

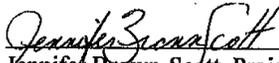
Appendix K. Fire Management Plan

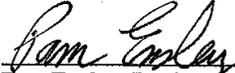
WILDLAND FIRE MANAGEMENT PLAN DEER FLAT NATIONAL WILDLIFE REFUGE

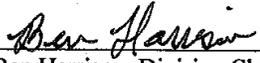


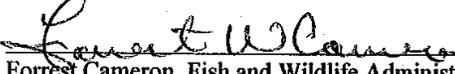
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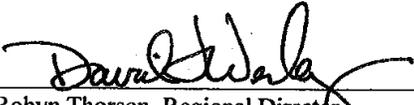
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1.0 Introduction

This plan is written as an operational guide for managing the wildland fire and prescribed fire programs at Deer Flat National Wildlife Refuge (Refuge) which includes two fire management units (FMU) the Lake Lowell FMU and the Snake River Islands (FMU). It defines levels of protection needed to ensure safety, protect facilities and resources, and to restore and perpetuate natural processes, given current understanding of the complex relationships in natural ecosystems.

The two FMUs were originally two separate wildlife refuges both serving as a refuge and breeding ground for migratory birds and other wildlife until becoming one in 1963. Habitat protection from wildland fire and the use of prescribed fire along with mechanical fuel reduction to manipulate habitat as outlined in this plan will be used to address the needs of wildlife to meet the resource goals and objectives for the refuge.

1.1 Purpose of the Fire Management Plan (FMP)

This plan is written to meet Department and Service requirements that every area with burnable vegetation must have an approved FMP. (620 DM 1.4) It enables the Refuge to meet a Service requirement that Refuges review and/or revise FMPs at a minimum of five-year intervals or when significant land use changes are proposed. (621 FW 2)

The goal of wildland fire management is to plan and implement actions that help accomplish the mission of the National Wildlife Refuge System, which is to administer a national network of lands and waters for the conservation, management, and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Completion of an FMP enables Deer Flat National Wildlife Refuge to consider a full range of appropriate suppression strategies and to conduct prescribed fires; without it, prescribed fires cannot be conducted and only wildfire suppression strategies may be implemented.

This FMP identifies and integrates all wildland fire management and related activities. It defines a program to manage wildland fires and to assure that wildland fire management goals and components are coordinated.

1.2 General Description of Refuge

Deer Flat National Wildlife Refuge is located in Idaho's Treasure Valley along the southwest border of the city of Nampa. The refuge encompasses 11,860 acres in two units: Lake Lowell and the Snake River Islands. These units lie within two states (Idaho and Oregon) and five counties (Canyon, Payette, Owyhee, Washington in Idaho, and Malheur in Oregon). The Snake River Islands Unit, which includes over 100 islands, are spread over 113 miles of river. The islands range in size from less than an acre to over 50 acres, with total acreage of 1,220 acres. The Lake Lowell unit is an overlay of an off-stream Bureau of Reclamation irrigation project.

With the increase in population and the urban development of previously natural areas, the Refuge sees thousands of visitors each year seeking recreation opportunities. The refuge offers boating, fishing, and wildlife viewing among other activities. High visitor use coupled with the flashy fuels found on the Refuge, create added fire management concerns.

A map of the Refuge can be found in Appendix A of this document.

1.3 Significant Values to Protect

Key Critical Values to Protect

- The Refuge is adjacent to three federally listed Communities at Risk, (Nampa, Marsing, Caldwell).
- Air quality is a concern at the Refuge due to its location in the Treasure Valley, which is a non attainment area for ozone and pm.2.5 (Appendix A).
- Appropriate measures will be taken to protect sites with cultural significance during wildland fire suppression efforts. Prescribed fire mechanical fuels reduction planning will include a review of known sites that may be impacted.
- The Refuge stands as an important sanctuary for outdoor enthusiasts and hosts thousands of visitors every year who wish to pursue recreational opportunities such as boating, fishing, and wildlife viewing among other activities.
- Private property with homes and outbuildings surround the Refuge separated only by a road or fence. Refuge facilities and structures also lie scattered near grass and sagebrush fuels which could put them at risk in the event of a fire.
- The Refuge was designated to protect habitat for migratory birds along the Pacific Flyway. Much of the native habitats found on the Refuge are not fire tolerant. High intensity fires could result in the loss of important habitat for waterfowl, upland birds, and song birds.
- Eagle nesting/roosting areas along the lake need to be protected from unplanned wildfire.
- Water quality issues affecting Lake Lowell from any potential wildfire will be mitigated.

2.0 Policy, Land Management Planning, and Partnerships

2.1 Implementation of Fire Policy

Specific planning documents, legislation, organizations and associated policies provide guidance for fire management actions described in this FMP are summarized below.

2.1.1 Federal Interagency Wildland Fire Policy

This FMP implements these guiding principles of federal wildland fire policy:

- Firefighter and public safety is the first priority in every fire management activity.
- The role of wildland fire as an essential ecological process and natural change agent has been incorporated into the planning process. Federal agency land and resource management plans set the objectives for the use and desired future condition of the various public lands.
- Fire management plans, programs, and activities support land and resource management plans and their implementation.
- Sound risk management is a foundation for all fire management activities. Risks and uncertainties relating to fire management activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity.
- Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives,
- Fire management plans and activities are based upon the best available science.
- Fire management plans and activities incorporate public health and environmental quality considerations.

- Federal, State, tribal, local, interagency, and international coordination and cooperation are essential.
- Standardization of policies and procedures among federal agencies is an ongoing objective.

2.1.2 National Fire Plan

This FMP meets the policy and direction criteria in the 2001 National Fire Plan because it emphasizes the following primary goals of the 10 Year Comprehensive Strategy and Cohesive Strategy for Protecting People and Sustaining Natural Resources:

- Improving fire prevention and suppression.
- Reducing hazardous fuels.
- Restoring fire-adapted ecosystems.
- Promoting community assistance.

2.1.3 Department of the Interior (DOI) Fire Policy

This FMP incorporates and adheres to DOI policy stated in 620 DM 1 by giving full consideration to use of wildland fire as a natural process and tool during the land management planning process and by providing for the following:

- Wildland fires, whether on or adjacent to lands administered by the Department, which threaten life, improvements, or are determined to be a threat to natural and cultural resources or improvements under the Department's jurisdiction, will be considered emergencies and their suppression given priority over other Departmental programs.
- Bureaus shall cooperate in the development of interagency preparedness plans to ensure timely recognition of approaching critical wildland fire situations; to establish processes for analyzing situations and establishing priorities, and for implementing appropriate management responses to these situations.
- Bureaus will enforce rules and regulations concerning the unauthorized ignition of wildland fires, and aggressively pursue violations.

2.1.4 U.S. Fish and Wildlife Service Fire Policy

By addressing the range of potential wildland fire occurrences and including a full range of appropriate management responses, this FMP meets FWS wildland fire policy. It is consistent with the FWS Fire Management Handbook and the Interagency Standards for Fire and Fire Aviation Management Operations, which are supplemental policy.

This plan affirms these key elements of FWS fire policy (621 FW 1):

- Firefighter and public safety is the first priority of the wildland fire management program and all associated activities.
- Only trained and qualified leaders and agency administrators will be responsible for, and conduct, wildland fire management duties and operations.
- Trained and certified employees will participate in the wildland fire management program as the situation requires, and non-certified employees will provide needed support as necessary.

- Fire management planning, preparedness, wildfire, and prescribed fire operations, other hazardous fuel operations, monitoring, and research will be conducted on an interagency basis with involvement by all partners to the extent practicable.
- The responsible agency administrator has coordinated, reviewed, and approved this FMP to ensure consistency with approved land management plans, values to be protected, and natural and cultural resource management plans, and that it addresses public health issues related to smoke and air quality.
- Fire, as an ecological process, has been integrated into resource management plans and activities on a landscape scale, across agency boundaries, based upon the best available science.
- Wildland fire is used to meet identified resource management objectives and benefits when appropriate.
- Prescribed fire and other treatment types will be employed whenever they are the appropriate tool to reduce hazardous fuels and the associated risk of wildfire to human life, property, and cultural and natural resources and to manage our lands for habitats as mandated by statute, treaty, and other authorities.
- Appropriate management response will consider firefighter and public safety, cost effectiveness, values to protect, and natural and cultural resource objectives.
- Staff members will work with local cooperators and the public to prevent unauthorized ignition of wildfires on our lands.

2.1.5 Refuge Specific Fire Management Policy

A Comprehensive Conservation Plan has not been completed for the Refuge. Under the National Environmental Policy Act, a categorical exclusion has been prepared and can be found in Appendix C. In compliance with the ESA, an Intra-Service Section 7 consultation was also completed and is on file at the refuge headquarters.

2.2 Land/Resource Management Policy

2.2.1 Land/Resource Planning Documents

The Deer Flat National Wildlife Refuge operates under the direction of a land management plan that was created in 1995. The Refuge is in the initial planning stages of the Comprehensive Conservation Plan process.

2.2.2 Compliance with Regulatory Acts

Threatened and Endangered Species Compliance

A 2007 Intra-Service Section 7 Biological Evaluation for normal refuge operations including prescribed fire and mechanical fuels reduction projects has been signed by the Refuge Manager; copies are on file at the refuge headquarters.

Cultural Resource Compliance

In order to comply with National Historic Preservation Act of 1966 and Archeological Resources Preservation Act of 1979 regulations, a Request for Cultural Resource Compliance will be completed on a project by project basis and submitted to the regional office. The completed Cultural Resource Compliance documents are on file at refuge headquarters.

NEPA Compliance

A Categorical Exclusion for fire management operations (wildland fire suppression, prescribed fire, and mechanical fuels reduction) was signed by the Refuge Manager and is included in Appendix C of this document. This Categorical Exclusion will be reviewed annually.

2.3.1 Internal Partnerships

FWS Pacific Region Regional Office fire management program determined that all fire management operations in southern Idaho for FWS will be the responsibility of Zone Fire Management Officer currently stationed at the Southeast Idaho National Wildlife Refuge Complex office in Pocatello, Idaho.

Fire Prevention and Education Specialist

The U.S. Fish and Wildlife Service Pacific Northwest Region Refuges Fire Management group and the Branch of Fire Management have a memorandum of understanding (MOU) outlining the jointly funded fire management specialist position. The MOU outlines the responsibilities of both parties related to the position. For the region, the position works as the prevention and education specialist. The Refuge is designated as the official duty station and the Southwest Idaho National Wildlife Refuge Complex Fire Management Officer holds the supervisory responsibility for the position. The signed agreement is located in Appendix F of this plan.

2.3.2 External Partnerships

Deer Flat National Wildlife Refuge participates in multiple external partnerships related to fire management with federal, state, and local agencies and departments. The refuge enters into partnerships and official agreements when there is a mutual benefit to those involved.

BLM Agreement

Due to the lack of a dedicated fire crew stationed at the Refuge, Deer Flat NWR has entered into an intragovernmental agreement with the Boise District Bureau of Land Management. Under the agreement, located in Appendix F of this plan, the BLM will provide wildland fire suppression and dispatch services for lands located within the Refuge. This includes initial attack and preliminary fire investigation. The FWS will pay \$2000 to the BLM annually to offset costs.

Local Fire Departments

The Fire Departments of Nampa, Caldwell, Marsing, and Upper Deer Flat border the Refuge and Refuge land falls within their fire protection districts. The Refuge staff is actively pursuing interagency agreements with these departments some of which have existing cooperative agreements with the Bureau of Land Management.

Fire Program Analysis Participation

Deer Flat NWR is a chartered member of the Southwest Idaho Wildland Fire Cooperative Fire Planning Unit formed to support and contribute to the development of landscape scale interagency fire planning and budgeting as directed by national fire policy and the Office of Business Management. Cooperating agencies in the fire planning unit are the Boise and Payette National Forests, Boise District Bureau of

Land Management, Idaho Department of Lands Southwest Idaho Supervisory Area, and Southern Idaho Timber Protective Association.

Idaho State Fire Plan Working Group

The Idaho State Fire Plan Working Group (ISFPWG) is a multi-agency collaborative body charged with assisting counties with their County Wildfire Protection Plans and their associated countywide working groups, dissemination of information, and oversight and prioritization of grant assistance programs in order to facilitate the implementation of the National Fire Plan in Idaho. The Regional Fire Outreach Coordinator housed at the Refuge represents the FWS as a part of this group. They participate in ISFPWG subcommittees as appropriate. Subcommittees include those focused on fire education, restoration, and communication to promote state-wide projects and emphasis items.

County Wildfire Protection Plan

Canyon County has developed a County Wildfire Protection Plan (CWPP) that identifies potential fuel reduction opportunities in the area. As part of Canyon County, Deer Flat NWR is mentioned in the plan. The CWPP is posted at this website [Idaho Department of Lands CWPP](#).

Treasure Valley Fire Prevention and Safety Cooperative

Deer Flat NWR is an active member of the Treasure Valley Fire Prevention and Safety Cooperative partnering with the Boise National Forest, Boise District Bureau of Land Management, Idaho Department of Lands, State Fire Marshal's Office, and the city fire departments of Caldwell, Nampa, Meridian, and Boise. The mission of the Cooperative is to promote an interagency exchange of ideas and resources to deliver consistent messages to the public about fire education topics.

Bureau of Reclamation

A memorandum of understanding (MOU) exists between the Refuge and the Bureau of Reclamation (BOR) to outline joint responsibilities for the operation and management of the lands and waters within the Lake Lowell Fire Management Unit at the Refuge. This MOU can be found on file at the Refuge headquarters.

3.0 Fire Management Unit Characteristics

A fire management unit (FMU) is an area that shares common objectives, physiological/biological/social characteristics and constraints, that result in desired conditions as stated in land management plans (i.e., CCP, HMP), which set it apart from the characteristics of an adjacent FMU.

Considering fire history and occurrence the wildland fire program complexity at Deer Flat NWR is moderate. The CCP for Deer Flat NWR is currently under development and when completed will further define future desired conditions for the refuge. In the interim this FMP will identify the Lake Lowell area of the Refuge as one FMU and the Snake River Islands as the other FMU.

3.1 Area Wide Management Considerations

The following sections addresses management considerations for the FMUs including fire management objectives, constraints, fuels, fire regime and condition classes, standards, fire potential of major vegetation types, and burned area rehabilitation.

3.1.1 Management Goals, Objectives and Constraints from CCP's and other Planning Documents

The CCP process for Deer Flat NWR is currently in the planning/development phase; management goals and objectives were obtained from draft planning documents. The following general fire management goals and objectives have been developed by refuge staff and regional biologists in the interim.

To the extent practicable, use prescribed fire in conjunction with water management, grazing, mowing, and/or other mechanical manipulations and chemical applications, on emergent wetland, woody riparian, herbaceous upland and/or wet meadow vegetation, in order to provide desirable vegetation species composition and/or structure, including, but not limited to:

Goals

- Maintain and protect lacustrine habitats associated with Lake Lowell.
- Enhance, maintain, and protect riparian forest benefiting migratory birds and other riparian-dependent species.
- Enhance, maintain, and protect wetland habitats for the benefit of migratory birds and other wildlife.
- Enhance, maintain, and protect shrub steppe habitats characteristic of the area.
- Protect agricultural crop areas which provide support to migrating waterfowl and resident wildlife as well as providing fuel breaks.
- Gather scientific information (inventories, monitoring, research, and assessments) to support adaptive management decisions under objectives for Goals 1-6.

Objectives

- Use mechanical, physical, biological, and chemical means to eradicate, control or contain invasive plants, woody species, and shrubs such as Russian olive, salt cedar, and scotch thistle.
- Enhance, maintain, and protect riparian forests through use of prescribed fire, mechanical or chemical treatment.
- Enhance, maintain, and protect emergent wetlands through use of prescribed fire, mechanical or chemical treatment to result in 30-70 percent of a mosaic of desired native emergent vegetation including cattail, bulrushes, sedges, rushes, smartweeds, and wild millet to support a diverse assemblage of wetland-dependent wildlife and birds.
- Enhance, maintain, and protect shrub steppe through use of prescribed fire, mechanical or chemical treatment to create a mosaic of shrubs and herbaceous understory.
- Monitoring activities will be conducted to evaluate achievement of objectives for prescribed fire, mechanical or chemical treatments as appropriate.
- Rehabilitation of burned areas will take place to reduce the infestation of invasive species, to protect water quality, and to restore native sagebrush steppe habitat.

3.1.2 Management Goals, Objectives and Constraints from other Sources

The following operational standards are pertinent to the Refuge, as found in the FWS manual (095 FW 3):

- Manage fire suppression to minimize risks to firefighter and public safety.
- An initial action and an appropriate management response are required for every wildfire on or threatening refuge lands.

- The range of appropriate management responses to wildfires may include direct or indirect attack of high and/or low intensities or surveillance and monitoring to ensure fire spread will be limited to a designated area.
- Reduce and maintain fuels in WUI areas to provide for public and firefighter health and safety.
- Reduce and maintain fuels in non-WUI areas to provide for firefighter health and safety and to protect habitats critical to endangered species, migratory birds, and ecosystem integrity.
- Use prescribed fire as a tool to restore ecosystem integrity and endangered species habitat.
- Prepare and implement an effective fire prevention plan to minimize unwanted fires.
- Investigate all unplanned human-caused fires.
- Retardants and foams will not be used within 300 feet of any waterway.
- Minimize and, where necessary, mitigate human-induced impacts to resources, natural processes, or improvements attributable to wildland fire activities.
- Ground disturbed by suppression activities will be rehabilitated.
- Heavy equipment use will be closely monitored to minimize impacts on cultural resources.
- Heavy equipment use will be closely coordinated with the Refuge Manager or resource advisor to limit habitat damage. Due to soft ground conditions many areas of the refuge are unsuitable to heavy equipment usage.
- Prevent the further spread of invasive plants.
- Maintain close working relationship with interagency partners to accomplish wildland fire suppression and prescribed fire treatments.
- Maintain Intergovernmental Agreements with interagency partners for dispatch services.
- Promote public understanding of refuge fire management programs and objectives.

3.1.2.1 Cost Effectiveness

Maximizing the cost effectiveness of any fire operation is the responsibility of all involved, including those that authorize, direct, or implement those operations. Cost effectiveness is the most economical use of the resources necessary to accomplish project/incident objectives. Accomplishing these objectives safely and efficiently will not be sacrificed for the sole purpose of “cost saving”. Care will be taken to ensure that expenditures are commensurate with values to be protected. Many factors outside of the biophysical environment may influence spending decisions, including those of the social, political, and economic realms. The following tools will be used to provide information to make the most cost effective decision possible:

- Employ state-of-the-art decision support tools
- Provide a clear description of Refuge objectives in this Fire management Plan to aid in alternative development
- Through cost-share agreements, distribute the decision process to all parties involved in wildland fire management

3.1.3 Common Characteristics of the Fire Management Units

Climate and Topography

The entire Refuge is influenced by its location in the Snake River Valley. Elevation at the visitor center is about 2,550 feet above sea level with an average rainfall between 8 and 11 inches. During the summer the climate is generally arid with little rainfall between May and October. Temperature extremes can range from minus 25 degrees to 110 degrees Fahrenheit. The growing season averages six months.

Winds tend to follow the orientation of the valleys with an occasional destructive wind blowing due to the passing of a cold front or thunderstorm.

The FMUs share similar topography with rolling sagebrush hills scattered along relative flat areas.

Deer Flat NWR Climate

	Spring	Summer	Fall
Average Max Temp (F)	65	91	66
Average Min Temp (F)	37	54	36
Average Mean Relative Humidity (%)	50	37	47
Average Min Relative Humidity (%)	26	17	26

Normal Fire Season

Due to the arid conditions of this area, fires can occur almost any month of the year. The majority of the fires have occurred during June to August time frame. Most fires are human-caused due to high visitor use.

Fire History

From 1997 to 2007 the Refuge has experienced 30 wildfires for a total of 320 acres. The majority and largest fires have occurred in the sagebrush steppe habitat with a few occurring in the dense riparian area next to Lake Lowell. The majority of all of the fires recorded on the Refuge have been human-caused. Fire frequency on the Refuge has ranged from 16 fires in one year (1977) to a gap of five years without a fire (from 1951 to 1956). See fire history spreadsheet in Appendix E.

Wildlife Species

The Refuge is a major waterfowl wintering area in southwest Idaho and eastern Oregon. In spring and summer, water is released from Lake Lowell to irrigate surrounding farm fields. This draw-down of the lake exposes mud flats that provide abundant habitat for shorebirds. The lake also produces a bumper crop of aquatic vegetation for birds to feed on, particularly smartweed. In fall, smartweed seeds provide a feast for migratory ducks heading south. In winter, Lake Lowell is home to as many as 150,000 ducks and 15,000 Canada geese, and to the many bald eagles and other raptors attracted to the bounty provided by the large flocks of waterfowl. The refuge also has marsh areas where the water is manipulated to provide feeding, nesting, and resting habitat for mallards, sora rails, yellow-headed blackbirds, and other wildlife.

Habitats surrounding the lake include riparian forest, shrub-steppe uplands, and crops. The riparian forest is predominantly cottonwood, peachleaf willow, and coyote willow. These forested areas provide food, nesting sites, and cover from predators for a variety of tree-dependent species, including a variety of song birds.

Sagebrush, rabbitbrush, and the bunchgrass Great Basin wild rye dominate the uplands near the lake and on the islands. Herbivores like rabbits, gophers, mule deer, and grasshoppers, feed on upland plants and rely on those plants for nesting sites and cover. Approximately 240 acres of refuge land is irrigated cropland managed to provide food and cover for wildlife.

Local farmers grow corn, beans, peas, wheat, and alfalfa. The farmers keep a share of the crop and leave the rest for wildlife. Pheasants, deer, quail and other wildlife feed and nest in these fields. In fall and

winter, local Canada geese, as well as migrant geese and other waterfowl from the north, harvest the abundant food available in refuge fields.

Other species occurring on the refuge include red-tailed hawks, northern harriers, American kestrels, great-horned owls, western screech owls, long-eared owls, and northern saw-whet owls. Kestrels, screech owls, and saw-whet owls use wood duck nest boxes extensively for their nesting and winter roosting. The Refuge also has a resident mule deer population. Other refuge resident mammals include red fox, coyote, raccoon, badger, muskrat, fox squirrel, cottontail rabbit, and various small rodents. Beaver use the area along the New York Canal with numerous bank dens but the population is very small. On occasion river otters are sighted on the lake.

The 101 islands of the Snake River FMU are distributed along 113 river miles between the Canyon-Ada County line in Idaho and Farewell Bend in Oregon. The islands provide a variety of habitats, including areas dominated by grasses and sagebrush. The Snake River Islands provide an important nesting habitat for Canada geese, ducks, herons, shorebirds, gulls, cormorants, and various songbirds. The islands are open to public use with the exception of a closure from February 1 to May 31, to protect nesting birds.

No currently listed threatened or endangered species are known to inhabit the Refuge although rare and sensitive species such as Bald Eagles, utilize the refuge. These species can be especially sensitive to disturbance during their nesting seasons.

Water Quality

Migratory birds and the aquatic life that inhabit the Refuge rely on healthy water. Any use of fire suppression chemicals such as foam or fire retardant will comply with the standards outlined in Chapter 12 of the Interagency Standards for Fire and Fire Aviation Operations.

Water quality could also be affected by run-off and sediments which could result from an intense burn on a slope followed by precipitation.

Prescribed Fire & Mechanical History

Prescribed fires have not been conducted at the Refuge in the last 10 years due to concerns with smoke management, proximity to wildland urban interface, and the lack of fire personnel on site. However, 18 mechanical treatments for 1,002 acres have been completed at Deer Flat during the last decade on the Lake Lowell FMU (Appendix E). Treatments include mastication in riparian forests, Russian olive tree removal and chipping, and disking firelines. 11.5 miles of firelines are annually disked to reduce the potential risk of wildfire spreading off of the refuge. The disk lines have been tested during wildfire incidents in the past ten years and have been a key factor during suppression efforts. Mechanical and prescribed burn treatments have been proposed for the Snake River FMU although none have been completed.

Vegetation

The vegetation/habitat for the Refuges is described in the individual FMU characteristics with acreage and percentages. Vegetation types can be generally described as grasslands (FM 1/3), and shrub (FM 2/6), and forest (FM 8/10).



Fuel Model 1: Agricultural field.



Fuel Model 1: Grassland.



Fuel Model 1: Lacustrine emergent.



Fuel Model 2: Sagebrush and grass.



Fuel Model 3: Emergent.



Fuel Model 6: Sagebrush.



Fuel Model 6: Willow.



Fuel Model 10: Cottonwood forest.

Fire Behavior

Fire behavior outputs in the table below were from the BehavePlus 3.0.2 program. In this model, fires are assumed to be spreading as a series of steady state ignitions through uniform fuels under uniform weather conditions. Spread is also assumed to be from surface fire only. The fire behavior outputs are modeled to represent a potential summer fire (July/August). Weather data used in the modeling is 20 year data from the Boise South RAWS station (102601) located at the Boise Airport. Weather inputs to the BehavePlus runs: July, Temp 70-89, RH 11-38, 1-hr fuel moisture/FDFM 2/5%, 10-hr fuel moisture 7%, 100-hr fuel moisture 8%, live herbaceous moisture 78%, live woody moisture 79% wind speed 5/15 mph, time of day 1400, slope 0-5%.

Fire Behavior Outputs by NFFL Fuel Models

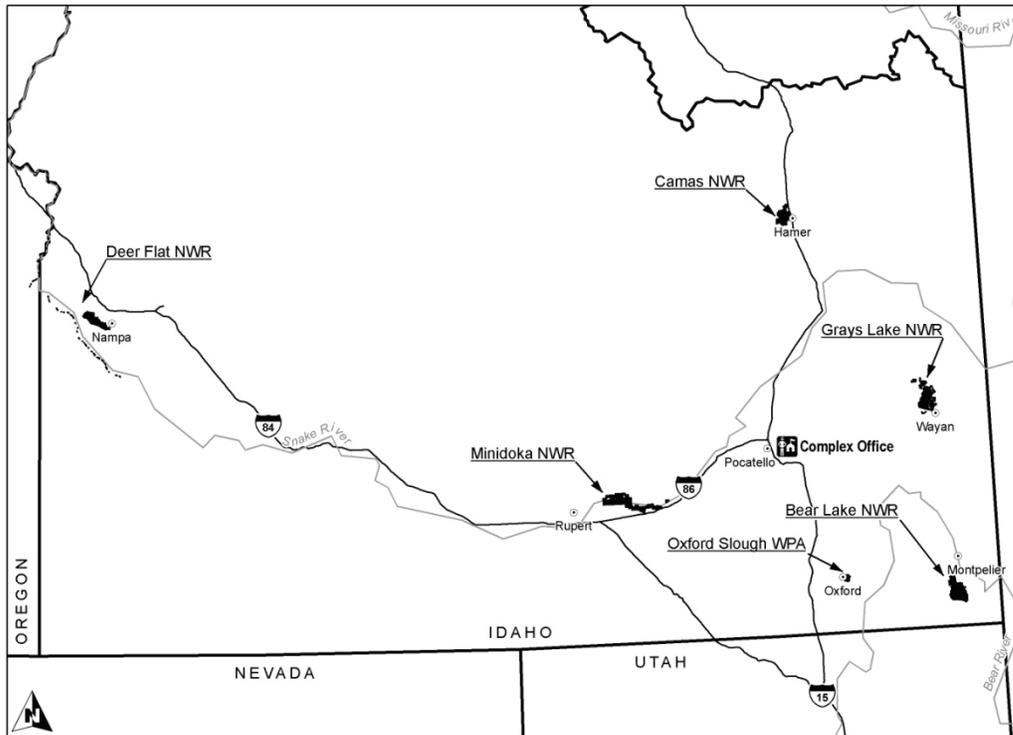
Fuel Model	Rate of Spread (ch/hr)	Flame Length (ft)
1	99-665	4-12
2	34-314	6-18
6	36-207	6-15
8	2-10	1-3
10	10-55	5-13

3.2 Fire Management Units

Fire Management Units (FMUs) are areas which have common wildland fire management objectives and strategies, are manageable units from a wildland fire standpoint, and can be based on natural or manmade fuel breaks. There are two FMUs at Deer Flat NWR.

Fire Management Units

FWS Fire Management Units within the FMP	Total Acres	Burnable Acres
Lake Lowell	10,548	5,039
Snake River Islands	1,220	1,220
Totals	11,768	6,259



3.2 Lake Lowell Fire Management Unit

3.2.1 Lake Lowell FMU Characteristics

Deer Flat National Wildlife Refuge was established in 1909 as a resting and breeding ground for migratory birds and other wildlife with an emphasis on wintering waterfowl. The Lake Lowell FMU is located in the state’s largest metropolitan area, the Treasure Valley, which creates a complex situation for fire managers. This FMU lies entirely in Canyon County which has a rich history in farming and agricultural activities. In recent years, population and urbanization are increasing rapidly with agricultural areas being developed throughout the county. County managers anticipate an average annual increase in population of 5.5 percent over the next several years. Much of the Refuge is bordered by private property with homes and outbuildings directly adjacent to refuge land resulting in a wildland urban interface situation raising concerns about managing fire on the Refuge. The potential for a fire to burn off of the Refuge onto private property must be considered during all fire activities at Deer Flat NWR. Four fire departments have jurisdictional responsibility for this private land (Appendix A).

The habitats in the Lake Lowell FMU include wetlands (lacustrine and emergent), cottonwood and willow forests, shrub steppe uplands, and cultivated agricultural areas, (see table below).

Fuel Model Composition Lake Lowell FMU

Vegetation Type	Fuel Model	Acres	Percent
Cultivated Agricultural Land	FM 1	328	2.5%

Lacustrine, Emergent Wetland	FM 1	1,248	12%
Emergent Wetland	FM 3	43	.04%
Cottonwood Forest	FM 8/10	1,131	11%
Willow Forest	FM 6	1,152	11%
Shrub Wetland	FM 6	342	3.2%
Shrub steppe Upland	FM 6	762	7%
Lake Lowell open water		5,480	52%
Administrative sites		62	.05%
Total		10,548	100

3.2.2 Lake Lowell FMU Fire Environment

All fire operations in the Lake Lowell FMU must consider the wildland urban interface situation which exists. A thorough safety and risk management analysis must be completed to ensure firefighter and public safety.

With the number of visitors the Refuge gets annually, the presence of the public is almost certain during fire operations. The traffic and other considerations must be considered when making tactical decisions.

Mainly due to the invasion of non-native cheatgrass, the shrub steppe upland vegetation around the Refuge has a history of frequent, fast moving intense fires. The heavy down/dead fuel loading in the Cottonwood Forest surrounding Lake Lowell has posed control and mop-up problems during past wildfire incidents.

Along the shore of the lake, a band of debris or organic layer exists that can complicate mop-up efforts with long term smoldering requiring lots of water to extinguish. The band is affected by the level of the water in the lake. As the lake level goes up the layer of organic matter may be submerged. As the lake level goes down particularly in summer/fall when water levels are low, the band may require consideration.

3.2.3 Lake Lowell FMU Objectives and Constraints

- Due to concerns with the wildland urban interface situation around Lake Lowell, wildfires in this FMU will be aggressively suppressed.
- Hazardous fuels treatments will be applied where appropriate; mechanical treatments will be considered over prescribed burning to limit the smoke impacts to the valley.
- The waterfowl nesting season at the Refuge ranges from mid-April to late summer. Prescribed fire and mechanical fuel reduction treatments will not usually take place during this time to avoid disturbing nesting habitat.
- Downed and standing dead trees will be protected when feasible to provide nesting and foraging habitat for migratory birds.
- Firebreaks, disk lines, or native plant vegetated areas (greenbelts) will be created and/or maintained to mitigate the risk of wildfire moving into areas of concern such as the wildland urban interface or rare and sensitive habitats.
- Prescribed fire, mechanical treatment (disking, moving, etc.), or chemical treatment will be used to set back succession or to remove extensive emergent stands.

3.2.4 Lake Lowell FMU Values to Protect

- High priority will be given to any wildfire on the Refuge threatening private property. The Federally designated Community at Risk of Caldwell, Nampa, and Marsing are adjacent to the Refuge.
- Sagebrush/grassland habitats located on the north side of the Refuge.
- Sensitive areas of the Refuge are the riparian habitat along Lake Lowell.
- Cultural resource sites (documented at refuge headquarters).
- Refuge structures scattered along the north shore of the lake including refuge headquarters, residences, maintenance area, etc.

3.3.1 Snake River Island FMU Characteristics

The Snake River Islands FMU, which includes over 100 islands, is spread over 113 miles of river. The islands range in size from less than an acre to over 50 acres, with total acreage of 1,220 acres. Islands within the Snake River are the primary nesting area of southwest Idaho's "local/resident" Canada goose population. Geese nest on nearly all of the refuge islands.

A wide variety of raptors use the islands throughout the year including American kestrel, great horned owl, long-eared owl, northern harrier, osprey, screech owl, barn owl, saw-whet owl, prairie falcon, red-tailed hawk, and turkey vulture.

Islands in this FMU vary greatly in their vegetative cover. Islands at the upstream end are fairly open in the middle and are dominated by shrubs such as sagebrush and greasewood. Islands in the downstream section are more heavily vegetated with some large stands of cottonwood with an open grassy middle. All of the islands have some willow invasion along their edge depending upon the amount of river washing. Russian olive is also an aggressive invader on many of the islands. A vegetation acreage break down for this FMU is not available, vegetation/fuel models present include FM 1,2,6,8.

3.3.2 Snake River Island FMU Fire Environment

Access to and from any fire operation on one of the Snake River Islands will have to be made by boat or helicopter which could slow response time or make determining a safety zone before approaching the fire critical.

Consideration must also be given to the proximity to the mainland and expected fire behavior. In one known case, a fire has spotted from one of the islands to the mainland near Marsing. Historically, the shore has been sparsely populated with private structures, but development has increased and the number of homes has increased creating more concern should a fire ignite.

3.3.3 Snake River Islands FMU Objectives and Constraints

- The full range of appropriate management response (AMR) will be considered to any unplanned ignition; however, due to island being surrounded by water and access problems the suppression strategy typically will be a limited perimeter control strategy. A more aggressive strategy will be used if the fire spots off the island onto the shore and poses a threat to values to protect.
- Use prescribed fire, mechanical, and/or chemical manipulation to enhance habitat where appropriate.
- Any mechanical or prescribed fire treatment completed will have to be followed up with chemical treatments to limit the spread of invasive vegetation.

- The waterfowl and raptor nesting season at the refuges ranges from mid-April to late summer. Prescribed fire and mechanical fuel reduction treatments will not usually take place during this time to avoid disturbing nesting habitat.
- Downed and standing dead trees will be protected when feasible to provide nesting and foraging habitat for migratory birds.

3.3.4 Snake River Islands FMU Values to Protect

- Habitat for water fowl nesting.
- River bank private property.

4.0 Wildland Fire Operational Guidance

The procedures used to *implement* the fire management plan (FMP) for Deer Flat NWR are covered in this section. Information pertaining to this management is either directly provided or references are cited as to where it may be located.

USF&WS wildland fire management policy states that every wildland fire will be assessed following a decision support process that examines the full range of appropriate management responses (AMR).

This policy also provides that wildland fires may be managed for one or more objectives based on land and resource management plan direction. When two or more wildland fires burn together they will be managed as a single wildland fire and may also be managed for one or more objectives based on land and resource management plan direction as an event moves across the landscape and fuels and weather conditions change.

As stated before, the purpose of fire suppression is to put the fire out in a safe, effective, and efficient manner. Fires are easier and less expensive to suppress when they are contained to small areas on the Complex. Thus, the following procedures will be followed for all wildland fires to ensure optimum resource protection and firefighter safety.

4.1.1 Appropriate Management Response

Evaluation and selection of an appropriate management response to a wildfire will include:

- Consideration of risks to public and firefighter safety.
- Threats to the values to protect.
- Costs of various mitigation strategies and tactics.
- Potential resource benefits.

Wildfires will be staffed or monitored during active burning periods as needed to ensure that appropriate mitigation actions can be made to protect values threatened.

All wildfires will be supervised by a qualified incident commander (IC) whose responsibility is to:

- Assess the fire situation and make a report to dispatch as soon as possible.
- Use guidance in this FMP or a delegation of Authority to determine and implement an appropriate management response.
- Determine organization, resource needs, strategy and tactics.

- Brief incoming and assigned resources on the organization, strategy and tactics, weather and fire behavior, LCES (lookouts, communication, escape routes, and safety zones) and radio frequencies.
- Order resources needed for the AMR through the designated dispatch office.
- Manage the incident until relieved or the incident is under control.

The FMP and a Delegation of Authority can provide a general strategy to an IC, who has discretion to select and implement appropriate tactics within the limits described for the FMU(s), including when and where to use minimum impact suppression tactics (MIST) unless otherwise specified. All resources, including mutual aid resources, will report to the IC (in person or by radio) and receive an assignment prior to tactical deployment.

Critical protection areas, such as refuge headquarters, neighboring residences and ranches, and adjacent private croplands, will receive priority consideration in fire control planning efforts. In all cases, the primary concerns of fire suppression personnel shall be the safety, and if needed, all individuals not involved in the suppression effort may be evacuated.

General AMR Constraints

- Close proximity to private property and residences, (WUI and Communities at Risk).
- Lack of a cultural resource inventory. Limited cultural resource surveys have been completed at the refuge, (completed surveys are on file at the refuge office).
- Soft ground/moist-soil conditions which preclude the use of conventional fire equipment.
- Tracts of continuous vegetation, lack of adequate fire/fuel breaks, and lack of interior and boundary refuge roads.

Interagency Operations

As mentioned in 2.3.2 the Refuge coordinates with the BLM in fire management operations. The Refuge coordinates with this agency for dispatch services through Boise Interagency Logistics Center. Any wildfire AMR actions would be coordinated through the appropriate dispatch centers with neighboring federal agencies.

4.1.2 Preparedness

Deer Flat NWR is not funded for a dedicated fire crew. The Regional Fire Education Specialist is currently stationed at the refuge ½ time and may be available to coordinate initial attack activities. The FWS has an Intragovernmental agreement with Boise BLM for initial attack fire response. The SE Idaho NWRC FMO and Deer Flat NWR Project Leader will meet with federal and local cooperators (BLM and Nampa Fire Department) annually prior to fire season, to review the respective agreements. This may include contact information and fire suppression policies and procedures.

The normal fire season for the refuge was discussed in section 3.1.3; prior to and during fire season the following tasks will be implemented and completed.

- The Complex FMO will work with the Refuge Project Leader to update Delegations of Authority with suppression constraints.
- Fire qualified personnel work with the Complex FMO to schedule annual medical examinations prior to the start of fire season.

- Fire qualified personnel will complete fitness testing, complete the annual refresher, and are issued full personal protective equipment (PPE) prior to the start of fire season.
- Prior to fire season the Refuge step-up plan will be reviewed by the Complex FMO and the Refuge Project Leader; the plan will be implemented during fire season according to daily fire weather forecasts.

Annual Refuge Fire Readiness Activities

Activities – Complete before end of month	J	F	M	A	M	J	J	A	S	O	N	D
Update Interagency Fire Agreements/AOP's		x										
Winterize Fire Management Equipment										x		
Inventory Fire Engine and Cache			x									
Update Delegation of Authority			x									
Annual Fire Physical		x										
Annual Refresher Training			x									
Annual Fitness Testing			x									
Review and Update Fire Management Plan				x								

Supplies and Equipment

Deer Flat NWR maintains a small fire cache at the shop for use on fires including tools, nomex, pumps, and water handling equipment. Prior to the fire season all refuge fire suppression equipment will be inspected to determine readiness. All equipment will be brought to a duty ready status. Equipment will be checked to ensure the refuge has enough gear to meet the normal unit strength requirements.

Communications

The Refuge utilizes BLM communications systems, including repeaters and radio frequencies for fire operations. The FWS has a radio frequency use MOU with the Idaho State BLM which is included in Appendix F. Canyon County Fire Radio Frequencies are included in Appendix G.

4.1.3 Detection

The fire detection system relies on reports of fires by the public, law enforcement agencies and refuge staff. Regardless of how any fires are discovered they need to be reported to the Refuge Project Leader, Complex FMO, and Boise Dispatch (384-3400) immediately so suppression actions can be started without delay. Information for fire size-up/information to be provided to Boise Dispatch Center can be found in the Initial Attack Size Up document in Appendix G.

4.1.4 Dispatch, Initial Response, and Initial Attack

The Refuge is a cooperator in the response area for the Boise Dispatch Center. Mobilization of fire resources to and from the Refuge is handled through Boise Dispatch.

As stated above (Appendix F), the Boise District Bureau of Land Management will provide primary initial attack services for Deer Flat NWR. Initial attack shall include a determination of fire cause. The Project Leader will coordinate with Boise Dispatch for the need for further fire investigation. The Zone Law Enforcement Officer will also be informed of any suspected human-caused fire.

All fire communications will operate on the assigned frequencies located in Appendix F.

Upon discovery of a fire, all subsequent actions will be based on the following:

- The Project Leader or designee will provide the IC with a Delegation of Authority.
- The Incident Commander (IC) will locate, size-up, and coordinate suppression actions. The IC will start the Incident Organizer to document actions, fire behavior and weather conditions.
- Provide for firefighter and public safety.
- Considering the current and predicted fire conditions, the IC will assess the need for additional suppression resources and estimate the final size of the fire. The potential for spread outside of the refuge should be predicted, as well as the total suppression force required to initiate effective containment action at the beginning of each burning period.
- The IC will assess the need for law enforcement personnel for traffic control, investigations, evacuations, etc. and make the request to the dispatch center.
- Document decisions in the Incident Organizer and provide the FMO a copy after the incident is out.
- Should a wildland fire move into an extended attack the IC will coordinate with the Refuge staff and Boise Dispatch Center to complete a Wildland Fire Decision Support System

4.1.5 Extended Attack and Large Fire Management

The Wildland Fire Decision Support System (WFDSS) process will be used when a wildfire escapes initial attack. The refuge staff will request assistance from the Regional Office fire management staff or BLM partners to prepare the analysis.

Extended attack fires will be managed in accordance with the Interagency Standards for Fire and Aviation Operations (Redbook).

4.1.6 Aviation Operations

Aircraft may be used in all phases of fire management operations. All aircraft must be National Business Center Aviation Management Directorate or Forest Service approved. Air operations at Deer Flat NWR will be coordinated through Boise Dispatch Center and must adhere to all DOI aviation policy.

4.1.7 Reviews and Investigations

Reviews and investigations are used by wildland fire and aviation managers to assess and improve the effectiveness and safety of organizational operations. Brief descriptions of various reviews and associated procedures and requirements, including those for serious wildland fire accidents, entrapments, and fire trespass are listed in the corresponding Red Book chapter.

Incident Commanders and Single Resource Bosses will ensure After Action Reviews (AAR) take place in a timely manner and that any significant issues are brought to the attention of the Complex FMO and Refuge Project Leader.

4.1.9 Reports

The Complex FMO or designee will complete and file an Individual Fire Report (DI-1202) in the FWS Fire Management Information System (FMIS) for the following types of fires within 10 days of a fire being declared out:

- All wildfires on FWS and FWS-protected lands.

- Wildfires threatening our lands on which we take action.
- All escaped prescribed fires. When a fire exceeds and cannot be brought back into prescription, it will be declared a wildfire. A separate new report will be filed to report acres burned by the wildfire from the time of declaration to the time of being declared out.
- All false alarms responded to by Refuge fire staff.

4.2 Hazardous Fuels Management

All prescribed fire treatments on the Refuge will follow guidance outlined in the Interagency Standards for Fire and Fire Aviation Operations (chapter 17) and the Interagency Fire Planning and Implementation Procedures Reference Guide. See 3.1 for specific prescribed fire objectives.

4.2.1 Prescribed Fire program for Hazardous Fuels and Habitats

The overall objective in the use of prescribed fire in refuge resource management will be to reduce hazard fuels and to promote habitat diversity. Refuge staff will carefully analyze the needs of hazardous fuels reduction in each FMU in relation to habitat objectives on the refuge. Variables to be considered in each proposed treatment area include previous treatments, vegetation type, endangered species, and hazardous fuels reduction.

The prescribed fire program activities at the Refuge qualify as categorical exclusions consistent with Departmental NEPA regulations at 43 CFR 46.210, 43 CFR 46.205, and Departmental NEPA procedures at 516 DM 8.

4.2.1.1 Program Overview

Prescribed fire can be a useful tool for restoring and maintaining natural conditions and processes at the Refuge. Research burning may also be conducted when determined to be necessary for accomplishment of research project objectives. The goals of prescribed fire are for hazard fuel reduction and to meet resource management objectives. Specific management needs for the Refuge will be determined annually by the Refuge staff and Complex FMO. Burn objectives, fire frequency rotation, firing methodology, and prescriptions will vary from year to year. Burn plans will be updated to reflect any variations. The Refuge Project Leader will approve prescribed fire plans after review of the plan by the Complex FMO.

Due to the proximity to the wildland urban interface and smoke concerns, no prescribed fire treatments have been implemented at the Refuge in the last 10 years. Prescribed fire can be a viable habitat treatment tool for the refuge if smoke and WUI issues are properly mitigated.

The prescribed burn window for the Refuge is generally late-fall to early-Spring. This can depend on the loading and type of vegetation being burned. Detailed prescribed burn plans will be developed for each planned treatment which will address fuel loading, weather conditions, adjacent properties, and potential smoke concerns. Specific FMU hazardous fuels objectives and history is described in chapter 3.

Some specific objectives for the Refuge program include:

- Conduct a vigorous hazardous fuels reduction program with the highest professional and technological standards
- Identify the hazardous fuels reduction method most appropriate to specific situations and areas
- Efficiently accomplish resource management objectives through the application of prescribed fire, mechanical, and chemical fuel reduction methods

- Continually evaluate the hazardous fuels reduction program to better meet program goals by refining prescriptions treatments and monitoring methods, and by integrating applicable technical and scientific advancements

4.2.1.2 Effect of National and Regional Preparedness Levels

Prescribed fires may be ignited during National Preparedness Level 4 or 5 as specified in the National Interagency Mobilization Guide. The normal prescribed burn window for the Refuge is early spring and late fall; national and regional preparedness levels are low at this time of year.

4.2.1.3 Project Planning

The FMO will coordinate with the Project Leader to identify high priority fuels treatment projects. All prescribed fire treatments on the Refuge will follow guidance outlined in the Interagency Fire Planning and Implementation Procedures Reference Guide.

All prescribed fires will have prescribed burn plans. The prescribed burn plan is a site specific action plan describing the purpose, objectives, prescription, and operational procedures needed to prepare and safely conduct the burn. The treatment area, objectives, constraints, and alternatives will be clearly outlined. The required burn plan elements are outlined in the Interagency Fire Planning and Implementation Procedures Reference Guide and will be included in all Refuge burn plans.

The Prescribed Fire Plan Preparer will conduct a field reconnaissance of the proposed burn location with the Project Leader to discuss objectives, special concerns, and gather all necessary information to write the burn plan.

Every Prescribed Fire Plan must receive a technical review. The Technical Reviewer and Prescribed Fire Plan Preparer must be qualified or have been previously qualified as a Prescribed Fire Burn Boss at an experience level equal to or higher than the complexity being reviewed. The Technical Reviewer must be someone other than the primary preparer of the plan. An off-unit technical review is encouraged to provide an additional independent perspective. It is acceptable for other specialists to review certain portions of the plan however; a primary Technical Reviewer must be designated as technical review signatory. Either the Prescribed Fire Plan Preparer or Technical Reviewer must be currently qualified, less physical fitness requirement.

The Project Leader has final approval authority for all Prescribed Fire Plans, unless special circumstances warrant higher review and concurrence (such as may occur during higher Preparedness Levels or for extremely large, complex projects). Although the Project Leader has final approval authority for the Prescribed Fire Plan and the "GO/NO-GO" checklist, the Prescribed Fire Burn Boss has the responsibility to make the on-site tactical decisions to safely complete the project. The Prescribed Fire Burn Boss ensures that all prescription, staffing, equipment, and other plan specifications are met before, during, and after the prescribed fire.

4.2.1.4 Project Implementation

Execution of prescribed burns will only be undertaken by qualified personnel. The Prescribed Burn Boss will fill all required positions to conduct the burn with qualified personnel. All personnel listed in the burn plan must be available for the duration of the burn or the burn will not be initiated.

Weather information from the National Weather Service, RAWS station, and other local weather stations will be monitored by the burn boss the week before planned ignition to determine if suitable conditions exist for project completion. A spot weather forecast will be requested, (via the internet) from the Boise NWS office for each day of planned ignition. The burn boss or designee will monitor onsite weather every 2 hour during unit ignition.

When all prescription criteria are within the acceptable range, the Prescribed Burn Boss will select an ignition time based on current and predicted weather forecasts. The Burn Boss will Ensure that the Agency Administrator GO/NO-GO Checklist is valid and complete and sign the Prescribed Fire GO/NO-GO Checklist the morning of planned ignition.

A thorough briefing will be given by the Prescribed Burn Boss and specific assignments and placement of personnel will be discussed, (using briefing outline in Prescribed Fire Plan). A spot weather forecast will be obtained on the day of ignition and all prescription elements will be rechecked to determine if all elements are still within the approved ranges. If all prescription elements are met, a test fire will be ignited to determine on-site fire behavior conditions as affected by current weather. If conditions are not satisfactory, the test fire will be suppressed and the burn will be rescheduled. If conditions are satisfactory the burn will continue as planned.

A prescribed fire must be declared a wildfire by those identified in the burn plan when that person(s) determines that the contingency actions have failed or are likely to fail and cannot be mitigated. An escaped prescribed fire must be declared a wildfire when the fire has spread outside the project boundary, or is likely to do so, and cannot be contained by the end of the next burning period. A prescribed fire can be converted to a wildfire for reasons other than an escape. An appropriate management response will be made to such incidents and a formal analysis (WFDSS) undertaken when needed. The Project Leader will be notified of an escaped prescribed fire.

The public will be informed of upcoming planned prescribed fires through press releases in local newspapers. Neighbors to the refuge will be called and local law enforcement agencies and fire departments will be call and informed of the burn before planned ignition. Notification calls will be documented and saved in the Prescribed Plan file.

4.2.1.5 Smoke Management

The US Fish and Wildlife Service in south Idaho participates in the Montana/Idaho Airshed Group. The group members include all of the federal agencies, state land management agencies, and private forest products companies. The intent of the Airshed Group is to limit negative impacts from prescribed burns through scientific monitoring of weather conditions and formal coordination of burns.

Prior to the burn season the Fire Management Officer submits a list of planned burn projects to the Missoula Monitoring Unit via internet. This information creates a data base describing the type of burn, number of acres in each unit, and unit location and elevation. Each burn unit is assigned an identification number. The day before the planned ignition, the burn boss accesses the internet data base to submit a proposed prescribed burn for the following day. The program coordinator and a meteorologist provide timely restriction messages for airsheds with planned burning.

The Missoula Monitoring Unit issues daily decisions which can restrict burning when atmospheric conditions are not conducive to good smoke dispersion. Restrictions may be directed by airshed, elevation or by special impact zones around populated areas. The burn boss will access the daily decision

notice from the monitoring unit via the internet. Prescribed burn projects will not be conducted if the Missoula Monitoring Unit posts a burning restriction for the airshed in which the refuge is located.

Deer Flat NWR is located in the Treasure Valley which is a non-attainment area for air quality, (Ozone and PM 2.5). Any prescribed fire treatments conducted will take special consideration for the non-attainment area. Critical and other smoke sensitive areas will be addressed with more detail in each burn plan. See Non-Attainment Map in Appendix A.

4.2.1.6 After Action and Escaped Fire Reviews

The Burn Boss will ensure an informal After Action Review (AAR) is conducted for each operational period on a prescribed fire.

All prescribed fires declared a wildfire will have an investigative review initiated by the Project Leader. The level and scope of the review will be determined by policy and procedures of the Interagency Standards for Fire and Aviation Operations and the FWS Fire Management Handbook.

4.2.1.7 Reports

Burn plans will specify information to be included in a project file. The Burn Boss will ensure this information is provided to the Project Leader and/or Zone Fire Management Officer as specified. This includes documenting conditions and fire behavior during the prescribed fire to assess how well actual fire characteristics fit those predicted, documenting any unanticipated difficulties encountered during implementation, and assessing how well the fire accomplished the intended objectives.

The Burn Boss will complete an Individual Fire Report (DI-1202) with the Complex FMO, who will file an Individual Fire Report (DI-1202) electronically within 10 days of it being declared out. The Complex FMO or assistant will also complete a prescribed fire critique and FFI monitoring report within one month of project completion.

4.2.2 Non-Fire Hazardous Fuels Treatment Program

Non-fire treatment strategies are those that do not involve the use of prescribed fire to meet stated objectives. For the Refuge, mechanical and chemical treatment strategies are available as non-fire management tools. The following objectives for non-fire treatments of hazardous fuels at the Refuge include:

- Establish defensible space along wildland-urban interface boundary and around Refuge improvements and structures.
- Protect habitat from wildfire trespass.
- Restore early successional habitats to promote native species while minimizing invasive species encroachment.
- Maintain fuel loadings within natural ranges of variability for major vegetation types.
- Aid in control of invasive plants and weeds that contribute to the fuel hazard.

Any work requiring heavy equipment, such as mowing, hydro-axe work, fuel break construction, or vegetation removal, should be done with low ground-pressure vehicles to the extent possible when the site is dry enough to prevent damage to soils. Non-fire treatments may be restricted during the nesting season from mid May to early August in areas that provide important habitat for trust wildlife resources.

The Refuge has an active program of mowing and disking fire breaks along the refuge boundary. Fire breaks are mowed/disked generally in late spring to early summer, (see Appendix A for disk line map).

4.2.3 Process to Identify Hazardous Fuels Treatments

The development of prescribed fire and non-fire hazardous fuel management priorities will be an ongoing process determined annually between the refuge staff and Project Leader based on changing habitat conditions on the Refuge, changes in management objectives, and changes in management techniques or new information. The Complex FMO and Refuge staff will coordinate with federal and state partners and review existing County Wildfire Protection Plans (CWPP) when developing potential hazardous fuels treatments in WUI areas.

4.3 Emergency Stabilization and Rehabilitation

Emergency stabilization (ES) and burned area rehabilitation (BAR) are part of a holistic approach to addressing post wildfire issues which also includes suppression activity damage repair and long-term (>3 years) restoration.

ES is planned actions performed by burned area emergency response (BAER) teams within one year of wildfire containment to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life or property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources.

BAR is efforts undertaken within three years of wildfire containment to repair or improve fire-damaged lands unlikely to recover naturally to management approved conditions, or to repair or replace minor facilities damaged by fire. The process concludes with long-term restoration.

The incident management team, local fire resources, or refuge staff begins the process by repairing suppression activity damage. These actions are charged to the fire suppression accounting code. Fire suppression activity damage rehabilitation involves short-term actions to repair and rehabilitate damage to lands, resources, and facilities caused by the wildland fire suppression effort or activities. This includes dozer lines, camps, and staging areas; damaged facilities (fences, buildings, bridges, etc.); handlines; roads; etc. The Project Leader should ensure this work is complete before incident demobilization, or as soon thereafter as possible or practicable. Damage caused by backfires and burnouts to stop fire spread falls under fire damage restoration and does not qualify as damage caused by suppression action.

The Project Leader will coordinate with the Incident Commander, Complex FMO, and Regional Office fire staff to determine if an ES or BAR plan is needed for a Wildland fire incident. The Project Leader will form an interdisciplinary team which could include fire and resource specialists to develop and write the ESR Plan. The ES or BAR plans must include provisions for monitoring and evaluation of treatments and techniques, and a procedure for collecting, archiving, and disseminating results. For multi-agency fires, we will do joint planning and implementation. Plans must ensure that the treatments proposed are environmentally, culturally, and socially acceptable, and comply with legal requirements. Each ES or BAR Plan will include a cost/risk analysis of proposed emergency rehabilitation treatment actions to assist agency administrators and reviewing authorities in assessing the proposed actions. The level and sophistication of the analysis should be commensurate with the scope and complexity of the plan.

ES plans should be submitted to the Regional Fire Management Coordinator (RFMC) within 7 calendar days of the wildfire containment. If additional time is needed, extensions may be negotiated with the (RFMC). BAR plans must be submitted before the end of the fiscal year in which the wildfire fire occurs.

Additional ES and BAR guidance may be found in the FWS Directives (095 FW3) and the Interagency Burned Area Emergency Response Guidebook.

4.4 Prevention, Mitigation, and Education

The fire education program for the Refuge will include fire prevention, mitigation, and information specific to the ecological aspects of fire and its interaction with refuge habitats. The program will be aimed at increasing public understanding of the complexities of the overall fire program and will seek to influence attitudes and behavior of adults and children. Attention will be given to social groups, elected officials, schools, and all other interested parties of any age.

Fire education messages will include how and why fire burns the way it does and the effects – both negative and positive – that fire has on plant, wildlife, and human populations. Focus will be given to the effect fuel, weather, and topography have on fire behavior clearly demonstrating the effect manipulation of fuels can have on the opportunity for a fire to burn through a given area.

All education efforts will be consistent with approved Service national and regional messaging. These efforts will be interagency when appropriate.

The fire prevention goal for the Refuge will be to prevent unwanted human-caused fires. High visitor use due to close proximity to large population areas increases the likelihood of careless human ignitions. Although campfires are not allowed on the Refuge, abandoned campfires are one of the concerns to be addressed in fire prevention efforts. Debris burning on neighboring private land, smoking, and fires ignited from vehicles also share some concern and will be addressed in conjunction with other agencies to protect human life and property, natural resources, and prevent damage to cultural resources or physical facilities.

During the typical fire season prevention efforts will be elevated commensurate with fire danger. Refuge employees must be kept informed about changes in the fire situation. Visitor contacts, signing, handouts and interpretive programs may be utilized to increase visitor and neighbor awareness of fire hazards. Due to lack of staffing on the Refuge, collaboration with interagency partners such as local fire departments, the Bureau of Land Management, the Forest Service, and the Idaho Department of Lands is critical for maintaining a fire prevention presence with the public. The Refuge will support interagency fire prevention efforts through use of severity funding, increased personnel presence, large scale campaigns, etc.

During periods of extreme or prolonged fire danger emergency restrictions regarding refuge operations or area closures may become necessary. Such restrictions will usually be consistent with those implemented by cooperators as outlined in the Southern Idaho Fire Restrictions and Closures Guide. The Complex FMO will recommend when such restrictions may be necessary. Closures will be authorized by the Project Leader in consultation with the Complex FMO.

The Refuge is bordered by private property which could be at risk to wildfire should one start on the refuge. Light fuels such as cheatgrass in some areas near private property elevate the risk of rapid fire spread. These areas will be addressed in (CWPP) and treated by chemical, mechanical or prescribed fire means as appropriate to reduce the risk. Refuge personnel will work with interagency partners to educate the community on fire mitigation techniques, consequences of doing or not doing the prescribed treatment, and issues related to any resulting smoke. A message of personal responsibility and Firewise principles will be included in any public contacts regarding fire mitigation.

Fire Investigation

Fire management personnel will attempt to locate and protect the probable point of origin and record pertinent information required to determine fire cause. They will be alert for possible evidence, protect the scene and report findings to the fireline supervisor.

Prompt and efficient investigation of all suspicious fires will be carried out. However, fire management personnel should not question suspects or pursue the fire investigation unless they are currently law enforcement commission qualified.

Personnel and services of other agencies may be utilized to investigate wildland fire arson or fire incidents involving structures. All fire investigations should follow the guidelines outlined in 4.1-2 of the Fire Management Handbook (2000).

For fires of suspicious origin the IC or Project Leader may request a Fire Investigator through Boise Dispatch.

Public Information and Education

Educating the public on the value of fire as a natural process and as an effective tool to reduce risk to communities and resources from wildfire is important to increasing public understanding and support for the fire management program. The Refuge will use the most appropriate and effective means to explain the overall fire and smoke management program as well as other mitigation techniques such as mechanical and chemical treatments. This may include supplemental handouts, signs, personal contacts, auto tour routes, or media releases. When possible, interpretive presentations will address the fire management program and explain the role of fire in the environment.

The public will be notified of planned prescribed burning in advance of any actions via news releases and direct phone contact to neighboring residences. The role of wildland fire and prescribed fire may be incorporated into presentations that are given to various user groups and visiting public.

5. Monitoring and Evaluation

Monitoring and evaluation are part of the Refuge fire management program. They provide the means by which Refuge personnel are able to determine if applicable sections of the fire management plan are being implemented as planned and if fire-related goals and objectives are being achieved.

5.1 Fire Management Plan

5.1.1 Annual Fire Management Plan Review

This FMP will be reviewed annually and updated as needed, upon local agency administrator approval. Revisions of FMPs with Regional review and concurrence are required every five years and following completion of a new (or significantly revised) CCP or habitat management plan.

5.1.2 Fire Management Plan Terminology

Terms in the FMP are defined in the National Wildfire Coordinating Group Glossary, located at <http://www.nwccg.gov/pms/pubs/glossary>. Any terms used not in the glossary are defined below.

5.2 Treatment Effectiveness

Basic monitoring to determine habitat response will generally use photo-points, which will be re-visited and photographed during subsequent seasons. Comparisons over time will aid in determining if burn objectives and resource objectives are being met. More complex monitoring efforts may be undertaken for research-related prescribed burns, or to answer questions about the effects of prescribed fire on specific wildlife or other habitat parameters. Such monitoring can require vegetation transects, breeding bird point counts, presence/absence of target species, etc. An excellent reference resource for monitoring procedures can be found within the [Fire Monitoring Handbook](#), USDI, and National Park Service, 2007.

List of Appendices

Appendix A: Maps

Appendix B: Refuge Staff Fire Contact List

Appendix C: Categorical Exclusion for Fire Management Operations

Appendix D: Deer Flat NWR Climate Charts and Graphs

Appendix E: Prescribed and Wildfire History

Appendix F: Interagency Agreements & Delegations

Appendix G: Initial Attack Fire Size Up

Appendix H: Behave Plus Runs

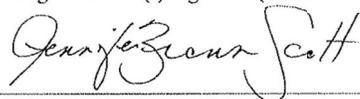
Appendix I: Radio Frequency List

Appendix J: Step-up Plan

Appendix K: Updates

Appendices A-J are available at request from the Refuge.

**FWS REVIEW CHECKLIST (LONG FORM)
FOR
DEER FLAT NATIONAL WILDLIFE REFUGE
FIRE MANAGEMENT PLANS**

Name of Plan Reviewed for Annual Update Process:		Review Date: 4/16/2012
Deer Flat National Wildlife Refuge		
Refuge or Unit Name (Include Complex if applicable): Deer Flat National Wildlife Refuge		
Fire Staff Reviewer(s) Name and Phone Number: Lance Roberts, 208-237-6615 ext.107	Fire Staff Reviewer(s) Signature (for review approval): 	
Refuge Reviewer(s) Name and Phone Number: Jennifer Brown-Scott, 208-467-9278	Refuge Reviewer(s) Signature (for review approval): 	
Amendment Completed and attached to Plan	Date:	
Review information sent to Regional Office	Date:	
Review date entered in Database (Regional Office)	Date:	

Please review the Fire Management Plan (FMP) and complete the columns as follows: A check-mark in the "No Update" column means that this portion of your FMP has been reviewed and determined not to need an update; if a row requires an update (answering yes to the question (s)), check the "Update Needed" column and provide an explanation of the changes in the "Notes/Comments" section. This information will be included in the amendment (including chapter, section and comments) to be attached to the plan annually following the review. Be sure to adequately describe the changes so they are easily understandable to the outside reader. Put an N/A in the "No Update" column for lines that do not pertain to your refuge/unit to make it easier for future reviewers to complete the annual review process.

If the reviewers determine that the changes are substantial and the original intent of the document is compromised, then a revision of the document should be completed. The review discussion between the line officer and the fire staff may support that conclusion but the responsibility for making this decision rests with the unit line officer.

If the reviewers determine that the changes are substantial and the original intent of the document is compromised, then a revision of the document should be completed. This responsibility for making this decision rests at the Unit Line Officer level.

No Update or N/A	Update Needed	Section	Title – Content	Notes/Comments	Date
Chapter 1. Introduction					
X		1.1	Purpose of the Fire Management Plan		
X		1.2	General Description Of Refuge		
X		1.3	Significant values to Protect		
Chapter 2. Policy, Land Management Planning, and Partnerships					
2.1 Fire Policy					
X		2.1.1	Federal Interagency Policy change?		
X			• Terminology changes?		
X		2.1.3	DOI policy change? (e.g., Departmental manuals).		
X		2.1.4	Service policy change?		
X		2.1.5	Regional/unit-specific policy change?		
2.2 Land/Resource Management Planning					
2.2.1 Planning Documents:					
X			• Does Habitat Management Plan (HMP) align with FMP at unit? Is it being revised? Does management wan HMP and FMP revisions to take place simultaneously?		
X			• Is the Comprehensive Conservation Plan (CCP) currently being developed? Revised?	CCP date:	
			• Others: (list)		
			•		
X		2.2.2	<u>Environmental Compliance</u> – are your compliance documents up to date in the following areas?		
X			• National Environmental Policy Act (NEPA)	What type? Categorical Exclusion	
X			• Endangered Species Act (ESA)	Date of consultation:	
X			• National Historic Preservation Act (NHPA)		
X			• Archaeological Resources Protection Act (ARPA)		
			• <u>Others: (list)</u>		
			•		
2.3 Partnerships					
2.3.1 Internal Partnerships changes? (Use spaces below to add new partnerships)					
X			• Fire Prevention and Education Specialist	This position is no longer filled.	
			•		
2.3.2 External Partnerships changes?					
X			• Boise BLM fire assistance agreement	New Intergovernmental agreement signed and 2012 Annual Operating Plan attached	
X			• Local Fire Departments	The refuge has a Cooperative Fire Protection Agreement with the Nampa Fire Department	
X			• Idaho State Fire Plan Working Group	The Fire Prevention and Education Specialist is vacant and will not be filled, no FWS representation currently on this group.	
X			• Treasure Valley Fire Protection and Safety Cooperative	The Fire Prevention and Education Specialist is vacant and will not be filled, no FWS representation currently on this group.	
Chapter 3. Fire Management Unit Characteristics					
3.1 FMP-wide Management Considerations					

No Update or N/A	Update Needed	Section	Title – Content	Notes/Comments	Date	
X		5.1.1	Annual FMP Review			
X		5.1.2	Fire Management Plan Terminology			
X		5.2	Treatment Effectiveness			
		Appendices				
	X	A	Maps	Updated maps		
	X	B	Refuge Staff Fire Contact List	Updated		
X		C	Categorical Exclusion for Fire Management Operations			
X		D	Deer Flat NWR Climate Charts and Graphs			
X		E	Prescribed and Wildfire History			
	X	F	Interagency Agreements & Delegations	Updated		
	X	G	Initial Attack Fire Size Up	Updated		
X		H	Behave Plus Runs			
	X	I	Radio Frequency List	Updated		
	X	J	Step-up Plan	Updated		
		K	FMP Review Checklist	Added for 2012		