U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C. 20250

DEPARTMENTAL REGULATION	Number: 2510-001
SUBJECT: Claims Against the United States	DATE: January 25, 1995
	OPI: Office of the General Counsel

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Appendix 1 A-1

All claims arising from a single occurrence should be added together for the purpose of this delegation.

b Agency Tort Contacts. Each agency will designate a Tort Contact to manage all agency related activities, including training and supervision of personnel. The Tort Contact will be the sole liaison with OGC, unless the agency chooses to designate field personnel to serve as Tort Contacts with Regional Attorneys. The Tort Contact should not routinely delegate responsibility for dealing with OGC to subordinates.

The Tort Contact should review all submissions to OGC for adequacy, completeness, and compliance with these procedures.

Persons who are designated as agency Tort Contacts should be familiar with the FTCA and with litigation, and should receive periodically additional training to keep current with developments in the field of claims management.

The name, address, and telephone number of each Tort Contact and at least one alternate should be sent to the Assistant General Counsel, Research and Operations Division, OGC, Washington, D.C. 20250, and updated as changes in personnel occur.

c Investigation. When an agency receives a claim or learns of an incident likely to result in a, claim, it is responsible for ensuring that an investigation of the incident is undertaken and for the preservation of all relevant evidence. Any such investigation is conducted at the request of OGC, and any report derived from such investigation is considered attorney work product.

d Time Requirements. When an agency receives a claim or potential claim, it must be date stamped and signed immediately by the person who receives it. After agency processing, a claim must be forwarded to OGC no later than 4 months after it

Sierra Fire Action Plan

Due to the recent escape of a prescribed burn on the Cleveland National Forest, this action plan has been developed to strengthen the forest program to significantly minimize any future escaped burns on the forest. The following items will be implemented as action plan items with the name of the responsible party and due date indicated in parenthesis.

1. Each prescribed burn on the Cleveland National Forest will be conducted with a specific mop-up plan incorporated into each burn plan. The scope and duration of mop-up operations will be aptly described as well as the size of the mop-up force. All current burn plans will be reviewed and if necessary, amended, to meet this direction. (Forest Fuels Specialist June 2006)

2. The following items will be communicated to the District Rangers within the next 14 days in writing.

   A. The Chief Officer or Rx Burn Boss in charge will insure day to day communication with firefighters in charge of mop-up until each prescribed burn is declared out. Voice to voice contact (no e-mail) either face to face or by phone will be required to insure that orders are issued and clearly understood. (Forest Supervisor – May 2006)

   B. Any amendments to an approved prescribed burn plan must be approved by the Forest Supervisor. (Forest Supervisor – May 2006)

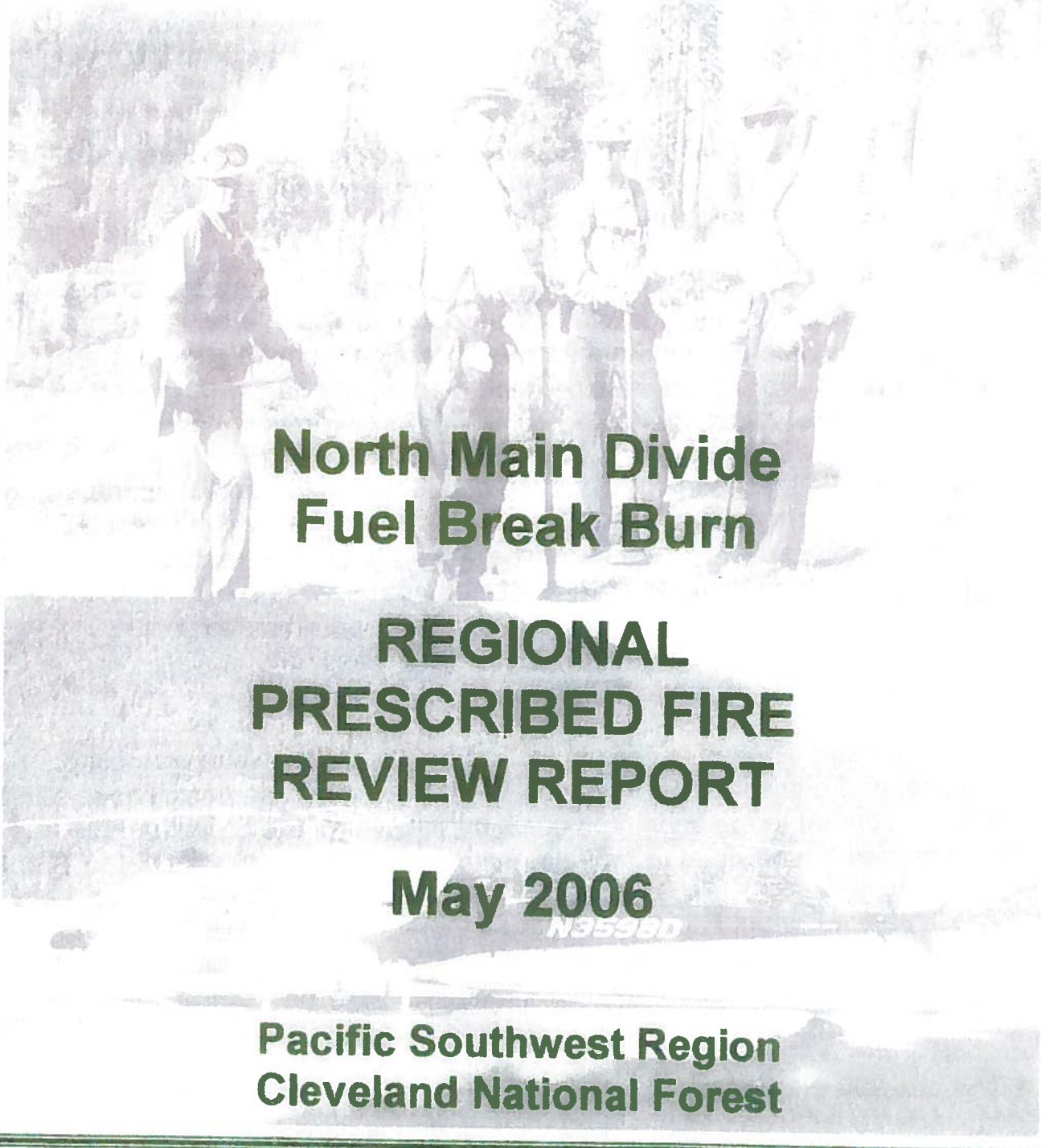
   C. District personnel will be required to contact the Forest Supervisor and the Forest Fire Chief as part of the notification process regarding all impending burn operations. (Forest Supervisor – May 2006)

3. The forest will standardize burning prescriptions for burning in chaparral for each district on the forest. (Forest Fuels Specialist – July 2006).

4. Each district will review their environmental documents for any needed changes related to changes to burning prescriptions as per item 3 above. (District Rangers – September 30, 2006)

5. The Line Officers and Chief Officers will discuss burn plan format, signature requirements and the role of the Prescribed Fire Manager at the next Chief Officers Meeting. (Forest FMO – May 2006)

USDA Forest Service



North Main Divide Fuel Break Burn

REGIONAL PRESCRIBED FIRE REVIEW REPORT

May 2006

Pacific Southwest Region
Cleveland National Forest

I. OVERVIEW

NORTH MAIN DIVIDE BURN PROJECT

On June 24, 2004, the Trabuco District Ranger on the Cleveland National Forest (Forest) signed a Decision Memo (DM) for the North Main Divide (NMD) Burn Project, applying Categorical Exclusion #10 (hazardous fuels reduction activities using prescribed fire, not to exceed 4,500 acres, and mechanical methods for crushing, piling, thinning, pruning, cutting, chipping mulching, and mowing, not to exceed 1,000 acres).

The intent of the NMD Burn Project was to contribute to the accomplishment of the National Fire Plan in protecting communities, natural resources, the lives of firefighters, and the public.

The purpose of the NMD Burn Project was to maintain a system of fuel breaks consisting of lighter fuels designed to limit the spread of wildfire while maintaining a safe environment for firefighters conducting suppression operations. The project was to be implemented over a 5-year period with areas of the fuel break system being burned on a rotational basis.

The DM stated that "burning would be conducted in the cooler spring months in order to reduce the current year crop of grasses" (fine fuels). The DM also specified that heavier fuels need to be pre-treated through cutting or crushing by hand or mechanical means. Fire crews and equipment would be staged during the ignition operations to allow monitoring of the burn operations and the suppression of any fire threatening to leave the project/unit containment lines.

The NMD Burn Project appeared in the Forest's Schedule of Proposed Actions, and a scoping letter was sent to all interested parties. Those parties who responded to the scoping letter were in favor of the project and commented on the need to provide continued maintenance of the fuel breaks.

The Trabuco District Ranger concluded that there were no extraordinary circumstances related to the NMD Burn Project decision that would result in significant individual or cumulative effects on the quality of the human or natural resources environment.

The project's NMD Burn Plan was approved by the Forest Fire Management Officer (FMO) in May 2005, and is consistent with the

purpose and objectives found in the project's DM and resource specialist reports. The Prescribed Fire Complexity Rating for the NMD Burn Plan was determined to be moderate.

The Trabuco Ranger District (District) initiated the NMD Burn Project on Thursday, November 3, 2005, burning 10 acres. On Wednesday, January 11, 2006, the project continued with 25 acres burned, and on Thursday, January 12, an additional 15 acres were burned. On Thursday, February 2, 2006, the NMD Burn Project was re-initiated following a successful test burn, with a total of 10 acres burned that day.

During the early morning of Monday, February 6, 2006, Monte Vista Emergency Communications Center (ECC) Dispatch reported active fire at the NMD Burn Project area. Evidence at the scene suggests that this fire may have been caused by smoldering fuel (a remnant from the prescribed fire burn project) pushed by strong Santa Ana winds through containment lines. The wildfire, later called the Sierra Fire, burned approximately 10,584 acres, of which 1,968 acres were National Forest System lands and 8,616 acres were private land. The Sierra Fire was declared 100% contained on Sunday, February 12, 2006, with suppression costs totaling about $7,000,000.00.

SEASONAL WEATHER

The NMD Burn Project area experienced significant drought leading up to the day of the burn on Thursday, February 2, 2006, with less than a third of the normal precipitation for that time of year. Live fuel moisture readings taken on the District prior to the NMD Burn Project burn were: new growth at 72 percent and old growth chamise at 63 percent.

GENERAL WEATHER

The daily weather forecast leading up to the ignition of the NMD Burn Project was generally favorable with relatively low temperatures and high relative humidity. High temperatures were in the mid-60s with the low relative humidity in the mid-20s. Winds generally were out of the southwest at 15 miles per hour (mph) or less.

The general weather forecasts, starting at 2:30 p.m. on Thursday, February 2, 2006, from the Riverside Fire Weather Office - Predictive Services Unit (Riverside PSU) and utilized for the NMD Burn Project's mop-

up phase, called for "strong northeast to east winds with very low relative humidity over Southern California for Sunday, February 5, 2006, through the middle of next week."

The 2:00 p.m. fire weather forecast on Friday, February 3, 2006, from the San Diego National Weather Service included a "fire weather watch . . . for the mountains and inland valleys next week." The subsequent weather forecasts called for a fire weather watch for the project area at intermittent times, which included Sunday, February 5, and Monday, February 6, 2006.

SPECIFIC WEATHER

The daily spot weather forecast for the NMD Burn Project area was received from the Riverside PSU for Thursday, February 2, 2006, and predicted favorable conditions for the time of ignition that day through Saturday, February 4, 2006. The extended "outlook" called for conditions to change on Sunday, February 5, and Monday, February 6, 2006 -- indicating northeast to east winds ranging from 10 to 20 mph, with higher wind gusts.

Actual weather observations recorded at the Fremont Canyon Remote Automated Weather Station showed that the off-shore winds and low relative humidity occurred consistently after midnight on Sunday, February 5, 2006. Steady northeast winds began around 2:30 a.m. and the relative humidity dropped from 32 percent to 22 percent during the same time period. From that point on, wind speeds increased into the 40 mph range and relative humidity fell below 20 percent. These wind speeds and relative humidity percentages remained in this range at the time the Sierra Fire was reported. The winds continued to increase and relative humidity decreased into the teen percentages throughout the day on Sunday, February 5, 2006.

II. CHRONOLOGY OF EVENTS

Thursday, February 2, 2006:

• At 7:00 a.m., fire personnel traveled from duty stations to the NMD Burn Project. On-route, the District FMO and Forest Service (FS) Fire Engine E-24 checked on another District prescribed burn project called the Falls Burn Project.

- At 9:00 a.m., the initial on-site weather was taken.

- At 9:30 a.m., the Burn Boss began the ignition phase of the NMD Burn Project which included briefings with the burning crews, holding crews, and other personnel concerning safety, prescribed fire operations, weather and assignments.

- The "Go-No-Go" checklist was completed.

- From 10:00 to 10:20 a.m., a test burn, which met resource objectives within the NMD Burn Plan, was successfully conducted.

- At 10:20 a.m., the Burn Boss made the decision to continue the NMD Burn Project burn operation.

- At 1:30 p.m., the Burn Boss met with the Burn Boss trainee and BC-21 to discuss the progress of the NMD Burn Project. They determined that the continuation of the burn would not achieve the resource objectives of the NMD Burn Plan.

- At 2:07 p.m., the Burn Boss ceased burning, released the California Department of Forestry and Fire Protection (CDF) hand crews, and directed the remaining burn organization to begin the mop-up and patrol phase for the burned area with the exception of the "bowl area"- which is approximately one acre.

- At 3:00 p.m., the Burn Boss assigned FS Fire Engine E-20 and the fuels crew to mop-up and patrol the NMD Burn Project on Friday, February 3, 2006.

- At 4:18 p.m., CDF Fire Engine E-3174 was released from the NMD Burn Project.

- At 4:25 p.m., all resources (with the exception of E-20) were released from the NMD Burn Project and returned to the station.

- At 7:30 p.m., E-20 returned to the station and notified the Monte Vista ECC Dispatch that there were "no smokes showing."

- Weather observations were taken at 9:00 a.m., 9:45 a.m., 10:30 a.m., 11:45 a.m., and 12:45 p.m.

Friday, February 3, 2006:

• At 7:00 a.m., the fuels crew and E-20 went into service. Their assignment was to mop-up all residual smokes and to patrol the NMD Burn Project.

• At 7:30 a.m., the FS Fire Duty Officer briefed the fuels crew and E-20 at the Corona Station on their assignments, weather, and safety for the day. After the briefing, they departed to the NMD Burn Project.

• At 9:48 a.m., the fuels crew and E-20 arrived at the NMD Burn Project.

• At 3:07 p.m., E-20 and the fuels crew left the NMD Burn Project.

• At 4:00 p.m., E-20 and the fuels crew arrived at the Corona Station. The District's Fire Captain called the fuels crew to inquire on the status of the NMD Burn Project. The fuels crew reported that all residual smokes were extinguished.

• At 5:30 p.m., E-20 and the fuels crew went off duty.

Saturday, February 4, 2006:

• At 8:00 a.m., E-24 returned to the other prescribed burn on the District, the Falls Burn Project.

Sunday, February 5, 2006:

• At 10:30 a.m., FS Patrol PT-21 departed for the NMD Burn Project to patrol the project area from the road.

• At 11:00 a.m., PT-21 and another firefighter arrived at the NMD Burn Project. They reported no smokes.

• At 11:20 a.m., PT-21 and the other firefighter returned to the Corona Station.

• At 4:30 p.m., all fire personnel were declared off-duty.

Monday, February 6, 2006:

- At 4:35 a.m., the Monte Vista ECC Dispatch notified BC-21 of fire being reported at the NMD Burn Project.

- At 5:00 a.m., District Fire Captain 27 arrived at the NMD Burn Project.

- At 6:03 a.m., BC-21 notified the Monte Vista ECC Dispatch of "fire outside of prescription."

III. FINDINGS

The following section documents the region's findings of factual events leading up to and possibly causing the apparent escaped NMD Burn Project. It is not intended to be an investigation of Forest personnel or the subsequent wildfire.

1. The DM for the NMD Burn Project was signed on June 24, 2004, by the Trabuco District Ranger and is in compliance with all established laws, regulations, and policies.

2. There were no significant changes in vegetative conditions, social issues, or Forest priorities resulting in effects other than those described in the DM.

3. The NMD Burn Plan was approved in May 2005, and is consistent with the goals and objectives found in the DM and resource specialist reports.

4. The NMD Burn Plan was created utilizing the appropriate regional format.

5. The project activities and actions identified in the DM were utilized in the development of the NMD Burn Plan objectives and prescription.

6. The NMD Burn Project was an on-going operation with portions of the fuel break burned during the fall and winter months beginning in November 2005. The DM states that the project should be burned during the cooler spring months. The season/time of year in the NMD Burn Plan prescription calls for spring burning.

7. All fire personnel that planned and implemented the NMD Burn Project met all required fire qualifications.

8. The project was rated at a moderate complexity in the NMD Burn Plan.

9. The Technical Reviewer for the NMD Burn Plan was not a qualified Type I Burn Boss. Regional policy states that a Type I Burn Boss will conduct technical reviews of prescribed fire burn plans that are a moderate complexity level.

10. The Forest FMO, as the Acting Forest Supervisor, signed and approved the NMD Burn Plan. Regional policy states that the Forest Supervisor, or a District Ranger to whom the authority has been individually re-delegated by the Forest Supervisor, will approve prescribed fire burn plans that are rated at a moderate complexity level.

11. The NMD Burn Project's prescribed fire complexity rating was incorporated directly into the NMD Burn Plan. The National Wildfire Coordinating Group's Prescribed Fire Complexity Rating System Guide states that prescribed fire project complexity ratings will be reviewed and approved by the agency administrator.

12. No residual Mop-up Plan was included in the NMD Burn Plan. The Smoke Management and Air Quality Section of the NMD Burn Plan states that a residual Mop-up Plan will be incorporated into the NMD Burn Plan prescription with the objective of stopping all visible smokes within 48 hours of the completion of the burning phase.

13. On Thursday, February 2, 2006, the NMD Burn Project was ignited following a successful test burn, with a total of 10 acres burned that day.

14. At the time of the test burn and continued ignition of the NMD Burn Project on February 2, the extended weather forecasts were favorable with the predicted outlook indicating "northeast to east 10 to 20 mph winds with higher wind gusts" on Sunday, February 5, and Monday, February 6, 2006. The general weather forecast predicted stronger winds for Sunday, February 5, 2006, and into the middle of the following week.

15. The on-site weather readings for relative humidity that were conducted from 9:00 a.m. to 12:45 p.m. on the day of ignition, February 2, ranged from 61 to 65 percent. The relative humidity range in the NMD Burn Plan calls for "15-40%."

16. On Friday, February 3, 2006, FS Fire Engine E-20 and a six-person fuels crew were assigned to mop-up and patrol the NMD Burn Project.

17. No mop-up of the NMD Burn Project occurred on Saturday, February 4, or Sunday, February 5, 2006.

18. There was no patrol of the NMD Burn Project on Saturday, February 4, 2006; however, E-20 remained at the Corona Station available for initial attack or to support mop-up at the NMD Burn Project if smokes were discovered. The Holding Procedures Section of the NMD Burn Plan states that once a burn is in a patrol status, the burned area will be patrolled on a daily basis until the burn is declared out.

19. A patrol along the road, which was the upper control line of the NMD Burn Project, was conducted on Sunday, February 5, 2006, by FS Patrol PT-21 and another FS firefighter -- they reported no smokes.

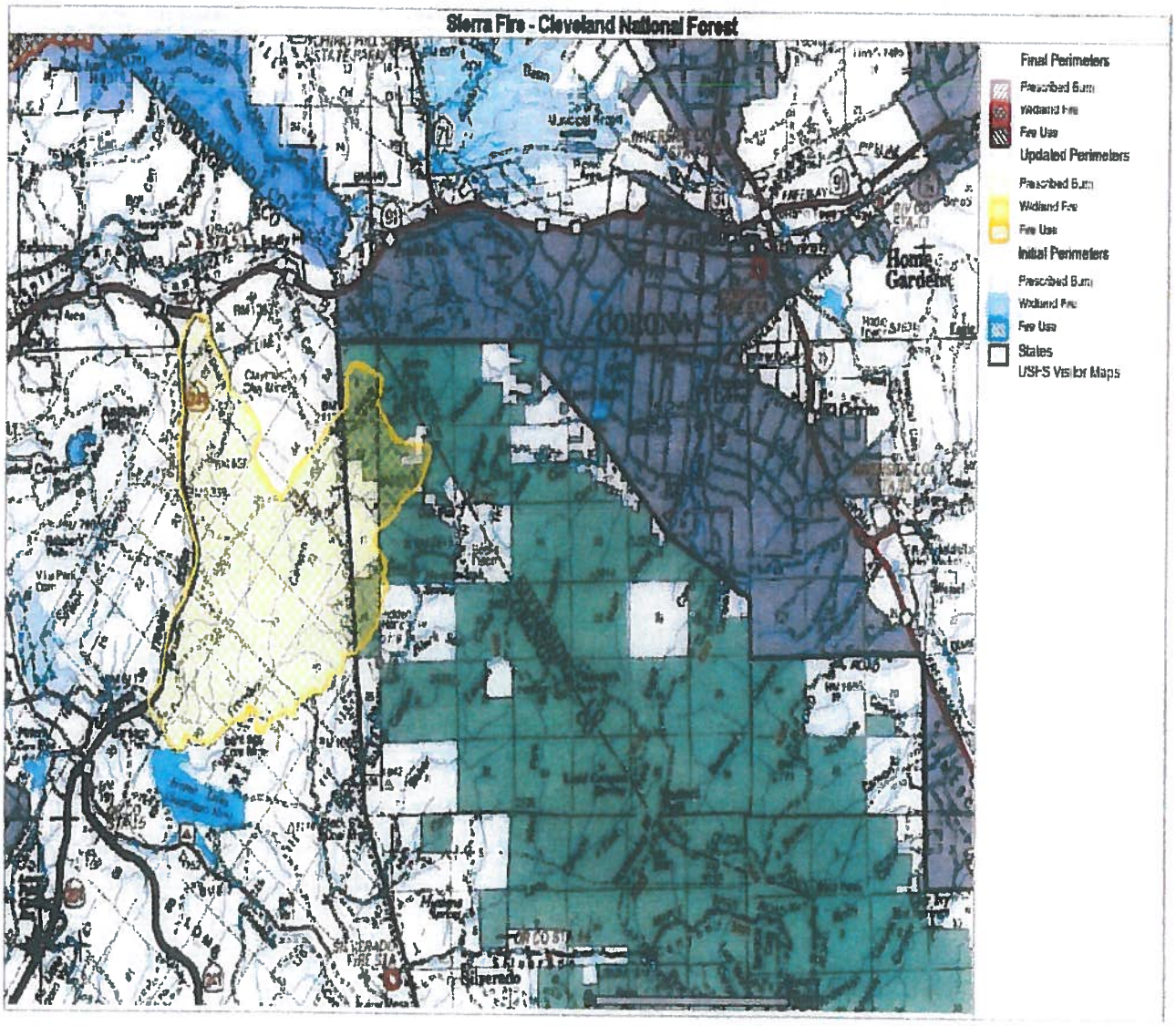
20. Neither the District nor the Forest designated a Prescribed Fire Manager during the time period of February 2 through February 6, 2006, when the District was managing two prescribed fire burn projects. Regional policy states that a Prescribed Fire Manager will be responsible for overall management of the burn program when Forests have multiple active burns.

21. The Forest notified the Regional Office within the required 24 hours after the prescribed fire project had been declared a wildfire.

IV. FOLLOW-UP ACTIONS

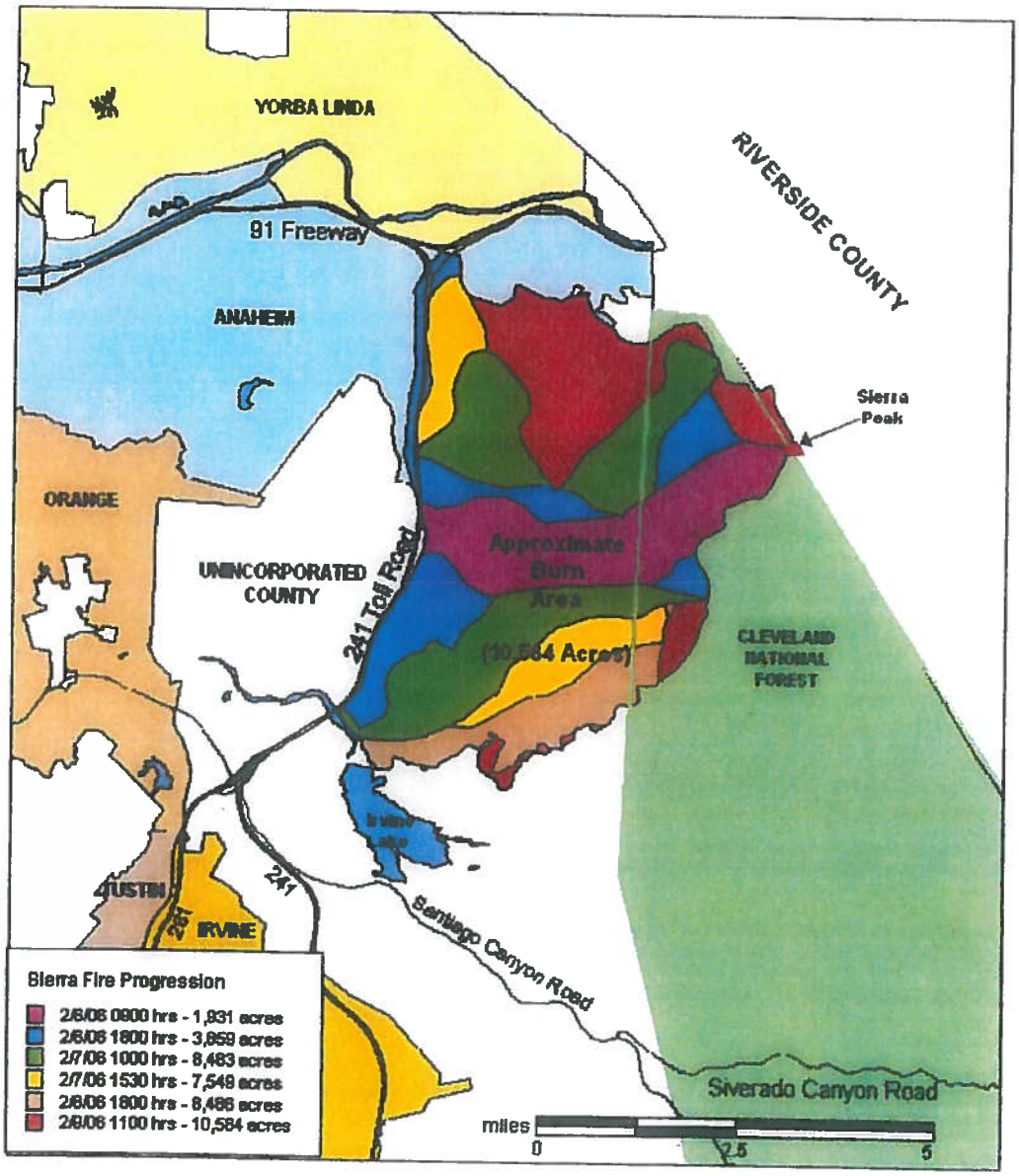
The Forest will draft an action plan that will include a schedule of items that need to be addressed to minimize future resource damage and future prescribed fire escapes. The Regional Forester will review and finalize the action plan, and will incorporate the lessons learned into training courses that will strengthen the Region's Prescribed Fire Program.

SIERRA FIRE – CLEVELAND NF



ORANGE COUNTY FIRE AUTHORITY

SIERRA FIRE MAP
As of 8:00 AM, Friday, February 10, 2006



United States Department of Agriculture | Forest Service | Pacific Southwest Region

Regional Office, R5
1323 Club Drive
Vallejo, CA 94592
(707) 562-8737 Voice
(707) 562-9130 Text (TDD)

File Code: 5140/1230 **Date:** February 17, 2006
Route To:

Subject: Letter of Delegation -- Escaped Prescribed Fire Review, Cleveland National Forest

To: Forest Supervisor Cleveland National Forest, Rob MacWhorter, Deputy Forest Supervisor Plumas National Forest

I am directing that a Regional Escaped Prescribed Fire Review be conducted of the prescribed burn which appears to have resulted in the Sierra Wildfire on the Cleveland National Forest on February 6, 2006. A report of the findings of the review will be competed in accordance with the Office of the General Counsel direction and will constitute an attorney work product, consistent with direction in Departmental Regulation 2510-001, section 7.

I am delegating to Rob MacWhorter full authority to act as Team Leader on behalf of the Region in conducting this review which is to be based on the direction found in FSM 5140-1 and the *Interagency Standards for Fire and Fire Aviation Operations (2005)*. This delegation will remain in effect until I have received the final written report of, and been briefed by, the review team. The Office of the General Counsel contact for this effort is Jeff Moulton, Deputy Regional Attorney, who is working closely with Tom Tidwell, Deputy Regional Forester on this matter.

The purpose of this review is to document the factual events leading up to, and resulting in, the apparent escaped prescribed fire, and is not intended to be a review or investigation of the subsequent wildfire. The objectives of this review are to:

1. Determine if the project planning, layout, and Prescribed Fire Plan were adequate for the project and complied with policy and guidance related to prescribed fire planning and implementation;
2. Determine if the prescription, actions, and procedures set forth in the Prescribed Fire Plan were followed; and
3. Determine the level of awareness and the understanding of the personnel involved, in regard to procedures and guidance.

The review team will include Ray Hermit, FFAM Assistant Director; Don Garwood, Deputy Fire Management Officer Angeles National Forest; Sue Zahn, Fuels Management Specialist San Dimas Technology and Development Center; and Dan Felix, Fire Behavior Analyst San Bernardino National Forest. The team may be augmented with additional team members and support personnel as needed.

The review team is currently scheduled to convene for an in-briefing with key Forest and District staff at 0800 hr on Wednesday February 22, 2006 at the Trabuco District Office (1147 East 6th

St., Corona, CA) and a preliminary close-out meeting with key Forest and District staff and personnel will need to be scheduled for no later than Friday February 24, 2006.

Forest, District, and any other personnel involved in prescribed fire program management, planning, implementation, and monitoring need to be available for the review team to interview as needed during that time period.

The Trabuco Ranger District, Cleveland National Forest, and Regional South Zone Fire Operations Center will provide logistical support for the team as needed.

Upon completion of the review, the review team is to provide a written report of findings, and to specifically identify any items that need to be addressed by the Cleveland National Forest or the Region. At a minimum the escaped fire review report will include the following elements:

1. Examination of the planning processes including NEPA documents, unit layout, and strategic considerations used in project development;
2. An analysis of seasonal severity, weather events, and on-site conditions leading up to the wildfire declaration;
3. An analysis of the actions taken leading up to the wildfire declaration for consistency with the Prescribed Fire Plan;
4. An analysis of the Prescribed Fire Plan for consistency with policy;
5. An analysis of the prescribed fire prescription and associated environmental parameters
6. A review of the qualifications and experience of key personnel involved;
7. A summary of causal agents contributing to the wildfire declaration; and
8. Examination of local prescribed fire operational, and decision making, procedures.

Special attention to documentation is critical. In support of the review team's documentation, the Cleveland National Forest will set up a file that includes all pertinent information including, but not limited to:

- The NEPA documents and strategic considerations used in the development of the project;
- The Prescribed Fire Plan, including complexity analysis and summary, contingency plan, unit layout and maps, and information regarding availability of contingency fire fighting resources;
- A Chronology of events including the prescribed fire report, organizational structure, briefings, and notification procedures and contacts;
- Unit logs and individual statements;
- Weather forecasts including any spot forecasts;
- Weather information taken on site and Remote Automated Weather Station (RAWS) and National Fire Danger Rating system (NFDRS) data for the day of the escape from the nearest station(s); and
- Photos.

After receipt of the written report, the Cleveland National Forest is to provide a written action plan and timeline addressing any items identified by the review team which need to be addressed to minimize future resource damage and future escapes from occurring.

/s/ Thomas L. Tidwell (for)
BERNARD WEINGARDT
Regional Forester

cc: Tina J Terrell
Rob Macwhorter
Tom Tidwell
Ray Quintanar
Rob Griffith
Ralph Domanski
Ray Hermit
Kathy Murphy
Don Garwood
Daniel J Felix
Richard D Hawkins

R5 5140-2001-1

June 11, 2001

Effective until superseded or removed

BERTHA C. GILLAM, Associate Regional Forester for Bradley E. Powell Regional Forester

05/17/2001

Supplements are numbered consecutively by Title and calendar year. Post by document name. Remove entire document and replace with this supplement. Retain this transmittal as the first page of this document.

New Document(s):	Region 5 Supplement 5100-2001-1	12 Pages
Superseded Document(s): (Last supplement was .)	Region 5 Supplement 5100-92-4	19 Pages

Insert digest information here

	Replaces outdated fuels direction, makes Region 5 direction consistent with FSM 5140, parent text.

FSM 5100 - FIRE MANAGEMENT
CHAPTER 5140 - FIRE USE

5140.3 - Policy.

5140.31 – General Fire Use Policies

10. An approved Prescribed Fire Burn Plan or Wildland Fire Implementation Plan delegates the authority to use fire as a management tool. No one has the authority to use fire without an approved plan. Fire shall be used only by qualified personnel and only in compliance with the approved plan. Actions taken in compliance with the approved Prescribed Fire Burn Plan or Wildland Fire Implementation Plan must be fully supported. Personnel shall be held accountable for any actions taken that are not in compliance with all elements of the approved plan.

11. Prepare a Wildland Fire Implementation Plan or Prescribed Fire Burn Plan, meeting minimum National and Regional standards, for each wildland fire managed for resource benefits or prescribed fire project. Low complexity prescribed fires may be combined under a single plan where plan elements and treatment objectives are the same. Individual Prescribed Fire Burn Plans must be completed for all moderate and high complexity prescribed fires, and for all prescribed fires conducted during fire season. Wildland Fire Implementation Plans shall be developed in accordance with the Wildland and Prescribed Fire Implementation Procedures Reference Guide. Burn Plans and Implementation Plans must be in accordance with both the Fire Management Plan and the appropriate NEPA document for the project.

12. Qualifications for preparation, technical review, approval, and execution of Prescribed Fire Burn Plans and Wildland Fire Implementation Plans are given in Exhibit 01. Individual Forests do not have the authority to establish additional qualification requirements. Prescribed Fire Burn Bosses and Fire Use Managers do not have the authority to change any elements in an approved Prescribed Fire Burn Plan or Wildland Fire Implementation Plan. Changes to an approved plan must be reviewed and approved by the line officer that approved the original plan.

13. All cooperative use of prescribed fire on a combination of National Forest lands and non-federal wildlands must both have a signed agreement in place and adhere to the requirements of the Interagency Agreement for Cooperative Use of Prescribed Fire in California.

5140.32 – Implementation. Decision criteria and implementation guidelines for the use of planned and unplanned ignitions both within and outside of wilderness should be developed as a part of individual Forest Fire Management Plans. FSH 5109.19 (Chapter 50) provides specific instructions for the preparation of these action plans.

FSM 5100 - FIRE MANAGEMENT
CHAPTER 5140 - FIRE USE

5140.31 - Exhibit 01

Minimum Qualifications for Preparation, Technical Review, Approval, and Execution of **Prescribed Fire Burn Plans**

	Complexity Level		
	Low	Moderate	High
Author	RxB2	RxB2	RxPL
Technical Reviewer	RxB2	RxB1	RxB1
Approval	Forest Supervisor, or District Rangers to whom the authority has been individually re-delegated by the Forest Supervisor.		Forest Supervisor
Execution	RxB3	RxB2	RxB1

Minimum Qualifications for Preparation, Technical Review, Approval, and Execution of **Wildland Fire Implementation Plans**

	Analysis Stage		
	Stage I	Stage II	Stage III
Preparation/ Technical Review	DIVS or RxB1	FUMA	FUMA
Approval	Forest Supervisor, or District Rangers to whom the authority has been individually re-delegated by the Forest Supervisor.		
Execution	FUMA	FUMA	FUMA

FSM 5100 - FIRE MANAGEMENT
CHAPTER 5140 - FIRE USE

5140.4 - Responsibility.

5140.42 - Forest Supervisor. Region 5 has the following additions and limitations to the authorities and responsibilities listed for the Forest Supervisor in FSM 5140.42 Items 1 through 6:

2. a. Redelegation of approval authority to District Rangers is limited to RxBP of low complexity and moderate complexity.

5. a. Ensuring that all prescribed burning is accomplished in strict compliance with approved Prescribed Burn Plan specifications.

7. Ensuring that all personnel, including contractors, permitees, timber sale purchasers, and interagency, State and international cooperators, assigned to prescribed burning operations are fully qualified for their assignments. These shall include:

a. Personnel assigned to assist other agencies. Even if the other agency has established lower qualification standards, these individuals must meet Forest Service qualifications standards.

b. Individuals assigned to aerial ignition operations. Only individuals with approved aerial ignition qualifications may be assigned to ignition operations on Prescribed Fire or Wildland Fire Use projects.

8. Documenting training, experience, and qualifications of personnel, using the qualifications standards in the National Wildfire Coordinating Group (NWCG) Wildland and Prescribed Fire Qualification System Guide (PMS 310-1), the FSM 5145, and the FSH 5109.17.

9. Ensuring that the National Wildfire Coordinating Group (NWCG) Prescribed Fire Complexity Rating System Guide is used to determine Low, Moderate and High Complexity Levels for prescribed burns. Forests may develop a localized complexity rating system to augment the NWCG Guide, but the Forest systems shall not replace the NWCG Guide. The Forest complexity rating system should be quantitative in nature and should consider the potential risk, consequences, and technical difficulty of the project.

10. Developing smoke management criteria in cooperation with local air regulatory agencies (air districts). Forest Supervisors are strongly advised to develop these criteria through Memorandums of Understanding with local air districts. These criteria shall:

a. Designate a Forest Service contact for air district personnel.

b. Establish a smoke management plan review process in collaboration with the local air district.

c. Develop mutually acceptable smoke management guidelines in collaboration with the local air district.

11. Ensuring a Job Hazard Analysis is prepared for prescribed fire projects. (See FSM 5703.4, FSM 5706.1, FSH 6709.11.) When using aerial ignition devices or helitorch the hazard analysis must address:

a. The aerial hazards and their relationship to potential influence on aerial operations.

b. The proper placement of resources to avoid helicopter flight paths.

c. The need for on-the-ground safety observer(s) when helicopter operations are in proximity to aerial hazards.

12. Ensuring that the California Prescribed Fire Incident Report System (CalPFIRS), or whichever system replaces the CalPFIRS, is updated on a daily basis with planned and completed acres burned, resources assigned, and smoke emissions.

5140.43 - Prescribed Fire Manager. The Prescribed Fire Manager is to be responsible for overall management of the burn program when Forests have multiple active burns.

5140.44 - Burn Boss. The Burn Boss is responsible for completing and signing the burn day "Go-No-Go" checklist in Exhibit 02 prior to ignition on each day that ignition occurs. This checklist shall be completed on-site and placed in the documentation file for the project.

5142 - PRESCRIBED FIRE

5142.2 – Developing Prescribed Fire Burn Plans.

In addition to the requirements listed in FSM 5142.2:

1. Each Prescribed Fire Burn Plan shall be written in the standard Regionally approved format.

2. Each Prescribed Fire Burn Plan for moderate and high complexity level burns must include requirements for obtaining a daily spot weather forecast from an Interagency Fire/Forecast Warning Unit (IFFWU) or a National Weather Service fire weather forecaster. A daily spot weather forecast is needed on days when active ignition takes place. Requests for spot weather forecasts shall include on-site weather observations. The daily general fire weather forecast for that forecast zone is acceptable for low complexity burns and during the mop-up and patrol phases of moderate or high complexity level burns. The forecast may be transmitted to the Burn Boss orally, but a paper or electronic copy of the general fire weather forecast must be placed in the documentation file for the project.

FSM 5100 - FIRE MANAGEMENT
CHAPTER 5140 - FIRE USE

5140.44 Exhibit 02

BURN DAY GO-NO-GO CHECKLIST

BURNING OPERATIONS:		
1. Are ALL fire prescription criteria met?	YES	NO
2. Is the fire weather forecast favorable?	YES	NO
3. Are ALL personnel required in the prescribed fire burn plan on site?	YES	NO
4. Have ALL of the personnel been briefed on Safety hazards, escape routes and safety zones?	YES	NO
5. Is ALL of the required equipment in place and in working order?	YES	NO
6. Have ALL personnel been briefed on the prescribed fire burn plan requirements?	YES	NO
7. Are sufficient backup resources available for containment of escapes?	YES	NO
8. Can the burn be executed according to plan and will it meet management objectives?	YES	NO
HELICOPTER OPERATONS:		
9. Have ALL aviation safety requirements been met?	YES	NO
10. Have aerial hazards been noted?	YES	NO
11. Have pilots been apprised of unavoidable flight hazards?	YES	NO
12. Have pilots been reminded of hazards?	YES	NO
13. Have overflights been avoided and personnel placed away from flight paths?	YES	NO
SMOKE MANAGEMENT:		
14. Are ALL smoke management elements in the burn plan met?	YES	NO

IF ALL OF THE ABOVE QUESTIONS HAVE BEEN ANSWERED "YES", YOU MAY PROCEED WITH IGNITION.

CERTIFIED BY: _____ **DATE:** _____
Prescribed Fire Burn Boss

3. Forest Supervisors may establish additional requirements to achieve prescribed fire objectives.

4. Administrative burning may be conducted by: permittees, contractors, or cooperators holding a valid burning permit

5. The Job Hazard Analysis completed for each burn must determine requirements for personal protective equipment. (See FSH 6709.11.25.)

6. The contingency portion of the burn plan must be based on the potential worst-case predicted fire behavior. Fire behavior predictions must be quantitative in nature, and must describe potential rates of spread, fireline intensities, flame lengths, and spotting, both within and outside of the project area. Resources called for in the contingency plan must be available, but do not need to be on-site during the burn operation, nor need they be funded from fuel treatment funds.

7. Each Prescribed Fire Burn Plan must be reviewed using the Checklist for Review of Prescribes Fire Burn Plans given in Exhibit 03. The reviewer must meet the qualifications specified in Exhibit 01. The reviewer must recommend approval of the Prescribed Fire Burn Plan, before the line officer approves the plan.

5142.5 - Definitions:

Administrative burning. The burning of debris generated by routine or recurring administrative activities, permits, contracts or cooperative agreements, such as defensible space activities, fall leaf and needle raking, and right-of-way clearing.

5143 – WILDLAND FIRE

5143.2 – Developing Wildland Fire Implementation Plans.

Spot weather forecasts shall be requested daily for all wildland fires managed for resource benefits, except in cases where the Wildland Fire Implementation Plan sets another schedule.

5144 – SMOKE MANAGEMENT

1. All prescribed burning shall be conducted in accordance with Federal, State, and County laws and regulations.

FSM 5100 - FIRE MANAGEMENT
CHAPTER 5140 - FIRE USE

5142.2.7 – Exhibit 03

Checklist for Review of Prescribed Fire Burn Plans

Project Name _____ **District** _____

INSTRUCTIONS: Technical Reviewer shall complete this checklist and attach it to the prescribed burn plan. Initial each box to indicate item found satisfactory. Enter N/A (not applicable) for those items reviewed and found not applicable to this project.

____ **Plan is in compliance with the NEPA document for this project.**

____ **Objectives, Desired Results, and Tolerable Deviations clearly outlined.**

____ **Prescription adequate to meet objectives, and have a safe burn.**

____ **Plan includes a prediction of expected fire behavior.**

____ **Plan provides for requesting spot weather forecasts on moderate and high complexity burns.**

____ **Plan requires a test burn.**

____ **Problem areas or sensitive areas identified clearly.**

____ **Plan includes organization needed and instructions for overhead.**

____ **Maps adequate.**

____ **Escape Contingency Plan adequate.**

____ **Safety Plan adequate.**

____ **Smoke sensitive areas identified and Smoke Management Plan adequate.**

____ **Required documentation submitted to APCD for burn permit.**

____ **RECOMMENDED FOR APPROVAL.**

Technical Review Completed by: _____ Date: _____

Prescribed Fire Qualification _____

2. All prescribed burning in Federal non-attainment areas for particulate matter or ozone, shall be conducted in accordance with Federal conformity requirements. Prescribed Fire Burn Bosses assigned to conduct moderate and high complexity level burns in Federal non-attainment areas should have completed a Regionally approved class in Smoke Management Techniques. Prescribed Fire Managers and Prescribed Fire Burn Bosses assigned to low complexity burns in Federal non-attainment must also have completed a Regionally approved class in Smoke Management Techniques.

3. The smoke management portion of the burn plan should be site-specific for each burn, including pile burns in smoke-sensitive areas (SSA's), and must address at a minimum the following elements:

a. Monitoring requirements, contingency planning and mitigation measures for unacceptable smoke impacts.

b. Notification procedures.

c. Emissions estimates.

d. Description of smoke-sensitive areas and procedures to avoid impacting them.

e. Desired wind speed and direction of transport winds.

f. Complaint-handling procedures.

5145 – FIRE USE ORGANIZATION.

1. Each prescribed burn shall have only one Burn Boss in command at any given time. (Refer to the Interagency Agreement for Cooperative Use of Prescribed Fire in California concerning organization on cooperative burns, and FSM R5 Supplement 5140.44 for a list of the responsibilities of the Burn Boss.)

2. Follow the direction contained in The Interagency Helicopter Operations Guide, The Aerial Ignition Systems Guide, and FSM 5700, when aerial ignition devices are used.

5145.1 - Required Skill, Knowledge, and Physical Fitness.

1. To remain current in the planning or execution of wildland fire use and/or prescribed fire, all personnel must have successfully demonstrated the ability to perform successfully within the previous three years for air operations and dispatch, and five years for all other positions. (See FSH 5109.17-2000-2 22.4.) Performance and experience must have been at the same or a higher complexity level, and should have been with a similar fuel type, topography, and type of ignition source to the current plan. To regain currency, individuals must complete the NWCG Wildland

and Prescribed Fire Qualifications Systems Guide, PMS 310-1, Position Task Book for that position or equivalent (FSH 5109.17-2000-2 22.2).

2. Employees that are new to the unit must be evaluated based on their previous experience before receiving certification. Criteria should include: the vegetation types in which the individual has performed; the organization supervised (personnel and equipment); and the complexity of the prescribed burn. The qualifications must be reviewed and approved by the Forest Fire Qualifications Review Committee (FQRC) to ensure that each individual meets all position task book requirements for each position. The NWCG Complexity Guide should be used to determine equivalencies between complexity levels.

3. The minimum physical fitness requirements for participating in prescribed burning are given in FSH 5109.17. However, if the particular fire use project is physically strenuous, the Job Hazard Analysis for the project may identify a higher level of fitness for specific positions.

4. Holding Specialists must, at minimum, be fully qualified as a Single Resource Boss.

5145.2 – Prescribed Fire Organizational Requirements. It is not necessary to name-designate Prescribed Fire Managers in individual burn plans unless the Forest has multiple prescribed burns of moderate or high complexity level that are not yet in patrol status. When this happens the Forest shall name-designate, on a daily basis, a Prescribed Fire Manager who must be available or on call. The need for a designated Prescribed Fire Manager at other times should take into account the following considerations:

a. Time of season.

b. Drying trends and drought indicators.

c. Current and predicted weather.

d. Resource availability.

e. National and Regional preparedness levels.

f. Air quality considerations.

5145.4 – Escaped Prescribed or Wildland Fires

1. When a prescribed fire or wildland fire use project has exceeded, or is anticipated to exceed planned limits, including smoke emissions, and has been declared a wildfire, a Wildland Fire Situation Analysis (WFSA) shall be prepared by a team appointed by the Forest Supervisor. The WFSA shall be prepared in accordance with the guidelines in the Wildland and Prescribed

Fire Management Policy Implementation Procedures Reference Guide. The WFSA shall include documentation of fire operations during the initial implementation, personnel qualifications, and actions taken after the fire was declared a wildfire. The report shall be of adequate detail for use in future prescribed fire and wildland fire use planning.

2. The Forest must notify the Regional Office within 24 hours after prescribed fires or wildland fire use projects have either been declared unwanted wildfires, or created serious smoke impacts. The Regional Office must conduct reviews of those fires that result in: fatalities, serious personal injuries, destruction of private property, or unacceptable smoke impacts. The Forest shall review other wildfires, and shall submit a summary of the review to the Regional Office.

3. The Regional Office is responsible for the review of unsuccessful cooperative prescribed fires conducted with another agency in accordance with the Interagency Agreement for Cooperative Use of Prescribed Fire in California.

5147 – FIRE USE REPORTING.

1. Daily reporting of planned and accomplished acres, emissions and resources should be made through the CalPFIRS, or whichever follow-on system replaces CalPFIRS.

2. Emergency Coordination Centers must report prescribed fire acres and wildland fire use acres to the appropriate Geographic Area Coordinating Center each day. The Emergency Coordination Centers should also provide a monthly update of actual acres burned by prescribed fire and wildland fire use.

3. All fire use, including prescribed fires, shall be entered in the Forest Geographic Information System database and shall be made available to the Regional Office at least once a year.

5148 - CONTRACTING FIRE USE SERVICES.

1. Permittee, Contractor, or Timber Sale Purchaser.

   a. When contracts or permits require a permittee, contractor or timber sale purchaser to perform administrative burning, such burning shall be governed by the issuance of a Burn Permit by a Forest Officer qualified to issue such permits.

   b. When the Forest Service contracts all or any part of a prescribed fire project, all persons working for the contractor must meet Forest Service qualification standards for the complexity level of that project. Qualification standards are found in FSH 5109.17-2000-2 Chapter 20.

2. All cooperative use of Prescribed Fire must be conducted according to the terms of the Interagency Agreement for the Cooperative Use of Prescribed Fire in California.

BURN PLAN INSTRUCTIONS

FSM 5142.2.1 Each Prescribed Fire Burn Plan shall be written in the Regionally approved format.

This burn plan is the Regionally approved format.

U.S. Forest Service - Pacific Southwest Region

PRESCRIBED FIRE BURN PLAN

FOR THE X BURN ON

FSM 5140.31.11 Low complexity prescribed fires may be combined under a single plan where plan elements and treatment objectives are the same. Individual Prescribed Fire Burn Plans must be completed for all moderate and high complexity prescribed fires, and for all prescribed fires conducted during fire season.

THE X DISTRICT

YR THRU YR

SIGNATURES: ***Below are the minimum qualifications for preparation, technical review and approval of Prescribed Fire Burn Plans. FSM 5140.31.12 Individual Forests do not have the authority to establish additional qualification requirements.***

APPROVED BY: ***Required***

FOREST SUPERVISOR or delegated official

FSM 5140.31 For low and moderate complexity burns, Forest Supervisor or District Rangers to whom the authority has been individually re-delegated by the Forest Supervisor. For high complexity burns, the Forest Supervisor is the approving official.

FSM 5140.31.12 Changes to an approved plan must be reviewed and approved by the line officer that approved the original plan.

TECHNICAL REVIEW: ***Required***

FSM 5140.31 For low complexity burns, RxB2; For moderate and high complexity burns, RxB1

This needs to be a different person than the preparer.

PREPARED BY: *Required*
FSM 5140.31 For low and moderate complexity burns, RxB2. For high complexity burns, RxPL
REVIEWED BY: _____
There is no requirement for reviewers. Forests may have as many or as few as they want. Forests may add a line for "Recommended by" if desired.
REVIEWED BY: _____

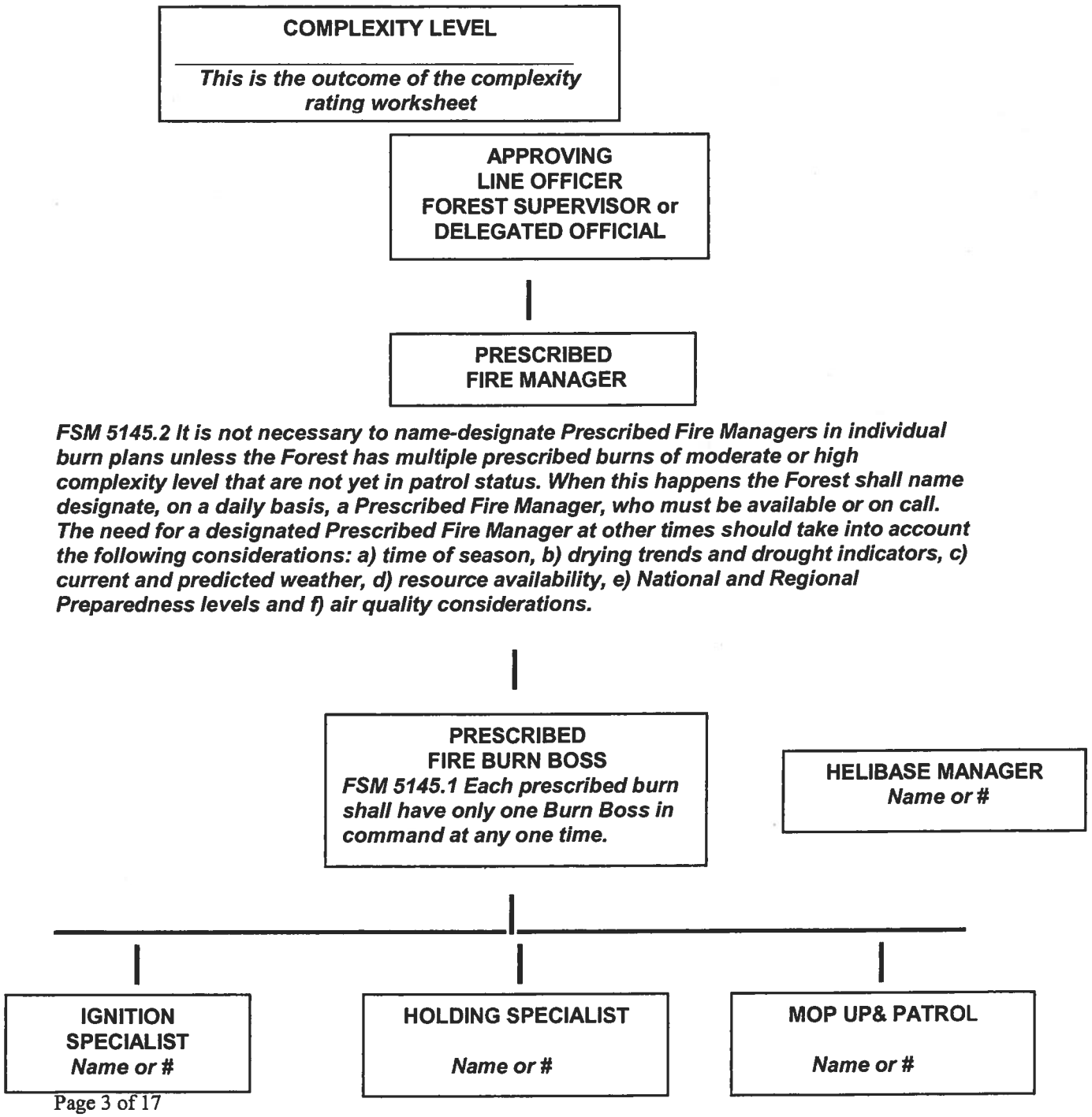
REVIEWED BY: _____

NEPA DOCUMENTATION APPROVED BY & DATE: _____
This is not a signature line; reference the NEPA document
This approved plan constitutes authority to use prescribed fire, actions taken by approved personnel, acting within the scope of their authority.
Version 5, 10/25/02

PRESCRIBED FIRE BURN PLAN
U.S.FOREST SERVICE R-5

1. BURN ORGANIZATION

List required positions that will be filled. Specify the minimum number of personnel that are needed. No less than the organization described in the approved plan shall be used to execute the burn. The positions in the flow chart below will only be filled with qualified persons, in accordance to the FSH 5109.17. If this burn is aerial ignition, refer to the Aerial Ignition Guide for qualifications and standards.



FSM 5145.2 It is not necessary to name-designate Prescribed Fire Managers in individual burn plans unless the Forest has multiple prescribed burns of moderate or high complexity level that are not yet in patrol status. When this happens the Forest shall name designate, on a daily basis, a Prescribed Fire Manager, who must be available or on call. The need for a designated Prescribed Fire Manager at other times should take into account the following considerations: a) time of season, b) drying trends and drought indicators, c) current and predicted weather, d) resource availability, e) National and Regional Preparedness levels and f) air quality considerations.

LIGHTER (S) MINIMUM #	HOLDING CREW # of FIREFIGHTERS/LIGHTERS

2. **PROJECT AREA & UNIT DESCRIPTION** **(VICINITY, PROJECT MAP ATTACHED)**

LOCATION: TOWNSHIP & RANGE &/OR LAT AND LONG

TOTAL BURN AREA SIZE (ACRES)

TOPOGRAPHIC FEATURES

ELEVATION (FEET ABOVE M.S.L.):

TOP

BOTTOM

SLOPE (%) ASPECT

FUEL CHARACTERISTICS

VEGETATION TYPES:

FUEL MODEL (SPECIFY SYSTEM):

FUEL LOADING (TOTAL TONS/ACRE):

FUEL DISTRIBUTION (TONS/ACRE BY SIZE CLASS):

Size Class	Time Lag Fuel Class	Tons/Acre
0" – ¼"	1hr	
¼" – 1"	10hr	
1" – 3"	100hr	

FUEL ARRANGEMENT:

FUEL CONTINUITY:

SURFACE FUEL DEPTH:

DUFF DEPTH:

DESCRIBE VEGETATION UNDER 12' TALL (INCLUDE LIVE & DEAD %):

DESCRIBE VEGETATION OVER 12' TALL:

3. RESOURCE MANAGEMENT GOALS & OBJECTIVES

Identification of the purpose of the burn, resource management goals stated in the environmental documentation, and specific objectives of the fire, stated in measurable terms.

Goals are broad in nature. Here are some examples:

- ***Reduce the effects of large resource damaging fires, by reducing wildfire intensity, and rates of spread***
- ***Reduce ladder fuels, raise crown base height***
- ***Increase vegetative mosaic***
- ***Protect, enhance wildlife habitat, and watershed condition***
- ***Reintroduce fire as a necessary element of the ecosystem***

Objectives are a refinement of goals. They are specific and measurable. Here are some examples:

- ***Reduce 1 and 10 hr fuels by 70-80%***
- ***Reduce 100 hr fuels by 60-70%***
- ***Reduce brush component by 50%***
- ***Prune, (with fire), ladder fuels by scorching the lower 1/3 of branches on 100% of trees less than 8" DBH***
- ***Completely scorch up to 60% of trees less than 3" DBH***
- ***Retain down logs (max. of 5/acre) 18" or greater***
- ***Maintain 60 to 70% of ground cover on slopes 35% or less***
- ***Create a mosaic burn pattern within SMZ's, with 30% of the area burned***

4. RANGE OF ACCEPTABLE RESULTS EXPECTED

Here are some examples tied to the objectives above.

- ***Reduce 1 and 10 hr fuels by 60-90%***
- ***Reduce 100 hr fuels by 50-80%***
- ***Reduce brush component by 40-60%***
- ***Prune, (with fire), ladder fuels by scorching the lower 1/3 of branches on 80-100% of trees less than 8" DBH***
- ***Completely scorch 40-80% of trees less than 3" DBH***
- ***Retain 0-5 logs per acre greater than 18" in diameter***
- ***Maintain 50-80% of ground cover on slopes 35% or less***
- ***Create a mosaic burn pattern within SMZ's by burning 20-40% of the area***

Other examples not tied to objectives may also be included. Here are some examples:

- ***Deviations from the prescribed burn objectives may occur in polygons up to ¼ acre in size and should not exceed 10% of the area.***
- ***Allow no more than 15% mortality in thinned stands and 25% mortality in unthinned stands.***
- ***Incidental torching is expected and should not exceed 10% of the area.***

5. PROTECTION OF SENSITIVE FEATURES

Give the instructions for the protection of sensitive features within or adjacent to the burn. These may include cultural resources, streams, threatened and endangered species, sensitive soils, buildings and improvements, large down logs, large snags etc. List any limited operating periods that may apply. State any types of clearances to be obtained before the area is disturbed and what steps will be taken to protect the sensitive features. The NEPA document should be used as a reference.

6. PROJECT FINANCING

ESTIMATED COST:
cost/acre
SOURCE OF FUNDING: ***e.g. BDBD, CWKV, WFHF etc.***
REMARKS: ***optional***

7. PRESCRIBED FIRE PRESCRIPTION

A prescribed fire prescription should contain those key parameters needed to achieve desired results.

Only select variables for the prescription necessary to ensure that the desired fire behavior and ultimately the desired effects will be achieved. Give a range for each variable since it is virtually impossible to achieve absolute values. Variables that don't need to be measured will say N/A.

The Southern California Forests have developed a severity matrix as part of their prescription. This matrix has been approved for use and is provided as an attachment.

FUEL MODEL: _____

Relative Humidity %

Wind Speed (MFWS)

Wind Direction

Temperature (Dry Bulb %)

Live Fuel Moisture %

Dead Fuel Moisture % 1hr. T/L

10hr. T/L

100hr. T/L

1000 Hr. T/L

Soil / Duff Moisture %

Probability of Ignition

Everything within the range of the variables is within the prescription.

Season/time of year: ***List any acceptable seasons or time of year. If there are no limitations, enter "any".***

PREDICTED FIRE BEHAVIOR:

At a minimum, show outputs at hot end and cool end. Other runs to show mid range outputs are optional.

Flame Length (ft)

Effective Wind Speed (mph)

Scorch Height (ft)

Forward Spread Rate (chains/hour)

Backing Spread Rate (chains/hour)

Spotting Distance (miles)

FIRE BEHAVIOR OUTSIDE OF UNIT BOUNDARIES USING WORST CASE WEATHER

Document what weather elements are used for this, noting what might cause problems for the burn. An example could be a wind event or drop in RH.

Rate of spread (chains/hour)

Flame length (feet)

Effective wind speed (MPH)

Forward spread rate (chains/hour)

Spotting distance (miles)

8. DATA COLLECTION & FORECASTS

DATA COLLECTION

INSTRUMENT LOCATION (S)
ELEVATION (S) (FEET ABOVE M.S.L.)
DATA TO BE COLLECTED:

List all prescription parameters that will be measured. For example:

1. ***Relative humidity***
2. ***Wind speed/direction***
3. ***10 hr dead fuel moisture (fuel stick)***
4. ***Temperature***

SAMPLING PERIOD:

Define the timing and the frequency of data collection before and during the burn, based on complexity and type of burn. Specify the timing for collection of each parameter, for example RH measured hourly, 10 hour fuel moisture twice a day, live fuel moisture up to two weeks prior.

FORECASTS

FSM 5142.2.2 Each Prescribed Fire Burn Plan for moderate and high complexity level burns must include requirements for obtaining a daily spot weather forecast from an Interagency Fire/Forecast Warning Unit (IFFWU) or a National Weather Service fire weather forecaster. A daily spot weather forecast is needed on days when active ignition takes place. Requests for spot weather forecasts shall include on-site weather observations. The daily general fire weather forecast for that forecast zone is acceptable for low complexity burns and during the mop-up and patrol phases of moderate or high complexity level burns.

Specify if smoke dispersal forecasts need to be requested.

Address how feedback will be given to the Fire Weather Forecaster.

FORECAST CENTER:

Specify where the spot weather forecast will be obtained, for example, National Weather Service, Sacramento Office.

FORECAST SPECIFICATIONS:

Address any weather events that can effect the burn or the holding capability specific to the geographical area.

If the spot weather forecast indicates that a project will exceed prescribed ranges on the hot end of the prescription sometime during the burning period, enough time should be allowed to complete both the ignition and the holding phases of the project within the prescribed range for all prescription parameters. The only exception is when the burn continues into cooler or damper parts of the day or night, when the change would assist in reducing fire behavior. (Letter from Regional Forester, dated August 17, 2001)

9. SMOKE MANAGEMENT & AIR QUALTIY

FSM 5144.1 All prescribed burning shall be conducted in accordance with Federal, State and County laws and regulations.

FSM 5144.3 The smoke management portion of the burn plan should be site specific for each burn, including pile burns in smoke-sensitive areas (SSAs), and must address at a minimum the following elements:

1. ***Monitoring requirements***
2. ***Contingency planning and mitigation measures for unacceptable smoke impacts.***
3. ***Notification procedures***
4. ***Emissions estimates***
5. ***Description of smoke-sensitive areas and procedures to avoid impacting them.***
6. ***Desired wind speed and direction of transport winds.***
7. ***Complaint handling procedures.***

If you work with a local Air Quality District that requires a Smoke Management Plan, attach it to the burn plan as part of the burn plan. It must at a minimum meet the requirements above.

FSM 5145.4.2 The Forest must notify the Regional Office within 24 hours after prescribed fires or wildland fire use projects have either been declared unwanted wildfires, or created serious smoke impacts.

10. FIRING/IGNITION PROCEDURES

Describe necessary ignition operation including firing techniques and patterns. Maps showing firing patterns are optional.

11. PROVISIONS FOR TEST FIRE & RECORDING RESULTS

Identify what variables will be monitored to determine if objectives are met. Mention the estimated size of the test fire and that a test fire will be conducted on the day of the burn.

Here is an example:

A test fire will be conducted the day of the burn and will be of adequate size, ¼ to ½ acre or larger in a representative location in the planned fire area. It will be used for the Burn Boss to determine if smoke dispersal and direction are acceptable, if fuel consumption is adequate and if fire behavior is within desired parameters.

12. HOLDING PROCEDURES

Address any special holding concerns, i.e. structures, weak spots in the line, access etc. Specify at least the minimum needs for equipment and resources.

Identify specific placement of personnel if it is necessary. Consider names of water sources, directions, capacity, if they are sensitive, etc. Consider identifying on maps. If line construction is used, consider identifying type and standard of line and location.

13. FIREFIGHTER, PUBLIC SAFETY & SPECIAL CONDITIONS

Firefighter safety is a priority. Specify details for safety and emergency procedures. Identify safety hazards unique to the burn unit and measures to reduce the safety hazard.

FSM 5142. When using aerial ignition devices or helitorch the hazard analysis must address: aerial hazards and relationship or potential influence on aerial operations; proper placement of resources to avoid helicopter flight paths; need for an on the ground safety observer(s) when helicopter operations are in proximity to aerial hazards

A. COMMUNICATIONS & RADIO NEEDS

Identify radio frequencies prior to ignition.

B. PUBLIC SAFETY (SIGNING, NOTIFICATION)

Consider signs in key areas to notify public, traffic control measures, and anything that may affect public safety.

C. MEDICAL FACILITY

Identify closest medical facility and closest recognized Burn Center

D. SAFETY AND HEALTH/JOB HAZARD ANALYSIS ATTACHED

FSM 5142.2.5 The Job Hazard Analysis completed for each burn must determine requirements for personal protective equipment.

E. HELICOPTER OPERATIONS

Refer to aerial ignition guide

14. PUBLIC INFORMATION PRE BURN INFORMATION/COORDINATION

List individuals and agencies to be notified and the time frames prior to ignition of the burn. Assign notification responsibilities. Each contact should be identified along with their phone number, radio call ID, or applicable communications link.

15. CONTINGENCY PLAN

Identification of contingency resources and actions to be taken if the fire exceeds or is anticipated to exceed planned limits, including smoke emissions.

FSM 5140.44.6. The contingency portion of the burn plan must be based on the potential worst-case predicted fire behavior. Fire behavior predictions must be quantitative in nature, and must describe potential rates of spread, fire line intensities, flame lengths, and spotting, both within and outside of the project area. Resources called for in the contingency plan must be available, but do not need to be on site during the burn operation, nor need they be funded from fuel treatment funds.

Contingency actions are designed to cover two areas of concern in prescribed fire operations, the ignition phase and the mop-up and patrol (control) phase.

Roles and responsibilities in the contingency resource identification and tracking process should be understood on each Forest. Contingency resources should be identified and tracked on a daily basis through a central system, such as that identified in each Forest Contingency Plan process. (Letter from Regional Forester, dated August 17, 2001)

Activation of contingency forces does not in itself constitute an escape.

Examples of contingency plans are attached. Other formats may be used.

15a. ESCAPED FIRE PROCEDURES

The Burn Boss is responsible for declaring an escaped fire. In the event of declaring a prescribed fire a wildfire, the Burn Boss will designate an IC who will assign an organization as needed.

Include procedures to be followed and actions to be taken if the fire exceeds the abilities of the holding crew. Define what constitutes an "escaped fire". List who will be notified of an escape, consider ECC, Air Quality, Line Officer's etc.

FSM 5145.4.1 When a prescribed fire or wildland fire use project has exceeded or is anticipated to exceed planned limits, including smoke emissions, and has been declared a wildfire, a Wildland Fire Situation Analysis (WFSA) shall be prepared by a team appointed by the Forest Supervisor. The WFSA shall be prepared in accordance with the guidelines in the Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide. The WFSA shall include documentation of fire operations during the initial implementation, personnel qualifications, and actions taken after the fire was declared a wildfire. The report shall be of adequate detail for use in future prescribed fire and wildland fire use planning.

FSM 5145.4.2 The Forest must notify the Regional Office within 24 hours after prescribed fires or wildland fire use projects have either been declared unwanted wildfires, or created serious smoke impacts.

16. POST BURN SUMMARY AND DOCUMENTATION

Document burn day conditions, fire behavior, smoke dispersal, fire effects, and results.

Document burn day conditions, fire behavior, smoke dispersal, fire effects, and results, including calculated cost/acre. Were resource management objectives met? Were goals met?

One *example is shown below.*

A. ***ATTAINMENT OF GOALS AND OBJECTIVES:***

Resource Goals	***Not Met***	***Met***
1.Re-introduce fire back into the ecosystem	( )	( )
2.Reduce ladder fuels	( )	( )
3.Reduce fuel loading	( )	( )
Resource Objectives		
1. Reduce brush component by xx%	( )	( )
2. Scorch height less than x - xx feet	( )	( )
3. Reduce 1 & 10 hour fuels by xx%	( )	( )
4. Retain x - x% soil cover	( )	( )
5. Tree mortality less than xx%	( )	( )
	( )	( )
6.Other.	( )	( )

*Cost/acre*_____

Narrative for Objectives "NOT MET"

_____

_____

_____

_____

_____

17. BURN DAY GO-NO-GO CHECKLIST

To be filled out daily by burn boss and filed in project folder.

A "no" response to any item means stop!!!

BURNING OPERATIONS

1. Are **ALL** fire prescription criteria met Y/N?
2. Is the fire weather forecast favorable Y/N?
3. Are **ALL** personnel required in the prescribed fire burn plan on site Y/N?
4. Have **ALL** personnel been briefed on safety hazards, escape routes and safety zones Y/N ?
5. Is **ALL** of the required equipment in place and in working order Y/N?
6. Have **ALL** personnel been briefed on the prescribed fire burn plan requirements Y/N?
7. Are sufficient backup resources available for containment of escapes Y/N?
8. Can the burn be executed according to plan and will it meet management objectives Y/N?

HELICOPTER OPERATIONS

9. Have **ALL** aviation safety requirements been met Y/N?
10. Have aerial hazards been noted Y/N?
11. Have pilots been appraised of unavoidable flight hazards Y/N ?
12. Have pilots been reminded of hazards Y/N?
13. Have over flights been avoided and personnel placed away from flight paths Y/N?

SMOKE MANAGEMENT

14. Are **ALL** smoke management prescription specifications met Y/N?

IF ALL QUESTIONS ABOVE HAVE BEEN ANSWERED "YES" YOU MAY PROCEED WITH IGNITION.

CERTIFIED BY:_____**DATE:**_____

TITLE:_____

Daily Positions:

RX Burn Boss _____
Ignition Specialist _____
Holding Specialist _____
Other _____

18. TECHNICAL REVIEW

Checklist for Review of Prescribed Fire Burn Plans

Project Name_____ **District**_____

____ **Plan is in compliance with the NEPA document for this project.**

____ **Objectives, Desired Results & Tolerable Deviations clearly outlined.**

____ **Prescription adequate to meet objectives & have a safe burn.**

____ **Plan includes a prediction of expected fire behavior.**

____ **Plan provides for requesting a spot weather forecast on moderate and high complexity burns.**

____ **Plan requires a test burn.**

____ **Problem areas or sensitive areas identified clearly.**

____ **Plan includes organization needed and instructions for overhead.**

____ **Maps adequate.**

____ **Escape Contingency Plan adequate.**

____ **Safety Plan adequate.**

____ **Smoke sensitive areas identified & Smoke Management Plan adequate.**

____ **Required documentation submitted to APCD or AQMD for burn permit.**

____ **RECOMMENDED FOR APPROVAL.**

INSTRUCTIONS: Technical Reviewer shall complete this checklist and attach it to the prescribed burn plan. Initial each box to indicate item found satisfactory. Enter N/A (not applicable) for those items reviewed and found not applicable.

Technical Review Completed by: _____**Date**_____

Prescribed Fire Qualification_____

FSM 5140.42.9 The National Wildfire Coordinating Group (NWCG) Prescribed Fire Complexity Rating System Guide is used to determine Low, Moderate and High Complexity levels for prescribed burns. Forests may develop a localized complexity rating system to augment the NWCG Guide, but the Forest systems shall not replace the NWCG Guide. The Forest complexity rating system should be quantitative in nature and should consider the potential risk, consequences, and technical difficulty of the project.

Instructions for filling out the NWCG Prescribed Fire Complexity Rating Worksheet are contained in the Prescribed Fire Complexity Rating System Guide

19. NWCG Complexity Rating

NWCG
PRESCRIBED FIRE COMPLEXITY RATING
WORK SHEET

L = LOW, M = MODERATE, H = HIGH

	ELEMENT	RISK	POTENTIAL CONSEQUENCE	TECHNICAL DIFFICULTY
1.	Potential for escape			
2.	The number & dependence of activities			
3.	Values at risk			
4.	Fuels/Fire behavior			
5.	Size of prescribed fire team			
6.	Magnitude of oversight/ political activities			
7.	Fire treatment objectives			
8.	Environmental constraints			
9.	Safety			
10.	Ignition procedures/ methods			
11.	Interagency problems			
12.	Project logistics			
13.	Special features inside fire			
14.	Smoke management			
15.	Other			
	SUMMARY			

Document why H,M,L ratings where selected under rational.

NWCG
PRESCRIBED FIRE SUMMARY
COMPLEXITY RATING SHEET

RISK	OVERALL RATING	
POTENTIAL CONSEQUENCES	OVERALL RATING	
TECHNICAL DIFFICULTY	OVERALL RATING	

SUMMARY COMPLEXITY DETERMINATION:

RATIONALE:

FSM 5140.42.9 The National Wildfire Coordinating Group (NWCG) Prescribed Fire Complexity Rating System Guide is used to determine Low, Moderate and High Complexity levels for prescribed burns. Forests may develop a localized complexity rating system to augment the NWCG Guide, but the Forest systems shall not replace the NWCG Gulde. The Forest complexity rating system should be quantitative in nature and should consider the potential risk, consequences, and technical difficulty of the project.

Instructions for filling out the NWCG Prescribed Fire Complexity Rating Worksheet are contained in the Prescribed Fire Complexity Rating System Guide

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PRESCRIBED FIRE COMPLEXITY RATING SYSTEM GUIDE

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PRESCRIBED FIRE COMPLEXITY RATING SYSTEM GUIDE

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PRESCRIBED FIRE COMPLEXITY RATING SYSTEM

Purpose

The Prescribed Fire Complexity Rating System was developed to assist personnel in determining a relative complexity of any single prescribed fire project. The system was designed for interagency application and provides the local prescribed fire manager the opportunity to include local considerations in the decision process. The first edition was published in 1995. Based on the experience gained working with this document, an update was needed to help clarify how and when to use the document and to provide descriptors for the factors of Potential Consequences and Technical Difficulty.

The purpose of the complexity rating process is to provide:

- Management and implementation personnel a relative ranking as to the overall complexity of a specific prescribed fire project.

- A process that can be used to identify prescribed fire plan elements or characteristics that may pose special problems or concerns and where prescribed fire plan changes may be prudent to mitigate or eliminate these problems or concerns.

The analysis can be used at any of the various stages during the planning process, initial project identification level to a late stage draft of the prescribed fire plan.

The "Risk" and "Potential Consequences" ratings can be used to help determine an overall management risk associated with the project; the "Technical Difficulty" ratings can be used to facilitate the planning process and help identify prescribed fire positions and skill levels necessary to safely and successfully implement the prescribed fire.

The process is intended to serve as an aid in evaluating common elements and components of prescribed fires that contribute to their level of difficulty. Numerical rating scales were purposely avoided because these may lead to a distorted perception of the project, and different agencies and geographic areas place different values on similar resources and objects on or near the prescribed fire location. Documentation may be required at various decision points to support conclusions reached by evaluating the complexity elements.

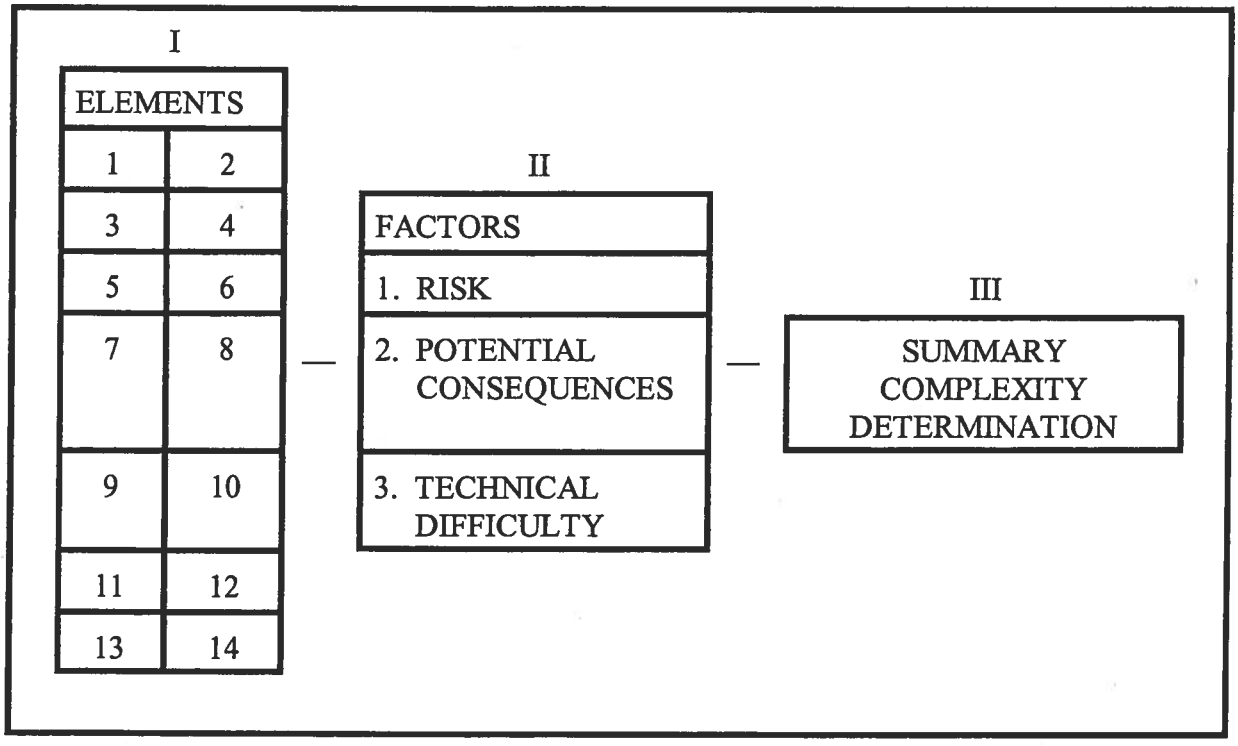
Many state and Federal agencies and geographic areas may have additional analysis criteria. These should be used to supplement the NWCG complexity rating system. The rating system is for a single prescribed fire project and is not intended to rate other stand alone operational procedures where safety and/or operational measures are in place as a normal course of business (e.g., Alaska, where most activities require significant aviation operations just to get to the site and separate standards exist that provide safety and operational procedures along with personnel qualifications).

Overview

The broad concept is to consider three fire complexity factors: (1) Risk (the probability or likelihood that an adverse event or situation will occur); (2) Potential Consequences (some measure of the cost or result of an adverse event or situation occurring); and, (3) Technical Difficulty (which indicates the skills needed to implement the project and deal with unexpected or adverse events). The system uses 14 elements that are common to most prescribed fire projects. Each element rating is determined by assigning a Low, Moderate, or High value. A rating descriptor is given for each rating level and for all elements. Each element is evaluated individually in the complexity analysis process by reading the criteria and selecting the most appropriate descriptor. The rating is documented on the Complexity Rating Worksheet. A rationale section is provided to document the decision process.

A summary rating is provided to assist in assigning an overall project complexity rating. The working part of the analysis assigns relative values to Risk, Potential Consequences, and Technical Difficulty to each of the complexity elements.

Illustration #1 - Flow Chart



Process

This process is be used to identify prescribed fire plan elements or characteristics that may pose special problems or concerns and where prescribed fire plan changes may be prudent to mitigate or eliminate these problems or concerns. It is recommended that a preliminary rating be completed during the project development stage *prior* to the development of the prescribed fire plan. In this way problem areas identified may be mitigated during the prescribed plan preparation process. When determining the complexity rating, areas outside of the project boundaries that could be impacted if the fire escaped or could be impacted by smoke should be considered. Once the prescribed fire plan is near completion, the final complexity rating is made. The final rating should take into account any mitigation included in the plan. This process should be completed on the original form with additional narration to describe the mitigation taken. Items or issues which cannot be mitigated should be clearly identified and will be highly influential in the complexity determination.

The elements and factors are not independent. Mitigating one frequently alters several others, i.e., adding more holding resources to mitigate the probability of escape increases the number and dependence of activities and project logistics.

Instructions

Step #1 - Preliminary Review of the Element Descriptors

A review of the rating descriptors prior to going on site will help to identify the elements that will be of most concern. Alternatives and/or mitigation measures that will help to reduce the final complexity rating can be considered early in the planning process.

Step #2 - Preliminary Rating Determination

The Complexity Rating Worksheet contains the 14 elements for the Risk, Potential Consequences, and Technical Difficulty factors and provides a place to record the rating. Rate the level for each element by selecting the most appropriate descriptor. Circle the low, moderate, or high rating on the worksheet and identify the rationale for that rating. In addition, if mitigation is desirable and opportunities are available, briefly identify them for further development in the planning process. This is the point where local management judgement and experience is most important. The documentation is critical to the process in that it lets the reviewer understand the thinking behind the rating and that mitigation is possible.

Some elements may not apply and should be noted on the work sheet as "N/A" to indicate they were considered, but did not apply to this project. The 14 elements may not be adequate for all or unique situations. Local issues which are not properly addressed by the standard elements can be added to the rating system. Additional elements can be added at the field office or

geographic area. If additional elements are added, specific definitions for the low, moderate and high levels of Risk, Potential Consequences, and Technical Difficulty should be prepared.

Individual element Technical Difficulty ratings provide skill position information (i.e., Prescribed Fire Burn Boss, Ignition Specialist, Fire Effects Monitor, Fire Behavior Analyst, Safety Officer, holding, etc.). Those that appear as high may indicate that high levels of skill are needed, or may be reviewed and found to be routine business for local fire managers, allowing the fire to be ranked lower than its highest individual entry.

The analysis may be halted at this point and the results used to prepare or revise the prescribed fire plan to mitigate or remove unnecessarily higher complexity issues.

Step #3 - Final Rating Determination

Near completion of the planning phase, the elements are again rated against the Risk, Potential Consequences, and Technical Difficulty factors on the same form using the same process and circling the final rating in the space provided. Again, local management judgement and experience are called for. Short justification statements are recommended to substantiate the assignment of the rating. Items rated higher than the overall average should be re-analyzed to see if mitigation opportunities were overlooked or have become available because of other actions during the plan development, changes in operational procedures, or on-the-ground preparation. Of primary concern in this step is the documentation of those items that have been changed from the preliminary rating because of the planned mitigation, site conditions, or other situations that have occurred. Again, the rationale is very important in that it documents for the manager how the rating was determined. The ratings here will provide the foundation for the Summary Rating.

Step #4 - Summary Rating Determination

Generally, since all mitigating measures have been applied, the highest rating from any single element may provide the foundation for the individual rating of Risk, Potential Consequences, and Technical Difficulty. The rationale for this rating should be brought forward from those elements that establish that rating level. The Summary Complexity Rating should take into account the individual single element ratings and agency policies.

If there is anything unique or abnormal about a project, it is recommended the agency administrator be briefed prior to submitting for approval.

Step #5 - Agency Administrator Approval

The Summary Complexity Rating and rationale for the project provides the administrator critical facts to make a decision. The administrator reviews the rating material and if in concurrence approves and dates the document. If the administrator feels that a higher or lower individual rating is appropriate, the administrator may make adjustments by documenting the changes and rationale , e.g., if public interest is high, the administrator understands this situation and accepts the responsibility, thus reducing the rating through acceptance.

PRESCRIBED FIRE COMPLEXITY RATING DESCRIPTORS

1. POTENTIAL FOR ESCAPE - RISK

LOW: Ranges from no potential for escape up to the likelihood of some spot fires, each comprising small areas that are readily detected, accessed, and controlled by modest holding forces available on the burn. No dangerous ladder fuels or concentrations are near critical holding points. Ignition procedures do not create intense fire. Probability of ignition in fuels outside the unit is below 60% or doesn't apply due to isolation of the unit. There is no residual fire expected beyond the day of ignition.
MODERATE: Potential for multiple spot fires that can propagate at moderate rates of spread but can be held by skilled and prompt holding actions. The fire has some limited potential to cross burn unit perimeters or allowable area boundaries and exceed the capability of holding forces to suppress it. Some fuel concentrations exist near critical holding points. The probability of ignition in fuels outside of the unit is between 60% and 80%. Some ladder fuels may be present but are mostly well inside the unit. Residual burning may last up to three days, with a moderate potential to cause escapes.
HIGH: There is a possibility of multiple spot fires or slop-overs that exceed the capability of the holding force to detect and suppress. Concentrations of dangerous fuels near critical holding points including ladder fuels that hamper holding operations. Expected fire line intensities in the primary fuel type are known to challenge standard fire lines or to produce abundant spotting. Probability of ignition in fuels outside the unit is over 80%. Residual burning may last for several days to several weeks with potential to flare up and escape the unit.

1. POTENTIAL FOR ESCAPE - POTENTIAL CONSEQUENCES

LOW: An escape could result in little damage to natural resource values or to improvements. No structures are expected to be involved. Any damage can be quickly repaired. There will be minimal impact to the public or users. Few social or political concerns from an escape are expected.
MODERATE: An escape could result in moderate damage to vegetation, habitat, or improvements. No residences are expected to be involved, but other structures might be involved. The fire could burn onto private or other agency lands. Damages to improvements would take some time to repair. There would be moderate impact to the public or users. Some social or political concerns from an escape could be expected.

HIGH: An escape could result in severe damage to vegetation, critical habitat, critical watersheds, or improvements. Residences may be involved. The fire is likely to burn onto private or other agency lands. Damages to improvements would take significant time to repair. Claims for damage to private property or resource damage on other agency lands may be expected. Restoration work or salvage of natural resources could be required to repair damage. There would be significant impact to the public or users. Considerable social or political concerns from an escape could be expected.

1. POTENTIAL FOR ESCAPE - TECHNICAL DIFFICULTY

LOW: Holding operations would normally be supervised at the Single Resource Boss level. The burn unit and allowable area is easily accessible to the holding resources identified in the plan. Weather conditions as identified in the Prescribed Fire Plan are normal for the area and season. All of the key implementation personnel from the local area.
MODERATE: Holding activities require supervision at the Strike Team/Task Force Leader level. Several types of resources are involved in the holding operation. Portions of the burn unit and allowable area are not easily accessible to the holding resources. Some key implementation personnel are from outside the local area.
HIGH: Holding activities require supervision at or above the Division Supervisor level. Several portions of the burn unit and allowable area are not easily accessible or some portions are inaccessible to the holding resources. Several types of holding resources are required. Most key implementation personnel are from outside the local area.

2. NUMBER AND DEPENDANCE OF ACTIVITIES - RISK

LOW: Activities are generally independent or only loosely dependent on other activities.
MODERATE: Several activities depend on successful achievement of previous or concurrent actions. The failure of one or more call for remedial measures within the capabilities of the management team.
HIGH: Activities are complex and highly interactive. The failure of single key activities can prevent the implementation of many subsequent actions and lead to a failure to successfully complete the project. Few opportunities to remedy failures exist and require highly skillful actions to be taken.

2. NUMBER AND DEPENDANCE OF ACTIVITIES - POTENTIAL CONSEQUENCES

LOW: Coordination issues do not result in an increased risk of escape, threaten the completion of the project, failure to meet project objectives, or create a safety issue.
MODERATE: Coordination problems could result in an increased risk of escape, threaten the completion of the project, failure to meet some project objectives, or create a safety issue. Some delay in implementation would be expected.
HIGH: Coordination failure(s) could result in a high risk of escape, failure to complete the project, failure to meet the project objectives, or serious safety issues for implementation personnel or the public. A significant delay in implementation would be expected.

2. NUMBER AND DEPENDANCE OF ACTIVITIES - TECHNICAL DIFFICULTY

LOW: Minimal difficulty in coordinating the required activities. Coordination problems or communication failures or issues will not affect the completion of the project.
MODERATE: Coordination activities require a moderate skill level. Continuous communication is necessary for successful project completion.
HIGH: Requires a highly skilled team to successfully complete the project. Continuous coordination and communication is critical to the success of the project.

3. OFF-SITE VALUES - RISK

LOW: There are few values at risk or the values identified are generally considered low or minimal or the project is expected to take place during periods of low visitor use. Minimal risk to improvements, private or other agency lands.
MODERATE: Some limited areas of high value are located adjacent or near the project area or the project is expected to take place during periods of moderate visitor use. Moderate risk to improvements, private or other agency lands. One critical protection area has been identified.
HIGH: Several areas of high value are located adjacent or near the project area or the project is expected to take place during periods of high visitor use. Substantial risk to improvements, private or other agency lands. More than one critical protection area has been identified.

3. OFF-SITE VALUES - POTENTIAL CONSEQUENCES

LOW: The vegetation potentially affected generally has rapid recovery rates or the expected fire behavior should would cause minimal or no damage to off-site values, improvements, private or other agency lands. No restrictions on visitor use are expected during project implementation.
MODERATE: Some negative impacts are expected in the event of spot fires, slopovers, and escapes. The vegetation potentially affected generally has moderate recovery rates or the expected fire behavior may cause limited damage or some other limited serious consequences to off-site values, improvements, private or other agency lands. Visitor use may be restricted during project implementation for a short period of time.
HIGH: The vegetation potentially affected generally has slow recovery rates or the expected fire behavior could cause serious damage or destruction to off-site values, improvements, private or other agency lands. Visitor use will be restricted during project implementation for an extended period of time.

3. OFF-SITE VALUES - TECHNICAL DIFFICULTY

LOW: Protection of the off-site values requires no special management, equipment or skills.
MODERATE: Protection of the off-site values requires some special management, a moderate skill level and good team coordination, particularly at the critical holding points.
HIGH: Protection of the off-site values requires special management, a high skill level and a high level of team coordination, particularly at the critical holding points.

4. ON-SITE VALUES (SPECIAL FEATURES) - RISK

LOW: Few or no special internal features are present that require special attention in planning or implementation. There are few on-site values at risk or the values identified are generally considered low or minimal.
MODERATE: Special features may be present within the unit that may need to be addressed in planning, strategies and briefings, and during project implementation. Some limited areas of high value are located within the project area.
HIGH: Special features are present within the unit. Several areas of high value are located within the project area. Strategies must address details in planning, at pre-burn briefings, and during project implementation.

4. ON-SITE VALUES (SPECIAL FEATURES) - POTENTIAL CONSEQUENCES

LOW: Implementation problems will not damage special features or adversely affect on-site resource values.

MODERATE: Implementation problems or failures will result in moderate damage to special features and some reduction or loss of on-site resource values.
HIGH: Implementation problems or failures will result in substantial damage to, or destruction of special features or on-site resource values.

4. ON-SITE VALUES (SPECIAL FEATURES) - TECHNICAL DIFFICULTY

LOW: No special skills or operating procedures are required. Resource values within the unit are easy to protect.
MODERATE: Protection of special features or on-site resource values requires the development of special ignition OR holding plans. Some pre-burn preparation work may be required.
HIGH: Protection of special features or on-site resource values requires the development of special ignition AND holding plans. Special or additional equipment will be needed. Considerable pre-burn preparation work is required.

5. FIRE BEHAVIOR - RISK

LOW: Fuels are uniform and/or loading is light and can be characterized using a single fuel model. Terrain is mostly flat or the slope and aspect are uniform, leading to a relatively unvarying fire. Winds, microclimate, and other fire conditions are relatively uniform. Fire behavior is highly predictable. Fire is primarily a two-dimensional surface fire and any vertical development is isolated and insignificant.
MODERATE: Fuels vary moderately within the unit, both in loading and arrangement. Medium loadings with some high concentrations are present. More than one fuel model may be present on significant portions of the area. Variable terrain features may significantly affect fire behavior and present moderate ignition and control problems. Local winds and burning conditions may vary enough to cause notable shifts in fire behavior. Periodic torching can be expected either as isolated points or limited areas at one time. Spotting is expected to be short-range.
HIGH: Major variations in the fuel complex require the use of several fuel models to account for the fire behavior. High fuel loadings and/or concentrations are present. Terrain encompasses a wide range in slope steepness, abrupt changes in slope, and several directional aspects that lead to widely variable and unpredictable local winds and microclimate differences. High intensity fire behavior may be expected with high rates of spread, torching, possible crown fire runs, and possible long-range spotting. The resulting variations in fire behavior may present major control challenges.

5. FIRE BEHAVIOR - POTENTIAL CONSEQUENCES

LOW: Fire behavior outside of the primary unit boundary would be less than the fire behavior within the unit. For landscape level projects a large "allowable area" (MMA) has been identified.

MODERATE: Fire behavior outside of the primary unit boundary would be about the same as that experienced within the unit. For landscape level projects an "allowable area" (MMA) has been identified.
HIGH: Fire behavior outside of the primary unit boundary would be higher than that experienced within the unit. For landscape level projects an "allowable area" (MMA) has not been identified, or is limited in size.

5. FIRE BEHAVIOR - TECHNICAL DIFFICULTY

LOW: Standard fire safety precautions are adequate to ensure personnel safety. The number or size of spot fires and slopovers would not require additional suppression resources. Fire behavior is such that holding forces can control most or all spot fires and slopovers using direct attack tactics. No on-site operational fire behavior assessments or calculations are needed.
MODERATE: Some special provisions for safety are needed to protect personnel. At least one barrier or containment opportunity exists. Fire behavior is such that holding resources may need to use indirect tactics to control some spot fires and slopovers. Occasional on-site fire behavior assessments or calculations are needed and can be performed as a collateral duty.
HIGH: Fire behavior may create unique safety problems or the need for special escape routes or other safety measures. Limited containment opportunities exist. Fire behavior is such that additional holding resources would be required along with indirect attack tactics. Systematic fire behavior assessments and calculations are needed by a dedicated skill position. (FBAN or LTAN suggested for short or long duration prescribed fire operation respectively)

6. MANAGEMENT ORGANIZATION - RISK

LOW: A small number of qualified people are required to implement the prescribed fire. A single person may fill several positions. A single level of supervision is all that is needed (i.e. Burn Boss plus lighters and holders).
MODERATE: May require staffing of a majority of the prescribed fire positions with qualified personnel. A single person may fill more than one position. Two levels of supervision are needed (i.e. Burn Boss, Ignition Specialist and/or Holding Specialist plus lighters and holders).
HIGH: Requires staffing of all primary prescribed fire positions by qualified persons. Multiple divisions, groups, or units may be necessary to maintain an acceptable span of control. Three levels of supervision may be needed (i.e. Burn Boss, Ignition Specialist, Holding Specialist, plus Squad Leaders and Squads) or multiple teams are needed to cover multiple shifts or a long-duration project. Other staff and technical specialists may be needed.

6. MANAGEMENT ORGANIZATION - POTENTIAL CONSEQUENCES

LOW: Problems related to supervision or communication are expected to be minimal.
MODERATE: Problems related to supervision or communication may cause failure to meet some objectives, an increased chance of escaped fire, or violation of safety standards.
HIGH: Problems related to supervision or communication will likely cause failure to meet objectives, high probability of an escaped fire, or violation of safety standards.

6. MANAGEMENT ORGANIZATION - TECHNICAL DIFFICULTY

LOW: All team members are available within the local unit and are familiar with local factors affecting project implementation. Several qualified personnel are available. No special supervision required.
MODERATE: At least one primary team member will need to come from outside of the local unit and may not be familiar with local factors. The numbers of qualified personnel available on the local unit are limited. Special skills or supervision required for one function. (RXB2 suggested)
HIGH: Numerous and varied resources, multiple ignition methods, and/or a large team of specialized positions are needed. The burn has difficult assess, complicated logistics, potentially conflicting objectives, unusual fuel complexes, and is proximate to smoke sensitive/non-attainment areas or wildland urban interface, and/or large scale/long duration. The Burn Boss and/or two or more primary team members will need to be ordered from outside the local unit and may not be familiar with local factors. Certain skills and qualified personnel are not available on the local unit. Special skills or supervision required for more than one function. (RXB1 suggested)

7. PUBLIC AND POLITICAL INTEREST - RISK

LOW: The prescribed fire is in an isolated or remote area and/or small in size. There has been little or no public or political controversy related to the project and little or no news media interest.
MODERATE: The prescribed fire is visible to some portions of the public and/or moderate in size. There has been some public or political concern about the project or the program. There is some media interest in the project.
HIGH: The prescribed fire is highly visible to the public. Public or political interest is high in either the project or the program causing high management interest in the day-to-day preparation necessary to carry out the project. Media are interested in the project and may desire to be present on-site during some phases of the project.

7. PUBLIC AND POLITICAL INTEREST - POTENTIAL CONSEQUENCES

LOW: Unexpected or adverse events would attract little public, political, or media attention.
MODERATE: Unexpected or adverse events would attract some public, political, or media attention and may delay implementation of other projects. News releases and local news briefings would be required.
HIGH: Unexpected or adverse events would attract significant public, political, or media attention and may cause a shut-down of the program. Calls for investigations into the unexpected or adverse events could be expected from the public or politicians. Heads may roll.

7. PUBLIC AND POLITICAL INTEREST - TECHNICAL DIFFICULTY

LOW: Requires no special fire information function. Routine media releases needed. No special notifications of the public are needed.
MODERATE: Requires dedicated time from the unit public affairs officer and or Agency Administrator. Public information stations or public meetings may be warranted. May require special media releases or field trips. Some specific members of the public or political entities may need to be notified directly.
HIGH: Requires a fire information officer. A political liaison may be assigned to the project. Requires considerable involvement from the Agency Administrator. Public information stations and door-to-door contacts are warranted. Extensive pre-burn public meetings may be needed. Media is expected to be on site during implementation. Multiple direct notifications are needed prior to project implementation.

8. FIRE TREATMENT OBJECTIVES - RISK

LOW: Objectives are limited to easily achieved fuel reduction or ecosystem maintenance. The necessary fire behavior is easily created, managed, and monitored.
MODERATE: Objectives may include changes in two or more strata of vegetation for ecosystem restoration or maintenance. Objectives are judged to be moderately hard to achieve. Basic monitoring of fire behavior and weather is needed to determine if prescribed fire objectives are being met.
HIGH: Objectives include changes in several strata of vegetation for ecosystem restoration or hazardous fuels reduction. Objectives are judged to be hard to achieve and may require specialized monitoring of fire behavior and weather.

8. FIRE TREATMENT OBJECTIVES - POTENTIAL CONSEQUENCES

LOW: Other opportunities to meet objectives will be available. Other management activities are not dependant on the completion of the project. Failure to meet objectives would have few or no adverse impacts on natural resources.
MODERATE: Other opportunities to meet objectives are very limited in a given year. Other management activities are dependant on the completion of the project but other management options are available. Failure to meet objectives could have short-term adverse impacts on natural resources.
HIGH: Opportunities to meet objectives are not available every year or may not be available at all. Other management activities are dependant on the success of this project and other management options are limited. Failure to meet objectives could have long-term adverse impacts on natural resources.

8. FIRE TREATMENT OBJECTIVES - TECHNICAL DIFFICULTY

LOW: Measures to achieve the objectives are easy to complete and there are few or no restrictions on techniques. Limited pre-burn monitoring is needed to determine if the unit is in prescription.
MODERATE: Measures to achieve the objectives are either 1) easy to complete but there are restrictions on the techniques or 2) moderately difficult to complete and there are few or no restrictions on techniques. Moderately intense fire behavior is needed to meet the resource objectives. Pre-burn monitoring is needed to determine when the unit is in prescription. During-burn monitoring is necessary to determine if the prescribed fire objectives are being met.
HIGH: Measures to achieve the objectives are both moderately difficult/difficult to achieve and there are restrictions on the techniques. High intensity fire or a combination of fire intensities are needed to meet resource objectives. Success depends on precise timing and sequence of ignition. Extensive pre-burn monitoring is required to determine when the unit is in prescription. Qualified Fire Effects Monitors are needed to determine if prescribed fire objectives are being met.

9. CONSTRAINTS - RISK

LOW: No constraints related to access, water sources, firelines, specific tactics, or equipment and aircraft use exist. There are few or no scheduling restrictions.
MODERATE: Some constraints exist on access to parts of the project area, use of some water sources or the amount of water that can be taken, types of fireline, specific tactics, heavy equipment, or aircraft use. Ignition may be restricted during some portions of the potential burn window to minimize impacts to special events or seasonal activities.

HIGH: Significant constraints exist on access to parts of the project area, use of some water sources or the amount of water that can be taken, types of fireline, specific tactics, heavy equipment, or aircraft use. Ignition will be restricted, potentially for long periods, during the potential burn window to minimize impacts to special events and seasonal activities.

9. CONSTRAINTS - POTENTIAL CONSEQUENCES

LOW: Project can be implemented whenever it is in prescription. Tactics and burn activities are not limited.
MODERATE: Some burn windows may be unavailable due to the constraints, and may cause the project to be implemented under less than optimal conditions, reducing the ability to meet resource objectives. Limitations on the available tactics may increase the risk of unexpected or adverse events.
HIGH: The constraints result in a very narrow burn window and are likely to cause the project to be implemented under less than optimal conditions, reducing the ability to meet resource objectives. Limitations on the available tactics will increase the risk of unexpected or adverse events.

9. CONSTRAINTS - TECHNICAL DIFFICULTY

LOW: Constraints do not increase the difficulty of completing the project.
MODERATE: Constraints moderately increase the difficulty of completing the project. The length of time to complete the project and the size of the organization needed may increase.
HIGH: Constraints significantly increase the difficulty of completing the project. The length of time to complete the project and the size of organization will increase and project feasibility may be in doubt.

10. SAFETY - RISK

LOW: Safety issues are easily identifiable and mitigated. Potential hazards are typical and easily addressed in briefings. There is little or no potential for adverse impacts to public health and safety. Activities can be characterized as high frequency/low risk. Fatigue and exposure to safety risks are limited.
MODERATE: Significant safety issues have been identified. Detailed briefings are needed to raise safety consciousness of all involved. Most safety hazards have been mitigated, but some remain that require special caution. There could be adverse impacts to public health and safety. At least one activity can be characterized as low frequency/high risk. Fatigue and prolonged exposure to safety risks may occur.

HIGH: Complex safety issues exist. Special safety briefings are required. Several safety hazards remain that require special cautions. Potential adverse impacts to public health and safety require special mitigation. Several activities can be characterized as low frequency/high risk. Fatigue and prolonged exposure to safety risks require special mitigation or consideration.

10. SAFETY - POTENTIAL CONSEQUENCES

LOW: Minimal potential for serious accidents/injuries to firefighters or the public.
MODERATE: Moderate potential exists for more serious accidents/injuries to firefighters or the public.
HIGH: High potential exists for serious accidents/injuries or multiple accidents/injuries to firefighters or the public.

10. SAFETY - TECHNICAL DIFFICULTY

LOW: Safety concerns can be easily mitigated through LCES. A standard safety briefing as part of the project briefing should be sufficient to cover the safety concerns. Special mitigation to protect public health and safety are not needed.
MODERATE: Most safety concerns can be easily mitigated but some remain that require extra caution during project operations. Special emphasis is needed for some elements of LCES. The project briefing will include a safety briefing with special issues or emphasis areas. Limited mitigation to protect public health and safety are needed.
HIGH: Extra caution is needed during project mitigation to manage several safety concerns. Careful attention to all elements of LCES is required. The implementation team may include a qualified fire Safety Officer. A special safety briefing with special issues or emphasis areas is needed as part of the project briefing. Special mitigation are required to protect public health and safety.

11. IGNITION PROCEDURES/METHODS - RISK

LOW: Firing sequence and timing is not critical to meet project objectives. The entire project area is readily visible to the Ignition Specialist/Burn Boss.
MODERATE: Firing sequence and timing are somewhat critical to meet project objectives. Most of the project area is readily visible to the Ignition Specialist or Burn Boss.
HIGH: Firing sequence and timing are critical to meet project objectives. Portions of the project area are not readily visible to the Ignition Specialist and Burn Boss.

11. IGNITION PROCEDURES/METHODS - POTENTIAL CONSEQUENCES

LOW: Firing methods and procedures do not pose a safety concern to personnel, compromise project objectives, or increase the risk of an unexpected or adverse event.
MODERATE: Firing methods and procedures must be coordinated to provide for adequate safety, meet project objectives, and reduce the risk of an unexpected or adverse event. Opportunities for remedial actions or corrections are available in the event of problems.
HIGH: Firing methods and procedures must be carefully planned and well coordinated to address safety concerns, meet project objectives, and reduce the risk of an unexpected or adverse event. Opportunities for remedial actions or corrections are limited in the event of problems.

11. IGNITION PROCEDURES/METHODS - TECHNICAL DIFFICULTY

LOW: There is no need for special firing equipment, techniques, or patterns. Firing procedures are simple and ignition team is small. Use of only one type of ignition device is planned. The ignition pattern requires minimal supervision of the lighters to achieve project objectives and manage safety concerns.
MODERATE: The need for special firing equipment, techniques, or patterns has been identified. Firing procedures are somewhat complex in at least some portions of the project area and the ignition team may be broken into two or more squads. Use of two different types of ignition devices are planned. The ignition pattern requires direct control of the lighters to achieve project objectives and manage safety concerns. (RXI2 suggested)
HIGH: The need for special firing equipment, or different techniques, or firing patterns has been identified. Firing procedures are complex and the ignition function may be broken into multiple teams with more than one Ignition Specialist used. Simultaneous ignitions will occur. Use of several different ignition devices (aerial and ground) is planned. The ignition patterns and techniques to manipulate fire behavior are used and require tight control of the lighters to achieve project objectives and manage safety concerns. (RXI1 suggested)

12. INTERAGENCY COORDINATION - RISK

LOW: The project does not involve another land management agency or jurisdiction. No concerns or issues associated with interagency partners have been identified. Restrictions related to National and regional preparedness levels are not expected.

MODERATE: The project involves another land management agency or jurisdiction but project completion is not dependent on coordinated implementation. One or more interagency partners have interest or concerns with the project that are easily addressed and satisfied. Restrictions related to National and regional preparedness levels may cause minor delays in project implementation.
HIGH: The project involves other land management agencies or jurisdictions and project completion is dependent on coordinated implementation. Several interagency partners have interest or concerns with the project that may require additional attention. Restrictions related to National and regional preparedness levels may cause significant delays in project implementation or project cancellation in a given burn window.

12. INTERAGENCY COORDINATION - POTENTIAL CONSEQUENCES

LOW: Project can be completed as planned.
MODERATE: Interagency coordination issues may delay project implementation or require minor modifications to the prescribed fire plan.
HIGH: Interagency coordination issues may cause significant delays in project implementation, may cause project cancellation in a given burn window, or may require major modifications to the project.

12. INTERAGENCY COORDINATION - TECHNICAL DIFFICULTY

LOW: No interagency issues. No special agreements needed. No unusual communication or coordination issues. Interagency resources are readily available with few or no restrictions on their use.
MODERATE: Project requires use of one or two special agreements. Implementation may require special attention to certain interagency details, such as communications and standards for operations. Interagency resources are generally available but some restrictions on their use may be present.
HIGH: Project requires use of several special agreements. Implementation requires special attention to certain interagency details, such as communications and standards for operations. Interagency resources are limited in availability and several restrictions on their use may be present.

13. PROJECT LOGISTICS - RISK

LOW: The project requires minimal logistical support with no specific logistic function assigned. Supplies needed to conduct the burn are readily available and no special transportation or storage needs have been identified. No special equipment or communications needs have been identified. Project duration is 2 days or less.

MODERATE: The project requires some logistical support in certain areas, such as communications, ground transportation, or personnel support. Most supplies are readily available. Some special transportation or storage needs may exist for burning equipment. One to two pieces of special equipment or communication equipment requiring more intensive logistical support may be needed to complete the project. Project duration requires at least one resupply trip to support remotely stationed personnel.
HIGH: The project requires extensive logistical support in several areas. Certain key supplies are limited in availability or require special transportation and storage. Several pieces of equipment or a communications network is needed that require intensive logistical support. Project duration requires several resupply trips to support remotely stationed personnel.

13. PROJECT LOGISTICS - POTENTIAL CONSEQUENCES

LOW: Problems related to logistics will not increase the risk of escape, affect the completion of the project or create a safety concern.
MODERATE: Problems or failures related to logistical support will increase the risk of escape, or affect the completion of the project or create a safety concern
HIGH: Problems or failures related to logistical support will substantially increase the risk of escape, and/or affect the completion of the project and/or create a serious safety concern

13. PROJECT LOGISTICS - TECHNICAL DIFFICULTY

LOW: No special logistical support issues. Supervisors normally handle their own support needs. Supplies and personnel are readily available and easy to obtain.
MODERATE: Project implementation requires a small logistical support operation. Logistical support may be combined with other functions. Securing, transporting, or storing some supplies or equipment may require additional effort. Obtaining some personnel may require additional contacts and advanced scheduling. Additional support may be needed for out-of-area personnel.
HIGH: Project implementation requires a large logistical support operation. Logistical support will operate as a separate function. Securing, transporting, or storing several supplies and equipment requires additional effort. Obtaining the necessary personnel requires at least some additional contacts and does require careful scheduling. Additional support will be needed for out-of-area personnel.

14. SMOKE MANAGEMENT - RISK

LOW: Smoke concerns are generally few or easily mitigated. The project will produce smoke for only a short period of time or is barely visible to the public. Smoke exposure or amounts are not expected to cause health or safety concerns to project personnel or the public. Members of the public have expressed few or no concerns about smoke.
MODERATE: Smoke concerns are moderate and some concerns require special mitigation. The project will produce smoke visible to the public over several days. Smoke exposures or amounts may cause some health or safety concerns over a short period of time. Members of the public have expressed some concerns about smoke.
HIGH: Smoke concerns are high and require special and sometimes difficult mitigation. Smoke will be readily visible to the public and last several days to weeks. Smoke exposures or amounts are likely to cause some health and safety concerns that will require special mitigation. Large segments of the public are concerned about smoke.

14. SMOKE MANAGEMENT - POTENTIAL CONSEQUENCES

LOW: No impacts OR minor impacts to isolated residences, remote roads or other facilities are expected. Firefighter exposure to smoke is expected to be minimal and not cause health and safety concerns.
MODERATE: Vistas, roads, and some residences may experience short-term decreases in visibility. A few health related complaints may occur. Minor smoke intrusions may occur into smoke sensitive areas, but below levels that trigger regulatory concern. Project personnel may be exposed to dense smoke for short periods of time.
HIGH: Vistas, roads, and residences may experience longer-term decreases in visibility OR significant decreases in visibility over the short-term. Major smoke intrusions may occur into smoke sensitive areas, such as Class I airsheds, non-attainment areas, hospitals, and or major airports, at levels that trigger regulatory concern. Project personnel may be exposed to dense smoke for prolonged periods of time.

14. SMOKE MANAGEMENT - TECHNICAL DIFFICULTY

LOW: No special operational procedures are required. Limitations on wind direction, season, etc. may be present in the plan.

MODERATE: Some considerations are needed in the prescription OR ignition portions of the plan. Burn window/opportunities are reduced by the required weather/dispersion conditions. Normal coordination with air quality officials is required. Some mitigation measures or additional smoke modeling may be needed to address potential concerns with smoke impacts. Specific smoke monitoring may be required to determine smoke plume heights and directions. Rotating project personnel out of dense smoke is necessary but easy to accomplish.
HIGH: Special considerations are needed in the prescribed fire plan. Special smoke management techniques will be used. Burn window/opportunities are limited by the required weather/dispersion conditions. Special coordination with air quality officials is required. Accelerated mop up may be planned to reduce smoke impacts. Some mitigation measures or additional smoke modeling are required to address potential concerns with smoke impacts. Specific smoke monitoring is required to determine smoke plume heights and directions. Rotating project personnel out of dense smoke is necessary but may be difficult to accomplish.

Complexity Rating Worksheet

Instructions: This worksheet is designed to used with the Prescribed Fire Complexity Rating descriptors on Page 6.

_____ _____

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)

EXAMPLE
Complexity Rating Worksheet

Instructions: This worksheet is designed to be used in conjunction with the Prescribed Fire Complexity Rating System Descriptors on page 6.

GOOSEBERRY — Project Name

XXXX — Number

Complexity elements:

1. Potential for Escape

Risk	Rationale
Preliminary Rating: [*Low*] *Moderate* *High*	The 1986 Anderson Creek fire served to break up fuel continuity on the landscape, limiting the potential spread of any escapes. While access into certain parts of the unit is minimal, generally these areas have sparse fuels outside the unit or change over to a significantly wetter aspect for a spring burn. Most ladder fuel situations occur in patches away from points of concern and critical holding points. The prescription calls for a maximum flame length of 6-7 feet. Little or no residual fire is expected.
Final Rating: [*Low*] *Moderate* *High*	No change.
Poten Consequences	**Rationale**
Preliminary Rating: *Low* *Moderate* [*High*]	An escape is likely to result in moderate damage to vegetation on north aspects. Up to three residences and several outbuildings could be affected, but these lie in an adverse direction from the prevailing winds. The fire could also burn onto Boise Cascade private timberlands, but these also lie in an adverse direction to the prevailing winds. Upslope, land is administered by the U.S. Forest Service. An agreement is in place for participation and identification of allowable areas should slopover or an escape occur. Some social or political concerns could be expected due to the high visibility of the project area to Crouch and Garden Valley. Some impact to the public or users can be expected should a escape occur near April 15, the open day of bear and turkey hunting seasons. Some mitigation can occur by not burning within two or three days of the 15, signing access roads, and placing notifications at local facilities.
Final Rating: *Low* [*Moderate*] *High*	Prescribed fire plan does not authorize operations during the period April 12-18. Patrols and lookouts will be placed at key location on and adjacent private property. See map.
Technical Difficulty	**Rationale**

Preliminary Rating: *Low* *Moderate* *High*	Because of the separation of holding personnel into 3 distinct crews in order to deal with the size of the area, holding operations will be supervised at the Single Resource Boss level. The occasions when one or both engine crews would be working directly with the hand crew are most likely to occur away from the road such that the engine crews become additional hand crew members. Portions of the burn unit are not easily accessible, but the top and bottom of the unit are accessed by roads. Expected weather conditions should be normal for the area and season and all key implementation personnel are expected to be from the local area.
Final Rating: *Low* *Moderate* *High*	No change.

2. The Number and Dependency of Activities

Risk	**Rationale**
Preliminary Rating: *Low* *Moderate* *High*	Other than the initial burnout along the road at the top of the unit, burning of the unit will be with the use of a helitorch and requires a moderate level of coordination between the ignition specialist and the holding crews to maintain safety and hold the fire along the flanks. The Burn Boss should be stationed at a lookout point within the unit in order to see the unit well enough to direct operations.
Final Rating: *Low* *Moderate* *High*	No change.
Potential Consequences	**Rationale**
Preliminary Rating: *Low* *Moderate* *High*	Coordination failure(s) could result in a high risk of escape, failure to complete the project, failure to meet the project objectives, or serious safety issues for implementation personnel or the public. A significant delay in implementation would be expected. Burn Boss will need to assure all communication equipment is ready and operational prior to ignition.
Final Rating: *Low* *Moderate* *High*	Prescribed fire plan has radio operations and checks built in.
Technical Difficulty	**Rationale**
Preliminary Rating: *Low* *Moderate* *High*	Continuous or nearly continuous communication between the Burn Boss, Ignition Specialist, and Holding Bosses is needed to manage the risk of escape and firefighter safety.
Final Rating: *Low* *Moderate* *High*	Communication procedures are identified.

3. Off-Site Values

Risk	Rationale
Preliminary Rating: *Low* [*Moderate*] *High*	Four parcels of private land are located either adjacent or near the project area. Three parcels have primary residences and outbuildings. However all parcels are located downhill from the project area and in an adverse direction from the prevailing winds. Several tree plantations are scattered throughout the entire area. Turkey season may be open during part or all of the project life, but the project area is small enough that hunters can easily avoid the area.
Final Rating: *Low* [*Moderate*] *High*	No change.
Potential Consequences	**Rationale**
Preliminary Rating: *Low* [*Moderate*] *High*	If fire were to reach any of the private parcels, at minimum claims for various types of fire damage could be filed. Loss of plantations would require replanting with a subsequent delay in full recovery of the sites intensely burned in 1986. Shrubs adjacent to the project area are generally strong resprouters or have long-lived, soil stored seed. Dominant tree species are typically considered fire resistant and burning is scheduled to take place before bud burst.
Final Rating: *Low* [*Moderate*] *High*	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: [*Low*] *Moderate* *High*	Protection of the private parcels should require no special management, equipment or skills. Since these parcels are located downhill, backing fire spread is expected in the direction of these parcels should an escape occur. The closest plantations are accessible by engines.
Final Rating: [*Low*] *Moderate* *High*	No change.

4. On-Site Values

Risk	Rationale
Preliminary Rating: [*Low*] *Moderate* *High*	No special features are present within the project area.
Final Rating: [*Low*] *Moderate* *High*	No change.
Potential Consequences	**Rationale**

Preliminary Rating: ***[Low]*** ***Moderate*** ***High***	There are no special features within the project area and on-site resources will not be adversely affected as long as the project stays within the prescribed fire behavior.
Final Rating: ***[Low]*** ***Moderate*** ***High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***Low*** ***Moderate*** ***High***	Resource values within the unit are easy to protect.
Final Rating: ***[Low]*** ***Moderate*** ***High***	No change.

5. Fire Behavior

Risk	**Rationale**
Preliminary Rating: ***Low*** ***[Moderate]*** ***High***	Fuels vary moderately within the unit between fuel models 8 and 9, with 9 dominant. Multiple aspects are involved with resulting changes in winds, microclimate and other fire conditions, but fire behavior is highly predictable. Some torching can be expected near slope breaks and at the head of the main draw at the northern tip of the ignition area, but little spotting outside the unit is anticipated.
Final Rating: ***Low*** ***[Moderate]*** ***High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low*** ***[Moderate]*** ***High***	Fire behavior outside the unit should be similar to that inside the unit on west and south aspects and less than inside the unit on north and east aspects.
Final Rating: ***Low*** ***[Moderate]*** ***High***	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: ***[Low]*** ***Moderate*** ***High***	Care must be taken to ensure that the Burn Boss and lighters in the interior of the unit are adequately protected. The number and size of slopovers should not require additional suppression resources as long as conditions remain within prescription. Both Anderson Creek and Smith Creek Roads provide containment opportunities and most main ridge lines are sparsely fueled with rocky areas. Direct attack tactics should be successful on most spot fires and slopovers.

Final Rating: [*Low*] *Moderate* *High*	No change.

6. Management Organization

Risk	Rationale
Preliminary Rating: *Low* [*Medium*] *High*	A majority of the prescribed fire positions must be staffed with fully qualified personnel with separate personnel filling the positions of Burn Boss, Ignition Specialist, and Holding Boss. Media personnel will be positioned outside the unit.
Final Rating: *Low* [*Moderate*] *High*	No change.
Potential Consequences	**Rationale**
Preliminary Rating: *Low* [*Moderate*] *High*	Problems related to communications may cause violations of safety standards or an increased risk of an escaped fire. Checking communications frequently will be necessary.
Final Rating: *Low* [*Moderate*] *High*	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: [*Low*] *Moderate* *High*	At least one primary team member will need to come from outside of the local unit and may not be familiar with local factors. The numbers of qualified personnel available on the local unit are limited. Special skills or supervision required for one function. (RXB2 suggested)
Final Rating: [*Low*] *Moderate* *High*	Communication checks are built into the prescribed fire plan.

7. Public and Political Interest

Risk	Rationale
Preliminary Rating: *Low* *Moderate* [*High*]	The project is moderate in size for this plant community type. Smoke will be visible to residents of Crouch and Garden Valley and if the wind was from the north or northeast it would be in town. Limit the prescription to not accept the north or northeast wind to prevent this problem.
Final Rating: *Low* [*Moderate*] *High*	The issue has been resolved, thus lowering the rating, by not allowing a north or northeast wind in the prescription and if weather conditions change, suppressing remaining areas of fire.
Potential Consequences	**Rationale**

Preliminary Rating: *Low* [*Moderate*] *High*	Unexpected or adverse events would attract some public attention due to the proximity of the burn to Crouch and Garden Valley but may not attract political and media attention unless a large escaped fire occurred. Local briefings of community leaders would be required at minimum.
Final Rating: *Low* [*Moderate*] *High*	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: *Low* [*Moderate*] *High*	During normal operations no media releases will be needed. Three homeowners and Boise Cascade need to be notified when ignition is projected to begin and kept current on fire status. An information board may be needed in Garden Valley, Crouch, or both over the life of the project.
Final Rating: *Low* [*Moderate*] *High*	A media person will be placed at the road fork near the bridge near the forks in the river to talk with local area folks and hunters.

8. Fire Treatment Objectives

Risk	**Rationale**
Preliminary Rating: [*Low*] *Moderate* *High*	The prescribed fire objectives only require low to moderate intensity fire behavior to achieve. Both weather and fire behavior monitoring are expected to be easily conducted.
Final Rating: [*Low*] *Moderate* *High*	No change.
Potential Consequences	**Rationale**
Preliminary Rating: [*Low*] *Moderate* *High*	Several opportunities will exist to meet these objects. This particular burn is the last installment on a larger project. Failure to complete this particular unit will have minimal effects on overall project success.
Final Rating: [*Low*] *Moderate* *High*	No change
Technical Difficulty	**Rationale**
Preliminary Rating: [*Low*] *Moderate* *High*	Measures to achieve the project objects are both easy to complete with few restrictions on the techniques. What restrictions exist are designed to mitigate any threats to the adjacent and nearby private lands. Pre-burn monitoring is needed to determine if the unit appears to be in prescription. Some during burn monitoring of fire behavior is needed to assure the limitations on large tree mortality are being met.

Final Rating: *Low* *Moderate* *High*	No change.

9. Constraints

Risk	Rationale
Preliminary Rating: *Low* *Moderate* *High*	Use of heavy equipment is prohibited in many areas due to slope steepness and soil type. Other that weather-related, no constraints exist on access, use of water sources, specific tactics, or aircraft use. Ignition is not expected to be restricted during any portion of the burn window or to minimize impacts to any special events or seasonal activities.
Final Rating: *Low* *Moderate* *High*	No change.
Potential Consequences	**Rationale**
Preliminary Rating: *Low* *Moderate* *High*	Project can be implemented whenever it is in prescription with exception of the period April 12-18. The only limitations on tactics is that use of heavy equipment to construct fireline is prohibited on slopes greater than 25%.
Final Rating: *Low* *Moderate* *High*	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: *Low* *Moderate* *High*	The limitations on use of heavy equipment should have no impact on project difficulty.
Final Rating: *Low* *Moderate* *High*	No change.

10. Safety

Risk	Rationale
Preliminary Rating: *Low* *Moderate* *High*	Special caution will be needed to protect the safety of the Burn Boss while on the lookout point while working around the center ridge line, and holders at the head of the draw at the northern tip of the unit. The risk to the Burn Boss is mitigated by sparse fuels on the center ridge line, continuous communication and the aerial platform provided by the helicopter. No firing should occur down wind of the Burn Boss's lookout location until he has been removed. Fatigue must be managed due to long drive times, the steep and narrow road accessing the top of the unit, and potentially long hours on steep slopes within unit.

Final Rating: *Low* [*Moderate*] *High*	These mitigation measures have been built into the plan.
Potential Consequences	**Rationale**
Preliminary Rating: *Low Moderate* [*High*]	Moderate potential exists for more serious accidents related to fatigue, such as vehicle accidents, and prolonged walking on steep slopes, such as strains and sprains. Escape routes and safety zones must be constantly updated as burning progresses.
Final Rating: *Low* [*Moderate*] *High*	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: *Low* [*Moderate*] *High*	Some extra caution is needed to manage the safety risks to lighters while within the interior of the unit and for the Burn Boss while at the lookout point; special emphasis will be needed for communications and escape routes. Safety zones will be a special emphasis for holders on the flanks on the unit, particularly at the head of the draw on the northern tip and along the eastern flank. Special mitigation to protect public health and safety are not anticipated.
Final Rating: *Low* [*Moderate*] *High*	No change.

11. Ignition Procedures/Methods

Risk	**Rationale**
Preliminary Rating: *Low* [*Moderate*] *High*	The firing sequence and timing are somewhat critical to meet project objectives and manage safety risks through the center of the unit on the interior ridge. The Burn Boss can see most of the project area from the center ridge. The Ignition Specialist or the Holding Boss can usually be positioned to see those portions of the unit that the Burn Boss cannot and still perform those duties.
Final Rating: *Low* [*Moderate*] *High*	
Potential Consequences	**Rationale**
Preliminary Rating: *Low* [*Moderate*] *High*	Firing methods and procedures must be coordinated across the center ridge to provide for adequate safety and meet project objectives. In the event of problems, firing could be halted in either draw or along the center ridgeline.
Final Rating: *Low* [*Moderate*] *High*	No change.

Technical Difficulty	Rationale
Preliminary Rating: *Low* ***Moderate*** *High*	There is no need for special firing patterns, but coordination is needed when firing out the center ridge. Otherwise, standard strip-firing techniques from the upper elevation downward will be employed.
Final Rating: *Low* ***Moderate*** *High*	No change.

12. Interagency Coordination

Risk	Rationale
Preliminary Rating: *Low* ***Moderate*** *High*	This particular project is entirely on BLM-managed lands. Although the overall project involves the Forest Service, there has been excellent cooperation and coordination. Both National and regional preparedness levels are expected to be no higher than 2 and likely to be 1 at the time the burn is planned for completion.
Final Rating: *Low* ***Moderate*** *High*	No change.
Potential Consequences	**Rationale**
Preliminary Rating: *Low* ***Moderate*** *High*	An agreement is in place with the U.S. Forest Service and no interagency coordination issues are anticipated.
Final Rating: *Low* ***Moderate*** *High*	No change.
Technical Difficulty	**Rationale**
Preliminary Rating: *Low* *Moderate* *High*	There are no interagency issues, special agreements needed, or communication or coordination issues. Interagency resources should be readily available.
Final Rating: ***Low*** *Moderate* *High*	No change.

13. Project Logistics

Risk	Rationale
Preliminary Rating: ***Low*** *Moderate* *High*	No logistical support is anticipated. Supplies are readily available and no special transportation or storage needs exist. Ignition is expected to be completed in one day with rapid burnout of ignited fuels.

Final Rating: **[Low]** ***Moderate High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: **[Low]** ***Moderate High***	The primary potential logistical problem that might affect ignition completion in a single day is would be centered around the helicopter, PSD unit or the operator.
Final Rating: **[Low]** ***Moderate High***	No change
Technical Difficulty	**Rationale**
Preliminary Rating: **[Low]** ***Moderate High***	No logistical support operation is anticipated.
Final Rating: **[Low]** ***Moderate High***	No change.

14. Smoke Management

Risk	**Rationale**
Preliminary Rating: **[Low]** ***Moderate High***	The project is expected to produce readily noticeable smoke for 1-2 days; afterwards, nighttime smoke may be noticed by the 3 residences closest to the burn for an additional 2-3 days. Smoke exposure or amounts are not expected to cause health or safety concerns for either firefighters or the public. Procedures have been identified in the plan to deal with any possible smoke impacts to the Middle Fork Road and Payette River Highway.
Final Rating: **[Low]** ***Moderate High***	No change.
Potential Consequences	**Rationale**
Preliminary Rating: ***Low*** **[Moderate]** ***High***	The Middle Fork Road or Payette River Highway may experience nighttime reductions in visibility for the first 1-2 days of the project should strong nighttime inversions develop.
Final Rating: ***Low*** **[Moderate]** ***High***	No change.
Technical Difficulty	**Rationale**

Preliminary Rating: [*Low*] *Moderate* *High*	Wind directions are limited in the burn plan to address both smoke concerns and escaped fire risk. Special coordination would be needed with Idaho State Police should the weather forecast call for strong nighttime inversions during the period of highest smoke production (first 1-2 days), but no special coordination is needed with the South Idaho Airshed Group.
Final Rating: [*Low*] *Moderate* *High*	No change.

SUMMARY COMPLEXITY RATING

RISK OVERALL RATING Moderate

POTENTIAL CONSEQUENCES OVERALL RATING Moderate

TECHNICAL DIFFICULTY OVERALL RATING Moderate

SUMMARY COMPLEXITY RATING Moderate

RATIONALE: This project rates a moderate complexity due to the higher than average degree of coordination and communications needed to safely conduct the ignition operations. This higher level of coordination and communication is driven by the presence of multiple aspects and a ridge through the center of the unit. While the risk of escaped fire in the direction of private lands is considered low, the consequences range from moderate to high in the highly unlikely event of a high intensity fire reaching either the Boise Cascade timberlands or the 3 residences closest to the project area. Risk to hunters has been mitigated through notifications. Both the safety risk and the escaped fire risk are mitigated by low fuel loadings, an early spring burn timing, generally low intensity prescribed fire behavior, and ability to safely halt burning at three different locations within the unit.

Prepared by: _____ **Date:** _____

Approved by: _____ **Date:** _____
(Agency Administrator)

Prescribed Fire Complexity Rating System Guide Worksheet

Instructions: This worksheet is designed to used with the Prescribed Fire Complexity Rating descriptors on Page 6.

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)

DECISION MEMO

North Main Divide Fuel Break System:
Hazardous Fuels Reduction Project

USDA Forest Service, Cleveland National Forest
Trabuco Ranger District
Riverside and Orange Counties, California

BACKGROUND

The North Main Divide Fuel Break System consists of approximately 10 miles of fuel breaks running from Bald Peak to Sierra Peak and includes the ridges running northeast above Bedford, Eagle, Manning, Main Street, Hagador and Wardlow canyons. The legal description of the project is: S5, S6, S7, S8, T5S, R6W; S1, S2, T5S, R7W; S30, S31, S32, T4S, R6W; S5, S6, S7, S9, S10, S14, S15, S16, S20, S22, S24, S25, S26, S27, S28, S35, T4S, R7W; S.B.M., Orange and Riverside Counties. (See attached map.)

Purpose and Need

The purpose of this project is to try to maintain the district's system of fuel breaks in a condition that may limit the spread of wildfire. Portions of the North Main Divide Fuel Break System have not burned in more than 10 years. The fuel breaks on the district should be burned at approximately 5-year intervals in order to maintain their effectiveness. This project proposes to burn portions of the fuel break system on a rotational basis. No new construction of fuel breaks is planned under this project.

The North Main Divide Fuel Break System is located so as to limit fire spread from Northeast to Southwest and Southwest to Northeast. The fuel break also provides a safe point of access for firefighters to attack any wildfires in the area.

The desired condition is to create a fuel break of lighter fuels in order slow or stop the progression of wild fires. The North Main Divide Fuel Break Project will follow the USDA Forest Service burn plan elements and guidelines (see North Main Divide Fuel Break Burn Plan, Trabuco Ranger District) for resource protection and treatment objectives.

The North Main Divide Fuel Break Burn is a multi-year project to be implemented over the next 5 years burning an average of 2 miles of fuel break each year. Burning would be conducted in the spring months in order to reduce the current year crop of grasses. Some areas of the fuel break with heavier fuels will need to have the brush pretreated by cutting or crushing using hand or mechanical means. Firing would be by hand firing techniques off of a hand line constructed along the edge of the existing fuel breaks. Lines will be constructed around any heritage sites within the burn area to protect them from damage. Lines will also be constructed to protect stands of trees scattered along the fuel break.

Fire crews and equipment will be in place throughout the project to monitor and suppress any fire that threatens to leave the project area.

The environmental analysis determined that the following items must be in place and have been incorporated into the project plan:

a. The environmental analysis will be reviewed each year prior to burning to ensure NEPA documentation is still viable.
b. Burn 60-80 % of the standing broadleaf chaparral. The desired result is type conversion of chaparral to an annual grass or sub-shrub dominated plant community with low fuel volume.
c. Burn 80-100% of all fine fuels within the existing perimeter.
d. Use moderate to high intensity fire.. Burn during the cooler spring months.
e. Best Management Practices will be applied to this project.
f. Barriers or gates shall be installed where the fuel break meets the existing forest road system to reduce off-road vehicle use of the fuel breaks.
g. Fuel breaks will be checked prior to treatment for nests to avoid damage to ground nesting birds.

DECISION TO BE IMPLEMENTED

It is my decision to approve the North Main Divide Fuel Break Project.

I have concluded that this decision is appropriately categorically excluded from documentation in an environmental impact statement or environmental assessment, as it is a routine activity within a category of exclusion under, Forest Service Handbook 1909.15, Section 31.2 (7 CFR 1b).

10. Hazardous fuels reduction activities using prescribed fire, not to exceed 4,500 acres, and mechanical methods for crushing, piling, thinning, pruning, cutting, chipping, mulching, and mowing, not to exceed 1,000 acres.

And, there are no extraordinary circumstances related to the decision that may result in a significant individual or cumulative effect on the quality of the human environment. My conclusion is based on information presented in this document and the entirety of the Record.

This decision is intended to contribute to accomplishment of the National Fire Plan in protecting communities and natural resources, the lives of firefighters and the public.

The project is expected to have no significant impact to steep slopes or highly erosive soils due to location of the project on ridge tops.
The project is expected to have no significant impacts to threatened and endangered, purposed or sensitive species or their habitats or to any critical habitat. (see project record)

The project is expected to have no significant impact to floodplains, wetlands, or municipal watersheds due to location of the project away from drainages.
The project is located away from any congressionally designated areas therefore no significant impacts are anticipated to those areas.
No inventoried roadless areas are located within or adjacent to the project perimeter and no road construction is anticipated.
No Research Natural Areas are located within or adjacent to the project perimeter.
Identified archaeological and historic sites in the project area have been identified and protected. Local Native American groups have been consulted throughout the planning process for this project.

PUBLIC INVOLVEMENT

The proposal for the North Main Divide Fuel Break System has appeared in the Cleveland National Forest's Schedule of Proposed Actions. A scoping letter dated April 5, 2004 was sent to all interested and effected parties. Comments received back from the scoping were two in favor, none opposed and two requests for further information. Those who responded in favor of the burn also commented on the need to provide continued maintenance of the fuel breaks. All supporting documentation including scoping lists is available in the record.

FINDINGS REQUIRED BY OTHER LAWS

Natural Resources:

Endangered Species Act: During project analysis, informal consultation with the U.S. Fish and Wildlife Service took place. Documentation on these subjects may be found in the official record, and are available for review at the Trabuco Ranger District office.

The Forest Biologist has reviewed and approved the project biological evaluation and assessments, and provided concurrence documentation, which may be found in the official record, available for review at the Trabuco Ranger District office.

The Forest Botanist has reviewed and approved the project biological evaluation and assessments, and provided concurrence documentation, which may be found in the official record, available for review at the Trabuco Ranger District office.

The Forest Hydrologist has reviewed and approved the project analysis, and provided concurrence documentation, which may be found in the official record, available for review at the Trabuco Ranger District office.

Cultural Resources/Tribal Consultation:

Consultation with federally, and non- federally recognized Tribes and other interested individuals via letter dated September 13, 1999 resulted in one comment requesting involvement in any post fire historical surveys conducted.

This activity complies with direction in the Programmatic Agreement Among the U.S.D.A. Forest Service, Pacific Southwest Region, the California State Historic Preservation Officer [SHPO], and Advisory Council on Historic Preservation [ACHP] Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Undertakings on the National Forests of the Pacific Southwest Region (Regional PA). The project activities are specifically addressed under Stipulation III.D.3 Undertakings where Management Measures are Necessary for the Protection of Historic Properties. No further review or consultation with the SHPO or ACHP is required prior to implementation.

The District Archeologist has reviewed and approved the project analysis, and provided concurrence documentation to the District Ranger. The Forest Archeologist management requirements are noted in the "Implementation Date" portion of this document.

Best Management Practices (BMP) will be implemented to meet water quality objectives and to maintain and improve the quality of surface water on the forest.

The project will be conducted with consultation with the South Coast Air Quality Management District and will comply with all provisions of the Clean Air Act.

This action is consistent with the Cleveland National Forest Land and Resources Management Plan, 1986.

IMPLEMENTATION DATE

The North Main Divide Fuel Break project is to be implemented over the next 5 years. The first entry is scheduled for implementation in the spring of 2005 with completion of the entire project by 2009. Implementation may begin within 7 days after publication of legal notice.

All known historic properties in the area have been delineated and will be avoided. The archeologist will be notified prior to any on site action taking place so that monitoring can take place.

ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES

This decision is not subject to administrative review or appeal pursuant to 36 CFR 215.4(A).

CONTACT PERSON

For additional information concerning this decision contact Keith Fletcher, District Ranger, Trabuco Ranger District, Cleveland National Forest, 1147 East 6th Street, Corona, CA 92879, (909) 736-1811.

KEITH W. FLETCHER

June 24, 2009
Date

District Ranger

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