BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[**X**] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[**X**] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)
[ ] 2. Interim Report (###)
    [ ] Updating the initial funding request based on more accurate site data or design analysis
    [ ] Status of accomplishments to date
[ ] 3. Final Report (following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: **Ruth Complex**
Dutchman, Secret and Willie Fires

B. Fire Number: **CA-SRF-000897**

C. State: **California**

D. County: **Trinity**

E. Region: **05 - Pacific Southwest**

F. Forest: **10 - Six Rivers**

G. District: **Mad River** (Six Rivers)

H. Fire Incident Job Code: **P5K9AJ/0510**

I. Date Fire Started: **August 9, 2017**

J. Date Fire Contained: Est. August 25, 2017

K. Suppression Cost: **$12,740,000**

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): **55**
2. Fireline seeded (miles): 0
3. Other (identify):

M. Watershed Number:

HUC (6th level)	Watershed Name	Percent Watershed Burned
180101050102	Headwaters North Fork Eel River	3%
180101050105	Upper North Fork Eel River	18%
180101020201	Lost Creek - Mad River	0.2%

N. Total Acres Burned: NFS – 4,711 Private - 597 Unclassified - 0

Secret Fire – 50.26 acres			
NFS - 50.26	Other Federal - none	Private - none	Unclassified - none
Dutchman Fire – 1,521 acres			
NFS - 1,345	Other Federal - none	State - none	Private - 176
Willie Fire – 3,140 acres			
NFS - 2,719	Other Federal - none	State - none	Private - 420

O. Vegetation Types: Characteristic trees include coast Douglas-fir (Pseudotsuga menziesii var. menziesii), ponderosa pine (Pinus ponderosa), sugar pine (Pinus lambertiana), white fir (Abies concolor), incense cedar (Calocedrus decurrens), Jeffrey pine (Pinus jeffreyi), canyon live oak (Quercus chrysolepis), Oregon white oak (Quercus garryana), California black oak (Quercus kelloggii), tanoak (Notholithocarpus densiflorus), madrone (Arbutus menziesii), big leaf maple (Acer macrophyllum), California bay laurel (Umbellularia californica), and golden chinquapin (Chrysolepis chrysophylla). The shrub understory is dense and diverse; beaked hazel (Corylus cornuta), green leaf manzanita (Arctostaphylos patula), salal (Gaultheria shallon), oceanspray (Holodiscus discolor), buckbrush (Ceanothus cuneatus), Quercus garryana var. breweri (Brewer oak), Oregon grape (Berberis nervosa) and poison oak (Toxicodendron diversilobum).

P. Dominant Soils: Major soils include the Doty-Hecker Association (Fine-loamy, mixed, superactive, mesic Pachic Humixerepts); Clallam-Hugo-Holland Association (Fine-loamy, mixed, mesic Dystric Xerochrepts); Clallam, moderately deep, unstable Melbourne Association (Fine-loamy, mixed, mesic Dystric Xerochrepts and Fine, mixed, superactive, mesic Ultic Palexeralfs); Deadwood-rock outcrop, metasedimentary-Voorhies Association (Loamy-skeletal, mixed, superactive, mesic Lithic Dystroxerepts and Loamy-skeletal, mixed, superactive, mesic Mollic Haploxeralfs). Rock outcrops are common throughout the burned area. Many of the soils formed from weathering of sedimentary and metasedimentary rocks and have naturally high erosion hazard ratings. Hydrologic soil groups range from B to D. Group B soils have moderate infiltration rates when thoroughly wetted and consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission (0.15-0.30 in/hr.). Group C soils have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine texture. These soils have a low rate of water transmission (0.05-0.15 in/hr). Group D soils have high runoff potential and very low infiltration rates when thoroughly wetted. Within the burned area, Group D soils consist chiefly of shallow soils over nearly impervious material. These soils have a very low rate of water transmission (0-0.05 in/hr).

Q. Geologic Types: Graywacke sandstone; saprolitic greywacke; argillaceous mélange. Geologic characteristics also include pervasive shearing and widespread deep-seated landsliding, with debris flows common in inner gorge settings, and minor debris slide activity on steep hillsopes.

R. Miles of Stream Channels by Class:

Perennial: 7 Intermittent: 75

S. Transportation System (miles)
Roads: 12.5 Trails: 0

PART III - WATERSHED CONDITION

A. Burn Severity:

Soil Burn Severity (SBS) - Acres					
Fire	**High**	**Moderate**	**Low**	**Very Low/Unburned**	**Total**
Secret	0	0	5	45	50
Dutchman	42	535	695	249	1,521
Willie	90	1,087	1,080	883	3,140
Total	**132**	**1,622**	**1,780**	**1,177**	**4,711**

Soil Burn Severity (SBS) - Percent				
Fire	**High**	**Moderate**	**Low**	**Very Low/Unburned**
Secret	0%	0%	10%	90%
Dutchman	3%	35%	46%	16%
Willie	3%	35%	34%	28%

B. Water-Repellent Soil (acres):

Fire	Strong	Medium	Weak	Total
Secret	0	0	0	0
Dutchman	0	0	0	0
Willie	0	0	0	0
Total	**0**	**0**	**0**	**0**

C. Soil Erosion Hazard Rating (acres):

Fire	Very High	High	Moderate	Low	Total
Secret	1.2	48.8	0	0	50
Dutchman	215	665	642	0	1,522
Willie	1013	1,627	499	0	3,139
Total	**1229.2**	**14,786**	**15,568**	**2,649**	**4,711**

D. Erosion Potential: 5 tons/acre

E. Sediment Potential: 3,000 cubic yards/square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period (years):	12-15
B. Design Chance of Success (percent):	75
C. Equivalent Design Recurrence Interval (years):	5
D. Design Storm Duration (hours):	12
E. Design Storm Magnitude (inches):	3.48
F. Design Flow (cubic feet / second/ square mile):	88
G. Estimated Reduction in Infiltration (percent):	0
H. Adjusted Design Flow (cfs per square mile):	na

PART V - SUMMARY OF ANALYSIS

Background: The Ruth Complex consists of three fires: Secret (50 acres), Dutchman (1,521 acres), and Willie (3,140 acres). All fires are within the Six Rivers NF administrative boundary. Numerous fire ignitions from lightning strikes were detected primarily from one storm event on August 8, 2017. The fires burned primarily within the North Fork Eel watershed.

Describe Watershed Emergency:

The following is a brief summary of the BAER critical values within the fire areas or otherwise directly affected outside (downslope/downstream) of the fire areas. Threats to those values and associated risk assessment is also described. Possible response actions are described later in Part V-H below.

The risk matrix below, Exhibit 2 of Interim Directive No.: 2520-2017-1, was used to evaluate the Risk Level for each value identified during Assessment:

Probability of Damage or Loss	**Magnitude of Consequences**		
	Major	Moderate	Minor
	RISK		
Very Likely	**Very High**	**Very High**	**Low**
Likely	**Very High**	**High**	**Low**
Possible	**High**	**Intermediate**	**Low**
Unlikely	**Intermediate**	**Low**	**Very Low**

Values at Risk

The Dutchman, Secret and Willie fires were mostly low or moderate intensity and are not likely to lead to increased peak flows. Risks to human life and safety, infrastructure, and cultural resources is low. Risks to grassland and native or naturalized vegetative communities is very high due to the high likelihood of the introduction and spread of aggressive non-native invasive plants that can outcompete natives during the recolonization of areas burned by the fire and roads used for suppression access.

1. Human Life and Safety:

Low Risk (possible, minor) Possible threats to visitors/recreating public, residents of private lands, and agency personnel include hazard trees and rock fall along roads and dispersed sites.

2. Property:

Low Risk (unlikely, moderate) to road 3S02 from debris flows. No treatment recommended.

3. Natural Resources:

Very High Risk (very likely, moderate) It is very likely that grassland and native or naturalized vegetative communities will experience introduction or spread of non-native invasive plant species due to the loss of vegetative cover from the fire. Known noxious and invasive weed populations exist within and immediately adjacent to the burned area, and they will compete aggressively with native species for space and nutrients.
Introduction and spread is also very likely to occur due to contaminated equipment traversing access routes, building tractor lines, or propagules transported by fire crews from fire camp to disturbed areas where vegetative cover has been significantly reduced by the fire.
The consequences of not managing non-native invasive plant infestations are major resulting in damage to critical natural resources, primarily grassland communities and range, having considerable long term effects. Grassland and range lands do not recover naturally from infestation by these species. Infestations are most effectively dealt with during initial introduction. If not treated early and left to spread infestations become so entrenched that the cost to eradicate becomes prohibitive, the impacts more extreme, and the damage irreversible. One of the invasive plant species within the burned areas, yellow star-thistle, is considered one of the most serious rangeland weeds in the western United States. Yellow star-thistle contains a compound that causes nigropallida encephalomalacia, or chewing disease in horses and permanently damages the area of the brain that controls fine motor movement, including mouth and lip movement. Toxic effects are cumulative. Adjoining land owners keep horses in the vicinity of the fire which could be threatened by untreated infestations of yellow star-thistle resulting from the fire.

Low Risk (possible, minor) to water quality. Threats to 303d-listed streams include increased sediment delivery and elevated water temperatures. Impacts to watershed process and functions that regulate erosion, sediment delivery, and stream shade are expected in areas that burned at moderate to high severity. Threats to water quality can potentially impact beneficial uses that includes habitat for ESA-listed aquatic species and domestic water supply systems. No treatments recommended.

4. Cultural and Heritage Resources:

Low Risk (unlikely, moderate) No sites of cultural significance were identified, no treatment recommended.

A. Emergency Treatment Objectives:

Treat invasive plants that are a threat to naturalized ecosystems by minimizing the expansion of existing populations in the burned area and control of expected invasion of noxious weeds within and adjacent to the area where soils/vegetation was disturbed as a result of fire suppression activities.

B. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land 0% Channel NA Roads/Trails NA Protection/Safety NA

C. Probability of Treatment Success

Treatment	Years after Treatment		
	1	3	5
Land	80	85	90
Channel	NA	NA	NA
Roads/Trails	NA	NA	NA
Protection/Safety	NA	NA	NA

D. Cost of No-Action (Including Loss): NA Non market resource at risk

E. Cost of Selected Alternative (Including Loss): $12,722

F. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	[ ] Soils	[X] Geology	[ ] Range	[X] Recreation
[ ] Forestry	[] Wildlife	[ ] Fire Mgmt.	[X] Engineering	[ ]
[ ] Contracting	[ ] Ecology	[X] Botany	[X] Archaeology	[ ]
[] Fisheries	[ ] Research	[X] GIS	[ ] Landscape Arch	

Team Leader: **John McRae**
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G. Treatment Narrative:

Land Treatments:

L-01 EDRR (Early Detection Rapid Response): Reduce the potential for establishment of new non-native invasive plant infestations in native or naturalized communities, particularly establishment of new infestations in highly susceptible burned areas, prevent spread of existing infestations, and decrease rate of spread of density from existing infestations.

Treatment includes an initial detection survey combined with treatment at time of discovery, if possible. Surveys will begin in 2018 at times when the target species are the most visible. Because of differences in emergence times for potential species, two visits may be required during the growing season. Completion of surveys in roads, dozer lines, drop points, helispots, staging areas, and safety zones will be the first priority. The second priority for survey will be along hand lines.

All locations of noxious weeds discovered will be mapped and entered into the National Resource Inventory System (NRIS) according to National protocol. Treatment will be recorded as directed by the same National protocols. Treatment will consist of hand pulling to root depth and if seed is present, plants will be bagged and disposed of properly. A geotextile fabric (Supplies) will be used to treat the dormant seedbed.

EDRR Treatment Cost Estimate.

Treatment	Detection Survey Area (acres)	Labor	Travel	Supplies	Total
L-01 EDRR	Roads (4) Dozer Lines (25) Roads as Dozer Lines (9) Hand Line (9)	$11,000	$1,162	$560	$12,722

Channel Treatments:

None recommended.

Road and Trail Treatments:

None recommended.

Protection/Safety Treatments:

None recommended

Management Recommendations

Replace road mileage, road directional signs, and 'road closed' signs (on level 1 roads) either burned in the fire or damaged/removed as part of fire suppression operations. The road and direction signs are important for navigation by the general public. The 'road closed' signs provide resource protection (decrease prism damage, reduce sediment delivery and noxious weed spread) by discouraging unauthorized motor vehicle travel.

Monitor road drainage structures after significant storm events to ensure the maximum drainage capacity is maintained until the natural re-vegetation of the burned area has occurred. Maintain and/or repair any damage to road surfaces. Remove sediment and debris from drainage and repair head-cutting in streams and drainages to prevent further degradation of channels. Monitor the movement of large woody debris and make a determination of whether or not the

material should be removed before it contacts culverts. Mitigate hazard trees at treatment locations to provide for worker safety.

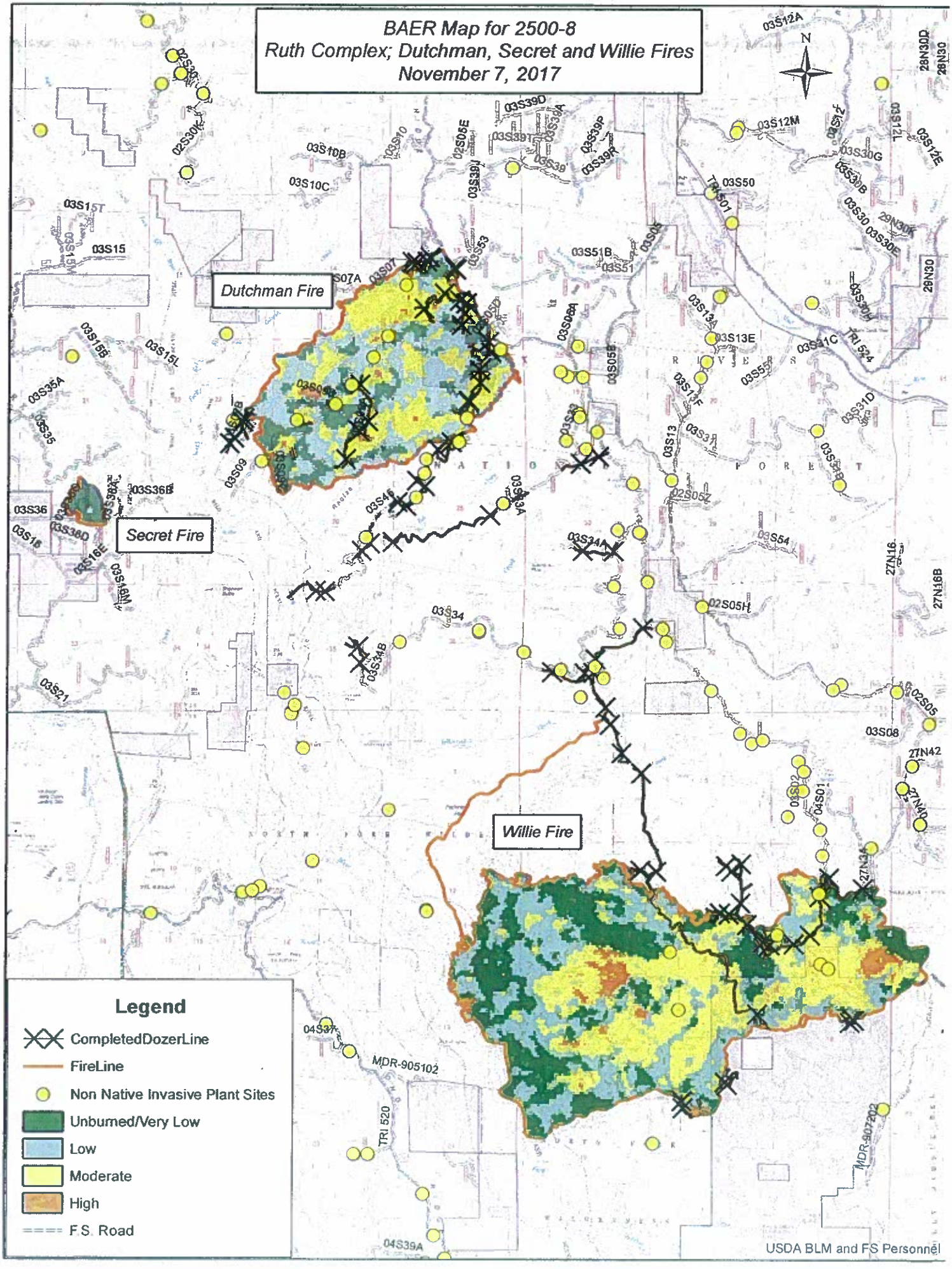
Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

			NFS Lands				Other Lands			All
		Unit	# of	WFSU	Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	SULT $	$	units	$	Units	$	$
A. Land Treatments										
L-01 EDRR	LS	12722	1	$12,722	$0		$0		$0	$12,722
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$12,722	$0		$0		$0	$12,722
B. Channel Treatments										
Insert new items above this line!										
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
Insert new items above this line!										
Subtotal Road & Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
										$0
Subtotal Structures				$0	$0		$0		$0	$0
E. BAER Evaluation										
Initial Assessment	LS		1	$6,000	$0		$0		$0	$6,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Evaluation				$6,000	$0		$0		$0	$6,000
F. Monitoring										
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$12,722	$0		$0		$0	$12,722

PART VII - APPROVALS

1. _____ 11-7-17
Forest Supervisor (signature) Date

2. Barnie T. Grant 11/14/2017
Regional Forester (signature) Date


BAER Map for 2500-8
Ruth Complex; Dutchman, Secret and Willie Fires
November 7, 2017
Dutchman Fire
Secret Fire
Willie Fire
Legend
CompletedDozerLine
FireLine
Non Native Invasive Plant Sites
Unburned/Very Low
Low
Moderate
High
F.S. Road
USDA BLM and FS Personnel