

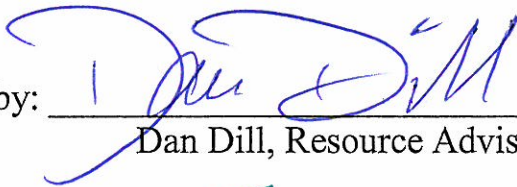
**FIRE SUPPRESSION REPAIR PLAN
FOR THE
RUTH INCIDENT**

CA-SRF-0001848

**Six Rivers National Forest
Shasta Trinity National Forest
Pacific Southwest Region**

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Prepared by:



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Approved by:



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Approved by:



Paul Whitcome, Incident Commander

Overview

The implementation of this fire suppression repair plan will be in compliance with all pertinent rules and regulations regarding fire suppression activities and is to comply with management direction and standards and guidelines in the Six Rivers and Shasta Trinity National Forest Land and Resource Management Plans. Prescriptions for the treatment of the various fire suppression activities, as well as the responsibility for implementation are indicated in the following narrative.

Ownership of the land involved in the Ruth Incident is as follows:

Six Rivers National Forest:	1,158 Acres
Shasta-Trinity National Forest:	113 Acres
Private	244 Acres
 Total:	 1,515 Acres

Implementation of the Stage 1 portion of suppression repair will be the responsibility of the Incident Management Team (IMT) in place when the timing is right to accomplish the repairs. This will be accomplished in cooperation with the Six Rivers and Shasta-Trinity National Forests. The assigned Resource Advisors will develop a list of needed repairs. Stage 1 repairs will be completed by the IMT before transitioning to the home units, and may include water barring hand and dozer lines, clean up of areas impacted by fire suppression resources, (staging areas, drop points, and spike camps), water replacement if needed, etc. Stage 2 suppression rehabilitation will be the responsibility of the home units to complete, much of which may occur after the fire is declared out or at the appropriate time, based on specific resource concerns and monitoring efforts (e.g. additional repair of hand and dozer fire lines, fall season storm proofing, noxious weed management, etc.). This plan has been approved by the Incident Commander of the IMT. Any additions or clarification of guidelines will be incorporated by addendum.

The overall objective is to repair damage caused by the fire suppression activities, and to return the affected area to pre-existing conditions as nearly as possible.

OBJECTIVES

- 1) Minimize surface and gully erosion.
 - a. Minimize sediment delivery to stream channels
 - b. Restore conditions to pre-fire drainage patterns
- 2) Minimize loss of soil productivity due to potential erosion in cleared areas.
- 3) Minimize the introduction or spread of noxious weed infestations.

STAGE 1 Repairs for the Ruth Incident will occur on roads, fire lines, drop points, staging areas, spike camps, helispots, water drafting locations and all other facilities used by suppression resources.

STAGE 2 Any additional inventory/monitoring, and repair work of damage caused by fire suppression efforts will occur at the appropriate times. This could include disturbance to hill slope hydrological processes, road surfaces and road drainage, as identified and addressed in this document.

The most prominent disturbance from fire suppression activities is to meadows and wetlands, and slope erosion processes. The goal of water barring fire lines is to drain water off the fireline and prevent concentrated flow and ultimately soil erosion. The goal of removing berms on dozer lines is to eliminate water channeling effect. The ultimate goal of repairing roads is to return drainage elements to functioning stable condition so that they effectively route water off of the road, minimize erosion and repair damaged driving surfaces. Closing dozer lines after use will minimize damage to water bars by inappropriate motor vehicle use, reduce the spread of invasive species, and help restore wildlife use patterns.

Guidelines:

A. Archeology (STAGE 1)

- a. No repair work shall commence at known heritage and archeological resource sites without consultation with the archaeologist and lead resource advisor to the fire.

B. Fire lines

STAGE 1 – Dozer lines will be the highest priority. All fire lines associated with the Ruth Incident were constructed by hand and dozers. All fire lines will be initially treated with water bars at locations where dozer and handlines intersect developed and four-wheel drive roads; barrier structures will be installed, if needed, to prevent inappropriate vehicle access. Back-blading of berms into the fireline may occur in this stage.

1. Repairs will consist of constructing water bars on all fire lines where surface erosion is a concern and access is no longer needed.
2. Heavy equipment is needed for repair of dozer lines. It is preferred that this work is done by an excavator.
3. Hand clearing of the waterbar outlet is needed to insure proper drainage and not ponding or pooling of water.
4. Space water bars based on gradient, following the attached guidelines (Appendix A). Where a dozer line crossed a natural drainage, rolling dips will be installed. Take advantage of natural dips or drainages to divert water onto vegetation, rocks, and slash. Back blade berms onto the dozer lines. Drain water into natural channels where possible.

5. Draws or ephemeral channels that were crossed by a fire line will be cleaned of debris and excess dirt removed.
6. Lines going straight downhill (perpendicular to contour) where water will simply run downhill parallel to the fireline may cause excessive erosion. Back-blading is particularly preferred. Alternate the drain direction of water bars so they drain water off both sides of line (herringbone pattern).

STAGE 2 - The Agency Administrators and appropriate agency personnel will monitor and maintain the barrier structures, and determine if additional wildfire suppression repair treatments are needed.

Fire line repair on Federal and/or designated Private land, is to be done to the following standards:

7. Additional line repairs will be based on assessed needs, per each Forest.
8. In the areas where soil is churned into powder along dozer line from traffic consider brush scattering. These soils will begin to consolidate with the wet season, but an increase from wind erosion is added to normal water erosion. Scattering brush over the soil surface after the line is repaired will reduce the erosion risk.

C. Roads, Drop Points, and Staging Areas

Roads and drop points used to support fire suppression activities will be repaired to a condition that is as close to pre-fire conditions as reasonably possible. This includes any spur roads and turnouts. This will include treatments designed to provide water drainage, to prevent surface erosion, to reduce compaction within identified areas, to minimize noxious weed spread, and to repair road surface damage.

1. Restore road ditches, side drains, rolling dips and other road drainage features that were damaged by fire suppression activities. **(STAGE 1)**.
2. The Forests will repair any damaged road features and restore surface drainage and for all other treatments considered to be under Emergency Stabilization and Rehabilitation **(STAGE 2)**.
3. Roads and spurs will be returned (graded) to their pre-existing condition **(STAGE 2)**.
4. Staging areas may have berms spread out, and vegetation pulled back over the area **(STAGE 1)**.

D. Helispots and Drop Points

These include open or cleared sites that were used to support rotary-wing craft operations. If the site is anticipated to be needed to support future suppression activities, the site will be stabilized and left in a condition available for future suppression activities for this fire. If the site is not needed, then it will be restored.

1. Any adverse impacts associated with drop points are expected to be minimal unless associated with excessive vehicle use. Restore natural drainage where needed. Pull or back blade soil and vegetation back onto the area **(STAGE 1)**.
2. Restore sites that will not be used in future operations as close as possible to pre-fire conditions and scatter any cut vegetation on sites **(STAGE 1)**.
3. Inventory and monitor disturbed areas used for suppression activities for the spread of noxious weeds, if needed **(STAGE 2)**.

E. Litter and Garbage Removal

Litter, garbage and discarded hose stockpiled and dispersed by fire personnel will be removed from all suppression sites. Fire crews are to police their areas of responsibility. All equipment and supplies associated with fire suppression will be removed from fire lines and dispersal sites, such as drop points. **(STAGE 1)**.

F. Fences

Repair any fences cut or damaged by fire suppression resources as identified in this repair plan.

G. Site Specific Management Items

Guidelines A-E, apply to all areas impacted by fire suppression activities associated with the Ruth Incident. Site specific management items are listed on the attached spreadsheet.

This fire suppression repair plan is subject to changes and amendments as the situation changes and additional rehabilitation needs are identified. The Forests are currently conducting field inspections and will pass on any site-specific needs as soon as possible.

Appendix A

Effective Waterbars

When locating and building water bars, place them the right **distance** apart, at a **diagonal** to the fireline, so that they **divert**, then **discharge**, then **dissipate** the energy of the flowing water. Be sure to make them deep enough so they'll be durable, and that soil does **not block** the water bar outlet.

Recommended spacing for waterbars on firelines.

Fireline slope %	Maximum Distance Apart (feet)
1-5	200
6-20	125
21-40	60
41-60	40
>60	25

Waterbars should be at least 2 pulaski (4-6 inches) widths wide and 12-24 inches high for handlines.

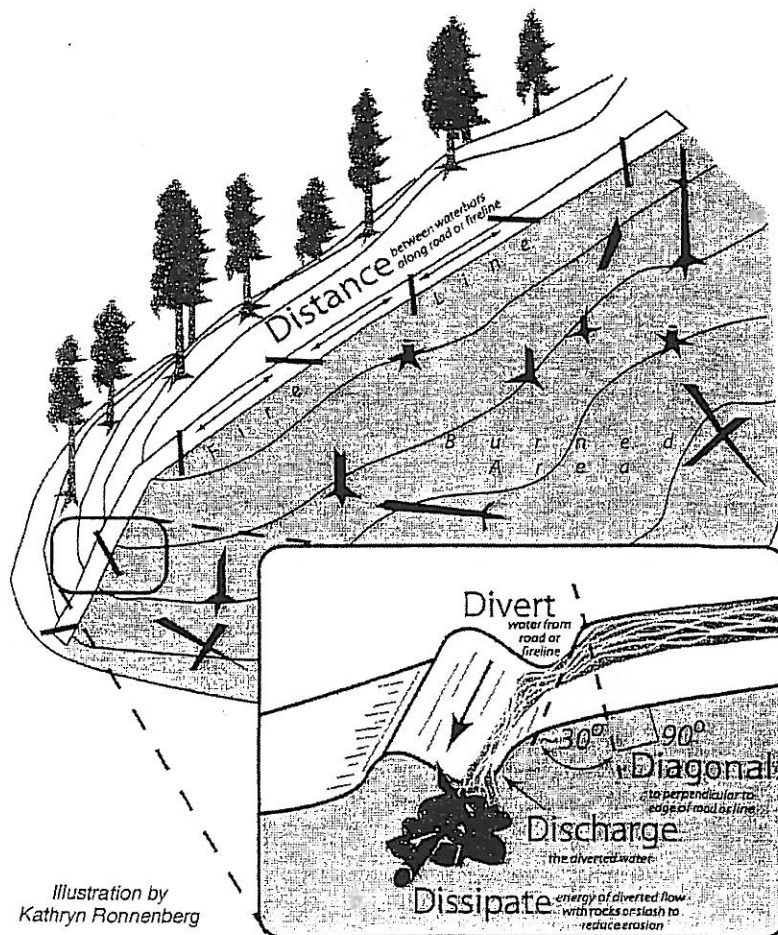


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