing ignition of this prescribed fire between the dates of ____ and ____. It is my expectation that the project will be implemented within this time frame and as discussed and documented and attached to this plan. If the conditions we discussed change during this time frame, it is my expectation you will brief me on the circumstances and an updated authorization will be negotiated if necessary. Additional Instructions or Discussion Documentation attached (Optional): Yes ☐ No☐

Signature and Title: _____ Date: _____

Project Name:
Unit Name:

Element 2B: Go/No Go Checklist

Preliminary Questions	**Circle YES or NO**
A. Have conditions in or adjacent to the ignition unit changed, (for example: drought conditions or fuel loadings), which were not considered in the prescription development? If NO proceed with the Go/NO-GO Checklist below, if YES go to item B.	YES NO
B. Has the prescribed fire plan been reviewed and an amendment been approved; or has it been determined that no amendment is necessary? If **YES, proceed with checklist below.** If **NO, STOP: Implementation is not allowed. An amendment is needed.**	YES NO
GO/NO-GO Checklist	**Circle YES or NO**
* Have ALL permits and clearances been obtained?	YES NO
* Have ALL the required notifications been made?	YES NO
* Have ALL the pre-burn considerations and preparation work identified in the prescribed fire plan been completed or addressed and checked?	YES NO
*Have ALL required current and projected fire weather forecast been obtained and are they favorable?	YES NO
* Are ALL prescription parameters met?	YES NO
* Are ALL smoke management specifications met?	YES NO
* Are ALL planned operations personnel and equipment on-site, available and operational?	YES NO
* Has the availability of contingency resources applicable to today's implementation been checked and are they available?	YES NO
* Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?	YES NO
If all the questions were answered "**YES**" **proceed with a test fire**. Document the current conditions, location and results. If any questions were answered "**NO**", **DO NOT proceed with the test fire: Implementation is not allowed.**	
After evaluating the test fire, in your judgment can the prescribed fire be carried out according to the prescribed fire plan and will it meet the planned objective?	**YES NO**

*Items required if checklist is modified

SIGNED: _____ **Date:** _____
Prescribed Fire Burn Boss

CONCURRENCE: _____ **Date:** _____
(As needed) **Title**

Project Name:
Unit Name:

ELEMENT 3: Complexity Analysis Summary

COMPLEXITY ANALYSIS SUMMARY

ELEMENT	RISK	POTENTIAL CONSEQUENCE	TECHNICAL DIFFICULTY
1. Potential for Escape			
2. The Number and Dependence of Activities			
3. Off-Site Values			
4. On-Site Values			
5. Fire Behavior			
6. Management Organization			
7. Public and Political Interest			
8. Fire Treatment Objectives			
9. Constraints			
10. Safety			
11. Ignition Procedures/Method			
12. Interagency Coordination			
13. Project Logistics			
14. Smoke Management			

COMPLEXITY RATING SUMMARY	
	OVERALL RATING
RISK	
POTENTIAL CONSEQUENCES	
TECHNICAL DIFFICULTY	
SUMMARY COMPLEXITY DETERMINATION	
Rationale	
Copy final ratings from the Complexity Analysis located in Appendix C. Include short narrative of general rationale used in developing complexity analysis and explain final rating. All elements with a "High" rating and those elements that are higher than the summary rating in the complexity analysis must be discussed and potential consequences and mitigating measures identified. If Complexity Rating Worksheets are lower complexity than selected, explain basis of higher final rating.	

Project Name:
Unit Name:

ELEMENT 4 – DESCRIPTION OF PRESCRIBED FIRE AREA

A. Physical Description

1. Location:	Lat/Long:	
	Town/County/State:	
2. Size:	Acres	
3. Topography:	Low Elevation	High Elevation
	Average Aspect	Average Slope
	Drainage	
4. Project Area:	WMA, Conservation Area, or Specific Area within WMA	
5. Unit Boundaries:	North –	
	East –	
	South –	
	West –	

Narrative Description of project area and units.

The project area defines that area where fire will be ignited and may be allowed to burn. Describe the physical, natural and/or human made boundaries including primary unit (area to be ignited) and area fire is allowed to burn along with discussion on multiple compartments if applicable) of the prescribed fire project. This will be done through maps and a narrative. Interagency agreements, memorandums of understanding (MOU) or private landowner agreements that outline responsibilities are required to implement prescribed fire on multiple ownerships. Rows can be added or deleted in the legal description based on project area.

The primary unit(s), where active ignition will occur, includes (narrative description of primary units and boundaries). An amendment to the burn plan is not required for minor changes in burn unit boundaries to facilitate holding and/or ignition, as long as the area in question has been identified in the Compliance Monitoring, requires no change in holding or ignition resources and is within the project area boundaries. Changes to project area boundaries resulting in either an increase or decrease in area requires an amendment to the burn plan.

B. Vegetation/Fuels Description:

1. **On-site fuels data**: *Describe the structure and composition of the vegetation type(s) and fuel characteristics. The description may include standard fuel model types, and /or estimates of total fuel load (both live and dead) in tons/acre; dead fuel load by time-lag size classes; live fuel load (woody/herbaceous); fuel bed depth; and vertical and horizontal arrangement of fuels within the project boundary.*

2. **Adjacent Fuels data:** *Identify conditions (fuels, slope, and aspect) in and adjacent to boundaries especially those that may be at risk if fire moves outside of the project area or ignition unit.*

3. **Percent of Vegetative Type and Fuel Models:**

Vegetation Type	Fuel Model	Acres	% Area

Project Name:
Unit Name:

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

Unique Features: *Cultural Features, etc.*

Natural Resources: *Significant Trees, Rare Species, Nesting Bird Populations, Wildlife, Wetlands, etc.*

Other Values: *Water Supply, Buildings and Structures, Fences, Interpretive Signs, etc.*

D. Maps – Appendix A

1. Vicinity Map (required) – Property map of roads, access points, barriers, potential water sources
2. Project/Ignition Unit(s) Map (required)
3. Significant or Sensitive Features (Optional) Map Included: _____ Not Included: _____
4. Fuels/Fuel Models Map Included: _____ Not Included: _____

Element 5: Goals and Objectives

Describe specific measurable resource and prescribed fire goals and objectives. Objectives are well-defined statements describing how a treatment accomplishes project goals as described through the site management planning process and compliance monitoring requirements. Objectives should be specific, measurable, attainable, realistic and time sensitive (SMART) and used as a measure of project success, as determined through methods described in the monitoring element. Objectives need to be measurable and quantifiable so prescription elements can be developed to meet them.

Goals and Objectives:

Element 6: Funding

MassWildlife staff costs for training, planning, and conducting prescribed burns for habitat management purposes are funded through the Agency's annual operating budget. Verify that adequate funding and/or staff and equipment resources are expected to be available. In some cases it may be desirable to provide a more detailed breakdown of costs (e.g. if a contractor is being used). Consideration should be given to resources needed for post-burn assessments and monitoring.

Element 7: Prescription

The prescription includes the measurable environmental parameters and fire behavior criteria during which a prescribed fire may be ignited to meet the prescribed fire objectives. The prescription may describe a range of low-to-high limits for the environmental or fire behavior parameters (or both) required to meet prescribed fire objectives. Describe only those parameters needed to identify the acceptable prescription window to meet prescribed fire objectives. In addition to the prescribed fire objectives, the prescription should take into consideration any constraints.

A. Prescription Narrative

Include a short narrative describing the desired fire behavior and discuss how it will meet treatment objectives, including desired season of burn to influence target species, and schedule for other treatments such as chemical or mechanical treatments.

Project Name:
Unit Name:

B. Environmental Prescription Parameters:

Elements	Acceptable Range: Minimum - Maximum
Temperature ^{0}F	
Relative Humidity %	
Surface Wind Direction (azimuth) ^{0}	
Mid-Flame Wind Speed (mph)*	
20 Foot Wind Speed (mph)	
1 Hour Fuel Moisture %	
10 Hour Fuel Moisture %	
100 Hour Fuel Moisture %	
Live Herbaceous Fuel Moisture %	
Live Woody Fuel Moisture %	
Transport Wind Speed (mph)	
Atmospheric Mixing Height (ft)	*1,500 ft minimum (no max)*
Ventilation Rate	
Low Visibility Occurrence Risk Index (LVORI)**	0 - 5
EPA PM 2.5 Index	0 - 75
EPA Ozone Index	0 - 50
Keetch-Byram Drought Index (KBDI)***	0 - 350
Days Since Appreciable Rain***	1 - 10

* Identify wind adjustment factor (WAF) used to calculate mid-flame wind speed from 20 foot winds in Behave Plus

** No Burn should take place when predicted nighttime LVORI is 7 or greater, for the night immediately following burn.

*** If burning with the KBDI greater than 199 or a period without appreciable precipitation for greater than 5 days, expect Fires to burn deeply and persistently, and difficult and lengthy mop-up over multiple days. Conduct daily unit checks until significant precipitation. An additional engine or water supply is required if burning with KBDI over 199.

C. Fire Behavior Prescription

Fire Behavior Parameter	Fuel Model ___ Minimum - Maximum		Fuel Model ___ Minimum - Maximum		Fuel Model ___ Minimum - Maximum	
Head Rate of Spread ROS (ft/min)						
Head Flame Length FL (feet)						
Backing Rate of Spread ROS (ft/min)						
Backing Flame Length FL (feet)						

Element 8: Scheduling

A. Ignition Time Frame and Seasons

Identify the general implementation schedule including time of day for ignition, duration of ignition or season(s)

B. Projected Project Duration

For prescribed fires with single or multiple ignitions or ignition days, estimate project duration. For multi-unit projects or long-duration prescribed fires, identify any special sequencing requirements, for example, Unit 5 must be completed before burning Unit 12. The agency administrator's ignition authorization may identify additional scheduling constraints.

C. Constraints

Note any constraints (dates, or days of the week etc.) on which the project may not be conducted. Note the hours which ignition may occur. Note AQI forecast upper limits for Ozone and Particulate Matter (PM). Example: No prescribed fires are permitted during periods that Ozone AQI is predicted to be greater than 50, PM AQI is predicted to be greater than 75, and/or a Red Flag Warning has been posted.

Element 9: Pre-Burn Considerations

A. Considerations

Burn unit site preparations should conform to Minimum Impact Suppression Tactics (MIST) as described in the Incident Response Pocket Guide.

1. On-Site

The following items should be confirmed by the burn boss or designee prior to the burn including but not limited to: fire breaks and water sources, location and prep or removal of snags, windrows, and piles, burn signs, gates and access points near and adjacent to unit(s), burn plan review and adjustments by burn boss and technical reviewer, road postings, partner participation and arrangement for crew and equipment, identification of initial meeting location for fire resources, confirmation of potential staging areas and drop points for prescribed fire and contingency resources.

2. Off-Site

The following items should be confirmed or completed by designated staff one week prior to the burn, including but not limited to mapping of sensitive resources, issuance of press releases, adjacent landowner notifications, land management staff notification, and partner notifications.

The following items should be completed prior to ignition the day of burn by Burn Boss or designee, including but not limited to Spot Weather and Air Quality Index Forecast, Identification of potential smoke impacts and required location of signs, completion of notifications as listed below, Administrative Go/No Go forms signed by Agency Administrator, preparation of maps and specific action plans.

B. Method for Obtaining Weather and Smoke Management Forecasts

All weather sites are recommendations; the burn boss will update and adjust on availability of forecasts, needs, and conditions.

- *NWS Fire Weather (Fire Weather and Red Flag Warnings), Point Forecast, and hourly Weather Graphs. Check the day prior to the burn and the morning of the burn.*
- *NWS Marine/General forecast.*
- *HYSPLIT Trajectory and Concentration Models.*
- *A Spot Weather Forecast request may be made of NOAA. This forecast is not always available. Note that Spot Weather Forecasts are not accessible unless a fire management partner organization recognized by NOAA is participating or the Spot Weather Forecast is essential to public safety.*
- *Massachusetts Department of Environmental Protection AQI conditions and forecasts.*

Project Name:
Unit Name:

C. Notifications

Notifications will include a list of agencies, organizations, and individuals that are to be notified prior to ignition, with information necessary to make the contacts. Reasonable efforts will be made to notify adjacent land owners (or their agents) and other potentially impacted publics. Attempts or actual notifications (or both) will be documented with date and method and placed in the Project File.

Agency, Contact, Address	**Method of Contact and Frequency**	**Phone Number/ Email**
Local Fire Department	Prior to ignition, request authorization to conduct prescribed fire and request surrounding fire departments are notified. Prior to burn day, initiate public notifications as prescribed by permit and notify key individuals.	Office Phone Cell Phone Email
Local Police Department	Prior to Ignition	
MA DEP Air Quality District	Initiate notification and follow up as prescribed by Air Quality Permit	
MA DCR Forest Fire Control District	Prior to burn day and Prior to Ignition	
Agency Partners	Prior to burn day and Prior to Ignition	
Neighboring Residents	Prior to burn day, Prior to Ignition	
Other (e.g. media, smoke sensitive receptors)	Prior to burn day	

Method of Contact and Frequency should include: when to notify (prior to burn day, prior to ignition on burn day, and/or after burn is completed) and contact type

Project Name:
Unit Name:

Element 10: Briefing

The Burn Boss will brief the prescribed burn crew with the details listed in the Prescribed Burn Briefing Checklist. The burn boss may also choose to have a smaller breakout briefing and use the chain of command to have the Firing Boss and Holding Boss(es) disseminate additional specific information to their respective crew members. At the burn boss' discretion, the checklist may be adjusted to meet specific needs. A copy of the completed checklist must be initialed by the burn boss after the briefing and included in the fire event log as part of the burn file. The basic components of the checklist (which are bolded) must be addressed in the briefing.

Prescribed Burn Briefing Checklist

I. **Burn Organization**
□Organizational Chart/Personnel Assignments
□ Equipment Assignments
□Other Resources

II. **Burn Objectives**

III. **Description of Burn Area**
□Review Map of Burn/Topographical Features/Acreage
□ Values at Risk
□ Problem Areas
□Fuel Types (Both Inside and Outside the Burn Unit)
□Roads/Access
□Water Sources
□Natural/Manmade Barriers

IV. **Expected Weather**
□Wind Direction and Speed
□Relative Humidity
□Temperature
□Fuel Moisture
□Atmospheric Stability
□Predicted Changes

V. **Communications**
□Procedures
□Frequencies/Channels
1. Burn Crew
2. Dispatch
3. Cooperators/Others
4. Others

VI. **Firing Sequence**
□Test Fire
□Ignition Equipment (Type, Number, Etc.)
□Pattern and Sequence of Firing (Map)

VII. **Contingency Plan**
□Slop Over vs. Escape
□Assignments/Organizational Chart
□Strategy
□Tactics

VIII. **Declaration of Escape and Wildfire Conversion Plan**

IX. **Safety and Medical Plan**
□Inspect Personal Protective Equipment
□Lookouts, Escape Routes and Safety Zones
□Hazards (Footing, Natural, Man-made, Smoke [visibility], etc.)
□Potential Problems
□Crew physical fitness – expectations
□ Medical Evacuation
□Other (Air Operations, Flammable Fuel Handling, Etc.)

X. **Questions or Concerns**
□Questions and Concerns
□Anything missing
□Provide crew members opportunity to decline participation

Alternate Briefing Checklist Used? Yes___ No___ if so, please attach to Fire Event Log

Burn Boss: _____ _____
Initials Date

Project Name:
Unit Name:

Element 11: Organization and Equipment

The complexity of each prescribed burn determines the organization capabilities needed to safely achieve the objectives specified in the prescribed burn plan. Specify the minimum required implementation organization or capabilities, equipment and supplies needed for each phase of the prescribed fire until declared out.

A. Positions

Positions and number of staff are suggested based on complexity and efficiency of operations. The burn boss may adjust the listed positions and number of staff depending on site conditions, resources, expected fire behavior, crew size, and crew experience levels. The burn boss will provide each crew member a position organization chart during the briefing.

Note: Additional resources may be assigned to the project without amending the burn plan if the addition of these resources does not change the complexity of the burn or require additional supervisory positions. These changes must be documented in the Fire Event Log. Reduction in resource capabilities identified as required in the plan requires an amendment. As the prescribed fire progresses from ignition to holding to mop up and patrol, specified capabilities and/or types of resources may be adjusted.

B. Equipment

Amount and type of equipment needed is based on site conditions, resources, expected fire behavior, crew size and experience.

Equipment (***The following is a sample equipment chart and by no means complete***)

Drip Torches	*6*	*Prescribed Burn Signs*	*4*	*Type 6 Engine*	*1*
Backpack Pumps	*10*	*Radios*	*1/p*	*Type 7 Engine or UTV w*	*1*
Hand Tools	*10*	*First Aid Kit*		*Leaf Blower*	*2*
Weather Kit	*2*	*Personal Protective Equip*	*1/p*	*Chain Saw*	*2*

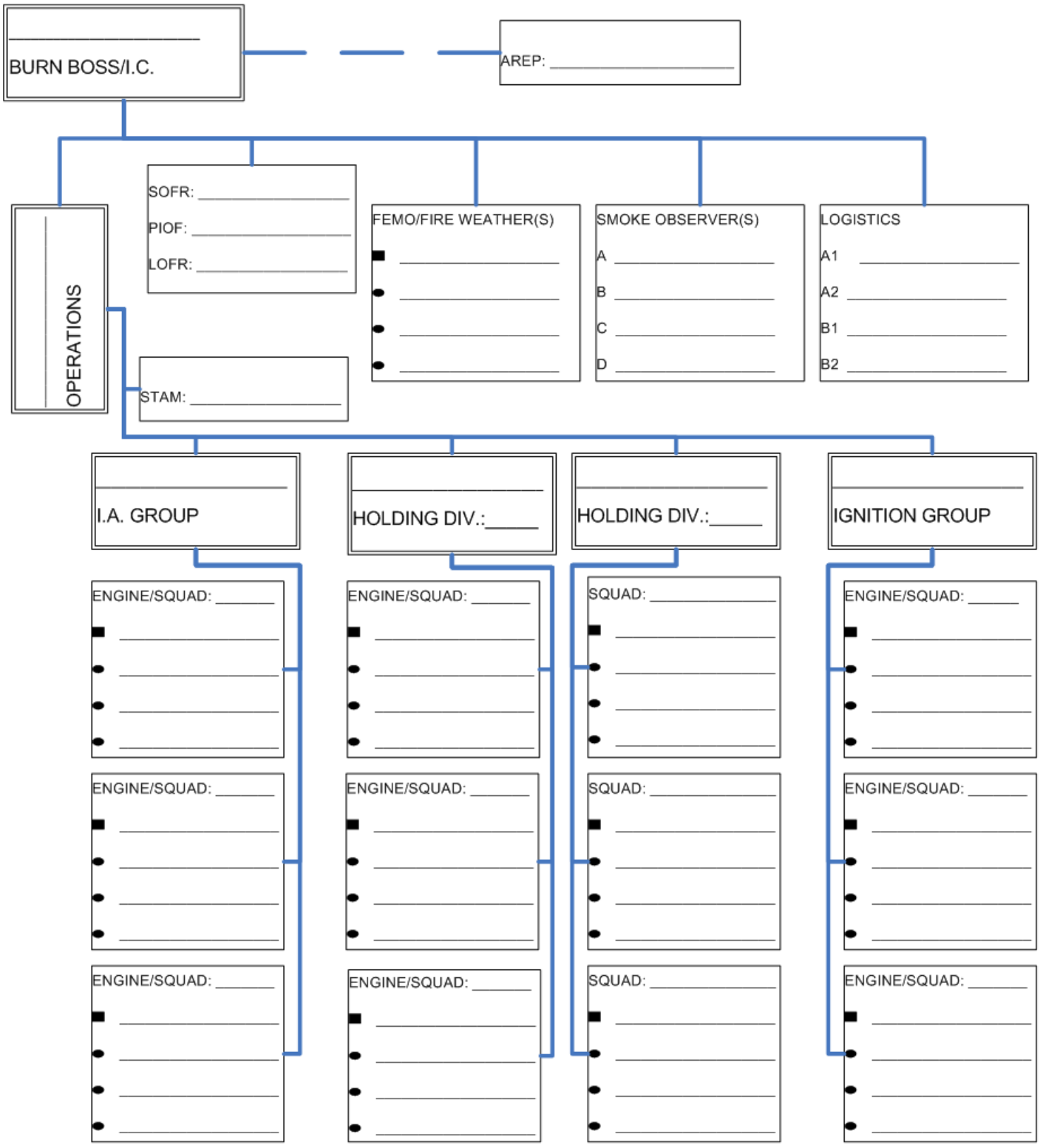
C. Supplies

The burn boss may adjust quantities and types of supplies based on season, conditions, and size of crew. The adjustments must not affect the complexity of the burn and will be documented in the prescribed burn plan.

Drip Torch Fuel Mix ___ gallons (double amount for growing season burns)
Leaf Blower Fuel Mix ___ gallons
Chain Saw Fuel Mix ___ gallons
Drinking Water ___ gallons (double amount for ambient air temperatures greater than 80^{o} F)

Project Name:
Unit Name:

PRESCRIBED BURN ORGANIZATION



Project Name:
Unit Name:

Element 12: Communication

A. Radio Frequencies

Channel	Function	Frequency		Band Width	Assignment	Remarks
COMMAND						
		TX: RX: Tone:				
		TX: RX: Tone:				
TACTICAL						
		TX: RX:				
		TX: RX:				
AIR OPERATIONS						
		TX: RX:				
		TX: RX:				
OTHER						
		TX: RX:				
		TX: RX:				
REMARKS						
Positive communications with a dispatch center is required via radio, cellular phone, and/or satellite phone, prior to implementing burn project. Required telephone numbers should be included in the Notification Section of this plan, Element 18, C. *If aerial ignition is used, assign a specific radio frequency for use between aircraft and Burn Boss and/or Ignition Specialist Function. Also include any required telephone numbers in the remarks section.*						

Project Name:
Unit Name:

Element 13: Public and Personnel Safety and Medical

A. Safety Hazards

1. Firefighters

Identify hazards associated with the burn unit(s) and burn related projects, and identify protective equipment or modified work procedures needed. Refer to the Incident Response Pocket Guide for a description of the Risk Management Process and LCES system.
Note: All personnel within the active prescribed fire area are required to wear personal protective equipment.

2. Public

Identify and analyze the safety hazards unique to the individual prescribed fire project and potential impacts to public safety. Identify procedures for non-operational personnel (e.g. media, researchers, cooperators, agency administrators, other agency personnel visiting prescribed fire project.

B. Measures Taken to Reduce Hazards

Identify mitigating measures taken to reduce safety hazards identified above. Describe provisions to be made for public safety (include closure of area, signs placed on roads, etc.).

C. Emergency Medical Procedures

In the event of serious accidents or injuries, the burn boss shall be notified immediately. Individuals with medical qualifications (i.e. First Responder, EMT, and Paramedic) and helitack qualified should be identified at the pre-burn briefing and recommended medical procedures will be outlined by the burn boss. See the MassWildlife Fire Management Handbook Section IV E. Emergency Medical Procedures for further guidance. The burn boss or burn boss designee will initiate on-site response (if not already in progress) and coordinate additional response needs (listed below) through:

Emergency Medical Actions will be activated through contacting dispatch or from on-site personnel as directed by the burn boss.

In the event of a medical emergency provide the following information to the Prescribed Burn Boss.

1. Declare the nature of the emergency.
   a. Medical injury/illness? Is the injury/illness Life Threatening?
2. If life threatening, then request that the designated frequency be cleared for emergency traffic.
3. Identify the on-scene Point of Contact (POC) by Resource and Last name (i.e. POC is TFLD Smith),
4. Identify nature of incident, number injured, patient assessment(s) and location (geographic and GPS Coordinates),
5. Identify on-scene medical personnel by position and name,
6. Identify preferred method of patient transport,
7. Request any additional resources and/or equipment needed,
8. Document all information received and transmitted on the radio or phone,
9. Identify any changes in the on-scene Point of Contact or medical personnel as they occur.

For burn injuries, after on-site medical response, initial medical stabilization, and evaluation at a primary care facility are completed, the Burn Boss will ensure that any crew member whose injuries meet burn injury criteria is immediately referred to the nearest regional burn center.

Project Name:
Unit Name:

D. Emergency Evacuation Methods

Provide options of transport for minor injuries and/or life threatening injuries. Describe directions for responding emergency services to a potential response site within the project area and include latitude and longitude. Designate crew member to lead EMS to injured personnel at described location.

E. Emergency Facilities

EMERGENCY TRANSPORTATION								
NAME	TELEPHONE	LOCATION				PARAMEDICS	
						YES	NO
Identify air ambulance							
HELISPOT CLOSEST TO PROJECT	LAT.		LONG.				

HOSPITALS & MEDICAL FACILITIES								
NAME	ADDRESS AND LATITUDE AND LONGITUDE	TRAVEL TIME (MIN)		PHONE	HELIPAD		BURN CENTER	
		AIR	GROUND		YES	NO	YES	NO
Medical Center								
Hospital								
Burn Center University Medical Center								

Project Name:
Unit Name:

Element 14: Test Fire

A Test Fire is required and results must be recorded. The test fire must be ignited in a representative location and in an area that can easily be controlled. The purpose of the test fire is to verify that the prescribed fire behavior characteristics will meet management objectives and to verify predicted smoke dispersion. In many applications, analysis of the initial ignitions may provide adequate test fire results. Results of the test fire must be included in the Fire Event Log. The following serves as a "guide" for information recorded for the burn boss and/or FEMO.

Test Fire Documentation

Location:				
Date and Time:				
Weather/Fuels Conditions				
Cloud Cover %				
Temperature				
Relative Humidity				
Fine Dead Fuel Moisture				
Wind Speed				
Fuels				
Test Fire Results				
Flame Length				
Rate of Spread				
Smoke Dispersion				
Other				
The test fire meets the prescription parameters	**Yes**		**No**	

Alternate Test Fire Report Form Used? Yes ____ No ____ Results must be attached to Fire Event Log.

Project Name:
Unit Name:

Element 15: Ignition Plan

A. Firing Methods and Devices

Identify the means by which fire is ignited, such as hand-held drip torch, fusee, hand-held launchers, ATV mounted ignition devices, heli-torch, or terra-torch. If aerial ignition is specified in the Prescribed Fire Plan, an Air Operations Plan must be included as an Appendix to the Prescribed Burn Plan. For additional details related to aerial ignition reference the Interagency Helicopter Operations Guide and Interagency Aerial Ignition Guide. The aerial ignition organization will be included with the implementation organization chart (Element 11). Major changes to ignition methods including ground ignition to aerial ignition; aerial ignition to hand ignition; hand drip torch ignition to use of terra torch ignition (includes ATV mounted ignition devices) require an amendment to the burn plan.

B. Ignition Techniques, Patterns, and Sequences

The Ignition technique is any method of igniting an area within the burn unit to consume fuel in a prescribed pattern (e.g., head, backing, or flanking fire). The distance between ignition lines or points and the sequence of igniting them will be determined by weather, fuel, topography, ignition technique, and other factors which influence fire behavior and fire effects. If multiple compartments within the project are to be ignited, this should be further discussed to identify the preferred sequence of ignition of the compartments.

Ignition and Holding are expected to work closely together to see that the ignition pattern and sequence do not present concern for control of the burn. The (wind or slope and aspect) should be the dominant influence for fire behavior and the primary factor in establishing the ignition pattern and sequence for the unit. Flame length and intensity will dictate ignition technique and strip width.
Minimum capabilities needed for ignition are identified under Element 11 - Organization and Equipment. The qualifications for the ignition specialist functions should be commensurate with the complexity of the burn. The ignition specialist may be an FFT2 under the direction of the burn boss on smaller burns with good visual sight lines within the burn unit. On larger and more complex burns, the ignition specialist will function at the Firing Boss level or higher.

Element 16: Holding Plan

A. General Procedures for Holding

Describe the general procedures to be used for operations to maintain the fire within the primary unit and project area and to meet project objectives until the fire is declared out. Identify closest water sources. Minimum capabilities needed for holding are identified under Element 11 - Organization and Equipment. The qualifications for the Holding Specialist function should be commensurate with the complexity of the burn.

B. Critical Holding Points and Actions

Describe critical holding points (if any) and mitigation actions. Critical holding points should be identified on the project map.

C. Minimum Organization and Capabilities Needed

Minimum capabilities needed for holding are identified under Element 11 - Organization and Equipment. The qualifications for the Holding Specialist function should be commensurate with the complexity of the burn. On burn day and subsequent days of the prescribed fire, a mix of the number and kinds of hand crews and engines may be modified as long as stated production capabilities are not compromised. As the prescribed fire progresses from ignition to holding to mop up and patrol, specified capabilities and/or types of resources may be adjusted.

D. Mop-up and Patrol

The prescribed fire burn boss will determine resource needs for mop up based on current and expected fire behavior and weather. Identify within this section who is responsible and actions to be taken during mop-up and conditions for leaving burn. Additional Mop-up and Patrol Procedures may be outlined in Element 21. Post Burn Activities.

Element 17: Contingency Plan

A. Management Action Points (MAPS) and Limits

Contingency planning is the determination of what additional actions or additional resources (or both) are needed to keep the prescribed fire within the scope of the prescribed burn plan. At a minimum, this element will address contingency options related to maintaining the prescribed burn within the ignition unit and or prescribed burn project area.

There may be situations specific to a project area and unit requiring contingency action planning. If any of the following situations occur, contingency actions will take place:

1. *There are multiple simultaneous spot fires and/or slop-overs occurring outside the primary unit boundary.*
2. *Fire threatens the project area boundary.*
3. *Smoke management objectives are being impacted.*

B. Actions needed if the objectives are not being met, the Contingency Plan is implemented. Describe action to be taken.

If the contingency actions are successful at bringing the project back within the scope of the Prescribed Burn Plan, the project may continue. Contingency actions will include (describe actions to be taken). If contingency actions are not successful by the end of the next burning period, then the prescribed burn will be converted to a wildfire.

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

The number and types of resources will vary depending on the location, implementation, and Management Action Points. The availability and effectiveness of contingency resources should be identified and addressed prior to ignition and take into consideration local, current, and predicted fire danger.

Identify Resource Agencies & Location:

Maximum Response Time:

Project Name:
Unit Name:

Element 18: Wildfire Declaration and Conversion Plan

A. Wildfire Declared By

A prescribed fire, or a portion or segment of a prescribed fire, must be declared an Escape by the Prescribed Burn Boss, when either or both of the following criteria are met:

- Prescription parameters are exceeded and the fire has exceeded or is expected to exceed on-site initial attack capabilities or,
- The fire has spread outside the burn unit boundaries and is expected to exceed the project boundaries.

A prescribed fire can be declared an Escape Wildfire for reasons other than those identified above, if events cannot be mitigated as determined by the Prescribed Burn Boss.

B. Escaped Wildfire Incident Command

Should a wildfire be declared, the Prescribed Burn Boss (or another on-site individual with proper qualifications as identified in the briefing) will become the Incident Commander (IC) until relieved or replaced. The senior Fire Department Officer or other mutual aid designee will serve as the IC in the event of an escape unless otherwise pre-arranged. Upon the Fire Department assuming command, the burn boss will immediately transition all command authority to the IC. The IC will organize all on-site resources for a safe and aggressive response. Personnel within the prescribed burn organization will transition into ICS wildfire positions they are qualified to carry out under the direction of the IC. The IC will order additional suppression resources identified in the Contingency Plan as well as any other required resources necessary to support the suppression effort.

After the incident is contained, the Prescribed Fire Burn Boss will submit a post fire report documenting weather, resources on site, ignition operations, holding actions, and other pertinent data related to the incident. All prescribed fires declared a wildfire will have a review initiated by the appropriate level Agency Administrator and/or Fire Program Manager. The level and scope of the review will be determined by agency policy and outlined in the MassWildlife Fire Management Handbook.

C. Notifications

The Prescribed Burn Boss/IC will notify the following as soon as possible and safe to do so (and not more than within 24 hours after an escape), of a threat of an escape, or activation of contingency resources identified in the plan:

Notification	Phone Office/Cell
Local Fire Department Chief	
DCR Forest Fire Control District Warden	
MassWildlife Prescribed Fire Manager	
MassWildlife District Manager	
MassWildlife Agency Administrator	

D. Initial Attack Contingency Lines

Contingency plans should be developed to identify critical values at risk, actions and resources needed, and other information necessary that may be utilized as an aid to determine and implement initial response actions when a wildfire is declared.

Ignition will cease upon notification of fire outside of the primary and secondary units except as needed to secure lines. The appropriate management response will be used in order to flank the fire with suppression resources until the forward rate of spread is stopped. The containment strategy will be to utilize safe anchor points and create direct fire line where feasible and indirect fire line, including burning out, depending upon location of natural barriers and roads.

The following describes fuels, resources, and potential contingency lines beyond the prescribed burn unit: including existing roads (identify specific roads) in the vicinity of the burn unit, moist drainages, and changes in fuels (i.e. transition from brush field into timber fuel models). Identify areas of high value or special concern.

North:

East:

South:

West:

E. Extended Attack Actions:

The Incident Commander will be in charge of all extended attack activities. The prescribed burn crew will assist and report to the IC through the chain of command established during the incident.

In the event of an escape, the following tactical recommendations should be considered:

North:

East:

South:

West:

Element 19: Smoke Management and Air Quality

A. Compliance

- Local Fire Department Notification of Intent to Burn
- MA DEP Notification of Intent to Burn prior to Ignition
- The DEP permit is renewed on an annual basis (or as determined by DEP Regional staff). The current permit should be reviewed for additional criteria.
- No burning if
    - Ozone Air Quality Index is predicted to be greater than 50
    - PM 2.5 Air Quality Index is predicted to be greater than 75, and/or
    - Red Flag Warning has been posted
- Ignition will be conducted between the hours of , with all burns being in burn down mode between ___ pm and ___ am unless otherwise authorized.
- Residents and visitors shall be notified of prescribed burn activities by means of posting of signs on roadways, access trails, and neighborhood areas adjacent to the burn areas as well as notices in local newspapers. Neighbors immediately adjacent to burn units will be notified by letter and phone prior to burning.

B. Permits

MA DEP – Air Quality Permit

Local Fire Department – Burn Day Authorization

C. Smoke Sensitive Areas

Identify smoke sensitive areas including population centers, recreation areas, hospitals, airports, transportation corridors, schools, non-attainment areas

Daytime Smoke Sensitive Areas

Nighttime Smoke Sensitive Areas

D. Smoke Management and Mitigation

General mitigation practices

Project Name:
Unit Name:

Element 20: Monitoring

Prescribed burn monitoring is defined as the collection and analysis of repeated observations or measurements to evaluate changes in condition and progress toward meeting management objectives and ensuring safety during and after burning operations. For a prescribed burn, at a minimum, specify the weather (forecast and observed), fire behavior during burning operations, fuels information, and smoke dispersal during phases of the project and the procedures for acquiring it, including who was assigned as the Fire Effects Monitor (FEMO) and when information was collected during the burn. Collecting burn severity information immediately post burn and/or within two weeks of the burn event helps determine first order fire effects and if goals and objectives are being met. Provide summary reports as part of the Fire Event Log and contribute appropriate information to a Post Burn Summary Report.

A. Fuels Information (1-hr and 10-hr Fuel Moistures calculated and/or sampled on site, Probability of Ignition)
B. Weather Monitoring (Temp, RH, Wind Direction and Speed, Cloud Cover, Wind Shifts)
C. Fire Behavior Monitoring (Rates of Spread, Flame Length, Spotting, Slop-overs, Fire whirls, Torching, etc)
D. Monitoring Objectives
E. Smoke Dispersal
F. Burn Severity and Fire Effects Evaluation with photo documentation

Element 21: Post Burn Activities

A. Conduct After Action Review (AAR) with crew after prescribed burn.
B. Ensure Mop-up is complete and describe mop-up and rehabilitation standards.
C. Evaluate extended forecast and determine need for follow-up checks. *(Such as, unit must be checked every day between 11:00 and 14:00 by fire trained personnel until appropriate rain event or burn boss declares unit is 100% out.)*
D. Check unit for illegal ORV use and block fire breaks as necessary.
E. Remove prescribed burn signs and trail closure notices.
F. Burn Boss with assistance from FEMO completes burn day Post Burn Summary Report within 30 days.
G. Burn Boss and Fire Program Manager evaluate lessons learned and share pertinent information.
H. Assemble all pertinent materials for project file.

Prescribed Burn Plan Appendices

Appendix A: Maps:
1. Vicinity map featuring roads, access points, barriers, and potential water sources
2. Project Area and Units/Compartments (one or more maps)
3. Contingency Planning Map
4. Smoke Impact Areas
5. Significant or Sensitive Features (Optional)
6. Fuels/Vegetation (Optional)

Appendix B: Technical Review Checklist
Appendix C: Complexity Analysis
Appendix D: Fire Behavior Modeling Documentation (Tables)
Appendix E: Mass Personal Injury and Vehicle Incident Report Forms, ICS-206-WF Medical Incident Report
Appendix F: Fire Event Log and Post Burn Summary
Appendix G: Smoke Management Plan and Smoke Modeling Documentation (Optional)
Appendix H: Post Burn Summary Report

Appendix 4b:
Technical Review Checklist for a Prescribed Burn Plan

DFW Property Or Other	Unit	Subunit	Acres	Burn Dates		Review Date	Valid Through	Reviewed By Prescribed Fire Planner/Burn Boss
				From	To			

INSTRUCTIONS: This checklist is to be completed by the technical reviewer. Check each item found to be satisfactory. If an element is not adequately addressed, recommendations should be added immediately below that item, indicating what is required to adequately address the element.
Upon receiving the technical review, the DFW Agency Administrator who approves the burn plan is responsible for ensuring that all recommendations are completed prior to implementation of the burn. This document should be permanently attached to and considered an integral component of the approved plan.

Elements:

_____ **1. Signature Page and Management Summary**

_____ **2. Agency Administrator Authorization and Go/No-Go Checklist attached.**

_____ **3. Complexity Analysis completed and Summary included in plan.**

Required:

- ❑ a. **The NWCG Complexity rating form will be completed. Fuels and features inside and outside the unit are considered and the score entered in the body of the plan.**
  Multiple complexity analyses may be used to depict different complexities in the same unit under different conditions, for example, differences depending on whether fuels in the unit are green or cured, or different land use condition of adjacent units. The plan must clearly state the significance of the changes and what must be done to compensate for them.
- ❑ b. A justification of how the complexity scores were derived. This document will analyze the risk involved with conducting the burn and the consequences of failure.

_____ **4. Description of Prescribed Burn Unit and Project Area**

Required:

- ❑ a. The burn unit location, size, topography and project boundary are accurately described. Fuels inside and outside the unit are described and correlated to Standard Fire Behavior Fuel Models or custom fuel models.

_____ **5. Goals and Objectives – Primary resource objectives for the unit, the objectives to safely execute the burn, and the acceptable range of results are appropriate.**

Required:

- ❑ a. The goals and objectives are stated for this specific burn. This section must include the reason for the burn (resource management, fuel reduction, game species habitat, endangered species habitat, etc.) and measurable objectives, such as percentage of plants killed, area burned, etc.

_____ **6. Funding**

Plan has a funding source/code or cost estimate associated with outside funding source.

_____ **7**. **Prescription:**

Acceptable range of prescription values is reasonable and plan includes a prediction of expected fire behavior.

Required:

- ❑ a. Acceptable ranges of fire behavior and parameters of weather and fuel moisture content are indicated. The burn plan preparer must demonstrate an understanding of the prescription to the reviewer. A discussion about fire behavior including constraints, assumptions made, and explanations of how expected fire behavior will deviate from standard models must be included.
- ❑ b. Acceptable ranges of fire behavior takes into consideration the fire behavior in the fuels outside the burn unit under the worst case scenario, especially when setting the upper end of the prescription parameters.
- ❑ c. The plan has been developed with a preferred wind direction. Acceptable and unacceptable wind vectors are indicated.
- ❑ d. BEHAVE runs with bracketed values should be included if they reasonably predict fire behavior.

_____ **8**. **Scheduling:**

The general time span in which the burn will take place (or when it cannot take place) have been indicated, projected duration of the burn and any constraints (time, plant phenology, fire behavior etc.) to the burn.

_____ **9**. **Pre-Burn Considerations:**

A. Plan adequately addresses site preparation requirements.

Required:

- ❑ a. The line to be built, equipment to be used to prep the site or to be pre-positioned prior to ignition, features to be protected, warning signs to be placed, weather recording requirements, permits to be obtained, etc. must be included. All prep work tasks should be included in this section.
- ❑ b. Responsible individuals or functional groups and standards are identified for each task.
- ❑ c. The need (or lack of need) for water supply should be addressed in the plan. The use of tenders and portable tanks and pumps should be addressed, as appropriate.
  - Work needed to ensure water sources are established before the burn should be listed in the "Prep Work" section of the plan.
  - Water sources identified on the project map, if possible. If off site or out of the area, the locations should be clearly described and/or a map included.

B. Weather information for all phases of the project and the methods to obtain are listed.

Required:

- ❑ a. Provisions have been made to secure a spot weather forecast.
  Web sites, telephone numbers, and person(s) to be contacted, if available, are identified.
  - ❑ b. Person/crew member responsible for obtaining this information.
  - ❑ c. When it will be obtained.

Optional:

- ❑ d. Other weather-related considerations and source(s) of helpful weather information.
- ❑ e. Methods and procedures for obtaining smoke dispersal forecasts, if required, are also listed.

C. Pre-burn coordination and contacts are listed.

Required:

- ❑ **a. If other agencies, the public, and local landowners should be contacted, the plan should specify when the contacts will be made and who is responsible for making the notifications. A list should be included in the burn plan with:**
  - The name of the person or agency
  - Telephone numbers or other means of contact
  - Time/date notified or to be notified
  - A spot to enter the name of the person who made the contact
  - A place to document unsuccessful attempts

D. Plan adequately addresses Values at Risk / Sensitive Areas.

Required:

- ❑ a. Plan adequately addresses T&E species concerns both within burn unit and adjacent.
- ❑ b. Plan adequately addresses Archeological, Cultural, or Historical issues both within burn unit and adjacent (e.g., appropriate documents have been or will be submitted for archeological/cultural clearance prior to implementing burn plan.)

10. Crew Briefing Outline attached.

Required:

- ❑ a. A short, concise list of things to be covered during the crew briefing before the fire is started is included. The standard Prescribed Fire Briefing Outline as an attachment is recommended.

11. Prescribed Fire Organization and Equipment

Required:

- ❑ a. The positions that will be utilized and the minimum qualifications needed are listed. Specific personnel are listed only if they are essential to conducting the burn.
- ❑ b. The minimum number and types of crew personnel, equipment, and the supervisory structure that are needed are specified.
  - If additional people or equipment may be used if available but are optional and not required, they should NOT be listed.
  - An Organization Chart is recommended.

12. Communications Plan

Required:

- ❑ **a.** Communications Plan with specific frequencies for Command, Tactical and Air Operations. Details and procedures on communicating with Contingency Resources should be listed as well.
- ❑ b. Telephone and cell numbers of pertinent resources assisting on the fire.

13. Public and Personnel Safety, Medical Plan.

Required:

- ❑ a. Communications and Medical Plans with specific details and procedures.
- ❑ b. Safety Hazards on or in the vicinity of the fire.
- ❑ c. Safety Mitigation measures.
  - Does the plan adequately describe safety and emergency procedures?
  - Does the plan identify and adequately address safety hazards to fire personnel and the public, methods to be taken to reduce the hazards, escape routes, and safety zones?
  - Designated escape routes and safety zones should be identified on the project map when of a permanent nature.
  - Safety Zones should meet established standards.

14. Test Fire

- ❑ a. Test fire is planned in representative fuel type(s) with documentation of weather conditions and burn characteristics**.**

15. Ignition Plan

Required:

- ❑ a. The plan describes in detail firing methods, devices, techniques, sequences, patterns and required personnel to complete ignition.

16. Holding Plan

Required:

- ❑ a. The plan describes in detail, procedures for holding the burn unit.
- ❑ b. Critical holding points inside and outside the unit identified and actions to take to mitigate these areas.
- ❑ c. Minimum holding organization to hold the unit at the maximum conditions within prescription.

17. Contingency Plan

The contingency plan should contain enough detail to give the Burn Boss and reviewer a knowledge of the areas of concern adjacent to the burn unit, measures to mitigate these concerns, consequences and actions that will take place in the event of an escape from that particular unit.

Required:

- ❑ a. The acceptable prescription and contingency plan considers predicted fire behavior in fuels within a reasonable proximity outside of the burn unit should an escape occur.
- ❑ b. Procedures to be followed and actions to be taken if the fire exceeds the abilities of the holding crew to keep it within prescribed boundaries or Maximum Manageable Area (if any) are fully addressed.
    - The number and type of contingency forces needed are identified.
    - Limits to their availability (e.g., constraints due to regional fire activity, hours of the day [VFD's], etc.).
    - How to contact them when needed.
    - Maximum response time for resources.
- ❑ c. The plan must include the means of verifying their availability on burn day and have a place to document that the contacts were made.
- ❑ d. Strategies and tactics to be used must be identified.
  What are the considerations for structure protection outside the burn unit?
  How will indirect attack and secondary containment lines be used?

18. Wildfire Declaration

The process by which a prescribed fire is declared a wildfire is articulated prior to ignition of a prescribed fire. In the event the prescribed fire is declared a wildfire, the prescribed burn plan should contain enough detail to give the Burn Boss and reviewer a knowledge of the consequences and response that will take place in the event of an escape from that particular unit.

Required:

- ❑ a. Procedures to be followed and actions to be taken if the fire exceeds the abilities of the holding crew to keep it within prescribed boundaries or Maximum Manageable Area (if any) are fully addressed.
- ❑ b. What constitutes an escape is defined.
    - What contingency actions constitute a significant departure from what was planned or expected, such as the trigger points that will be used to reclassify the burn as a wildland fire?
    - ❑ c. The person responsible for making the decision is clearly defined.
    - ❑ d. What notifications need to occur in the event of an escape?
    - ❑ e. The person who will serve as incident commander is identified prior to ignition of the unit.
    - ❑ f. Forces which are to take initial attack action are identified.
- ❑ g. Strategies and tactics to be used must be identified.
    - What are the considerations for structure protection outside the burn unit?
    - How will indirect attack and secondary containment lines be used?

- ❑ h. Indicate which resources (if any) will be available for extended attack.

19. Smoke Management and Air Quality.

Required:

- ❑ a. Potential smoke sensitive areas are identified, management strategies to avoid them have been developed, and necessary conditions have been specified.
  - A smoke trajectory map is required.
- ❑ b. Air quality compliance steps, permits required, contacts needed, who is to obtain and make notifications.

Traffic control measures must be thoroughly planned since smoke on roadways presents a high potential for mishaps. If traffic control measures are needed, the following items are required:

- ❑ c. Personnel and equipment needs, where they will come from, and availability if the personnel will come from somewhere besides the on-site burn crew.
- ❑ d. Locations and assignments of traffic control personnel.
  - Communications needs of traffic control personnel should be addressed in the communications plan.
- ❑ e. Crew briefing (if traffic control personnel come from off-site, how will they be briefed?).
- ❑ f. Safety considerations for the public and traffic control personnel.

20. Monitoring

Required:

- ❑ a. Fuels information (calculated and observed) required for the burn unit and procedures to obtain.
- ❑ b. Weather monitoring required (pre, during and post burn), procedures to obtain and who is responsible.
- ❑ c. Drought Monitoring
  - A determination must be made whether the effects of cumulative weather on the burn unit and adjacent areas is or is not a factor in the decision to conduct the burn.
  - If drought is not a factor, the plan should explain why it is not.
  - If drought is a consideration, the burn plan should address:
    - What effects prolonged drought will have?
    - What the thresholds are (how do you know you're in a drought situation?)
  - Drought indicators such as the KBDI, may be used and/or site inspections of fuels, water table and
  - The sources and methods for obtaining the information.
  - What will be done if conditions are dry?
- ❑ d. Fire behavior monitoring required and who is responsible
- ❑ e. Fire Effects monitoring to ensure burn objectives are being met.
- ❑ f. Smoke dispersal monitoring.

21. Post Burn Activities

Required:

- ❑ a. Mop up and rehabilitation standards are established and should be expressed in quantifiable terms (e.g., when all smokes within 20 feet of the line are extinguished.)
  - Any follow up checks that will be needed are specified
- ❑ b. The criteria to declare the burn out and by whom

Optional:

- ❑ c. A mop up organization chart with numbers, types, and assignments of resources should be included, if warranted.
- ❑ d. Depending on the fuels involved, extended forecasts for the post-ignition period may be needed.

Appendixes

A. Maps: Vicinity and Project

Required Maps:

- ❑ **a. A Vicinity Map included showing the position of the unit in relation to the surrounding geographical area including nearby communities, major roads, airports, pre-planned access routes to the unit, etc.**
- ❑ **b. Detailed unit maps which show:**
  - The project boundary, the unit's topographic features, fuels inside the burn unit, significant features (fences, power lines, areas to be protected, etc.), potential hazards, areas of special concern, and control line locations.
- ❑ **c. Contingency Planning Map(s) that include:**
  - Fuels and/or land use outside the burn unit.
  - Areas outside the unit that may be affected by an escape, especially structures, private property, or communities, including access routes.
  - The location of any secondary containment lines or predetermined indirect attack locations. The significance of these locations and how they will be used should be explained in the body of the plan.
  - Hazards or other areas of special concern outside the unit.
- ❑ **d. Smoke trajectory map which analyzes the effect on sensitive smoke receptors for the allowable surface and transport wind directions.**
- ❑ **Optional Maps:**
  - ❑ e. Ignition sequence map showing an ignition sequence for the predominant wind direction that is representative of the ignition sequences for other wind directions
  - ❑ f. Escape routes and safety zones should be shown if they are of a fixed nature that will not change from year to year over the life of the plan.
  - ❑ g. Specific water sources should be shown if they are of a fixed nature that will not change from year to year. Off-site water sources not visible on the unit map require an additional map

B. Technical Review Checklist

C. Complexity Analysis

D. Fire Behavior Modeling Documentation

E. Fire Event Log

REMARKS:

The technical review specialist is tasked with ensuring quality reviews are completed before any burn can be implemented. Each burn plan must be re-certified and approved by the fire manager each year a prescribed burn is scheduled to be completed until the burn plan expires. This will be done to ensure the conditions described in the unit are accurate and have not changed over the course of a year.

If the Burn Boss is **NOT** an employee of DFW this section must be completed prior to implementing the burn.

This review document should be given full consideration prior to burn implementation. This document should be attached and considered an integral component of the approved plan. If you have questions or comments concerning this review process, please contact me at _____.

Once reviewed and approved by the Fire Planner or Prescribed Fire Manager, this plan will be valid until _____; provided a re-review is completed by the fire planner and fire program manager each year a prescribed burn is scheduled to be completed until the plan expires.

Recommended for Approval: _____ Date: _____

Not Recommended for Approval: _____ Date: _____

Appendix 4c: Prescribed Burn Briefing Checklist

Prescribed Burn Planning Checklist

I. Burn Organization
□Organizational Chart/Personnel Assignments
□ Equipment Assignments
□Other Resources

II. Burn Objectives

III. Description of Burn Area
□Review Map of Burn/Topographical Features/Acreage
□ Values at Risk
□ Problem Areas
□Fuel Types (Both Inside and Outside the Burn Unit)
□Roads/Access
□Water Sources
□Natural/Manmade Barriers

IV. Expected Weather
□Wind Direction and Speed
□Relative Humidity
□Temperature
□Fuel Moisture
□Atmospheric Stability
□Predicted Changes

V. Communications
□Procedures
□Radio Check & Frequencies/Channels
1. Burn Crew
2. Dispatch
3. Co-operators/Others

VI. Firing Sequence
□Test Fire
□ Ignition Equipment (Type, Number, Etc)
□Pattern and Sequence of Firing (Map)

VII. Contingency Plan
□Slop Over vs. Escape
□Assignments/Organizational Chart
□Strategy
□Tactics

VIII. Declaration of Escape and Wildfire Conversion Plan

IX. Safety and Medical Plan
□Inspect Personal Protective Equipment
□Lookouts, Escape Routes and Safety Zones
□Hazards (Footing, Natural, Man-made, Smoke [visibility], etc.)
□Potential Problems
□Crew physical fitness – expectations
□ Medical Evacuation
□Other (Air Operations, Flammable Fuel Handling, Etc)

X. Questions or Concerns
□Questions and Concerns
□Anything missing
□Provide crew members opportunity to decline participation

Alternate Briefing Checklist Used
Yes___ No___

If so, please attach to Fire Event Log

Burn Boss: _____
Date: _____

Appendix 5a: Prescribed Fire Complexity Rating System Guide

A Publication of the
National Wildfire Coordinating Group

Sponsored by
United States
Department of Agriculture

United States
Department of the Interior

National Association of
State Foresters

PRESCRIBED FIRE COMPLEXITY RATING SYSTEM GUIDE

PMS 424 **January 2004**
NFES 2474

To view this guide, go to: https://www.nwcg.gov/sites/default/files/products/pms424.pdf

Appendix 5b: Worksheet for Prescribed Fire Complexity Rating System

Instructions: This worksheet is designed for use with the Prescribed Fire Complexity Rating descriptors found in the Prescribed Fire Complexity Rating Guide, PMS 424/NFES 2474, January 2004.

Project Name _____ Number _____

Complexity elements:

1. Potential for Escape

Risk	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

2. The Number and Dependency of Activities

Risk	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

3. Off-Site Values

Risk	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

4. On-Site Values

Risk	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

5. Fire Behavior

Risk	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

6. Management Organization

Risk	Rationale
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

7. Public and Political Interest

Risk	Rationale
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

Potential Consequences	Rationale
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

8. Fire Treatment Objectives

Risk	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

9. Constraints

Risk	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

10. Safety

Risk	Rationale
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

11. Ignition Procedures/Methods

Risk	Rationale
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

12. Interagency Coordination

Risk	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

13. Project Logistics

Risk	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

14. Smoke Management

Risk	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Potential Consequences	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low Moderate High***	
Final Rating: ***Low Moderate High***	

COMPLEXITY RATING SUMMARY

RISK OVERALL RATING _____

POTENTIAL CONSEQUENCES OVERALL RATING _____

TECHNICAL DIFFICULTY OVERALL RATING _____

SUMMARY COMPLEXITY RATING _____

RATIONALE:

Prepared by: _____ Date: _____

Approved by: _____ Date: _____
(Agency Administrator)

Appendix 6a: Brush Pile Burning Checklist

The following conditions must be met before a brush-pile burn is conducted. No more than one brush pile per crew participant will be ignited and maintained simultaneously until a brush pile is no longer capable of causing a spot fire or an escape. All fires must be extinguished in accordance to Permit.

Site Information:

Site Name: _____Unit Name: _____

Date: _____

Town: _____

Town Permit #:_____

# of Piles Burned: _____

___ Permit issued from local fire department, and directions for access supplied to fire department.

___ Day of burn notice issued to Town Fire Department and District Manager

___ All sensitive smoke receptors identified and mitigated as needed (ex. signs on roads, neighbors contacted)

___ At least two people on-site for duration of burn activity and in compliance with prescribed fire PPE requirements for the burn. At least one person qualified as DFW prescribed burn crew member or FFT2.

___ Cell phone available and number of local FD/PD (if no cell reception on-site, location of nearest reception or land line should be identified in advance)

___ Suppression gear sufficient to support the projected burning activities is assembled and on-site; filled bladder bag(s), fire rakes, nearest water supply identified and checked for access. PPE requirements listed and present on site.

___ Weather prescription prepared that includes relative humidity, wind speeds and directions, fine fuel moisture, smoke sensitive receptor identifications. Conditions that will require stopping the burn.

___ Weather forecast for day of burn to compare with prescribed conditions (NWS or Fire weather forecast if available).

___ Weather kit on site and a plan stated for monitoring weather conditions.

___ Contingency plan that addresses escaped fire, escape routes, blocked access, equipment failure, spot fires, injuries or other unpredicted events.

___ Schedule for checking site post-burn as necessary.

Signature of preparer/operator _____ Date_____

This completed checklist must be digitally maintained in the Site's File following each burn event.

Weather and Environmental Parameters	Prescription Parameters Minimum Maximum	On-site Weather Time:	On-site Weather Time:
20 ft Wind Speed (mph)			
Wind Direction			
Relative Humidity %			
Temperature			
Fine Fuel Moisture %			
Probability of Ignition			
Direction of Smoke Dispersal			
Days Since Appreciable Rain (> 0.2 “)			
Other:			

Appendix 6b: Flame Weeding Checklist
Massachusetts Division of Fisheries and Wildlife

The following conditions must be met before flame weeding is conducted to control vegetation.
Site Information:
Site Name: _____
Unit Name: _____
MassWildlife District: _____ Town: _____
Target Vegetation: _____Date: _____

___ Appropriate permissions/permit issued from local fire department, and directions for access supplied to fire department prior to commencement of work.

___ Day of burn notice issued to Town Fire Department and District Manager.

___ Assessment of target vegetation and surrounding vegetation.

___ At least two people on-site for duration of activity and in compliance with PPE requirements for the burn activity. At least two persons qualified as DFW prescribed burn crew member or FFT2.

___ Cell phone available and number of local FD/PD (if no cell reception onsite, location of nearest reception or land line should be identified in advance).

___ Suppression gear sufficient to support the projected burning activities is assembled and on-site; filled bladder bag(s), fire rakes, nearest water supply identified and checked for access. PPE requirements identified and available on site.

___ Weather prescription prepared that includes relative humidity, wind speeds and directions, fine fuel moisture, smoke sensitive receptors identified, and conditions that would require stopping the burn.

___ Weather forecast for day of burn to compare with prescribed conditions (NWS or Fire Weather Forecast if available).

___ Weather kit on site and a plan stated for monitoring weather conditions and smoke dispersal.

___ Plan for duration of burn and mop up.

___ Contingency plan that addresses escaped fire, escape routes, blocked access, equipment failure, spot fires, injuries or other unpredicted events.

___ Schedule for checking site post-burn as necessary.

Signature of preparer/operator _____ Date_____

Attach map of treatment area and other pertinent information.
Maintain a digital copy of this form and treatment area map in the Prescribed Fire Site File following each burn event.

Weather and Environmental Parameters	Prescription Parameters Minimum Maximum	On-site Weather Time:	On-site Weather Time:
20 ft Wind Speed (mph)			
Wind Direction			
Relative Humidity %			
Temperature			
Fine Fuel Moisture %			
Probability of Ignition			
Direction of Smoke Dispersal			
Days Since Appreciable Rain (> 0.2 “)			
Other:			

Appendix 7a: PRESCRIBED FIRE EVENT LOG

Property: _____ **Unit:** _____

Report Completed by: _____ **Burn Date:** ____/____/____

PRE/POST BURN EVENT/ACTIONS LOG	METHOD	TIME (24 HOUR)	DATE (DD/MM/YY)	INITIALS
Last Appreciable Rain Event Prior to Burn Day	Percip. Amt. Inches	Duration Hr.		
Public Notifications Made			/ /	
			/ /	
			/ /	
DCR Forest Fire Control District Notified			/ /	
D.E.P. Burn Permit Issued			/ /	
D.E.P. Notified			/ /	
Fire Dept. Burn Authorization Issued			/ /	
Property Owner/Manager Authorization			/ /	
			/ /	
			/ /	
			/ /	
			/ /	
Unit Declared 100% Out (if rain event indicate amount of percip.)	Percip. Amt. Inches		/ /	

Method Abbreviations:
M – Mail, E – Email, P – Phone, F – Fax, V – Verbal, S – Signs, N – Newspaper, R – Radio, T – Television, & W – Web

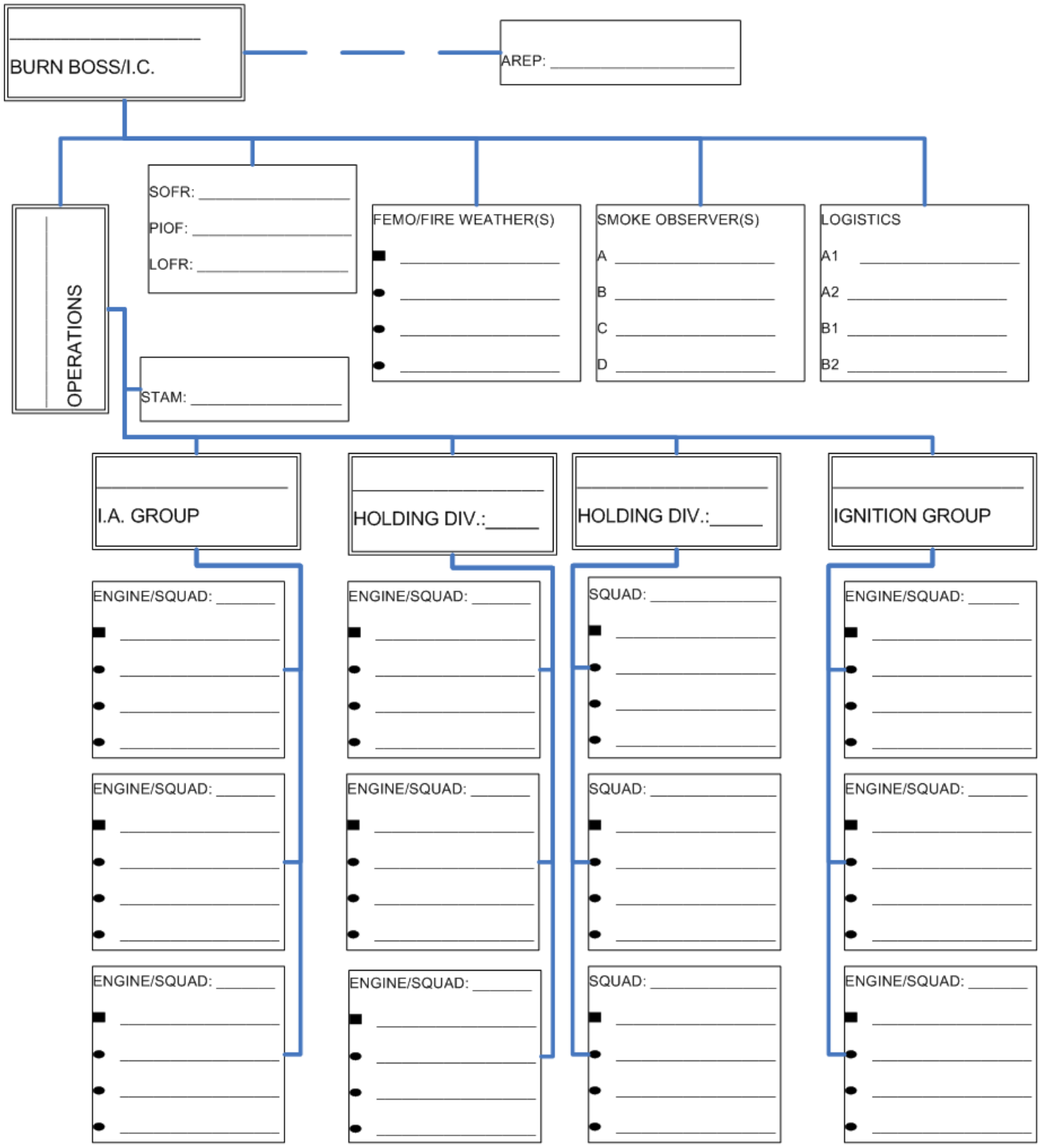
EXPENDED RESOURCES

EXPENDED RESOURCE	GALLONS	EXPENDED RESOURCE	UNITS	EXPENDED RESOURCE	UNITS/GALLONS
Water – Holding		**Fusees**		**Drinking Water**	
Water – Mop-up		**Flares – 2 ½**		**Food**	
Drip Torch Fuel		**Flares – Stubby**			
Pump Fuel		**Flares – Hotshot**			
Vehicle Fuel					
Other Fuel					

Adapted from Carlson, NEFFM (unpublished document 2016) and Interagency Wildland Fire Module Field Guide 2015-2016

Appendix 7a: PRESCRIBED FIRE EVENT LOG

PRESCRIBED BURN ORGANIZATION



Adapted from Carlson, NEFFM (unpublished document 2016) and Interagency Wildland Fire Module Field Guide 2015-2016

Appendix 7a: PRESCRIBED FIRE EVENT LOG

RESOURCE CHECK-IN AND CHECK-OUT SHEET		Date of Burn:		
Person's Name	Affiliation	Level of Experience	Time In	Time Out
NOTE: "⊕" indicates first aid kit and "+" indicates First Aid/CPR trained.				

Number of Vehicles by Type:					
Engines:		Utility Vehicles:		Other Op. Vehicles	
Brushbreakers:		Operational ATVs:			
Tenders/Tankers:		Op. Trailers:			

Appendix 7a: PRESCRIBED FIRE EVENT LOG

Burn Day Event	TIME (24 HOUR)	Burn Day Event	TIME (24 HOUR)
Arrive at Site			
Waivers Collected			
Sign In Completed			
Setup Initiated			
Setup Complete			
Briefing Initiated			
Briefing Completed			
Test Fire Initiated			
Test Fire Completed			
Prescribed Burn Initiated			
		Debriefing/AAR Initiated	
		Debriefing/AAR Completed	
		Mop-up Initiated	
		Mop-up Completed	
		Breakdown Initiated	
		Breakdown Completed	
		Unit Secure	
		Depart Site	

NOTES:

Appendix 7a: PRESCRIBED FIRE EVENT LOG

BOSTON MASSACHUSETTS SPOT FORECAST REQUEST

PROJECT NAME		REQUESTING AGENCY			
Project Name:		**Requesting Agency:**			
Check One:	☐ Wildfire ☐ WFU ☐ HAZMAT	**Requesting Official:**			
	☐ **Prescribed Fire** ☐ SAR	**Phone Number:**		**Ext.:**	
Ignition Time:	☐ Eastern Time	**FAX Number:**			
Date (mm/dd/yy):	/ /	**Contact Person:**			

REASON FOR FORCAST REQUEST

☐ Wildfire Non-Wildfire

☐ Under the Interagency Agreement for Meteorological Services (USFS, BLM, NPS, USFWS, BIA).

☐ State, tribal or local fire agency working in coordination with a federal participant in the Interagency Agreement for Meteorological Services.

☐ **Essential to public safety, e.g. due to the proximity of population centers or critical infrastructure.**

LOCATION			Top	Bottom	FUEL
Lat (D.ddddd):					**Type (Grass, Shrub, Timber, or Slash):**
Long(D.ddddd):		**Elevation (ft):**			**Sheltering:** ☐ Full ☐ Partial ☐ Unsheltered
7.5° Quad:		**Aspect (Cardinal):**			
Drainage (optional):		**Size (acres):**			

OBSERVATIONS

Place	Elev.	Time	Wind	Temp	Wetbulb	RH	Dewpt.	Sky/Weather

PRIMARY FORECAST ELEMENTS				REMARKS
TDA	**TNT**	**TMR**	**(Today, Tonight, Tomorrow)**	
☐	☐	☐	**Sky/Weather**	
☐	☐	☐	**Temperature**	
☐	☐	☐	**Relative Humidity**	
☐	☐	☐	**20 Foot Wind**	
☐	☐	☐	**Chance of Wetting Rain**	

Contact Person: Hayden Frank, Fire Weather Focal **Phone:** (508) 828-2672 **E-Mail:** Hayden.Frank@noaa.gov
Form Web Page: http://spot.nws.noaa.gov/cgi-bin/spot/spotmon?site=box

SUBMIT REQUEST

SPOT WEATHER FORCAST SUMMARY:

Appendix 7a: PRESCRIBED FIRE EVENT LOG

Burn Unit: Site:

OBSERVED WEATHER					**Weather Frequency ______/______Minutes**					
TIME (24 HOUR)	**OBSERVATION LOCATION (WAYPOINT OR MARK ON MAP)**	**SHADED OR UN-SHADED (S/U)**	**STATE OF THE WEATHER**	**MID-FLAME WIND SPEED 2 MIN. AVE./MAX. GUST (MPH)**	**WIND DIRECTION (CARDINAL/ NEAREST 5°)**	**DRY BULB (°F)**	**WET BULB (°F)**	**RELATIVE HUMIDITY (%)**	**PROBABILITY OF IGNITION (%)**	**CALCULATED FINE DEAD FUEL MOISTURE (%)**
				/	/					
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Fire Weather Observer: ______________________________________

Adapted from Carlson, NEFFM (unpublished document 2016) and Interagency Wildland Fire Module Field Guide 2015-2016

Appendix 7a: PRESCRIBED FIRE EVENT LOG

DROUGHT INDEX

Keetch-Byram Drought Index (KBDI):		**KBDI Index (0-7):**	
Date Calculated For:	/ /	**Location Calculated For:**	

CROWN FIRE POTENTIAL MEASURES

Pitch Pine Foliar Moisture Content:	**(1-YR-Needles)**		**(2-YR-Needles)**
Date Calculated For:	/ /	**Location Calculated For:**	
Torching Index (ft):		**Ocular Estimate (O) or Measured & Calculated Estimate (M):**	
Crowning Index (mph):		**Ocular Estimate (O) or Measured & Calculated Estimate (M):**	

FUEL MOISTURES

10-HR Fuel Stick

Time Weighed:	Location:	Weight (g):	% Moisture (Wt-100):	Time Weighed:	Location:	Weight (g):	% Moisture (Wt-100):

Live Surface Fuel Foliar Moistures Content

Herbaceous Moisture:		**Estimated (Y/N):**		**Bud/Stem Stage (Dormant/Emergent/Mature)**	
Shrub Moisture:		**Estimated (Y/N):**		**Bud/Leaf Stage (Closed/Emergent/New/Hardened):**	
Tree Moisture:		**Estimated (Y/N):**		**Bud/Leaf Stage (Closed/Emergent/New/Hardened):**	

1-HR & 10-HR Measured Moisture Content

Frequency _____ /_____Minutes

TIME (24 HOUR)	OBSERVATION LOCATION (WAYPOINT OR MARK ON MAP)	SIZE CLASS FINE/1HR/10HR (F/1/10)	HARDWOOD OR SOFTWOOD (HW/SF)	SHADED OR UN-SHADED (S/U)	SUSPENDED OR ON GROUND (S/G)	3 TO 6 READINGS	ECERAGE PERCENT MOISTURE
						/ / / / /	
						/ / / / /	
						/ / / / /	
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						/ / / / /	
						/ / / / /	
						/ / / / /	

Appendix 7a: PRESCRIBED FIRE EVENT LOG

OBSERVED FIRE BEHAVIOR

TIME (24 HOUR)	OBSERVATION LOCATION (WAYPOINT OR MARK ON MAP)	FUEL MODEL	HEAD FIRE, BACKING FIRE, OR FLANKING FIRE (H/B/F)	SLOPE (%)	FLAME LENGTH (FT)	FLAME ZONE DEPTH (FT)	RATE OF SPREAD $[Dist. \div \frac{TIME}{60} = RS]$		
							DIST. (FT)	TIME (SEC.)	ROS (FT/MIN.)

Fire Behavior Observer: _____

Appendix 7a: PRESCRIBED FIRE EVENT LOG

AIR QUALITY AND SMOKE MANAGEMENT FORCAST

OZONE AQI:		**Mixing Ht. (ft):**		**Vent Rate (mph/ft):**	
PM 2.5AQI:		**Trans Wind (mph):**		**ADI:**	

SMOKE COLUMN OBSERVATIONS

TIME (24 HOUR)	OBSERVATION LOCATION (WAYPOINT OR MARK ON MAP)	LOWER COLUMN DIRECTION (CARDINAL/ NEAREST 5°)	COLUMN VISIBLE EXTENT (MILES)	COLUMN TYPE (1-7)	COLUMN COLOR (W-WHITE, WB-WHITE/BLACK, B-Black)	UPPER COLUMN DIRECTION (CARDINAL)	MAX. COLUMN HEIGHT (FT)	INVERSION HEIGHT (FT)
		/						
		/						
		/						
		/						
		/						
		/						
		/						
		/						

VISIBILITY AND SMOKE DENSITY OBSERVATIONS

TIME (24 HOUR)	OBSERVATION LOCATION (WAYPOINT OR MARK ON MAP)	Plume or Road (P or R)	DIRECTION (CARDINAL/ NEAREST 5°)	Visible Distance	Visible Distance Units (M – Miles or F – Feet)
			/		
			/		
			/		
			/		
			/		
			/		
			/		

Appendix 7a: PRESCRIBED FIRE EVENT LOG

Burn Unit: Site: Burn Date: Observed by: Date:

BURN SEVERITY					
TOTAL ACRES BURNED:		AVERAGE SCORCH HEIGHT (FT):			
BURN SEVERITY	**UNBURNED (%)**	**SCORCHED (%)**	**LOW SEVERITY (%)**	**MODERATE SEVERITY (%)**	**HIGH SEVERITY (%)**
SUBSTRATE (TOTAL = 100%)					
HERBACOUS VEGETATION					
LOW - WOODY VEGETATION					
HIGH - WOODY VEGETATION					
TREES - WOODY VEGETATION					

BURN SEVERITY INDEX	UNBURNED	SCORCHED	LOW SEVERITY	MODERATE SEVERITY	HIGH SEVERITY
SUBSTRATE	•UNBURNED	•DUFF NEARLY UNCHANGED •LITTER PARTIALLY BLACKENED •WOOD/LEAF STRUCTURES UNCHANGED	•UPPER DUFF LAYER BURNED •LITTER CHARRED TO PARTIALLY CONSUMED, SURFACE APPEARS BLACK •WOOD/LEAF STRUCTURES CHARRED, BUT RECOGNIZABLE	•DUFF DEEPLY BURNED •LITTER MOSTLY TO ENTIRELY CONSUMED, LEAVING COARSE LIGHT ASH •WOOD/LEAF STRUCTURES UNRECOGNIZABLE	•MINERAL SOIL VISIBLY ALTERED •LITTER AND DUFF CONSUMED, LEAVING FINE WHITE ASH
HERBACOUS VEGETATION	•UNBURNED	•FOLIAGE SCORCHED •TUSSOCKS INTACT •SUPPORTING STEMS ATTACHED	•SOME FOLIAGE AND STEMS CONSUMED WITH SOME INTACT STEMS LYING ON BURNED AREAS •TUSSOCKS INTACT	•FOLIAGE AND STEMS CONSUMED •ONLY TUSSOCKS INTACT	•FOLIAGE AND STEMS CONSUMED • TUSSOCKS SCORCHED OR BURNED
WOODY VEGETATION	•UNBURNED	•FOLIAGE SCORCHED •SUPPORTING TWIGS ATTACHED	•FOLIAGE & SMALLER TWIGS PARTIALLY TO COMPLETELY CONSUMED BRANCHES MOSTLY INTACT	•FOLIAGE, TWIGS, AND SMALL STEMS CONSUMED SOME BRANCHES STILL PRESENT	•ALL PLANT PARTS CONSUMED LEAVING SOME OR NO MAJOR STEMS/TRUNKS, REMAINING PLANT PARTS DEEPLY CHARRED

LITTER – The layer composed of relatively un-decomposed organic material such as twigs leaves and branches.
DUFF – The layer of loosely compacted, decaying debris underlying the litter layer.

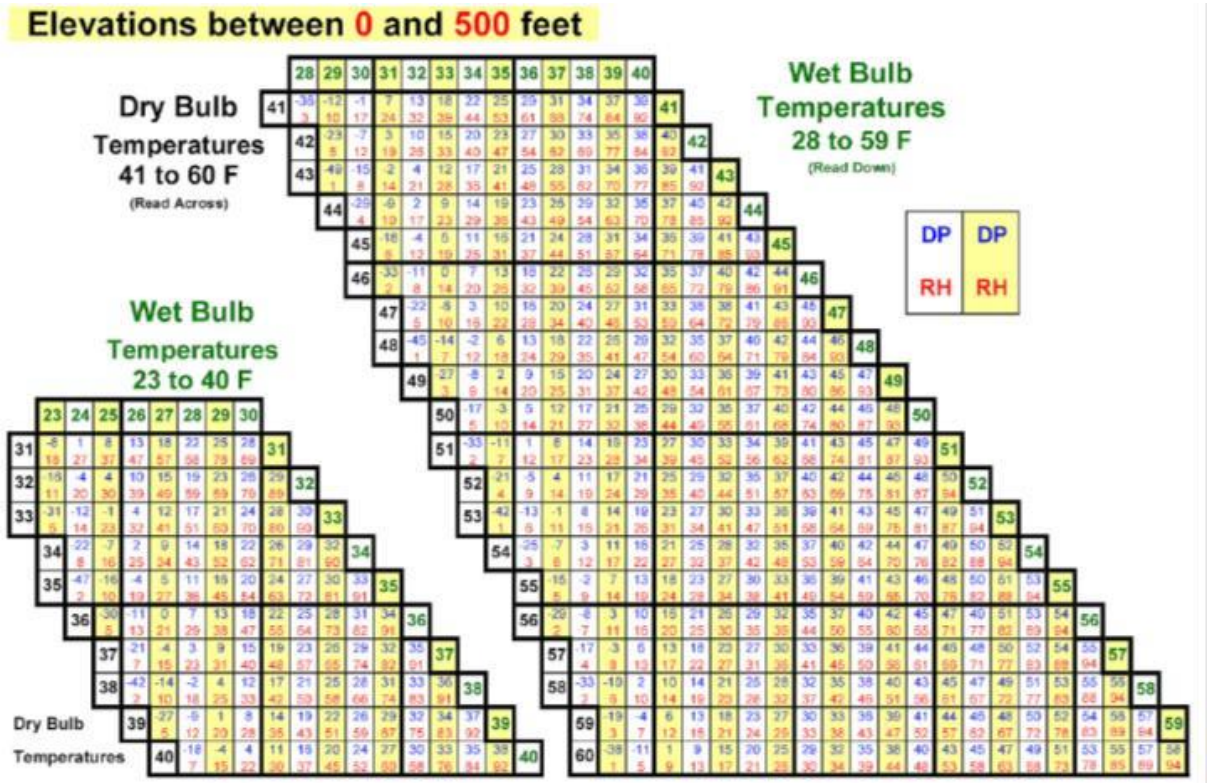
Adapted from Carlson, NEFFM (unpublished document 2016) and Interagency Wildland Fire Module Field Guide 2015-2016

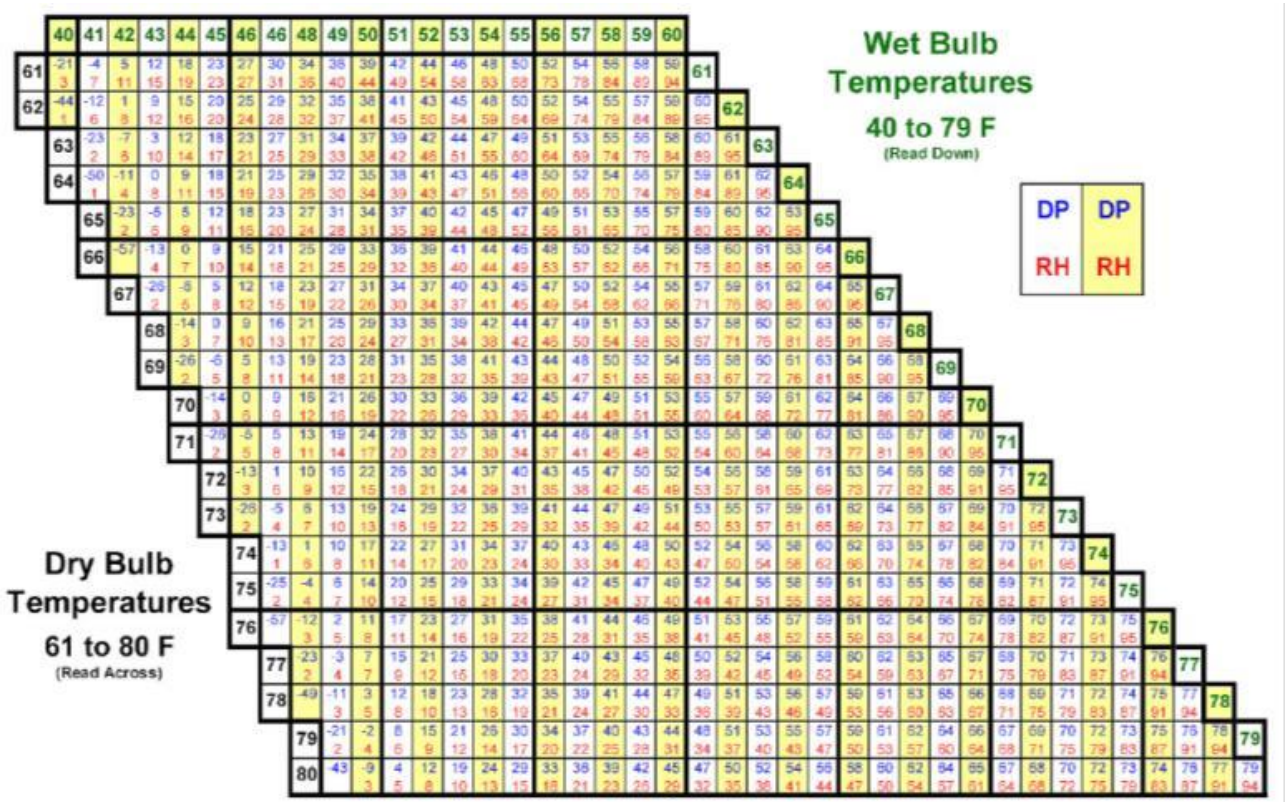
Appendix 7a: PRESCRIBED FIRE EVENT LOG

GENERAL NOTES:

Appendix 7a: PRESCRIBED FIRE EVENT LOG

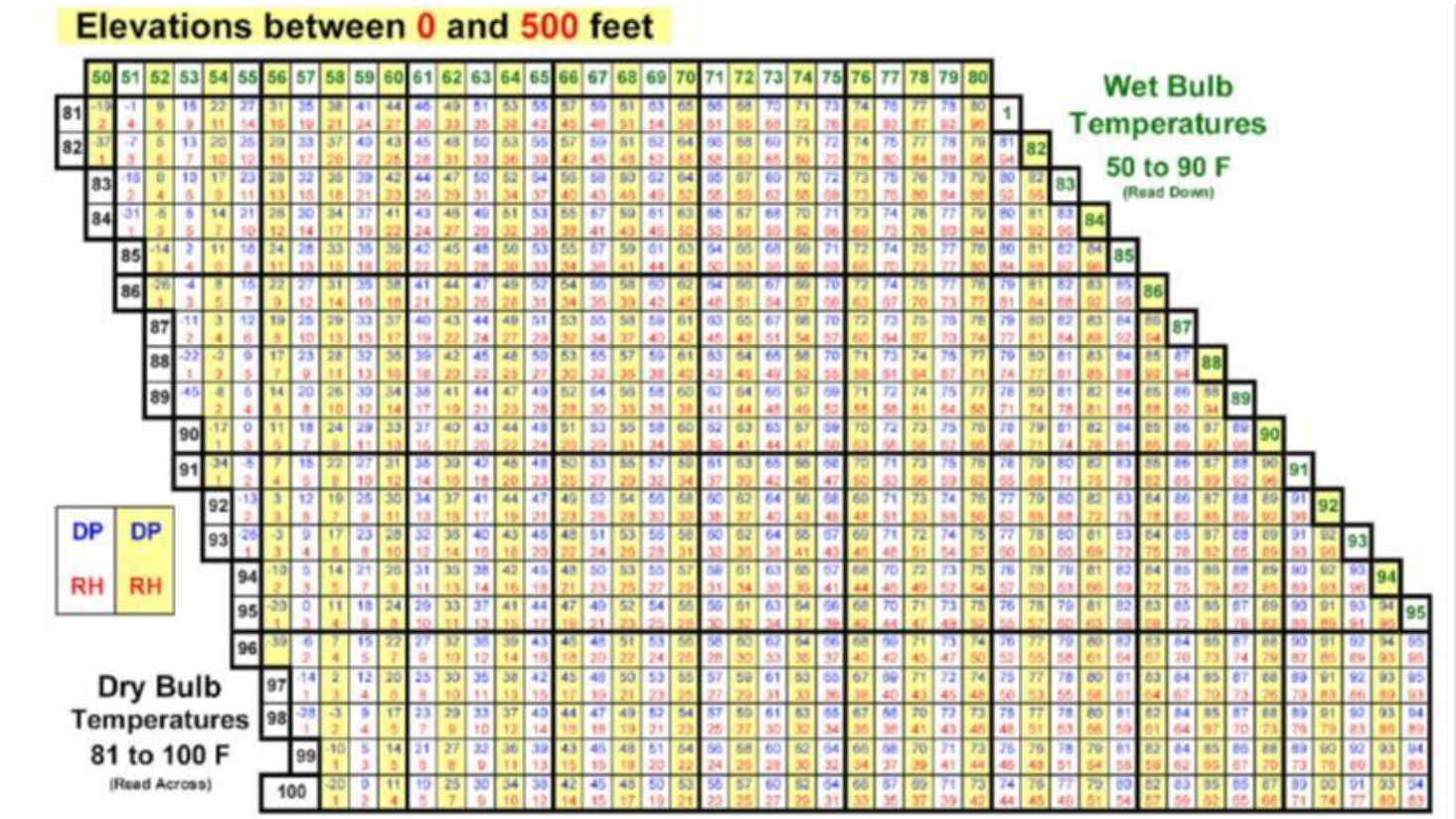
RELATIVE HUMIDITY TABLES

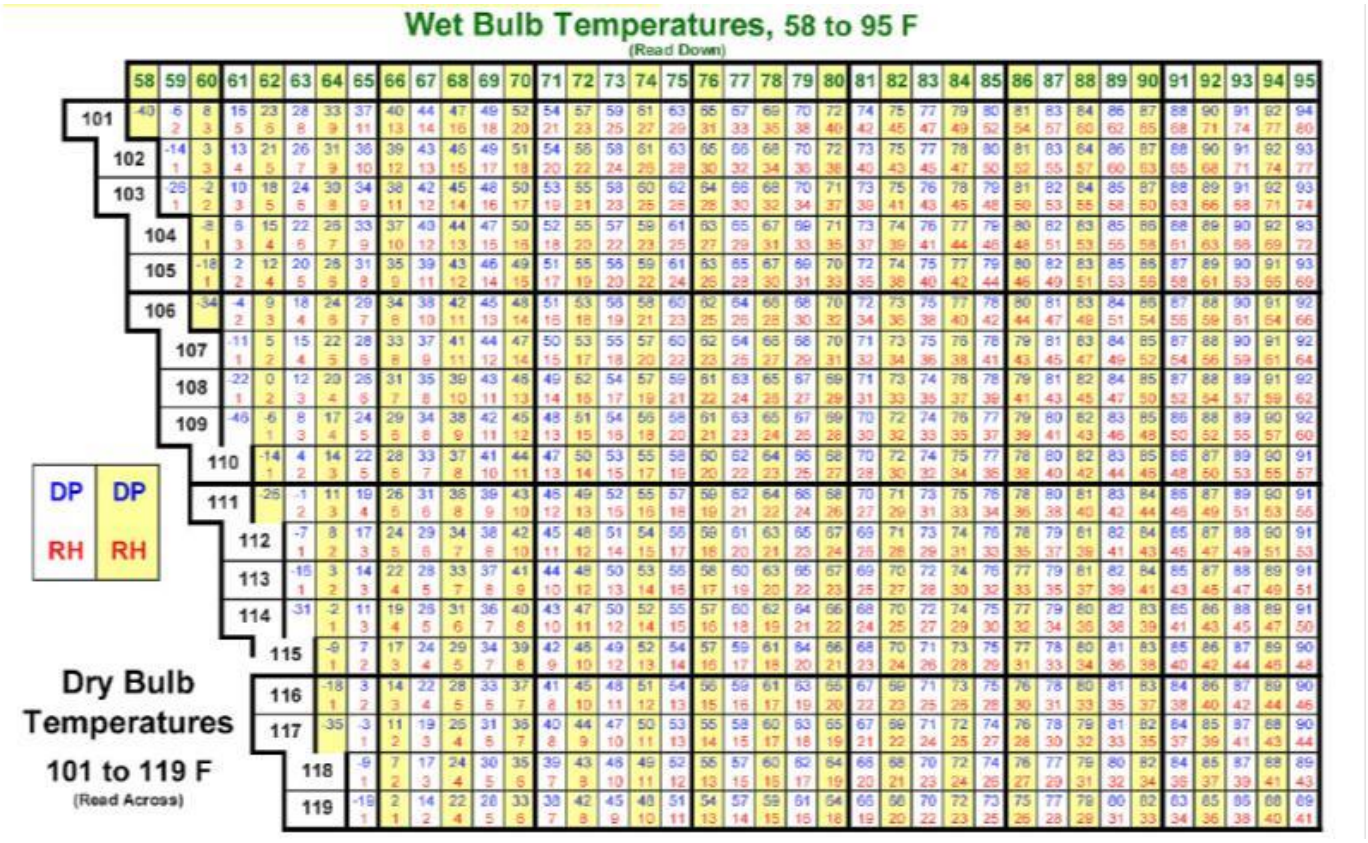




Adapted from Carlson, NEFFM (unpublished document 2016) and Interagency Wildland Fire Module Field Guide 2015-2016

Appendix 7a: PRESCRIBED FIRE EVENT LOG

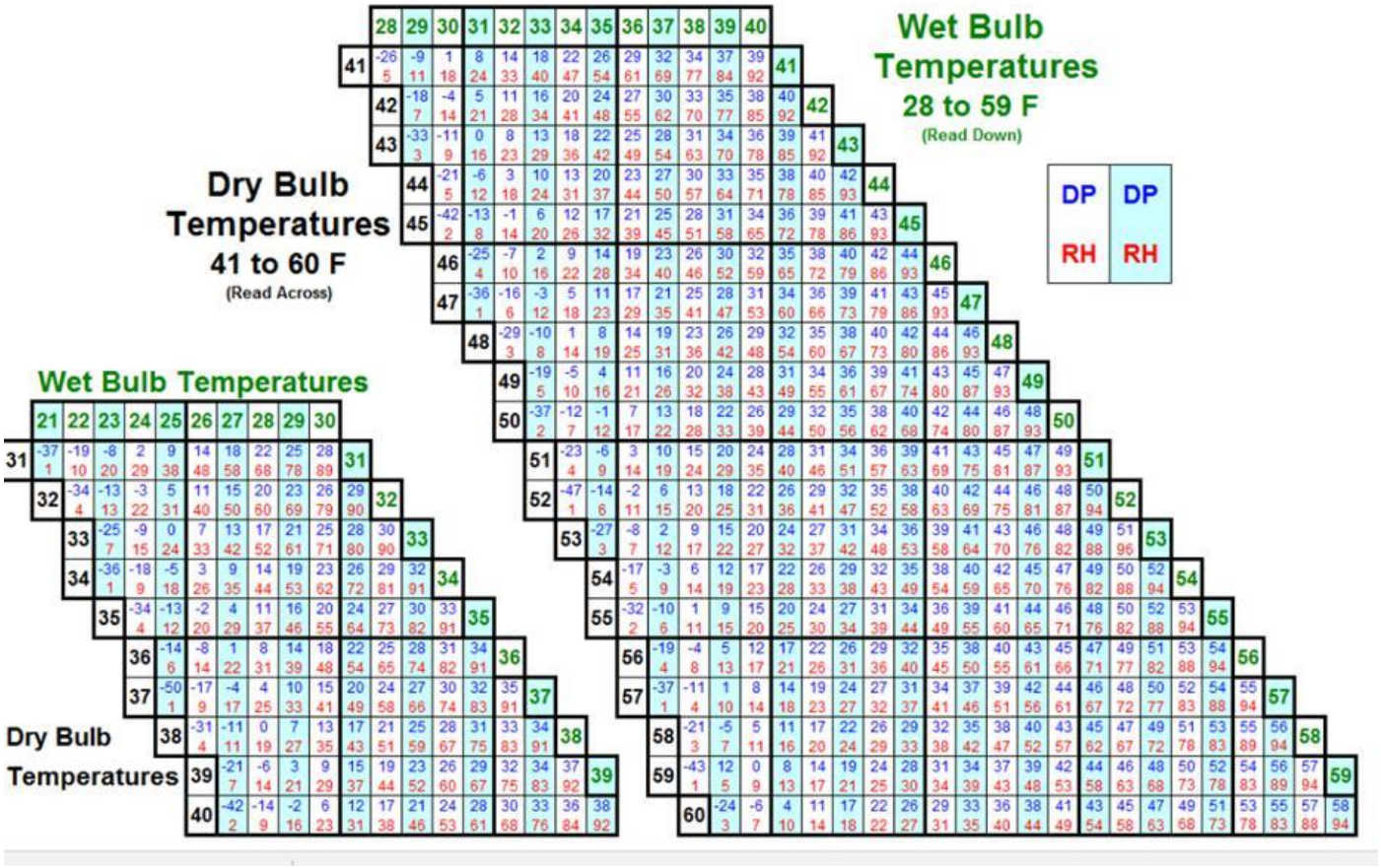




Adapted from Carlson, NEFFM (unpublished document 2016) and Interagency Wildland Fire Module Field Guide 2015-2016

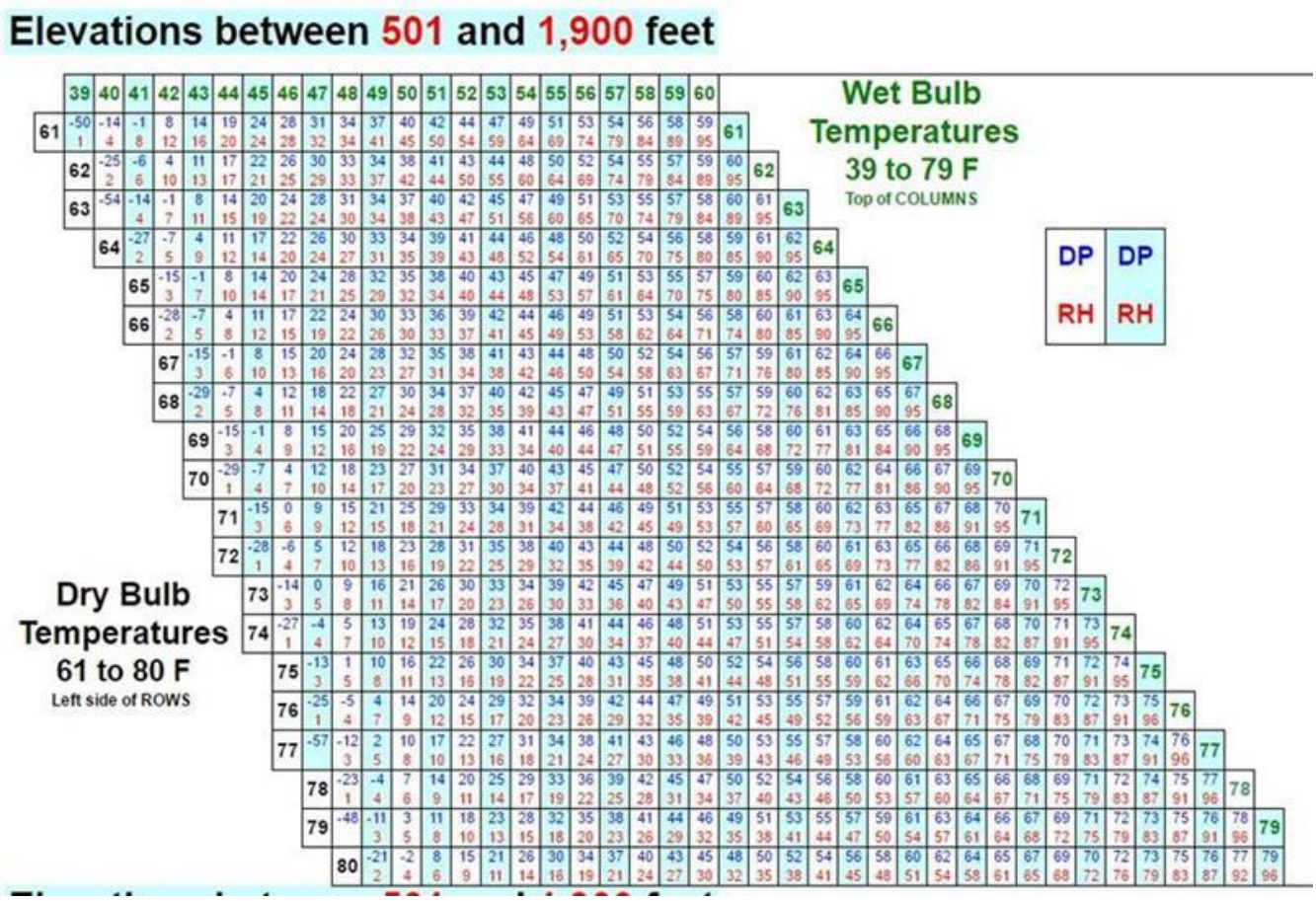
Appendix 7a: PRESCRIBED FIRE EVENT LOG

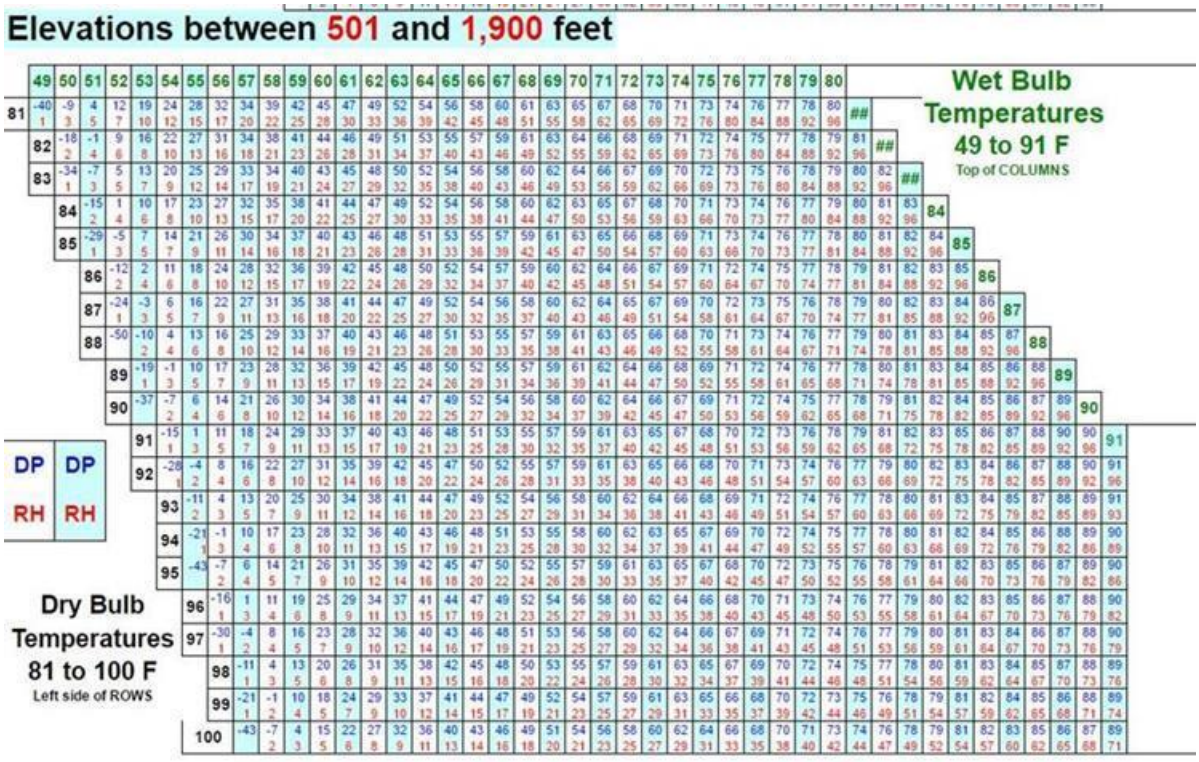
Elevations between 501 and 1,900 feet



Adapted from Carlson, NEFFM (unpublished document 2016) and Interagency Wildland Fire Module Field Guide 2015-2016

Appendix 7a: PRESCRIBED FIRE EVENT LOG





Adapted from Carlson, NEFFM (unpublished document 2016) and Interagency Wildland Fire Module Field Guide 2015-2016

Appendix 7a: PRESCRIBED FIRE EVENT LOG

REFERENCE FUEL MOISTURE

Day Time 0800 - 1959																					
Relative Humidity (Percent)																					
Dry Bulb Temperature (F)	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	10
10 - 29	1	2	2	3	4	5	5	6	7	8	8	8	9	9	10	11	12	12	13	13	1
30 - 49	1	2	2	3	4	5	5	6	7	7	7	8	9	9	10	10	11	12	13	13	1
50 - 69	1	2	2	3	4	5	5	6	6	7	7	8	8	9	9	10	11	12	12	12	1
70 - 89	1	1	2	2	3	4	5	5	6	7	7	8	8	8	9	10	10	11	12	12	1
90 - 109	1	1	2	2	3	4	4	5	6	7	7	8	8	8	9	10	10	11	12	12	1
109+	1	1	2	2	3	4	4	5	6	7	7	8	8	8	9	10	10	11	12	12	1
Go to Tables B, C, or D for Corrections																					

DEAD FM CONTENT COR MAY, JUNE, & JULY

Exposed - Less than 50% Shading of Surface Fuels																					
		0800 >			1000 >			1200 >			1400 >			1600 >			1800 >				
	% Slope	B	L	A	B	L	A	B	L	A	B	L	A	B	L	A	B	L	A		
N	0 - 30%	2	3	4	1	1	1	0	0	1	0	0	1	1	1	1	2	3	4		
	31% +	3	4	4	1	2	2	1	1	2	1	1	2	1	2	2	3	4	4		
E	0 - 30%	2	2	3	1	1	1	0	0	1	0	0	1	1	1	2	3	4	4		
	31% +	1	2	2	0	0	1	0	0	1	1	1	2	2	3	4	4	5	6		
S	0 - 30%	2	3	3	1	1	1	0	0	1	0	0	1	1	1	1	2	3	3		
	31% +	2	3	3	1	1	2	0	1	1	0	1	1	1	1	2	2	3	3		
W	0 - 30%	2	3	4	1	1	2	0	0	1	0	0	1	0	1	1	2	3	3		
	31% +	4	5	6	2	3	4	1	1	2	0	0	1	0	0	1	1	2	2		
Shaded - Greater than or Equal to 50% Shading of Surface Fuels																					
N	0% +	4	5	5	3	4	5	3	3	4	3	3	4	3	4	5	4	5	5		
E	0% +	4	4	5	3	4	5	3	3	4	3	4	4	3	4	5	4	5	6		
S	0% +	4	4	5	3	4	5	3	3	4	3	3	4	3	4	5	4	5	5		
W	0% +	4	5	6	3	4	5	3	3	4	3	3	4	3	4	5	4	4	5		
B = Area of concern 1000'-2000' below wx site location																					
L = Area of concern within +/- 1000' of wx site location																					
A = Area of concern 1000'-2000' above wx site location																					

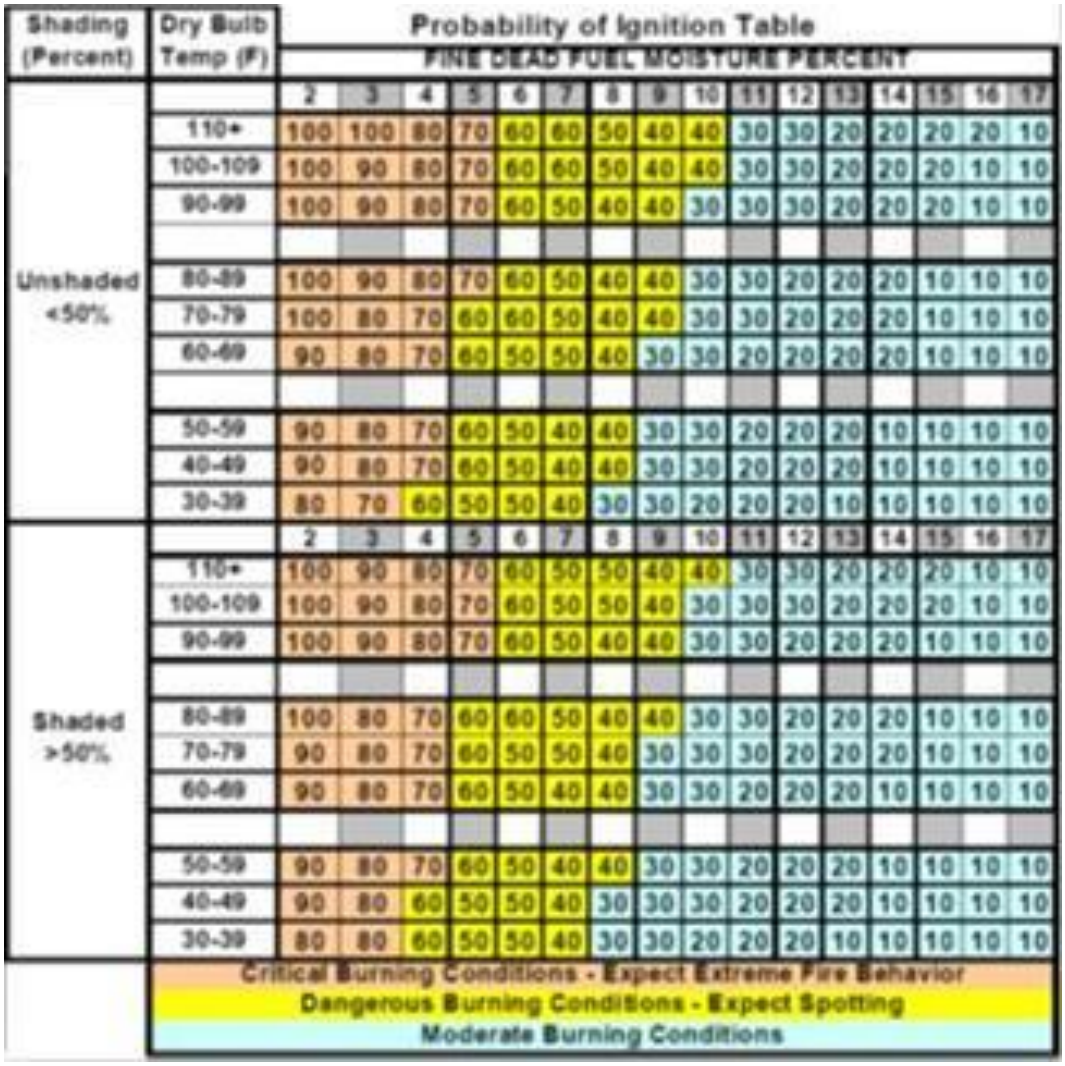
DEAD FM CONTENT COR. FEB., MAR., APR., AUG., SEPT., & OCT.

Exposed - Less than 50% Shading of Surface Fuels																					
		0800 >			1000 >			1200 >			1400 >			1600 >			1800 >				
	% Slope	B	L	A	B	L	A	B	L	A	B	L	A	B	L	A	B	L	A		
N	0 - 30%	3	4	5	1	2	3	1	1	2	1	1	2	1	2	3	3	4	5		
	31% +	3	4	5	3	3	4	2	3	4	2	3	4	3	3	4	3	4	5		
E	0 - 30%	3	4	5	1	2	3	1	1	1	1	1	2	1	2	3	3	4	5		
	31% +	3	3	4	1	1	1	1	1	1	1	2	3	3	4	5	4	5	6		
S	0 - 30%	3	4	5	1	2	2	1	1	1	1	1	1	1	2	3	3	4	5		
	31% +	3	4	5	1	2	2	0	1	1	0	1	1	1	2	2	3	4	5		
W	0 - 30%	3	4	5	1	2	3	1	1	1	1	1	1	1	2	3	3	4	5		
	31% +	4	5	6	3	4	5	1	2	3	1	1	1	1	1	1	3	3	4		
Shaded - Greater than or Equal to 50% Shading of Surface Fuels																					
N	0% +	4	5	6	4	5	5	3	4	5	3	4	5	4	5	5	4	5	6		
E	0% +	4	5	6	3	4	5	3	4	5	3	4	5	4	5	6	4	5	6		
S	0% +	4	5	6	3	4	5	3	4	5	3	4	5	3	4	5	4	5	6		
W	0% +	4	5	6	4	5	6	3	4	5	3	4	5	3	4	5	4	5	6		
B = Area of concern 1000'-2000' below wx site location																					
L = Area of concern within +/- 1000' of wx site location																					
A = Area of concern 1000'-2000' above wx site location																					

DEAD FM CONTENT COR. NOV., DEC., & JAN.

Exposed - Less than 50% Shading of Surface Fuels																					
		0800 >			1000 >			1200 >			1400 >			1600 >			1800 >				
	% Slope	B	L	A	B	L	A	B	L	A	B	L	A	B	L	A	B	L	A		
N	0 - 30%	4	5	6	3	4	5	2	3	4	2	3	4	3	4	5	4	5	6		
	31% +	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6		
E	0 - 30%	4	5	6	3	4	4	2	3	3	2	3	3	3	4	5	4	5	6		
	31% +	4	5	6	2	3	4	2	2	3	3	4	4	4	5	6	4	5	6		
S	0 - 30%	4	5	6	3	4	5	2	3	3	2	2	3	3	4	4	4	5	6		
	31% +	4	5	6	2	3	3	1	1	2	1	1	2	2	3	3	4	5	6		
W	0 - 30%	4	5	6	3	4	5	2	3	3	2	3	3	3	4	4	4	5	6		
	31% +	4	5	6	4	5	6	3	4	4	2	2	3	2	3	4	4	5	6		
Shaded - Greater than or Equal to 50% Shading of Surface Fuels																					
N	0% +	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6		
E	0% +	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6		
S	0% +	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6		
W	0% +	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6		
B = Area of concern 1000'-2000' below wx site location																					
L = Area of concern within +/- 1000' of wx site location																					
A = Area of concern 1000'-2000' above wx site location																					

Appendix 7a: PRESCRIBED FIRE EVENT LOG



Shading (Percent)	Dry Bulb Temp (F)	Probability of Ignition Table FINE DEAD FUEL MOISTURE PERCENT															
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Unshaded <50%	110+	100	100	80	70	60	60	50	40	40	30	30	20	20	20	20	10
	100-109	100	90	80	70	60	60	50	40	40	30	30	20	20	20	10	10
	90-99	100	90	80	70	60	50	40	40	30	30	30	20	20	20	10	10
	80-89	100	90	80	70	60	50	40	40	30	30	20	20	20	10	10	10
	70-79	100	80	70	60	60	50	40	40	30	30	20	20	20	10	10	10
	60-69	90	80	70	60	50	50	40	30	30	20	20	20	20	10	10	10
	50-59	90	80	70	60	50	40	40	30	30	20	20	20	10	10	10	10
	40-49	90	80	70	60	50	40	40	30	30	20	20	20	10	10	10	10
	30-39	80	70	60	50	50	40	30	30	20	20	20	10	10	10	10	10
Shaded >50%		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	110+	100	90	80	70	60	50	50	40	40	30	30	20	20	20	10	10
	100-109	100	90	80	70	60	50	50	40	30	30	30	20	20	20	10	10
	90-99	100	90	80	70	60	50	40	40	30	30	20	20	20	10	10	10
	80-89	100	80	70	60	60	50	40	40	30	30	20	20	20	10	10	10
	70-79	90	80	70	60	50	50	40	30	30	30	20	20	20	10	10	10
	60-69	90	80	70	60	50	40	40	30	30	20	20	20	10	10	10	10
	50-59	90	80	70	60	50	40	40	30	30	20	20	20	10	10	10	10
	40-49	90	80	60	50	50	40	30	30	30	20	20	20	10	10	10	10
	30-39	80	80	60	50	50	40	30	30	20	20	20	10	10	10	10	10
	Critical Burning Conditions - Expect Extreme Fire Behavior																
	Dangerous Burning Conditions - Expect Spotting																
	Moderate Burning Conditions																

STATE OF THE WEATHER

CODE	DESCRIPTION
0	Clear, Less Than 1/10th Cloud Cover
1	Scattered Clouds, 1/10th to 5/10th Cloud Cover
2	Broken Clouds, 6/10th to 9/10th Cloud Cover
3	Overcast, 10/10th Cloud Cover
4	Fog
5	Drizzle
6	Rain
7	Snow or Sleet
8	Showers
9	Thunderstorms

Appendix 7a: PRESCRIBED FIRE EVENT LOG

ENGINE TYPES							
COMPONENTS	STRUCTURE ENGINES		WILDLAND ENGINES				
	1	2	3	4	5	6	7
Pump Rating							
Minimum Flow (gpm)	1,000+	250	150	50	50	30	20
at Rated Pressure (psI)	150	150	250	100	100	100	100
Tank Capacity Range (gal)	400+	400+	500+	750+	400-750	150-400	50-200
Hose (feet)							
2 ½ inch	1,200	1,000	-	-	-	-	-
1 ½ inch	400	500	500	300	300	300	-
1 inch	-	-	500	300	300	300	200
Ladders	48’	48’	-	-	-	-	-
Master Stream (gpm)	500	-	-	-	-	-	-
Personnel (minimum)	4	3	2	2	2	2	2

Replace E with B for Brush breakers, E with T for Trucks with bladder tanks, and E with U for Utility ATVs.
Non-four wheel drive vehicles should be circled.

WATER TENDER TYPES

COMPONENTS	WATER TENDER TYPES		
	1	2	3
Tank Capacity (gallons)	5,000+	2,500+	1,000+
Pump Capacity (gpm) – Portable pump acceptable	300+	200+	200+
Off Load Capacity (gpm)	300+	200+	200+
Max. Refill Time (minutes)	30	20	15

Appendix 7a: PRESCRIBED FIRE EVENT LOG

POSTION ABBREVIATIONS

ABBRIVIATION	DESCRIPTION	ABBRIVIATION	DESCRIPTION
ICT3	Incident Commander Type 3	**FIRB**	**Firing Boss, Single Resource**
RXM1	Prescribed Fire Manager Type 1	DIVS	Division/Group Supervisor
RXB1	Prescribed Fire Burn Boss Type 1	TFLD	Task Force Leader
ICT4	Incident Commander Type 4	STEN	Strike Team Leader Engine
RXM2	Prescribed Fire Manager Type 2	STCR	Strike Team Leader Crew
RXB2	**Prescribed Fire Burn Boss Type 2**	ENGB	Engine Boss, Single Resource
ICT5	Incident Commander Type 5	ENOP	Engine Operator
RXB3	Prescribed Fire Burn Boss Type 3	**FFT1**	**Fire Fighter Type 1/Squad Boss**
SOFR	Safety Officer, Line	**FFT2**	**Fire Fighter Type 2**
PIOF	Public Information Officer	STAM	Staging Area Manager
LOFR	Liaison Officer	FALA	Faller Class A
AREP	Agency Representative	FALB	Faller Class B
READ	Resource Specialist or Resource Advisor	**FEMO**	**Fire Effects Monitor**
HOBO	***Holding Boss***	***FWOB***	***Fire Weather Observer***
IGBO	***Ignition Boss***	***PHOT***	***Photographer or Videographer***
		OBSR	***Observer, Untrained***

All trainees should be designated with "-T" at the end of the position abbreviation.
Individuals with First Aid or higher training should have a "+" following the position abbreviation.
Circle positions in organization chart that do not have a radio.
Make note in notes section of any unique positions.

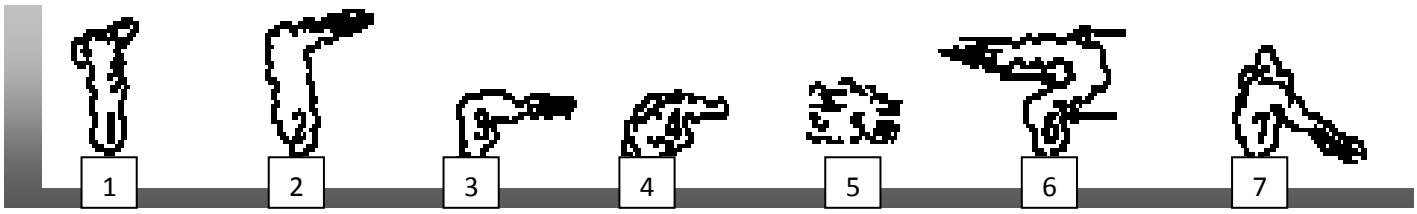
Appendix 7a: PRESCRIBED FIRE EVENT LOG

FUEL MODELS

FUEL MODEL		FUEL LOAD					FUEL BED DEPTH	DEAD FUEL MOISTURE OF EXT.	
#	CODE	1-HR	10-HR	100-HR	LIVE HERB	LIVE WOODY			FUEL MODEL NAME
1	**1**	**0.74**	**0.00**	**0.00**	**0.00**	**0.00**	**1.00**	**12**	**Short Grass**
2	2	2.00	1.00	0.50	0.50	0.00	1.00	15	Timber Grass and Understory
3	**3**	**3.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.50**	**25**	**Tall Grass**
4	4	5.01	4.01	2.00	0.00	5.01	6.00	20	Chaparral
5	5	1.00	0.50	0.00	0.00	2.00	2.00	20	Brush
6	**6**	**1.50**	**2.50**	**2.00**	**0.00**	**0.00**	**2.50**	**25**	**Dormant Brush**
7	7	1.13	1.87	1.50	0.00	0.37	2.50	40	Southern Rough
8	8	1.50	1.00	2.50	0.00	0.00	0.20	30	Compact Timber Litter
9	**9**	**2.92**	**0.41**	**0.15**	**0.00**	**0.00**	**0.20**	**25**	**Hardwood Litter**
10	**10**	**3.01**	**2.00**	**5.01**	**0.00**	**2.00**	**1.00**	**25**	**Timber Litter and Understory**
11	11	1.50	4.51	5.51	0.00	0.00	1.00	15	Light Slash
12	12	4.01	14.03	16.53	0.00	0.00	2.30	20	Medium Slash
13	13	7.01	23.04	28.05	0.00	0.00	3.00	25	Heavy Slash
91	*NB1*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*N/A*	*N/A*	*Water*
92	*NB2*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*N/A*	*N/A*	*Urban/Developed*
93	*NB3*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*N/A*	*N/A*	*Bare Ground*
94	*NB4*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*N/A*	*N/A*	*Agriculture*
95	*NB5*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*N/A*	*N/A*	*Snow/Ice*
101	**GR1**	**0.10**	**0.00**	**0.00**	**0.30**	**0.00**	**0.40**	**15**	**Short, Sparse Dry Climate Grass**
102	GR2	0.10	0.00	0.00	1.00	0.00	1.00	15	Low Load Dry Climate Grass
103	**GR3**	**0.10**	**0.40**	**0.00**	**1.50**	**0.00**	**2.00**	**30**	**Low Load Very Coarse Humid Climate Grass**
104	GR4	0.25	0.00	0.00	1.90	0.00	2.00	15	Moderate Load Dry Climate Grass
105	GR5	0.40	0.00	0.00	2.50	0.00	1.50	40	Low Load Humid Climate Grass
106	GR6	0.10	0.00	0.00	3.40	0.00	1.50	40	Moderate Load Humid Climate Grass
107	GR7	1.00	0.00	0.00	5.40	0.00	3.00	15	High Load Dry Climate Grass
108	GR8	0.50	1.00	0.00	7.30	0.00	4.00	30	High Load Very Coarse Humid Climate Grass
109	GR9	1.00	1.00	0.00	9.00	0.00	5.00	40	Very High Load Humid Climate Grass
121	GS1	0.20	0.00	0.00	0.50	0.65	0.90	15	Low Load Dry Climate Grass-Shrub
122	GS2	0.50	0.50	0.00	0.60	1.00	1.50	15	Moderate Load Dry Climate Grass-Shrub
123	GS3	0.30	0.25	0.00	1.45	1.25	1.80	40	Moderate Load Humid Climate Grass-Shrub
124	GS4	1.90	0.30	0.10	3.40	7.10	2.10	40	High Load Humid Climate Grass-Shrub
140	**C1-Smilax**	**7.28**	**0.00**	**0.00**	**0.00**	**2.77**	**3.27**	**32**	**Custom Shrub - Smilax Sp. (Elis./ Is. - By Ohman)**
141	SH1	0.25	0.25	0.00	0.15	1.30	1.00	15	Low Load Dry Climate Shrub
142	SH2	1.35	2.40	0.75	0.00	3.85	1.00	15	Moderate Load Dry Climate Shrub
143	**SH3**	**0.45**	**3.00**	**0.00**	**0.00**	**6.20**	**2.40**	**40**	**Moderate Load Humid Climate Shrub**
144	SH4	0.85	1.15	0.20	0.00	2.55	3.00	30	Low Load Humid Climate Timber-Shrub
145	SH5	3.60	2.10	0.00	0.00	2.90	6.00	15	High Load Dry Climate Shrub
146	**SH6**	**2.90**	**1.45**	**0.00**	**0.00**	**1.40**	**2.00**	**30**	**Low Load Humid Climate Shrub**
147	**SH7**	**3.50**	**5.30**	**2.20**	**0.00**	**3.40**	**6.00**	**15**	**Very High Load Dry Climate Shrub**
148	**SH8**	**2.05**	**3.40**	**0.85**	**0.00**	**4.35**	**3.00**	**40**	**High Load Humid Climate Shrub**
149	**SH9**	**4.50**	**2.45**	**0.00**	**1.55**	**7.00**	**4.40**	**40**	**Very High Load Humid Climate Shrub**
153	**C2-PP**	**7.66**	**1.98**	**1.14**	**0.11**	**1.16**	**1.20**	**30**	**Custom - Pitch Pine Control (MCSF - By WAP)**
154	**C3-SO**	**7.59**	**3.19**	**2.14**	**0.00**	**3.53**	**1.35**	**30**	**Custom - Scrub Oak Control (MCSF - By WAP)**
155	**C4-OW**	**5.95**	**1.71**	**0.52**	**0.52**	**2.03**	**0.83**	**30**	**Custom - Oak Woodland Control (MCSF - By WAP)**
156	C5-SO-Crane	6.44	0.78	0.69	0.00	0.36	0.52	24	Custom - Pitch Pine - Scrub Oak Forest (Crane PP-SO On Slope - By WAP)
157	C6-PP/SO-MSSF	1.84	2.48	2.44	0.00	2.44	2.50	25	Custom - Pitch Pine - Scrub Oak Thicket (MSSF PPSO - By WAP)
158	C7-PP/SO-Crane	5.33	1.12	0.18	0.00	1.46	0.98	23	Custom - Scrub Oak (Crane SO-3 - By WAP)
159	C8-SO-CC	6.17	0.12	0.30	0.00	0.36	1.25	25	Custom - Mixed Wood Forest (Cape Cod 4 - By WAP)
161	TU1	0.20	0.90	1.50	0.20	0.90	0.60	20	Light Load Dry Climate Timber-Grass-Shrub
162	**TU2**	**0.95**	**1.80**	**1.25**	**0.00**	**0.20**	**1.00**	**30**	**Moderate Load Humid Climate Timber-Shrub**
163	TU3	1.10	0.15	0.25	0.65	1.10	1.30	30	Moderate Load Humid Climate Timber-Grass-Shrub
164	TU4	4.50	0.00	0.00	0.00	2.00	0.50	12	Dwarf Conifer with Understory
165	TU5	4.00	4.00	3.00	0.00	3.00	1.00	25	Very High Load Dry Climate Timber-Shrub
181	TL1	1.00	2.20	3.60	0.00	0.00	0.20	30	Low Load Compact Conifer Litter
182	TL2	1.40	2.30	2.20	0.00	0.00	0.20	25	Low Load Broadleaf Litter
183	TL3	0.50	2.20	2.80	0.00	0.00	0.30	20	Moderate Load Conifer Litter
184	TL4	0.50	1.50	4.20	0.00	0.00	0.40	25	Small Downed Logs
185	TL5	1.15	2.50	4.40	0.00	0.00	0.60	25	High Load Conifer Litter
186	**TL6**	**2.40**	**1.20**	**1.20**	**0.00**	**0.00**	**0.30**	**25**	**Moderate Load Broadleaf Litter**
187	**TL7**	**0.30**	**1.40**	**8.10**	**0.00**	**0.00**	**0.40**	**25**	**Large Downed Logs**
188	TL8	5.80	1.40	1.10	0.00	0.00	0.30	35	Long-Needle Litter
189	TL9	6.65	3.30	4.15	0.00	0.00	0.60	35	Very High Load Broadleaf Litter
201	SB1	1.50	3.00	11.00	0.00	0.00	1.00	25	Low Load Activity Fuel
202	SB2	4.50	4.25	4.00	0.00	0.00	1.00	25	Moderate Load Activity or Low Load Blowdown
203	SB3	5.50	2.75	3.00	0.00	0.00	1.20	25	High Load Activity Fuel or Moderate Load Blowdown
204	SB4	5.25	3.50	5.25	0.00	0.00	2.70	25	High Load Blowdown
211	C9-PP-TG	5.14	1.89	3.75	0.01	0.56	0.33	30	Custom - Pitch Pine - Thin/Graze (MCSF - By WAP)
212	**C10-PP-TM**	**6.06**	**1.96**	**2.44**	**0**	**0.19**	**0.16**	**30**	**Custom - Pitch Pine - Thin/Mow (MCSF - By WAP)**
213	**C11-SO-M**	**5.6**	**3.35**	**1.24**	**0**	**1.07**	**0.26**	**30**	**Custom - Scrub Oak - Mow (MCSF - By WAP)**
214	C12-SO-MG	5.13	1.65	1.09	0	0.23	0.16	30	Custom - Scrub Oak - Mow/Graze (MCSF - By WAP)
215	**C13-OW-M**	**4.62**	**0.87**	**0.21**	**0.05**	**0.39**	**0.34**	**30**	**Custom - Oak Woodland - Mow (MCSF - By WAP)**
216	C14-SO/OW-MG	4.46	0.98	0.94	0.16	0.7	0.28	30	Custom - Oak Woodland - Mow/Graze (MCSF - By WAP)
220	C15-SO-CT	2.94	0.68	0.56	0.04	1.42	2.15	25	Custom - Scrub Oak - Control (Montague - By WAP)
221	C16-SO-M/B-1P	0.93	0.78	0.7	0.07	0.84	0.7	25	Custom - Scrub Oak - Mow/Burn-1 Year Post (Montague - By WAP)
222	C17-SO-M/B-2P	2.59	0.65	0.9	0.05	1.06	0.82	25	Custom - Scrub Oak - Mow/Burn-2 Year Post (Montague - By WAP)
223	C18-SO-M/B-3P	3.2	0.25	0.6	0.06	1.75	1.71	25	Custom - Scrub Oak - Mow/Burn-3 Year Post (Montague - By WAP)

Appendix 7a: PRESCRIBED FIRE EVENT LOG

PLUME STRUCTURE



PARTICULATE DENSITY/VISABILITY AND PARTICULATE LEVELS

CATAGORIES	VISIBILITY IN MILES	PARTICULATE LEVELS (AVE. 1 HR>, ug/m^3)	
		OLD RANGES	NEW RANGES
Good	10 or More	0 to 40	*0 to 50*
Moderate	6 to 9	41 to 80	*51 to 100*
Unhealthy for Sensitive Groups	3 to 5	81 to 175	*101 to 150*
Unhealthy	1 ½ to 2 ½	176 to 300	*151 to 200*
Very Unhealthy	¾ to 1 ¼	301 to 500	*201 to 300*
Hazardous	¾ or Less	Over 500	*301 to 500*

NOTE: Face away from sun. Determine the limit of your visibility range by looking for known targets at known distances (miles). Visibility range is that point at which even high contrast objects totally disappear.

SAFE ROAD SPEEDS BASED ON VISIBILITY

POSTED SPEED LIMIT (mph)	ACCEPTABLE VISIBILITY ADJUSTED FOR RX BURN CONDITIONS (ft)*
25	108
35	185
45	282
55	399
65	534

* **DOUBLE** adjusted visibility distance if smoke is present at **night** or if the highway is **not divided**.

Appendix 7a: PRESCRIBED FIRE EVENT LOG

LIVE FUEL (FOLIAGE) MOISTURE CONTENT

Moisture Content (%)	Stage of Vegetation Development
300	Fresh foliage, annuals developing early in the growing cycle.
200	Maturing foliage, still developing, with full turgor.
100	Mature foliage, new growth complete and comparable to older perennial foliage.
50	Entering dormancy, coloration starting, some leaves may have dropped from stem.
30	Completely cured, treat as dead fuel.

KEETCH-BYRAM DROUGHT INDEX (KBDI)

INDEX			
FROM	TO	INDEX	CONDITION DESCRIPTION
0	99	0	Soil moisture and large class fuel moistures are high and do not contribute much to fire intensity. Typical of spring dormant season following winter precipitation.
100	199	1	
200	299	2	Typical of late spring, early growing season. Lower litter and duff layers are drying and beginning to contribute to fire intensity.
300	399	3	
400	499	4	Typical of late summer, early fall. Lower litter and duff layers actively contribute to fire intensity and will burn actively.
500	599	5	
600	699	6	Often associated with more severe drought with increased wildfire occurrence. Intense, deep burning fires with significant downwind spotting can be expected. Live fuels can also be expected to burn actively at these levels.
700	800	7	

Adapted from Carlson, NEFFM (unpublished document 2016) and Interagency Wildland Fire Module Field Guide 2015-2016

Appendix 7a: PRESCRIBED FIRE EVENT LOG

DOCUMENTS TO GATHER AT BURN COMPLETION REMINDER

☐ Prescribed Fire Event Log ☐ Fire Weather Observer's (FEMO's) Crew Handout ☐ Fire Weather Observer's (FEMO's) GPS Log – If Applicable ☐ Photographs – If Applicable ☐ Weather Forms ☐ Maps With Notes – If Applicable	☐ Burn Plan ☐ Burn Boss Go/No-Go Checklist – If Applicable ☐ Check-in Sheet ☐ Waivers – If Applicable ☐ Ignition's GPS Log(s) – If Applicable ☐ Manifests and Copies of Unit Logs – If Applicable

Appendix 7b: Prescribed Fire Summary Report

Pertinent Information to include in the Report:

- Burn unit size and location
- Acres burned
- Dates and time burn was conducted
- Overview of the burning operations
- Observations and recommendations from:
  After Action Review

  Command and personnel

  Logistics

  Planning

  Operations

  Safety

  Smoke management

  Incidents

  Constraints

- Burn Unit Map and delineation of area burned using GPS
- Summary of burn unit goals and objectives and noticeable short-term results and accomplishments
- Narrative summary of burn events and time log
- Tables, graphs, and data related to weather on-site observations and forecasts, fuel conditions, drought indices, smoke emissions, resources and equipment used, burn severity/first order fire effects, time and effort breakdown

Appendix 7c: MassWildlife Annual Prescribed Burn Accomplishment Report

Burns Completed by: _____

MassWildlife District: _____

DEP Region: _____

Forestry District: _____

Time Period/Year: _____

MassWildlife Administered Lands

Total # of Burns	Total Acres	Grass/Wetland				Shrubland				Forest				Slash Masticated Fuels			
		Acres	Sites	FM	FM	Acres	Sites	FM	FM	Acres	Sites	FM	FM	Acres	Sites	FM	FM

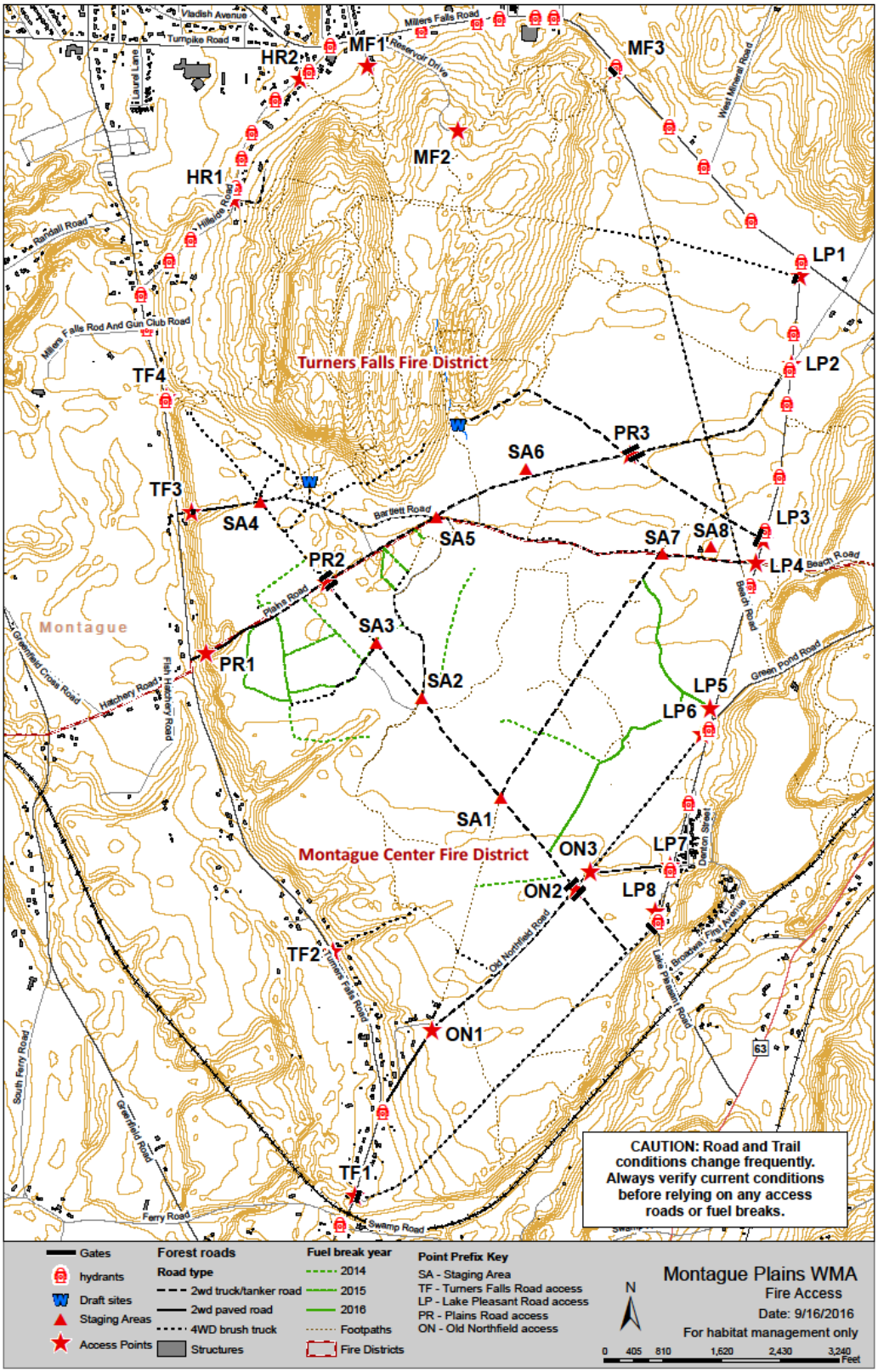
Other Priority Conservation Lands

Total # of Burns	Total Acres	Grass/Wetland				Shrubland				Forest				Slash Masticated Fuels			
		Acres	Sites	FM	FM	Acres	Sites	FM	FM	Acres	Sites	FM	FM	Acres	Sites	FM	FM

- On burns with multiple fuel types, divide out only the significant acreages, add additional rows if needed.
- Include burn acres on other agency lands only if MassWildlife provided the prescribed burn boss.

Please complete and return by January 15th to:
Prescribed Fire Program Manager
Massachusetts Division of Fisheries and Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

Appendix 8: Sample Property Map of Roads and Access Points for Firefighters



Appendix 9a:

HEALTH SCREENING QUESTIONNAIRE

For Work Capacity Testing

This questionnaire must be filled out in full prior to taking the Work Capacity Test (WCT).

Employee Name _____ Date _____

Check Yes or No in response to each/all of the following questions:

☐ Yes	☐ No	1. During the past 12 months have you at any time (during physical activity or while resting) experienced shortness of breath, or pain, discomfort, or pressure in your chest?
☐ Yes	☐ No	2. During the past 12 months have you at any time (during physical activity or while resting) experienced difficulty breathing, dizziness, fainting, or blackout?
☐ Yes	☐ No	3. Do you have a blood pressure with systolic (top #) greater than 140 or diastolic (bottom #) greater than 90?
☐ Yes	☐ No	4. Have you ever been diagnosed or treated for any heart disease, heart murmur, chest pain (angina), palpitations (irregular beat), or heart attack?
☐ Yes	☐ No	5. Have you ever had heart surgery, angioplasty, or a pace maker, valve replacement, or heart transplant?
☐ Yes	☐ No	6. Do you have a resting pulse greater than 100 beats per minute?
☐ Yes	☐ No	7. Do you have arthritis, back trouble, hip /knee/joint pain, or any other bone or joint condition that could be aggravated or made worse by a physically demanding work assignment?
☐ Yes	☐ No	8. Do you have asthma, diabetes, epilepsy, elevated cholesterol or a hernia?
☐ Yes	☐ No	9. Do you have personal experience or doctor's advice of any other medical or physical reason that may prohibit you from taking the Work Capacity Test?

Answering "Yes" to any of the above questions will mean that a Medical Screening / Evaluation Form (WCT-02) must be completed by a physician to determine your ability to safely participate in a WCT.

Privacy Statement

The information obtained in the above portion of this form is used to help determine whether an individual can take the WCT. Any/All information you provide in this form will be treated as confidential information. It may, however, be shared with any supervisor or manager who has a need to know, and with the Human Resources Department.

MassWildlife prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status.

Please submit this form to the Prescribed Fire Program Manager (and save a copy for your files)

- ☐ I did not answer yes to any questions on the above Health Screening Questionnaire and believe that I am able to take the work capacity test.
- ☐ After answering the above questions, I determined that I needed to contact a physician before taking the work capacity test, and I have attached a signed Medical Screening/Evaluation Form (WCT-02) stating that I am able to participate.

Signature: _____

Printed Name: _____ Date: _____

Participant

Appendix 9b: Medical Assessment for Work Capacity Test

The individual presenting this form completed the attached Health Screening Questionnaire self-evaluation prior to participating in a Work Capacity Test (WCT) to determine if they meet the minimum physical standards to conduct operations on a prescribed burn. On that self-evaluation they indicated they met at least one criterion that required a physical examination prior to taking the WCT. Please review the attached self-evaluation with the employee and make an assessment of their ability to participate in the WCT.

To assist you in making that determination, the following chart provides information about the level of exertion the employee may be experience during WCT testing and when working on the fireline.

Exertion Level	Test Procedure	Typical Fireline Activities
Arduous (required for Federal firefighting)	Walking over level ground and carrying a 45 pound pack a distance of 3 miles in a period of 45 minutes.	The pack test is intended for those involved in arduous duties, working with hand tools on the fireline in hot conditions for long hours in a day. In addition, they may be called to carry in excess of 45 pounds for extended periods of time on flat to steep terrain. Activity usually occurs over consecutive days for a long period of time.
Moderate (required for MassWildlife prescribed burns)	Walking over level ground and carrying a 25 pound pack a distance of 2 miles in a period of 30 minutes.	The field test is intended for those with moderately strenuous field duties on the fireline on level to steep terrain, lifting 25 to 50 pounds on occasion and working for 8 to 10 hours a day.
Light	Walking over level ground for a distance of 1 mile with no additional weight in a period of 16 minutes.	The walk test is intended for those who do light work and occasional field activity. May provide planning and logistical support role for prescribed fire activities.

Name (Print Only): _____ Date: _____ Employee ID# _____

Having reviewed the test procedures and potential work described, and after evaluation of the individual named above, I believe he/she is able to participate in the testing process and work assignments as described for the level indicated:

- ☐ Arduous
- ☐ Moderate
- ☐ Light
- ☐ Should not be tested

_____ _____ _____

Physician Name (Print only) Physician Signature Date

_____ _____

License/Certification Number Street Address (Print Only)

License/Certification State

_____ _____

Telephone Number City, State, Zip Code (Print Only)

A burn crew member who checks yes to any question on the Health Screening Questionnaire must return this completed form to the Prescribed Fire Program Manager (or the Work Capacity Test Program Administrator) before taking the Work Capacity Test.

Privacy Statement

The information obtained in the completion of this form is used to help determine whether an individual being considered for a physically demanding assignment can carry out those duties in a manner that will not place the candidate unduly at risk due to physical fitness or health. Any information disclosed or obtained in this form will be treated as confidential information. It may, however, be shared with any supervisor or manager who has a need to know, and with safety and emergency personnel if emergency treatment of an employee may be required.

Appendix 9c: WORK CAPACITY TEST RECORD

MassWildlife will document the administration of the WCT to all employees involved in prescribed fire activities. This documentation must be retained in the employee's personnel file as a permanent record. The information on the Work Capacity Test Record is considered confidential and must be filed in the employee's file. The identity of the individual must be protected.

To be completed by employee:

Name (Last, First): _____ Work Location: _____

Height: _____ Weight: _____

Date test taken: _____ Test Administered by: _____

Performance Level Needed by MassWildlife Employees: **Moderate**

Type of Test Taken (circle one): Pack Test **Field Test** Walk Test

***Work Capacity Test Descriptions*:**

WCT	Pack Test	**Field Test**	Walk Test
Pack Weight	45 lbs.	**25 lbs.**	None
Distance	3 miles	**2 miles**	1 mile
Time	45 minutes	**30 minutes**	16 minutes

To be completed by test administrator:

Test Result Time: _____

Employee passed test (circle one): Yes / No

I certify that the work capacity test was administered according to the MassWildlife guidelines and the work capacity test administrator's guide (NWCG PMS 307 NFES 1109).

_____ _____ _____

Signature of Administrator Title Date

DIVISION OF
FISHERIES & WILDLIFE
Jack Buckley, *Director*

Appendix 10:

Attachment A

Volunteer Acknowledgement and Release for Participation in Prescribed Fire Activities Conducted by the Division of Fisheries and Wildlife

In consideration for the Division of Fisheries and Wildlife within the Massachusetts Department of Fish and Game ("DFW") granting me permission to provide volunteer service in the role of _____ as part of a Prescribed Fire Team engaging Prescribed Fire activities for or on behalf of DFW, I, _____, intending to be legally bound, hereby, for myself, my heirs, executors and administrators, voluntarily assume all risks of accident, injury or death and release and forever discharge the Commonwealth of Massachusetts, the Department of Fish and Game, DFW, and its , programs, officers, agents, employees, and assigns ("the Commonwealth") of and from any and all claims, debts, demands, actions, causes of actions, suits, dues, sum and sums of money, accounts, reckonings, bonds, specialties, agreements, promises, doings, omissions, damages, executions and liabilities of whatsoever kind and nature, including but not limited to, any and all liability for personal injury or property damage of any kind, both at law and in equity, and any that have been or may be claimed before any governmental agency, which have arisen or may arise as a result of or in association with my volunteer service or participation in volunteer activities for or on behalf of DFW.

I hereby further covenant that I shall adhere to all directives and requirements of DFW necessary for me to volunteer to participate in prescribed fire activities, including (1) DFW's Prescribed Fire Handbook, (2) instructions of the Burn Boss and (3) provide to DFW prior to my participation in any prescribed fire activities all of the required and up to date necessary written documentation showing that I am properly trained, certified and of sufficient health to participate in the role of _____on the Prescribed Fire Team.

I have read and fully understood the foregoing and intend to be bound by it.

Dated and signed this _____ day of _____, 20__.

Signed:_____

Name (print or type):_____

Date:_____

APPENDIX 11: SAMPLE GRANT OF PERMISSION TO BURN LANDS NOT ADMINISTERED BY MASSWILDLIFE

Name of Owner/Administrating Agency	Address (No. & Street, RFD, Box No., City, State, Zip Code)
Name of Owner/Administrating Agency	Address (No. & Street, RFD, Box No., City State, Zip Code)
Description of Owner's lands to be burned:	

PERMISSION IS HEREBY GRANTED by the landowner or landowners (Owner) whose signature appears below to MassWildlife, and its authorized agents, to enter onto the lands as described above and shown on the attached project map which is made part of this document, to burn the vegetation in order to obtain benefits in the public interest such as improved wildlife habitat, restoration and maintenance of valued ecosystems, and other public-interest benefits.

Owner gives permission on the following conditions:

1. MassWildlife will burn only in accordance with MassWildlife's prescribed burn plan.

2. MassWildlife shall not charge Owner for the cost of burning Owner's lands.

3. Owner certifies that Owner has inspected the above-described lands and that there are no personal property on these lands which Owner does not desire to be burned.

4. Each party agrees that it will be responsible for its own acts and omissions and the results thereof to the extent authorized by law and shall not be responsible for the acts of the other party and the results thereof.

Owner grants permission and is aware that there are risks associated with the activity of prescribed burning.

Signature of Owner/Administrating Agency	Date
Signature of Owner/Administrating Agency	Date

IMPORTANT: PROJECT MAP AND BURN PLAN <u>MUST</u> BE ATTACHED

DIVISION OF
FISHERIES & WILDLIFE

Jack Buckley, *Director*

Appendix 12: Prescribed Fire and Wildfire Experience Log

Name: _____ Date: _____ MassWildlife Home Unit: _____ Page #____of _____

Fire Name	Fire Number	Date	State	County	Position	Operational Periods	Incident Type	Prescribed Fire Complexity	Witness Name (Printed)	Witness Signature

DIVISION OF
FISHERIES & WILDLIFE
Jack Buckley, *Director*

Prescribed Fire and Wildfire Experience Log

Name _____

Page #____of _____

Fire Name	Fire Number	Date	State	County	Position	Operational Periods	Incident Type	Prescribed Fire Complexity	Witness Name (Printed)	Witness Signature

Appendix 13: INCIDENT ACTION PLAN SAFETY ANALYSIS (ICS 215A)

1. Incident Name:	**2. Incident Number:**
3. Date/Time Prepared: Date: Time:	**4. Operational Period:** Date From: Date To: Time From: Time To:

5. Incident Area	**6. Hazards/Risks**	**7. Mitigations**

8. Prepared by (Safety Officer)**:** Name: _____ Signature: _____

Prepared by (Operations Section Chief)**:** Name: _____ Signature: _____

ICS 215A Date/Time: _____

ICS 215A Incident Action Plan Safety Analysis

Purpose. The purpose of the Incident Action Plan Safety Analysis (ICS 215A) is to aid the Safety Officer in completing an operational risk assessment to prioritize hazards, safety, and health issues, and to develop appropriate controls. This worksheet addresses communications challenges between planning and operations, and is best utilized in the planning phase and for Operations Section briefings.

Preparation. The ICS 215A is typically prepared by the Safety Officer during the incident action planning cycle. When the Operations Section Chief is preparing for the tactics meeting, the Safety Officer collaborates with the Operations Section Chief to complete the Incident Action Plan Safety Analysis. This worksheet is closely linked to the Operational Planning Worksheet (ICS 215). Incident areas or regions are listed along with associated hazards and risks. For those assignments involving risks and hazards, mitigations or controls should be developed to safeguard responders, and appropriate incident personnel should be briefed on the hazards, mitigations, and related measures. Use additional sheets as needed.

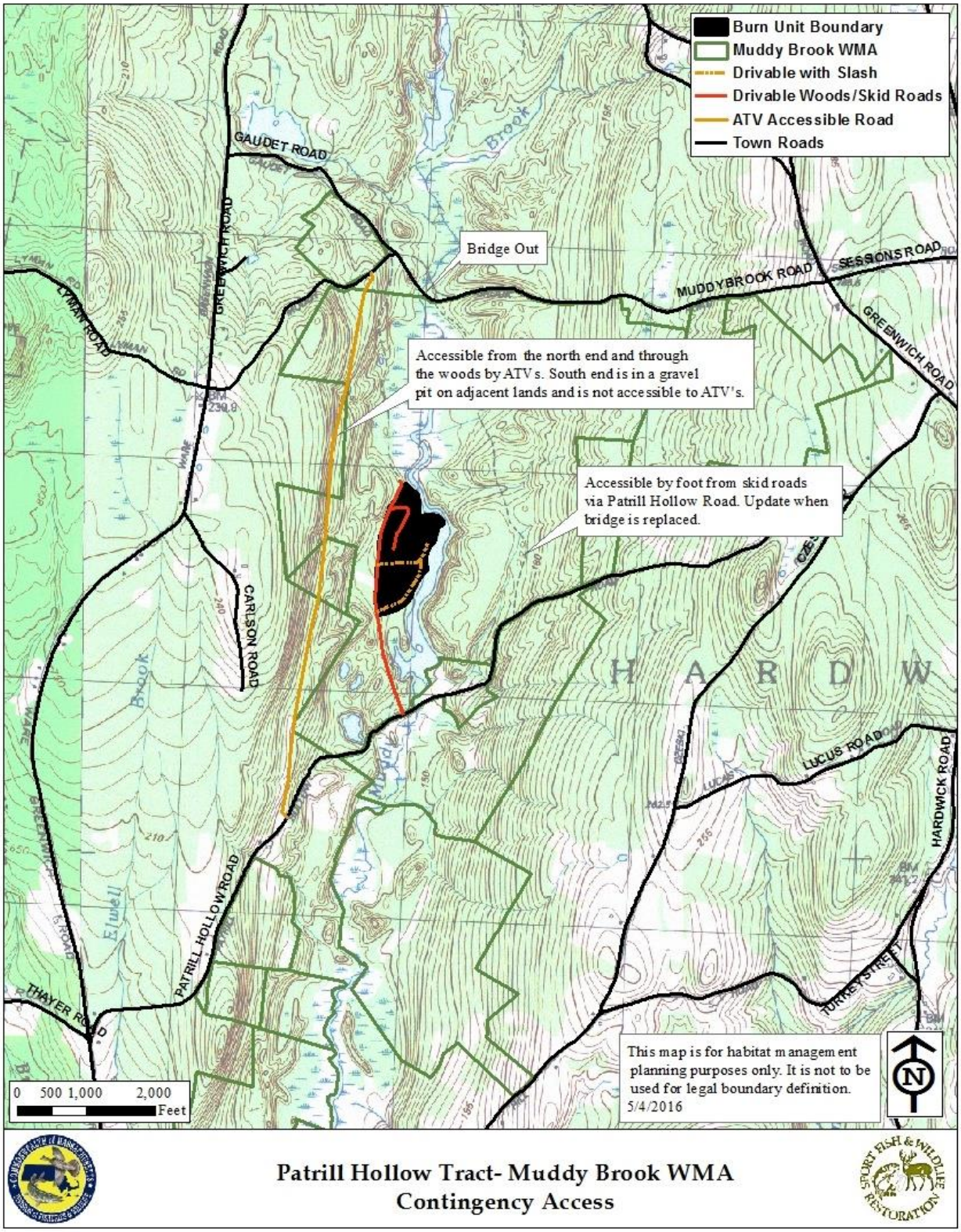
Distribution. When the safety analysis is completed, the form is distributed to the Resources Unit to help prepare the Operations Section briefing. All completed original forms must be given to the Documentation Unit.

Notes:

- This worksheet can be made into a wall mount, and can be part of the IAP.
- If additional pages are needed, use a blank ICS 215A and repaginate as needed.

Block Number	Block Title	Instructions
1	Incident Name	**Enter the name assigned to the incident.**
2	Incident Number	**Enter the number assigned to the incident.**
3	Date/Time Prepared	**Enter date (month/day/year) and time (using the 24-hour clock) prepared.**
4	Operational Period **• Date and Time From • Date and Time To**	**Enter the start date (month/day/year) and time (24-hour clock) and end date and time for the operational period to which the form applies.**
5	Incident Area	**Enter the incident areas where personnel or resources are likely to encounter risks. This may be specified as a Branch, Division, or Group.**
6	Hazards/Risks	**List the types of hazards and/or risks likely to be encountered by personnel or resources at the incident area relevant to the work assignment.**
7	Mitigations	**List actions taken to reduce risk for each hazard indicated (e.g., specify personal protective equipment or use of a buddy system or escape routes).**
8	Prepared by **(Safety Officer and Operations Section Chief) • Name • Signature • Date/Time**	**Enter the name of both the Safety Officer and the Operations Section Chief, who should collaborate on form preparation. Enter date (month/day/year) and time (24-hour clock) reviewed.**

Appendix 14: Sample Contingency Map



Appendix 15: Medical Plan

MEDICAL PLAN (ICS 206)

1. Incident Name:	2. Operational Period:	Date From: Date	Date To: Date
		Time From: HHMM	Time To: HHMM

3. Medical Aid Stations:

Name	Location	Contact Number(s)/Frequency	Paramedics on Site?
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No

4. Transportation (indicate air or ground):

Ambulance Service	Location	Contact Number(s)/Frequency	Level of Service
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS

5. Hospitals:

Hospital Name	Address, Latitude & Longitude if Helipad	Contact Number(s)/ Frequency	Travel Time		Trauma Center	Burn Center	Helipad
			Air	Ground			
					☐ Yes Level: ____	☐ Yes ☐ No	☐ Yes ☐ No
					☐Yes Level: ____	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level: ____	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level: ____	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level:	☐ Yes ☐ No	☐ Yes ☐ No

6. Special Medical Emergency Procedures:

☐ Check box if aviation assets are utilized for rescue. If assets are used, coordinate with Air Operations.

7. Prepared by (Medical Unit Leader):	Name:	Signature: _____
8. Approved by (Safety Officer):	Name:	Signature: _____

ICS 206	IAP Page	Date/Time: Date

ICS 206
Medical Plan

Purpose. The Medical Plan (ICS 206) provides information on incident medical aid stations, transportation services, hospitals, and medical emergency procedures.

Preparation. The ICS 206 is prepared by the Medical Unit Leader and reviewed by the Safety Officer to ensure ICS coordination. If aviation assets are utilized for rescue, coordinate with Air Operations.

Distribution. The ICS 206 is duplicated and attached to the Incident Objectives (ICS 202) and given to all recipients as part of the Incident Action Plan (IAP). Information from the plan pertaining to incident medical aid stations and medical emergency procedures may be noted on the Assignment List (ICS 204). All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 206 serves as part of the IAP.
- This form can include multiple pages.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Medical Aid Stations**	Enter the following information on the incident medical aid station(s):
	• Name	Enter name of the medical aid station.
	• Location	Enter the location of the medical aid station (e.g., Staging Area, Camp Ground).
	• Contact Number(s)/Frequency	Enter the contact number(s) and frequency for the medical aid station(s).
	• Paramedics on Site? ☐ Yes ☐ No	Indicate (yes or no) if paramedics are at the site indicated.
4	**Transportation** (indicate air or ground)	Enter the following information for ambulance services available to the incident:
	• Ambulance Service	Enter name of ambulance service.
	• Location	Enter the location of the ambulance service.
	• Contact Number(s)/Frequency	Enter the contact number(s) and frequency for the ambulance service.
	• Level of Service ☐ ALS ☐ BLS	Indicate the level of service available for each ambulance, either ALS (Advanced Life Support) or BLS (Basic Life Support).

Block Number	Block Title	Instructions
5	**Hospitals**	Enter the following information for hospital(s) that could serve this incident:
	• Hospital Name	Enter hospital name and identify any predesignated medivac aircraft by name a frequency.
	• Address, Latitude & Longitude if Helipad	Enter the physical address of the hospital and the latitude and longitude if the hospital has a helipad.
	• Contact Number(s)/ Frequency	Enter the contact number(s) and/or communications frequency(s) for the hospital.

	• Travel Time
	  • Air
	  • Ground
		Enter the travel time by air and ground from the incident to the hospital.

	• Trauma Center ☐Yes Level:_____	Indicate yes and the trauma level if the hospital has a trauma center.
	• Burn Center ☐Yes ☐No	Indicate (yes or no) if the hospital has a burn center.
	• Helipad ☐Yes ☐No	Indicate (yes or no) if the hospital has a helipad. Latitude and Longitude data format need to compliment Medical Evacuation Helicopters and Medical Air Resources
6	**Special Medical Emergency Procedures**	Note any special emergency instructions for use by incident personnel, including (1) who should be contacted, (2) how should they be contacted; and (3) who manages an incident within an incident due to a rescue, accident, etc. Include procedures for how to report medical emergencies.
	☐ Check box if aviation assets are utilized for rescue. If assets are used, coordinate with Air Operations.	Self explanatory. Incident assigned aviation assets should be included in ICS 220.
7	**Prepared by** (Medical Unit Leader) • Name • Signature	Enter the name and signature of the person preparing the form, typically the Medical Unit Leader. Enter date (month/day/year) and time prepared (24-hour clock).
8	**Approved by** (Safety Officer) • Name • Signature • Date/Time	Enter the name of the person who approved the plan, typically the Safety Officer. Enter date (month/day/year) and time reviewed (24-hour clock).

Appendix 16: HRD Incident Report Forms for Personal Injury and Vehicle Damage

Personal Injury

The "Notice of Injury and Internal Claims Investigation" is a 7-page form available from Human Resources Division at https://www.eservices.hrd.state.ma.us/Forms.aspx

Commonwealth of Massachusetts
Human Resources Division

Workers' Compensation Unit
One Ashburton Place, 3rd Floor
Boston, MA 02108

NOTICE OF INJURY/ILLNESS REPORT

This form is intended for internal use for all Human Resources Division/Workers' Compensation Unit user agencies and must be completed in its entirety. All Notice of Injury Reports must be electronically filed via eServices within 48 hours of an Industrial Accident.

Soc. Sec. #: _____ Date of Injury/Illness: _____

Department: _____

Department mailing address: _____

_____

Name: _____
(First) (Middle) (Last)

Sex: ☐Male ☐Female Employee ID#:_____ Record#:_____

Employee Home Address: _____ City:_____ State:_____ Zip:_____

Home Telephone: _____ Date of Birth _____

Unit: _____

Native Language Code: ☐1. English ☐2. Portuguese ☐3. Haitian Creole ☐4. Spanish ☐5. Chinese ☐6. Vietnamese ☐7. Cape Verdean ☐9. Other

State Hire Date: _____ Department Hire Date: _____

Status: ☐Full Time Employee ☐Part Time Employee Work Hours/Wk:_____

Shift: ☐1st ☐2nd ☐3rd Number of scheduled days off per week:_____

Occupation: (Official Position Title)_____

Functional Title: _____

Payroll Funding Source: ☐State Payroll ☐Trust Funded ☐Federal Funded

Job Code: _____ Position Type: _____ Position #: _____ Union Code: _____

Page 1

Vehicle Damage

The "Accident Procedures Overview" is a 2-page form available from the Office of Vehicle Management at http://www.mass.gov/anf/docs/osd/ovm/accident-procedures-overview.docx

OPERATIONAL SERVICES DIVISION

The Commonwealth of Massachusetts
Operational Services Division
Office of Vehicle Management

Accident Procedures Overview

Executive Branch vehicles up to 10,000 GVW are automatically enrolled in the **Fleet Response Accident Management Program.** In the event of an accident, Drivers must attempt to protect themselves, passengers, and others, as well as prevent further accidents/injuries from occurring at the scene.

It is the responsibility of the Agency to report to Fleet Response all accidents and incidents involving a state vehicle.

Fleet Response offers:

- Management of accident repairs including scheduling, estimate evaluation, tracking repair progress and expediting parts
  - Network of authorized shops across the Commonwealth (National Account vendors, dealers and repair shops)
- 24-Hour Roadside Assistance, including tow service
- Subrogation services for recoverable claims
- Direct billing of all expenses to the Agency

Important! *There is an additional charge to Agencies for using an Out-of-Network vendor*

Fleet Response
1-800-338-0619
Accident Reporting & Emergency Services available 24/7

At the Scene:

Unless incapacitated due to injury, state drivers shall:

- Call 911 to:
  - Request emergency assistance if they or another party are injured or the accident involves a fire
  - Notify the police (if this is not immediately possible, Driver must notify the police as soon as they are able)
- Obtain all information necessary to fully complete an accident report with Fleet Response
- Give identifying information ONLY to the other party(s) involved and the police, but make no comments about assuming responsibility, fault or blame
- If able, take pictures of the accident location, any vehicle damage (all vehicles involved) or property damage
- Request a tow, if necessary, through Fleet Response, unless law enforcement has arranged one to ensure local safety

Injury to Driver or Other State Employee:

If driver or any other State employee is injured, report details to the supervisor, Agency Fleet Manager and OVM.
Reporting to OVM is for informational purposes only. OVM is not responsible for relaying this information to other entities.

License Revocation, Restriction or Suspension:

Drivers must report any revocation, suspension, or restriction imposed on their license, for any reason, to his/her manager and OVM immediately. Driving privileges for state vehicles are immediately suspended, pending further review by OVM.

After the Accident:

- Report details to Fleet Response within 24 hours, no matter how minor they may be
  - Fleet Response will complete an electronic Automobile Loss Notice based on the call details
  - Fleet Response will email a copy of the Automobile Loss Notice to OVM and the Agency Fleet Manager
    - NOTE: Driver is responsible for obtaining all information needed to fully complete the Automobile Loss Notice
  - Fleet Response will provide assistance and give direction regarding repairs
- All accidents must be reported to the local police and a police report must be filed (no matter how minor)

If incapacitated due to injury, supervisor or manager must report the accident to Fleet Response and Law Enforcement

Individual Agencies/Departments may have additional processes to follow. Check with the Agency Fleet Manager.

Last Updated 12-2015 1

Appendix 17: Safe Communication Reporting Form

SAFECOM

Reported By (Optional)

Name _____
Phone_____
Organization _____
Date_____

EVENT

Date_____ **Local Time** _____
Mo Day Year 24 Hour Clock

Injuries? Y N **Damage? Y N**
Circle Circle

Location _____ **State** _____
Town, Lat/Long, Prescribed Burn Name

NARRATIVE: **Please provide a brief explanation of the event.**

LESSONS LEARNED: Please suggest what actions could be taken to prevent this from occurring again.

This form is used to report any condition, observance, act, maintenance problem, or circumstance that has potential to cause a safety related mishap.

Received by Prescribed Fire Program Manager: _____ Date: _____

Response Distributed by Program Manager (if applicable): _____ Date: _____

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road | Westborough, MA 01581
MASS.GOV/MASSWILDLIFE

Director: Jack Buckley

Appendix 18a: Sample Neighbor Notification

March 23, 2016

Dear Neighbor,

Seven years ago, MassWildlife began restoring the ridge top heathland at Leyden Wildlife Management Area located near Eden Trail and Glen Roads to improve wildlife habitat for both state listed and game species and to remove invading shrubs and trees from this important site. Historically these areas were burned by the former landowners to encourage blueberries and other low growing plants. Now that we have completed the initial clearing of these areas, Mass Wildlife plans to conduct prescribed burns to maintain the openings, control invasive plants, stimulate the growth of the low bush blueberry, and remove light slash left over from clearing.

A team of trained fire specialists will use careful planning and specialized equipment to conduct prescribed burns at certain times of year at the Leyden Wildlife Management Area. These burns will favor low bush blueberry, little bluestem, and other native plants. This management will also favor rare and uncommon animals that use this vegetation community type, including Eastern towhee, American woodcock, and a state listed hummingbird moth as well as game species like grouse, turkey, and deer.

These activities will be conducted in collaboration with the Leyden Fire Department and the Massachusetts DCR Bureau of Fire Control. Weather permitting, we hope to conduct one to several prescribed burns at Leyden WMA in the spring, summer, and fall. Localized trail closures may temporarily occur on the Wildlife Management Area during burn days and signs will be posted in key locations along adjacent roadways. If you have any questions regarding this important management activity, please contact me at 508-389-6300.

Sincerely,

MassWildlife Prescribed Fire Manager
(508) 389-6300
Massachusetts Division of Fisheries & Wildlife
Website mass.gov/masswildlife | facebook.com/masswildlife

United States Department of the Interior
FISH AND WILDLIFE SERVICE
CHESAPEAKE MARSHLANDS NEW COMPLEX
BLACKWATER NATIONAL WILDLIFE REFUGE
2145 Key Wallace Drive
Cambridge, MD 21613
Phone: 410-228-2692

Fax: 410-228-3261

December 8, 2006

To: Adjacent landowner to Burton tract:

Blackwater National Wildlife Refuge will be conducting prescribed burns (weather permitted) adjacent to your property beginning in December. The primary objective of this phase of the prescribed burn is to reduce hazardous fuels from areas which threaten private residences and property on and around refuge lands. Early last year, 200 acres of young growth forest were thinned by contractors in a wooded area known as the Burton tract. A contractor has created fire breaks around the woodland units to facilitate burning and protection of these areas.

All prescribed fires will be coordinated through Dorchester Fire Control. During the burn you may see smoke and open flames. Be assured these burns are conducted utilizing very specific fire prescriptions and methods to minimize negative impacts to the environment and to ensure firefighter and your safety. These burns will take place under a West, Northwest, or North wind direction to keep fire and smoke from your residence. If the direction of the winds change (which can occur) the flames will be extinguished and any smoldering fuels will cooled off to prevent the smoke from lingering.

Additional information may be requested by contacting Fire Management Officer Joe Krish at (410) 228-2692 x 128.

News releases are available electronically at http://news.fws.gov/newsreleases/

News Release
Massasoit
National Wildlife Refuge
Eastern Massachusetts National Wildlife Refuge Complex
73 Weir Hill Road, Sudbury, Massachusetts 01776
(978) 443-4661 Fax (978) 443-2898
http://www.fws.gov/northeast/EasternMANWRComplex

March 9, 2011
For Immediate Release.
Contact: Tom Eagle, Deputy Refuge Manager (978)443-4661 ext. 12 or Catherine Hibbard, Wildlife Refuge Specialist 413-531-4276

CONTROLLED BURN AT MASSASOIT NATIONAL WILDLIFE REFUGE TO PROTECT PEOPLE AND WILDLIFE

Sometime before May 15, firefighters from the U.S. Fish and Wildlife Service, The Nature Conservancy, State of Massachusetts, and Plymouth Fire Department, plan to light a controlled burn near the East Entrance to Myles Standish State Forest in Plymouth, MA, to reduce the risk of wildfire to nearby homes and to improve wildlife habitat. The 50-acre burn will be on Massasoit National Wildlife Refuge (NWR) next to the Patriot Properties subdivision immediately south of Wildcat Lane, Strawberry Hill Road, Jason's Lane, Evelyn Road, and Crabtree Road and west of the junction of Alden and Long Pond Roads. Residents and visitors in the area may see or smell smoke during the burn. The exact date of the burn depends on having the right weather conditions. A burn was scheduled last year, but the weather did not cooperate. If this happens again this spring, the burn will be scheduled between September 15th and November 30th. Firefighters last burned part of this area in 2007.

"The primary purpose of this controlled burn is to protect people and their homes from wildfires. A secondary goal is to improve wildlife habitat by mimicking natural fire conditions," said Tom Eagle, Deputy Refuge Manager of the Eastern Massachusetts National Wildlife Refuge Complex, the U.S. Fish and Wildlife Service office that manages Massasoit NWR. Burning in a controlled manner under predetermined weather conditions safely reduces build-up of leaf litter,

dead wood, and other plant material that could otherwise fuel a wildfire and make it burn dangerously fast. Plymouth is no stranger to destructive wildfires. In 1937 a wildfire in Pine Hills killed two firefighters and as recently as 1995, more than 100 homes were threatened by a fire in the Bourne Road area. Because of the high risk to communities from wildfire on federal lands, Plymouth was named a federal "Community at Risk" in 2001.

A team of trained wildland firefighters will keep the controlled burn safe. They will monitor wind direction and other weather statistics and will not start a burn if wind would blow smoke towards homes or roads or if conditions would not allow smoke to lift. They will post signs along Alden Road to warn motorists of a burn in progress and send a reverse 911 message the day of the burn to alert residents. Fire engines will be staged in the subdivision north of the burn, where pitch pine limbs were cut, white pines removed, and the ground mowed in a 100-foot buffer to reduce risk of fire spreading to homes. Firebreaks surround the entire burn area. Burning will be done under conditions of permits from The Massachusetts Department of Environmental Protection, Air Quality Division and Town of Plymouth.

Putting fire on the ground in a planned way also helps native pitch pines and scrub oaks of the Plymouth Pinelands. These trees thrive in fire prone areas and are habitat for an Endangered turtle, the Northern red-bellied cooter. Although animals have ways to survive fires, firefighters take precautions to avoid harming the turtles. They schedule controlled burns when cooters are in ponds, burn a safe distance from ponds, and do not burn during the June to July nesting season. For more information on Fire Management on National Wildlife Refuges in the Northeast visit: www.fws.gov/northeast/refuges/fire

Massasoit NWR is one of more than 550 refuges of the U.S. Fish and Wildlife Service. It is 209 acres and was established in 1983 to protect the Northern red-bellied cooter. It is closed to the public. The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people. We are both a leader and trusted partner in fish and wildlife conservation, known for our scientific excellence, stewardship of lands and natural resources, dedicated professionals and commitment to public service. For more information on our work and the people who make it happen, visit www.fws.gov.

Appendix 18b: Sample Public Service Announcement (PSA)

Prescribed Burns at Leyden and Southwick Wildlife Management Areas

The Massachusetts Division of Fisheries and Wildlife (MassWildlife) will be conducting prescribed burns at Leyden Wildlife Management Area (WMA), Montague Plains WMA, and Southwick WMA this spring, when conditions to safely and effectively conduct such burns permit. The exact date, time, and location of the prescribed burns will depend on weather and fuel conditions. The burns are conducted by highly skilled crews in collaboration with the local fire department and the Massachusetts Department of Conservation and Recreation's Bureau of Forestry and Fire Control.

These Wildlife Management Areas will remain open to the public but localized road/trail closures will occur on the day of burning. MassWildlife asks the public to keep a safe distance from posted burn areas on the day of burning.

Periodic prescribed fires are vital to maintain many native trees, grasses, shrubs, wildflowers and wildlife. Plants such as little bluestem and lowbush blueberry flourish with periodic fire and plants such as wild lupine depend on fire for their long-term survival. Many of these same plants provide critical habitat and food for rare and declining wildlife such as grasshopper sparrows as well as more common wildlife including woodcock, white-tailed deer and wild turkey. Prescribed burns maintain the open character and plant diversity within native grasslands, blueberry heathlands, and pitch pine and oak woodlands. The Prescribed burns also help reduce dense flammable vegetation and hazardous fuel conditions.

If you have any questions regarding this management activity, please feel free to contact Ben Mazzei at Massachusetts Division of Fisheries & Wildlife, at (508) 389-6306 or email Ben at ben.mazzei@massmail.state.ma.us.

MASSWILDLIFE
1 Rabbit Hill Road | Westborough, MA 01581 | mass.gov/masswildlife

Appendix 18c: Prescribed Fire Public Service Announcement Spreadsheet

Media Outlet Name	Community Circulation	Email contact	District
Clinton Item	Clinton, Bolton, Lancaster, Sterling	clintonitem@yahoo.com	C
Worcester Telegram & Gazette	Worcester County	newstips@telegram.com	C
Barre Gazette	Barre	edowner@turley.com	C
Worcester Telegram & Gazette	Worcester County--Mark Blazis	markblazis@charter.net	C
Nashoba Valley Publishing	Harvard/Bolton/Lancaster/Townsend	jpaluzzi@nashobavalleyvoice.com	C & NE
The Reminder Publications	East Longmeadow	news@reminderpublications.com	CV
Greenfield Recorder	Greenfield, Leyden, Shelburne-Franklin County	news@recorder.com	CV
Springfield Republican	Southwick, Grtr Springfield Area	news@repub.com	CV
The Westfield News	Westfield, Southwick and environs	pressreleases@thewestfieldnews.com	CV
Agawam Advertiser News	Agawam	aan@turley.com	CV
Montague Reporter	Montague	editor@montaguereporter.org	CV
Ware River News	Ware, Palmer, Hardwick	ekennedy@turley.com	CV & C
Cape Cod Times	Cape Cod communities	news@capecodonline.com.	SE
The Enterprise	Falmouth, Sandwich, Mashpee	bennett@capenews.net	SE
Barnstable Patriot	Barnstable	editor@barnstablepatriot.com	SE
New Bedford Standard Times	New Bedford and environs	newsroom@s-t.com	SE
Cape Cod Times	Falmouth, Sandwich--Patrick Cassidy editor	pcassidy@capecodonline.com	SE
Cape Cod Times	Mashpee Falmouth--Sean Driscoll	sdriscoll@capecodonline.com	SE
Cape Cod Times	Sandwich --George Brennan	gbrennan@capecodonline.com	SE
New Bedford Standard Times	New Bedford and environs--Marc Folco	openseason1988@aol.com	SE
Mashpee Enterprise	Mashpee -- Bill Hough publisher	bhough@capenews.net	SE
Berkshire Eagle	Berkshire County	news@berkshireeagle.com	W
Berkshire Record	Southern Berkshire County, Egremont	berkrec@bcn.net	W
Berkshire Eagle	Berkshire County--Gene Chague	berkwoodsandwaters@adelphia.net	W
Newburyport Daily News	Newburyport, Newbury Georgetown Haverhill	mbuchs@newburyportnews.com	NE
Georgetown Record	Georgetown and environs	georgetown@wickedlocal.com	NE
Eagle Tribune	Lawrence and environs	bcurry@eagletribune.com	NE
Haverhill Gazette	Haverhill, Bradford, N Andover & environs	HGnews@hgazette.com	NE
Lowell Sun	Lowell, Westford, Groton, Townsend	tzuppa@lowellsun.com	NE
Fitchburg Sentinel & Enterprise	Fitchburg, Leominster, Lunenburg, Townsend	news@sentinelandenterprise.com	C & NE

Appendix 19: Sample Burn Crew and Partner Pre-Burn Notification

Prior to burning an email is sent to notify fire management partners within the same air shed and alert collaborating partners and burn crew of the upcoming burn window.

As prescribed burn operations are conducted in accordance with MassDEP and local fire department approvals, pertinent permit #'s should be referenced in the email.

The format of the burn notice is flexible but should include the following information:

Who: The Agency or other landowner authorizing the burn, who will be conducting the burn, and partner agencies and organizations providing support for burn operations.

What: What type of burn will be conducted, brief description of fuels, acreage and proposed burn units.

When**:** Proposed dates and time of day for burning. Remind crew and cooperators that dates and time are subject to change based on weather conditions and they should check their email for periodic updates.
Identify time for the crew mobilization and specific staging areas.

Where**:** Site Name, Ownership, Town and access routes to staging areas
Attach Maps and GPS location if appropriate

- Attach general location map showing access, road closures, detours, and meeting locations for crew and equipment staging.
- Attach applicable unit map

Why**:** Provide a brief summary of fire management objectives. Identify any specific resource issues and weather updates.

Participation: Request agency partners provide a chief of party and contact the person below confirming crew and resource participation.

Contact: Prescribed Burn Project Coordinator
Phone, Email, Address

Appendix 20: Sample Email Notification Form to MassDEP and Partners

Prescribed Burn Notification

To: MassDEP Regional Air Quality Section
Cc: Agencies and Other Fire Management Partners within Air Shed,
Mass DCR District Fire Warden, Local Fire Departments
Subject: MassWildlife Prescribed Burn Notification for Site, Town, MA
Date:

Who: MassWildlife, District, supported by partner agencies/organizations, id any contracted resources

What: Prescribed Burn Operation at _____ WMA, Unit ___ . MassWildlife is planning a prescribed burn operation *tomorrow or appropriate date*. At this time the operation is a **GO**. Additional notification will only occur if conditions change significantly. Please see the attached notification and map.

When: Date: Time for Staging Resources:
Ignition Operations:

Where: WMA, Unit, Subunit, Staging Area

Why: Fire operations intended for habitat management and ecosystem restoration and maintenance. Additional goals include training…..

Questions: Please contact
Name
Affiliation
Office Phone
Mobile Phone
Email

Appendix 21: Glossary of Terms

After Action Review	A structured review or de-briefing process of an event, focused on performance standards, that enables participants to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses. After action reviews, informal or formal, follow the same general format, involve the exchange of ideas and observations, and focus on improving performance.
Air Quality Index	A measure of gases, particles and toxics in the air. These are monitored by the Massachusetts Department of Environmental Protection for different parts of the state and can be accessed on the internet. AQI runs from 0 to 500. The higher the AQI, the greater the level of air pollution and greater the health concern.
Atmospheric Mixing Height	The height above the ground surface throughout which a pollutant such as smoke can be dispersed by means of turbulence or diffusion. The forecast of mixing height is expressed as feet above ground level.
Black	A term used to describe an area where fuels have been consumed by fire.
Black-lining	The process of pre-burning fuels adjacent to a control line to reduce heat on holding crews and lessen the chances of spotting or slop overs on control lines.
Briefing Checklist	Items to be reviewed with the burn crew prior to ignition on the day of the burn, includes but is not limited to: burn organization and assignments, prescribed fire objectives and prescription, descriptions of prescribed fire project area (special considerations and sensitive features), expected weather and fire behavior, communications, ignition plan, holding plan, contingency plan and assignments, wildfire declaration, safety and medical plan, aerial ignition briefing (if aerial ignition devices will be used)
Burn Boss	Person responsible for supervising a prescribed fire from pre-burn preparations, mobilization and organization of crew and resources, and all burn operations from briefing through mopup and after action review.
Burn Unit	The primary area(s) and fuel types, where active ignition and fuel consumption will occur during a prescribed burn.

Chain of Command	A series of management positions in order of authority.
Cold Trailing	A method of controlling a partly dead fire edge by carefully inspecting and feeling with the hand for heat to detect any fire, digging out live spots, and trenching any live edge to stop fire spread.
Complexity Analysis	The Complexity Analysis includes 14 elements used to evaluate factors associated with risk, potential consequences, technical difficulty, and rationale for a prescribed burn project and incorporates consideration of the agency's policies.
Complexity Rating	A system developed to assist personnel in determining a relative complexity of any single prescribed fire project.
Contingency Resources	Planned and identified fire suppression personnel and equipment that mitigate possible but unlikely events that exceed or are expected to exceed holding resource capabilities.
Cooperative Burning	Assistance from cooperating partners to facilitate prescribed burning on MassWildlife lands or MassWildlife staff participation in prescribed burning on land owned by federal, other state, or municipal governments, as well as private land.
Crew Briefings	An on-site meeting with all assigned personnel at the beginning of each operational period to ensure personnel safety considerations (including the job hazard analysis or other agency-specific risk analysis) and prescribed fire objectives and operations are clearly defined and understood. Briefing checklists are required to be included in the prescribed fire plan.
Critical Incident	An event such as a serious or life-threatening injury or death, which has the potential for producing serious long-term adverse effects on the agency, its employees and their families or the community
Declared Wildfire	A prescribed fire is declared a wildfire when those persons identified through the prescribed burn plan determine that contingency actions have failed or are likely to fail and cannot be mitigated during the burn period.
Determination of Applicability	A process of the Massachusetts Department of Environmental Protection which provides applicants with the option of seeking a determination on the applicability of the Massachusetts Wetlands Protection Act to a proposed site or activity by which he applicant receives a record of which provisions of the Wetlands Protection Act and regulations apply to a proposed project
Drop Point	Potential location for holding or contingency resources.

Duff Layer	The layer of decomposing organic materials lying below the litter layer of freshly fallen twigs, needles, and leaves and immediately above the mineral soil.
Ecological Process	Ecological processes such as precipitation, floods, fire, winds, and nutrient cycling are integral parts of our natural environment and sustain the diversity of species within ecosystems. Fire as an ecological process resets vegetation trajectories, sets up and maintains a mosaic of different vegetation structure and composition, and reduces fuel accumulations.
Escape (Also see Escaped Fire)	Prescribed fire that has exceeded or is expected to exceed prescription parameters or otherwise meets the criteria for conversion to wildfire. A state in which a prescribed fire is no longer doing what was expected and has exceeded the boundaries of the project area.
Escape Routes	A preplanned and understood route firefighters take to move to a safety zone or other low-risk area. When escape routes deviate from a defined physical path, they should be clearly marked (flagged).
Escaped Fire (Also see Escape)	Prescribed fire that has exceeded or is expected to exceed prescription parameters or otherwise meets the criteria for conversion to wildfire. A state in which a prescribed fire is no longer doing what was expected and has exceeded the project area.
Fire Behavior	The manner in which a fire reacts to the influences of fuel, weather, and topography.
Fire Ecology	The study of fire and its relationship to the environment, both living and non-living. Fire ecologists study fire history, fire regimes, and the influence of fire on ecosystems including fire dependence and adaptions of plants and animals, the influence of fire on soils and soil microbes, and other fire effects.
Fire Effects	The physical, biological, and ecological influences of fire on the environment.
Fire Effects Information System	A management tool designed to store and provide easy user access to information on the effects of fire and general ecology of plant species and communities.
Fire Event Log	A compilation of forms and reference materials used by the Burn Boss and Fire Effects Monitor to record relevant data regarding fire weather, fire behavior, fire effects, and activities related to burn operations, prior to, during, and after the prescribed burn.

Fire Management Plan	A plan that identifies and integrates all wildland fire management and related activities within the context of approved land/resource management plans. A fire management plan defines a program to manage wildland fires (wildfire and prescribed fire). The plan is supplemented by operational plans, including but not limited to preparedness plans, preplanned dispatch plans, prescribed fire burn plans, and prevention plans. Fire management plans assure that wildland fire management goals and components are coordinated.
Fire Weather	Variations in temperature, pressure, wind speed, wind direction, humidity, visibility, clouds, and precipitation that when combined with topography and fuel, influence fire behavior.
Fire Whirl	Spinning vortex column of ascending hot air and gases rising from a fire and carrying aloft smoke, debris, and flames. Fire whirls range in size from less than one foot to over 500 feet in diameter. Large fire whirls have the intensity of a small tornado.
Firefighter	Person whose principal function is fire suppression.
Fire-influenced	The influence of fire on an ecosystem depends on the particular fire regime, vegetation type, climate, physical environments, within the scale of time and space. Fire can shape ecosystems and influence community composition, structure and function by selecting fire adapted species and removing other susceptible species, releasing nutrients from biomass and improving nutrient cycling, affecting soil properties through changing soil microbial activities and water relations, and creating heterogeneous mosaics, which in turn, can further influence fire behavior and ecological processes. Fire as a destructive force can rapidly consume large amount of biomass and cause negative impacts such as post-fire soil erosion and water runoff, and air pollution; however, as a constructive force fire is also responsible for maintaining the health and perpetuity of certain fire-dependent ecosystems.
Fireline	The part of a containment or control line that is scraped or dug to mineral soil.
Firing pattern	Also called firing. The intentional setting on fire of fuels between the control line and the main body of fire in either a backfiring or burning-out operation.
First Aid	Medical attention that is usually administered immediately after an injury occurs and at the location where it occurred. It often consists of a one-time, short-term treatment and requires little technology or training to administer.

First Order Fire Effects	The effects that concern the direct or immediate consequences of fire, such as biomass consumption, crown scorch, bole damage, and smoke production. First order effects form an important basis for predicting secondary effects such as tree regeneration, plant succession, and changes in site productivity, but these involve interaction with many other non-fire variables.
Flame Length	The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface), an indicator of fire intensity.
Flare Up	Any sudden acceleration in rate of spread or intensification of the fire. Unlike blowup, a flare-up is of relatively short duration and does not radically change existing control plans.
Forest Fire	Variously defined for legal purposes (e.g., the State of California Public Resources Code: uncontrolled fire on lands covered wholly or in part by timber, brush, grass, grain, or other flammable vegetation). Types of fires are ground, surface, and crown.
Fuel Break	A natural or constructed change in fuel characteristics which affects fire behavior so that fires burning into them can be more readily controlled.
Fuels	An identifiable association of fuel elements of distinctive species, form, size, arrangement, or other characteristics. General fuel groups are grass, brush, timber, and slash.
Fuels Treatment	Manipulation or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control (e.g., lopping, chipping, crushing, piling and burning).
Go/No Go Checklist	A series of questions the Burn Boss completes the day of a planned prescribed burn to determine if ignition of a test fire should take place and if, after evaluating the test fire, the prescribed fire plan will meet the planned objective.
Good Samaritan Law	Section 12V: Exemption of certain individuals rendering emergency cardiopulmonary resuscitation from civil liability Section 12V. Any person who, in good faith, attempts to render emergency care including, but not limited to, cardiopulmonary resuscitation or defibrillation, and does so without compensation, shall not be liable for acts or omissions, other than gross negligence or willful or wanton misconduct, resulting from the attempt to render such emergency care.
Hazardous Fuels	A fuel complex defined by kind, arrangement, volume, condition, and location that presents a threat of ignition and resistance to control.

Hazard Assessment	Assess hazards to determine risks. Assess the impact of each hazard in terms of potential loss, cost, or strategic degradation based on probability and severity.
Health Screen Questionnaire	A confidential series of questions completed by potential work capacity test participants to determine if the individual is at risk when taking the work capacity test.
Heavy Fuels	Fuels of large diameter such as snags, logs, large limbwood, which ignite and are consumed more slowly than flash fuels. Also called coarse fuels.
Holding Action	All actions taken to stop the spread of fire.
Holding Resources	Resources assigned to do all required fire suppression work following fireline construction but generally not including extensive mop up. Also known as Holding Forces.
Igniter	A pyrotechnic device specifically designed to initiate burning of a fuel mixture or propellant.
Ignition Plan	Firing methods, devices, techniques, and sequences within individual units or between multiple units, patterns, and minimum ignition staffing for single or multiple-unit operations. These may be adjusted during active ignition to meet objectives as dictated by topographic, fuels, and weather factors.
Ignitor	A firefighter using a pyrotechnic device specifically designed to initiate burning of a fuel mixture or propellant to actively apply fire within a defined boundary for reduction of fuel hazard, as a resource management treatment, or both.
Incident	An occurrence either human-caused or natural phenomenon, that requires action or support by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.
Incident Action Plans	Contains objectives reflecting the overall incident strategy and specific tactical actions and supporting information for the next operational period. The plan may be oral or written. When written, the plan may have a number of attachments, including: incident objectives, organization assignment list, division assignment, incident radio communication plan, medical plan, traffic plan, safety plan, and incident map. Formerly called shift plan.
Incident Commander	Position responsible for overall management of the incident and reports to the Agency Administrator for the agency having incident jurisdiction This position may have one or more deputies assigned from the same agency or from an assisting agency.

Incident Management Team	The incident commander and appropriate general and command staff personnel assigned to an incident.
Incident Response Pocket Guide	Provides a collection of best practices that have evolved over time within the wildland fire service with an intent to provide wildland fire job aid and training reference for operation personnel from Firefighter Type 2 through Division Supervisor and initial attack/extended attach Incident Commanders.
Initial Attach Resources	Specially trained and equipped fire crew for initial attack on a fire.
Keetch Byram Drought Index	An estimate (0-800) of the amount of precipitation (in 100ths of inches) needed to bring the top 8 inches of soil back to saturation. A value of 0 is complete saturation of the soil, a value of 800 means 8.00 inches of precipitation would be needed for saturation. In the 1988 version of NFDRS, outputs of KBDI are used to adjust live and dead fuel loadings.
LCES	Lookouts (L), Communications (C), Escape Routes (E), and Safety Zones (S) or LCES are elements of a safety system used by fire fighters to routinely assess their current situation with respect to wildland firefighting hazards.
Lessons Learned	Definition in process.
Light Fuels	Fast-drying dead or live fuels, generally characterized by a comparatively high surface area-to-volume ratio, which are less than 1/4-inch in diameter and have a timelag of one hour or less. These fuels (grass, leaves, needles, etc.) ignite readily and are consumed rapidly by fire when dry.
Lookouts	1. A person designated to detect and report fires from a vantage point. 2. A location from which fires can be detected and reported. 3. A fire crew member assigned to observe the fire and warn the crew when there is danger of becoming trapped.
MassWildlife Lands	Lands owned in fee or under a conservation easement by MassWildlife.
Mechanical Fuels Treatment	Manipulation or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control (e.g., lopping, chipping, crushing, piling and burning).
Mop-up	Extinguishing or removing burning material near control lines, felling snags, and trenching logs to prevent rolling after an area has burned, to make a fire safe, or to reduce residual smoke.
National Fire Danger Rating System	A uniform fire danger rating system that focuses on the environmental factors that control the moisture content of fuels.

National Fire Protection Association	A private, non-profit organization dedicated to reducing fire hazards and improving fire service.
National Wildfire Coordinating Group	An intergovernmental body that provides national leadership to develop, maintain, and communicate standards, guidelines, qualifications, training, and other capabilities that enable interoperable operations among federal and non-federal entities for wildland fire program management.
Notice of Intent	The Wetlands Protection Act prohibits the removal, dredging, filling, or altering of wetlands without a permit. A Notice of Intent is required to obtain such a permit.
On-Scene Point of Contact	In the event of an Emergency Medical Response, the person responsible for taking charge of the scene and identifying/determining who is in charge of assessing and treating the patient, using the ICS protocol to relay critical information, coordinating the request for transportation or other resources, and ensuring information is transmitted directly to the ICP.
Open Burning	The combustion process that releases large amounts of carbon dioxide, other gases, and solid substances directly into the air that can result in public health and safety concerns.
Operational Period	The period of time scheduled for execution of a given set of tactical actions as specified in the Incident Action Plan. Operational Periods can be of various lengths, although usually not over 24 hours.
Order of Conditions	A set of Conservation Commission approved conditions allowing work within a wetland resource area and/or buffer area.
Personal Protective Equipment	That equipment and clothing required to mitigate the risk of injury from or exposure to hazardous conditions encountered during the performance of duty. PPE includes but is not limited to: fire resistant clothing, hard hat, flight helmets, shroud, goggles, gloves, respirators, hearing protection, chainsaw chaps, and shelter. Alternative defined in the text of Section IV: PPE includes flame resistant shirts and pants or coveralls, leather gloves, hard hat, eye protection, fire/heat resistant boots, fire shelter.
Physical Fitness Standards	Minimum physical fitness requirement to perform various crew assignments measured by a physical fitness test that is intentionally stressful as it test the capacity of muscular strength and aerobic endurance of the firefighter.

Position Task Books	A document listing the performance requirements (competencies and behaviors) for a position in a format that allows for the evaluation of individual (trainee) performance to determine if an individual is qualified in the position. Successful performance of PTB tasks, as observed and recorded by a qualified evaluator, will result in a recommendation to the trainee's home unit that the individual be certified in the position.
Prescribed Burn Plans	A plan required for each fire application ignited by management. Plans are documents prepared by qualified personnel, approved by the agency administrator, and include criteria for the conditions under which the fire will be conducted (a prescription). Plan content varies among the agencies.
Prescribed Fire	Any fire intentionally ignited by management actions in accordance with applicable laws, policies, and regulations to meet specific objectives.
Probability of Ignition	The chance that a firebrand will cause an ignition when it lands on receptive fuels.
Project Area	The location of the prescribed fire project area and ignition units, including a legal description, Universal Transverse Mercator (UTM) or latitude/longitude (or both), county, and state. A description is needed of the physical, natural or human-made boundaries (or a combination), including ignition unit(s) of the prescribed fire project.
Qualifications	The minimum acceptable levels of training, experience, currency and physical fitness needed for each MassWildlife prescribed fire position.
Rate of Spread	The relative activity of a fire in extending its horizontal dimensions. It is expressed as rate of increase of the total perimeter of the fire, as rate of forward spread of the fire front, or as rate of increase in area, depending on the intended use of the information. Usually it is expressed in chains per hour for a specific period in the fire's history.
Red Flag Warning	Term used by fire weather forecasters to alert forecast users to an ongoing or imminent critical fire weather pattern.
Relative Humidity	The ratio, in percent, of the amount of moisture in the air compared to the amount the air could hold if fully saturated. The range of RH is from 0% to 100%.
Remote Automated Weather Stations	A weather station that transmits weather observations via GOES satellite to the Wildland Fire Management Information System.

Request for Determination of Applicability	A Massachusetts Department of Environmental Protection process that enables an applicant to seek a determination of whether the provisions of the Wetlands Protection Act apply to a particular land area, determine the boundaries of a wetland resource area, or other circumstances under which proposed work would be regulated by the Act.
Risk Management	A continuous, five-step process that provides a systematic method for identifying and managing the risks associated with any operation.
Safety Briefing	Includes communications, predicted weather and fire behavior, planned operations, or other safety concerns and explains to the burn crew what is planned, what might happen, what their roles will be, what hazards they might encounter and how to mitigate them.
Safety Communication - SafeCom	A method to assess accidents, near accidents, equipment failures, incidents, and other safety concerns, and to share these assessments with others intended to allow crew to bring up concerns and issues related to a prescribed burn in a constructive manner to correct actions, avoid accidents, and share safety concerns
Safety Refresher	Definition in process.
Safety Zone	An area cleared of flammable materials used for escape in the event the line is outflanked or in case a spot fire causes fuels outside the control line to render the line unsafe. In firing operations, crews progress so as to maintain a safety zone close at hand allowing the fuels inside the control line to be consumed before going ahead. Safety zones may also be constructed as integral parts of fuelbreaks; they are greatly enlarged areas which can be used with relative safety by firefighters and their equipment in the event of blowup in the vicinity.
Secondary Fire Effects	The secondary effects of fire such as tree regeneration, plant succession, and changes in site productivity. Although second order fire effects are dependent, in part, on first order fire effects, they also involve interaction with many other non-fire variables.
Situational Awareness	An on-going process of gathering information by observation and by communication with others. This information is integrated to create an individual's perception of a given situation.
Slop-over	A fire edge that crosses a control line or natural barrier intended to confine the fire.

Smoke Management	The policies and practices implemented by air and natural resource managers directed at minimizing the amount of smoke entering populated areas or impacting sensitive sites, avoiding significant deterioration of air quality and violations of National Ambient Air Quality Standards, and mitigating human-caused visibility impacts in Class I areas.
Smoke Management and Monitoring	The policies and practices implemented by air and natural resource managers directed at minimizing the amount of smoke entering populated areas or impacting sensitive sites, avoiding significant deterioration of air quality and violations of National Ambient Air Quality Standards, and mitigating human-caused visibility impacts in Class I areas.
Smoke Management Forecast	Information provided by the national weather service that provides mixing heights, transport winds, and ventilation rates.
Span of Control	The supervisory ratio of from three-to-seven individuals, with five-to-one being established as optimum.
Spot Fire	Fire ignited outside the perimeter of the main fire by a firebrand.
Spot weather	A special forecast issued to fit the time, topography, and weather of a specific incident. These forecasts are issued upon request of the user agency and are more detailed, timely, and specific than zone forecasts. Usually, on-site weather observations or a close, representative observation is required for a forecast to be issued.
Spot Weather Forecast	A special forecast issued to fit the time, topography, and weather of a specific incident. These forecasts are issued upon request of the user agency and are more detailed, timely, and specific than zone forecasts. Usually, on-site weather observations or a close, representative observation is required for a forecast to be issued.
Staging Areas	Locations set up at an incident where resources can be placed while awaiting a tactical assignment on a three-minute available basis. Staging areas are managed by the operations section.

Standard Fire Orders	The 10 Standard Firefighting Orders were developed in 1957 by a task force studying ways to prevent firefighter injuries and fatalities. Shortly after the Standard Firefighting Orders were incorporated into firefighter training, the 18 Situations That Shout Watch Out were developed. These 18 situations are more specific and cautionary than the Standard Firefighting Orders and described situations that expand the 10 points of the Fire Orders. If firefighters follow the 10 Standard Firefighting Orders and are alerted to the 18 Watch Out Situations, much of the risk of firefighting can be reduced.
Standard Personal Protective Equipment	Equipment or clothing required for non-firing operations per MassWildlife chainsaw guidelines including hard hat, safety glasses/goggles, hearing protection, gloves, chain saw chaps, foot protection, long-sleeved shirt, and trousers.
Surface Winds	Wind measured at a surface observing station, customarily at some distance (usually 20 feet) above the average vegetative surface to minimize the distorting effects of local obstacles and terrain.
Technical Reviewer	The technical reviewer should have local knowledge of the area, experience burning in similar fuel types, or have previous experience conducting an on-site review (or all three). The technical reviewer must be someone other than the prescribed fire plan preparer.
Test Fire	A prescribed fire set to evaluate such things as fire behavior, fire effects, detection performance, or control measures.
Tort Claim	Definition in process.
Transport Winds	A measure of the average rate of the horizontal transport of air within the Mixing Layer. May also be the wind speed measured in miles per hour at the final height of plume rise. Generally refers to the rate at which emissions will be transported from one area to another. Transport wind direction is given to eight compass points.
Trigger Points	Also called management action points, are geographic points on the ground or specific points in time where an escalation or alternative of management actions is warranted. These points are defined and the management actions to be taken are clearly described in an approved Prescribed Fire Plan. Timely implementation of the actions when the fire reaches the action point is generally critical to successful accomplishment of the objectives.

Ventilation Rate	A measure of the volume rate of horizontal transport of air within the mixing layer, per unit distance, normal to the wind. Units are measured in square meters per second or knot-feet.
Watch Out Situations	The 10 Standard Firefighting Orders were developed in 1957 by a task force studying ways to prevent firefighter injuries and fatalities. Shortly after the Standard Firefighting Orders were incorporated into firefighter training, the 18 Situations That Shout Watch Out were developed. These 18 situations are more specific and cautionary than the Standard Firefighting Orders and described situations that expand the 10 points of the Fire Orders. If firefighters follow the 10 Standard Firefighting Orders and are alerted to the 18 Watch Out Situations, much of the risk of firefighting can be reduced.
Weather and Fire Effects Monitor	Person responsible to the situation unit leader for collecting current weather data and information at the incident and providing them to an assigned meteorologist, fire behavior specialist, or the Situation Unit Leader.
Wildfire	An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out (definition currently under review).
Wildland Urban Interface	The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. Describes an area within or adjacent to private and public property where mitigation actions can prevent damage or loss from wildfire.
Wind Shift	A shift in wind direction is generally associated with a shear-line passage and may be forecast for a new direction and wind speed during a particular period. The shear line may take several hours to pass through a zone and the time of the wind shift will be approximated.

Work Capacity Pack Test	A family of tests given at three levels used to determine that persons assigned to fire activities are physically capable of performing the duties of firefighting. Pack Test: The pack test is a job-related test of the capacity for arduous work. It consists of a 3-mile hike with a 45-pound pack over level terrain. A time of 45 minutes, the passing score for the test, approximates an aerobic fitness score of 45, the established standard for wildland firefighters. Field Test: The field test is a job-related test of work capacity designed for those with moderately strenuous duties. It consists of a 2-mile hike with a 25-pound pack. A time of 30 minutes, the passing score, approximates an aerobic fitness score of 40. Walk Test: The walk test is designed to determine the ability to carry out light duties. It consists of a 1-mile test with no load that approximates an aerobic fitness score of 35. A time of 16 minutes, the passing score for the test, ensures the ability to meet emergencies and evacuate to a safety zone.

Appendix 22: Resources and Pertinent References

Resource or Reference	Description	Website
Aids to Determining Fuel Models for Estimating Fire Behavior	This report presents photographic examples, tabulations, and a similarity chart to assist fire behavior officers, fuel management specialists, and other field personnel in selecting a fuel model appropriate for a specific field situation.	https://www.landfire.gov/NationalProductDescriptions1.php
Behave Plus Fuel Modeling	The BehavePlus fire modeling system is a Windows®-based computer program that can be used for any fire management application that involves modeling fire behavior and fire effects. The system is composed of a collection of mathematical models that describe fire behavior, fire effects, and the fire environment based on specified fuel and moisture conditions. The program simulates rate of fire spread, spotting distance, scorch height, tree mortality, fuel moisture, wind adjustment factor, and many other fire behaviors and effects; it is commonly used to predict fire behavior in multiple situations. More information including installation files, publications, and training, is available on FRAMES.	https://www.frames.gov/partner-sites/behaveplus/home/
Department of Conservation and Recreation Bureau of Forest Fire Control	Since 1911, the Massachusetts Department of Conservation and Recreation's Bureau of Forest Fire Control has been providing aid, assistance, and advice to the Commonwealth's cities and towns through its Wildfire Mission.	http://www.mass.gov/eea/agencies/dcr/conservation/forestry-and-fire-control/bureau-of-forest-fire-control.html
Department of Conservation and Recreation Bureau of Forest Fire Control Fire Warden List	This list provides Call Sign and Position Number, Name, County/Office, Office Telephone, Cell or Nextel, and Fax numbers for Massachusetts Department of Conservation and Recreation District Fire Wardens.	http://www.mass.gov/eea/agencies/dcr/conservation/forestry-and-fire-control/bureau-of-forest-fire-control.html
Dutch Creek Incident NWCG#025-2010	On November 3, 2009, the National Park Service (NPS) released the Factual Report and Safety Action Plan from the Dutch Creek Incident where NPS employee Andrew "Andy" Palmer was fatally injured by a falling tree. At the time of the accident, Andy was employed as a firefighter at Olympic National Park in Port Angeles, Washington and was assigned to the Eagle Fire, part of the Iron Complex on the Shasta Trinity National Forest in Northern California. This was a tragic loss to Andy's family, the National Park Service, and the wildland fire community.	https://www.nps.gov/subjects/fire/upload/dutchcreek_nwcg-memo.pdf
Federal Wildland Fire Qualifications	The Federal Wildland Fire Qualifications Supplement includes federal agency-sponsored positions that are not included in the 310-1 which	https://www.nifc.gov/IQCS/

Supplement	are frequently used on wildland fire incidents.	
Fire Effects Information System (FEIS)	The Fire Effects Information System is an online collection of reviews of the scientific literature about fire effects on plants and animals and about fire regimes of plant communities in the United States. FEIS reviews are based on thorough literature searches, often supplemented with insights from field scientists and managers.	https://www.feis-crs.org/feis/
Fire Effects Monitoring System (FIREMON)	FIREMON: Fire Effects Monitoring and Inventory System is an agency independent plot level sampling system designed to characterize changes in ecosystem attributes over time.	https://www.frames.gov/partner-sites/firemon/firemon-home/
Forest Service Southern Research Station	The Southern Research Station is one of seven units that make up the U.S. Forest Service Research and Development organization – the most extensive natural resources research organization in the world.	https://www.srs.fs.usda.gov/
Incident Qualifications and Certification Systems (IQCS)	Provides information related to fire management issues covering the spectrum from safety and planning, to science, preparedness, operations, strategy development, logistics, intelligence, emergency response, and a framework to track qualifications.	https://www.nifc.gov/IQCS/
Incident Qualifications Certification System (IQCS) supplement	Wildland fire agencies have the option to establish agency-specific positions and standards for those positions based on unique missions and needs. The Federal Wildland Fire Qualifications Supplement includes federal agency-sponsored positions that are not included in the 310-1 which are frequently used on wildland fire incidents.	https://www.nwcg.gov/sites/default/files/publications/federal-wildland-fire-qualifications-supplement_2017.pdf
Incident Response Pocket Guide (NFES 1077)	Provides a collection of best practices that have evolved over time within the wildland fire service with an intent to provide wildland fire job aid and training reference for operation personnel from Firefighter Type 2 through Division Supervisor and initial attack/extended attach Incident Commanders.	https://www.nwcg.gov/publications/461
Interagency Fire Program Management Qualification Standards and Guide (IFPM)	This guide provides information on position standards, qualification, and task books.	https://www.ifpm.nifc.gov/standard/ifpmstandard.htm
Interagency Ground Ignition Guide, PMS 443 (NWCG, 2011)	The Interagency Ground Ignition Guide has been developed to define and standardize procedures and equipment for approved ground ignition operations by all cooperating natural resource agencies, ensure that all ground ignition operations are performed in a safe and efficient manner, provide a framework within which areas, regions, States, and local units can provide their own supplemental, site-specific guidance, and provide	https://www.nwcg.gov/term/pms-number/interagency-ground-ignition-guide

	the minimum standards/specifications for ground ignition equipment.	
Interagency Prescribed Fire Planning and Implementation Procedures Guide (PMS 484)	This NWCG Guide provides standardized procedures specifically associated with planning and implementation of prescribed fire. PMS 484 develops common language and unified direction or guidance for federal agency manuals, directive handbooks, and guidelines to be issued as agency policy.	https://www.nwcg.gov/publications/484
Interagency Standards for Fire and Fire Aviation Operations Guide (Red Book)	The Interagency Standards for Fire and Fire Aviation Operations, states, references, or supplements policy and provides program direction for Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service, National Park Service, and Bureau of Indian Affairs fire and fire aviation program management.	https://www.nifc.gov/policies/pol_ref_redbook.html
Interagency Wildland Fire Module Field Guide 2015-2016	Interagency Wildland Fire Module Field Guide provides technical information and interagency forms to assist with recording fire weather, fire behavior, and fire effects monitoring data on wildfire and prescribed fire.	https://gacc.nifc.gov/nrcc/dispatch/overhead/Wildland_Fire_Modules/Field_Guide.pdf
Joint Base Cape Cod	During the previous 15 years with the assistance of many partner organizations the Massachusetts Army National Guard (MAARNG) has sponsored and hosted wildland fire training at Camp Edwards. These annual training courses have focused on the planning and implementation of prescribed fire.	http://www.thenationsfirst.org/JBCC/index.html
List of Massachusetts Endangered Species	Massachusetts has a rich biological legacy and is home to a wide array of plants and animals. Of those that are native, there are 169 species of vertebrate and invertebrate animals and 258 species of plants that are officially listed as Endangered, Threatened or of Special Concern in Massachusetts and tracked by the Natural Heritage and Endangered Species Program. These are species considered to be at risk, or potentially at risk, of extirpation from Massachusetts, or at risk of global extinction. The three main criteria used to assess extinction risk are rarity in the state, population trend, and overall threat.	http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/mesa-list/list-of-rare-species-in-massachusetts.html
Managing smoke at the wildland-urban interface, General Technical Report General Technical Report SRS-103	This publication builds upon the knowledge of experienced prescribed burners by describing tools that have proven helpful in reducing smoke problems.	http://www.srs.fs.usda.gov/pubs/gtr/gtr_srs103.pdf
Massachusetts State Wildlife Action Plan	The SWAP is organized around 24 habitat types. In it, 287 animal and 283 plant SGCN are identified. These 570 species are assigned to one or more of	http://www.mass.gov/eea/agencies/dfg/dfw/wildlife-habitat-conservation/

(SWAP)	the 24 habitats, if the habitat was essential to the survival of the species. Conservation actions include conservation planning, proactive habitat protection, habitat restoration and management, environmental regulation, surveys, monitoring, and databases, public engagement and outreach.	
MassWildlife Natural Heritage & Endangered Species Program Natural Communities	Natural communities are assemblages of species that recur together in particular environmental conditions. These groups of plants and associated animals can be classified and described by their dominant biological and physical features.	http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/natural-communities/
MTDC Tech Tip Improved Face and Neck Shroud for Wildland Firefighters, 2004 (0451-2323-MTDC)	A detachable face and neck shroud to protect wildland firefighters from radiant heat without compromising work performance or comfort.	https://www.fs.fed.us/t-d/pubs/pdfpubs/pdf04512323/pdf04512323dpi300.pdf
National Ambient Air Quality Standards	Primary standards are national ambient air quality standards designed to protect human health with an adequate margin for safety. Secondary standards are national ambient air quality standards designed to protect welfare, including effects on soils, water, crops, vegetation, anthropogenic materials, animals, wildlife, weather, visibility, and climate; damage to property; transportation hazards; economic values, and personal comfort and well-being.	https://www.epa.gov/criteria-air-pollutants
National Cohesive Wildland Fire Strategy: Northeast Regional Action Plan	This action plan helps guide partners in wildland fire management in the Northeast Region to make progress in achieving the overarching national goals: Restore and Maintain Landscapes, Fire Adapted Communities, and Wildfire Response. The Northeast Region encompasses twenty Midwestern and Northeastern states and the District of Columbia.	https://www.forestsandrangelands.gov/strategy/documents/rsc/northeast/NERAP_Final2013April.pdf
National Fire Danger Rating System (NFDRS)	The National Fire Danger Rating System (NFDRS) is a system that allows fire managers to estimate today's or tomorrow's fire danger for a given area. It combines the effects of existing and expected states of selected fire danger factors into one or more qualitative or numeric indices that reflect an area's fire protection needs. It links an organization's readiness level (or pre-planned fire suppression actions) to the potential fire problems of the day.	https://www.fs.usda.gov/detail/cibola/landmanagement/resourcemanagement/?cid=stelprdb5368839
National Fire Protection	The National Fire Protection Association (NFPA) is a global nonprofit organization, established in 1896,	http://www.nfpa.org/

Association	devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards.	
National Incident Management System: Wildland Fire Qualification System Guide (PMS 310-1)	Establishes minimum requirements for training, experience, physical fitness level, and currency standards for wildland fire positions, which all participating agencies have agreed to meet for national mobilization.	
National Interagency Fire Center	The National Interagency Fire Center is the nation's support center for wildland firefighting. Eight different agencies and organizations participate in decisions made using the interagency cooperation concept because there is no singe director or manager.	https://www.nifc.gov/
National Park Service Cape Cod National Seashore	The Cape Cod National Seashore has a Fire Management Plan (FMP that is tied to the park's Resource Management Plan, and is a detailed program of action that provides specific procedures to accomplish park management policies and objectives. The implementation of this plan allows fire to play its ecological role in the seashore, while protecting human life, natural and cultural resources. Under the management and discretion of the Cape Cod National Seashore Superintendent and through the FMP, the Fire Management Office has been given the responsibility to care for select areas of upland forest within the seashore. The Seashore's FMP outlines the use of mechanical treatments (chainsaw or brushcutter) and prescribed burns for the purpose of Fuel Management, Habitat Restoration and Structure Protection.	https://www.nps.gov/caco/learn/management/fire-management.htm
National Park Service's Fire Monitoring Handbook	The guidelines and purpose of this handbook are to ensure that management objectives are being met, to provide guidance that can prevent fire management problems from developing, to limit possible legal actions against the agency, and to ensure that all parks collect at least the minimum information deemed necessary to evaluate their fire management programs.	https://www.nps.gov/orgs/1965/upload/nps-fire-effects-monitoring-handbook.pdf
National Wildfire Coordinating Group (NWCG)	The National Wildfire Coordinating Group (NWCG) provides national leadership to develop, maintain, and communicate interagency standards, guidelines, qualifications, training, and other capabilities that enable interoperable operations among federal and non-federal entities. Although NWCG standards are interagency by design, the decision to adopt and utilize them is made independently by the individual member entities	https://www.nwcg.gov/

	and communicated through their respective directives systems.	
NFPA 1977 Standard on Protective Clothing and Equipment for Wildland Fire Fighting	This standard establishes requirements for protective clothing and equipment to protect against the adverse environmental effects encountered by personnel performing wildland firefighting operations.	http://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards?mode=code&code=1977
North Atlantic Fire Science Exchange (NAFSE)	The North Atlantic Fire Science Exchange (NAFSE) is a center for fire science information, which strives to promote communication between fire scientists and fire managers within the North Atlantic Region from Maine to Pennsylvania. NAFSE encourages the use of fire science to balance public safety, economic realities and sustainable ecosystems.	http://www.firesciencenorthatlantic.org/
Northeast Forest and Fire Management, LLC	Northeast Forest and Fire Management, LLC offers a range of forestry, wildlife, vegetation, and prescribed fire planning, implementation, and management services.	http://www.ne-ffm.com/
Northeast Region Cohesive Wildland Fire Management Strategy	The Northeast Regional Strategy Committee (NE RSC) provides executive leadership, coordination and guidance for implementation of the Northeast Regional Action Plan while providing a forum for members to recommend and guide joint strategic direction on fire and land management activities. This website contains numerous documents detailing the strategies and efforts from the Northeastern Committee.	http://www.firesciencenorthatlantic.org/maps-tools-1/2015/11/27/northeast-region-cohesive-wildland-fire-management-strategy
NWCG Agency Administrator's Guide to Critical Incident Management (PMS 926)	The Agency Administrator's Guide to Critical Incident Management is designed to assist Agency Administrators in dealing with critical incidents. A critical incident may be defined as a fatality or other event that can have serious long-term adverse effects on the agency, its employees and their families or the community. Although fire incidents inspired this document, it also has application to other types of incidents.	https://www.nwcg.gov/term/pms-number/agency-administrator%E2%80%99s-guide-critical-incident-management
NWCG ICS Forms	Website contains copies of NWCG publications and forms.	https://www.nwcg.gov/publications
NWCG Incident Business Committee	The Incident Business Committee (IBC) provides national leadership in all areas of wildland fire and non-fire incident business management. The IBC establishes and promulgates incident business management practices for wildland fire and non-fire emergency responses.	https://www.nwcg.gov/committees/incident-business-committee
NWCG Medical Incident Report ICS-206-WF	The intent of this form is to establish control of an incident whether routine or life-threatening by initiating a new Incident Command System, have a systematic standard process for reporting medical incidents/injuries, similar to a fire size-up form for initial attack, and have any firefighter be able to fill	https://www.nwcg.gov/publications/ics-forms

	it out and transmit with prior training and direction.	
Prescribed Fire Complexity Rating System Guide (PMS 424)	This decision support tool is designed to assist in providing insight and improving understanding of the significant risk-related elements of the prescribed fire.	https://www.nwcg.gov/publications/424
Prescribed Fire Smoke Management Pocket Guide	This Guide addresses the basic control strategies for minimizing the adverse effects of smoke on human health and welfare—thus maximizing the effectiveness of using wildland fire.	http://smokeapp.serppas.org/index.html
Remote Automated Weather Station (RAWS)	A weather station that transmits weather observations via GOES satellite to the Wildland Fire Management Information system.	https://famit.nwcg.gov/applications/RAWS
Smoke Management Guide for Prescribed and Wildland Fire, PMS 420-2	This Guide addresses the basic control strategies for minimizing the adverse effects of smoke on human health and welfare—thus maximizing the effectiveness of using wildland fire.	http://www.nwcg.gov/sites/default/files/products/pms420-2.pdf
Southern Forestry Smoke Management Guide	A system for predicting and modifying smoke concentrations from prescription fires is introduced. While limited to particulate matter and the more typical southern fuels, the system is for both simple and complex applications. Forestry smoke constituents, variables affecting smoke production and dispersion, and new methods for estimating available fuel are presented.	http://www.srs.fs.usda.gov/pubs/viewpub.php?index=683
The Interagency Transportation Guide for Gasoline, Mixed Gas, Drip Torch Fuel, and Diesel, PMS 442	A practical guide for the safe transportation of gasoline, mixed gas, drip torch fuel, and diesel representing policy for the U.S. Department of Agriculture, Forest Service, and the U.S. Department of the Interior, Bureau of Land Management and National Park Service.	https://www.nwcg.gov/publications/442
The New Generation Fire Shelter- PMS 411 – NFES2710	A reference document for fire shelters, not intended to stand alone. New and experienced firefighters should use the booklet as part of a comprehensive fire shelter training program that includes facilitated discussion and hands-on training.	https://www.nwcg.gov/publications/the-new-generation-fire-shelter
U.S. Fish & Wildlife Service Fire Management	The U.S. Fish and Wildlife Service has been using and managing fire safely and cost-effectively since the 1930's, leading to lands being in healthier ecological condition overall, with lower risk of damaging fire. This long-term, balanced approach to fire management benefits both people and wildlife.	https://www.fws.gov/fire/
U.S. Fish and Wildlife Service's Fuel	A U.S. Fish and Wildlife Service information resource for integrating fuels treatment and fire effects monitoring into an overall management	https://www.fws.gov/fire/downloads/monitor.pdf

and Fire Effects Monitoring Guide	program.	
Wildland Fire Leadership Website	Wildland Fire Leadership promotes cultural change in the work force and emphasizes the vital importance of leadership concepts in the wildland fire services by providing educational and leadership development opportunities.	http://www.fireleadership.gov
Wildland Fire Lessons Learned Center	A website where lessons gained while working in the wildland fire service can be shared. These can either be successes, methods of doing things in a safer or more efficient way, a close call, or anything with lessons for working in the wildland fire environment.	http://www.wildfirelessons.net/home