Date of Report: 09/09/2012

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: Hanson

B. Fire Number: NV-WID-020243

C. State: NV

D. County: Humboldt

E. Region: 04

F. Forest: Humboldt-Toiyabe

G. District: Santa Rosa

H. Fire Incident Job Code: PDG5M4

I. Date Fire Started: 8/10/2012

J. Date Fire Contained: 08/18/2012

K. Suppression Cost: $ 1,200,000

L. Fire Suppression Damages Repaired with Suppression Funds

1. **Fireline waterbarred (miles)**: approx 10
2. **Fireline seeded (miles):** unknown
3. **Other (identify):** several roads were resurfaced after receiving heavy damage during suppression

M. Watershed Number: 160401090604 Matin Creek- Big Cottonwood creek and 160401090603 Lamance Creek-Big Cottonwood creek

N. Total Acres Burned: **[**5,222 **] NFS Acres [**6,856**] Other Federal [0] State [**391**] Private**

O. Vegetation Types: 3 Tall Grass (2.5 Feet): Grass, Sage brush, Bitter Brush, Aspen and Mtn Mahogany

P. Dominant Soils: Aycab-Rock Outcrop, Ninemile-Tusk, Sumine-Ninemile-Softscrabble, Say-Tosp-Aycab. Surface textures range from loamy coarse sand to coarse sandy loams on the granitic soils to loams and silt loams on the metamorphic and volcanic soils.

Q. Geologic Types: Granitic, meta-sedimentary

R. Miles of Stream Channels by Order or Class: Perennial: 7.3; Intermittant: 10.9

S. Transportation System Trails: 8 **miles** **Roads:** 14.44 **miles**

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 3283 **(low/unburned)** 1758 **(moderate)** 181 **(high)**

B. Water-Repellent Soil (acres): 522

C. Soil Erosion Hazard Rating (acres): 534 **(low)** 2783 **(moderate)** 1561 **(high)**

These numbers are based on the off road and trail erosion hazard rating. *The Road and Trail erosion hazard rating for the whole FS portion of the fire area is High.* The remaining 344 acres are assumed to be rock outcrop based on the soil survey percentages.

D. Erosion Potential:

Watershed	**Erosion potential (tons/ac)**
Morey Creek	1.395
Unnamed Trib to Morey Ck	0.866
Singas Creek	0.521
Lamance Creek	1.34
South Fork Hanson Creek	13.273
North Fork Hanson Creek	1.974
Total	**19.37**

E. Sediment Potential: 253 **cubic yards / square mile**

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3-5

B. Design Chance of Success, (percent): 90

C. Equivalent Design Recurrence Interval, (years): 5yr

D. Design Storm Duration, (hours): 2

E. Design Storm Magnitude, (inches): 1.02

F. Design Flow, (cubic feet / second/ square mile): 25.1

G. Estimated Reduction in Infiltration, (percent): 10

H. Adjusted Design Flow, (cfs per square mile): 47.6

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats (narrative): Between 8/10 and 8/18 the Hanson Fire burned 5,222 acres of NFS land in addition to land on private and blm. The Fire burned in 160401090604 Matin Creek- Big Cottonwood ck and 160401090603 Lamance Creek-Big Cottonwood ck watersheds. The Hanson fire burned adjacent to and up slope of the town of Paradise Valley, NV. There were several structures threatened in the community during the fire and several more are at risk of post fire hazards. The owners and NRCS have both been contacted about the potential risk.

Due to the fire there are multiple critical values at risk including Life of forest visitors, the road prism, native plant communities, and soil productivity and hydrologic function. In order to mitigate the fire caused risks the forest proposes to temporarily close roads: 50092 and

50558; Temporarily close the Summit trail;; improve the road drainage in order to protect the road prism from loss due to increased flows and sediment loads from the burned area; Conduct Noxious weed Early Detection Rapid Response (EDRR); and mulch 164 acres of the North and South Fork of Hanson Creek.

Using Exhibit 02 of interim directive 2520-2012-1 the BAER team identified the Values at Risk within and below the fire area for the US Forest Service portion of the fire.

Color Scheme Legend	
	Risk Level
	Very High
	High
	Intermediate (Where Treatments Are Recommended)

Value At Risk	**Value Life (L), Property, (P), Resources (R)**	**Probability of Damage or Loss**	**Magnitude of Consequences**	**Risk**	**Discussion**
2 Private Ranches downstream of the Fire area	L	Possible	Major	High	The Area Conservationist with the NRCS was contacted and made aware of the determination that there was risk to the occupants of the property.
2 Private Ranches downstream of the Fire area	P	Possible	Moderate	Intermediate	See above
2 Private Ranches downstream of the Fire area	R	Possible	Minor	Low	See above
Town of Paradise Valley including k-8 school	L	Unlikely	Major	Intermediate	Paradise Valley (including a k-8 school) is 4 air miles down slope of the forest boundary. Both forks of Hanson Creek and Lamance Creek flow towards the town. NRCS was contacted to assist with a determination of risk to life and property off NF lands.
Town of Paradise Valley including k-8 school	P	Unlikely	Minor	Very Low	See above
Road Prism	L	Unlikely	Major	Intermediate	Roads should be temporarily closed where the slope above the road is steeper than 40% slope

Value At Risk	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
Road Prism	P	Very Likely	Moderate	Very High	The roads should have their drainage structures maintained to handle the additional post fire runoff that is expected.
Road Prism	R	Likely	Moderate	High	By treating the road to accommodate additional runoff, any resource damages caused by the road concentrating flow would be mitigated.
Trail Prism	L	Unlikely	Major	Intermediate	The trail could be temporarily closed if the district is concerned about rock rollout or hazard trees injuring or killing a trail user.
Trail Prism	P	Unlikely	Minor	Very Low	The trail is at the top of the fire area and passes through low to moderate intensity burn areas.
Sedimentation (impairment of water uses and riparian habitat)	R	Possible	Moderate	Intermediate	Localized treatments in the Hanson Ck watershed where the soil is already dry raveling are proposed.
Soil Productivity	R	Possible	Minor	Low	
Altered hydrologic response due to loss of infiltration (flooding)	R	Possible	Minor	Low	Minimal hydrophobicity was detected in the fire area.
Mass wasting causing damage to Road and trail infrastructure	P	Possible	Minor	Low	The watershed has had landslides in the past; these were directly correlated to a supersaturated soil condition and a rain on snow/snow melting event that was equivalent to a 1 in 75-100 year event.
Mass wasting causing damage to Road and trail infrastructure	L	Unlikely	Major	Intermediate	Roads should be temporarily closed where the slope above the road is greater than 40% slope
Hazard trees	L	Possible	Major	High	Several trees have been identified to be felled as they are close enough to hit the road when they fall.

Value At Risk	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
Cultural Resources	R	Unlikely	Minor	Very Low	Known sites were visited to determine if there was potential risk or damage to them from the fire. See the Archeology report for further details.
Snotel site	P	Unlikely	Moderate	Low	NRCS was contacted to let them know there was a fire in the vicinity of the snow course. Hazard trees may need to be felled to protect the equipment on site by NRCS as part of their special use permit.

B. Emergency Treatment Objectives (narrative): Between 8/10 and 8/18 the Hanson Fire burned 5,222 acres of NFS land in addition to land on private and blm. Due to the fire there are multiple citiical values at risk including Life of forest visitors, native plant communities that existed prior to the fire, the road prism, soil productivity and hydrologic function. In order to mitigate the fire caused risks the forest proposes to temporarily close roads: 50092 and 50558; Temporarily close the Summit trail; improve the road drainage in order to protect the road prism from loss due to increased flows and sediment loads from the burned area.

Roads: the Proposed actions are meant to 1) protect human life, two) protect the road prisim. The proposed actions include: Restore and Improve Drainage Function (cleaning ditches, removing outslope berms, etc), Install waterbars, Install Drainage Armor, Install Hardened Crossing (LWC), installing two gates to enforce temporary road closures, up size 1 culvert where a low water corssing was not practical due to adverse approaches and storm patrol.

For the hillslopes (Land) Noxious weed Early Detection Rapid Response (EDRR) is proposed to detect any fire caused population expansions or new weed introductions into the fire area. Additionally mulching on 164 acres is proposed along the North and South Forks of Hanson Ck in order to reduce the soil loss and the sedimentation to downstream water uses. The mulching could also reduce the potential flood flow from the watershed.

No inchannel work is proposed.

Protection and safety treatments include installation of Signs (BAER Warning / Information, and Administrative Closure), and Temporary closure of two roads and the hiking trail.

There are several potential threats to private property including multiple residences. The NRCS as well as the land owners have been made aware of the determination.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:

Land 90**%** **Channel** na**%** **Roads/Trails** 90**%** **Protection/Safety** 90**%**

D. Probability of Treatment Success

	Years after Treatment		
	1	**3**	**5**
Land	85	85	85
Channel	na	na	na
Roads/Trails	90	90	90
Protection/Safety	90	90	90

E. Cost of No-Action (Including Loss): Cannot be determined as a quantitative value for all values at risk. $80,000 for roads (min), $8,000 weed population detection, $7,000 for trail repair (hand saws in wilderness add additional cost) plus the non-monetary potential losses of life/injury to a forest visitor(s) due to fire caused hazard(s), losses to water uses for agicultural and domestic use, and the loss of soil and hydrologic function in the Hanson Ck draianges.

F. Cost of Selected Alternative (Including Loss): **$231,229**

G. Skills Represented on Burned-Area Survey Team:
('A' indicated adjunct- they were consulted but not ordered to the incident)

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

Team Leader: Robin Wignall **Email**: rjwignall@fs.fed.us **Phone**: 775-778-6122 **FAX**: 775-778-6167

H. Treatment Narrative:
(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

<u>Land Treatments</u>:
Noxious weed Early Detection Rapid Response (EDRR) for the Hanson Fire.
The recent Hanson Fire occurred in part on The Santa Rosa Ranger District. The following proposal is for the EDRR of noxious and invasive weeds with in the areas affected by this fire.

EDRR will focus on roads, cat lines, and staging areas, for existing noxious weed populations. EDRR will concentrate on determining if these sites are expanding and determine if extra treatments are necessary. A special emphasis will be placed on EDRR sage grouse habitat primarily leks, nesting and brooding habitat, and riparian habitats. In addition this fire burned through areas that supported cheatgrass, bulbous blue grass and medusa head populations. No effort will be made to EDRR existing areas but surveys will be conducted to determine if these sites are expanding. The data gathered from this EDRR will be used to determine if and what treatment will be needed. During the course of this EDRR survey the district will be notified of any areas that need additonal actions and a summary report will be developed at the end of the summer.

The Hanson Fire primarily occurred in HUCs 160401090604 and 160401090603, within this watershed the forest has identified 13 populations of noxious weeds totaling approximately 44 acres. The adjacent BLM land has 9 known populations and an approximate area of 440 acres is impacted. These acre estimates do not include Cheatgrass or Bubous Bluegrass. Of the noxious weeds that are surveyed the following are of most concern and will be monitored for expansion: Musk Thistle *Carduus natans,* Scotch Thistle *Onopordum acanthuim*, Leafy Spurge *Euphorbia esula*, Bull Thistle *Cirsium vulgare*, Medusahead *Taeniatherum caput-medusae*, Russian Knapweed *Acroptilon repens* and Hoary Cress/Short Whitetop *Cardaria drab.*

The following salary break down is for the Hanson Fire.

Salaries two GS 4	$135 per day x 10 days	$2,700	
District NRO	$350 per day x 5 days	$1,750	
GIS specialist	$321 per day x 5 days	$1,605	
Vehicle mileage	$ .60 per mile x 4400 miles	$2,640	
		Total request.	$8,965.

The Forest Proposes to aerially apply weed free wheat straw to 164 acres of the Hanson CK drainage area in order to reduce the sedimentation of the stream channel and potentially reduce the flood flows coming out of the watershed (map attached). This will protect water used for agricultural and domestic purposes.The proposed treatment for S. Hanson creek is applying two tons/acre of mulch. This would reduce the soil loss from 13.27 to 0.14 tons/acre. For North Hanson creek 2 tons/acre of mulch applied would effectively eliminate soil loss

No seeding is proposed.

Channel Treatments: No in channel treatments are proposed due to the extensive intact riparian vegetation along the Forest Service portions of the riparian areas. Additionally the areas that did burn are anticipated to resprout rapidly (there were already rushes and sedges resprouting at the time of assessment).

Roads and Trail Treatments: Roads: The forest proposes to provide adequate post fire drainage function of the forest maintained roads by removing post fire debris from the inboard ditches, cleaning culvert inlets and the catch basins above them, instal water bars along the road in order to break up the hydrologic connectivity of the road, Storm Patrol to clean up any additional blockages that may occur due to winter storms, install 2 gates to enable that the temporary road closures and install a 24 inch CMP culvert where a low water crossing is not possible due to adverse approaches. These treatments are proposed to mitigate loss of the road prism due to High road and trail erosivity (noted in the NRCS soils data) and to protect the life/well being of forest visitors.

Trails: the Forest proposes to do a spring condition assessment and remove any rock fall and fire caused hazard trees by hand along the summit wilderness trail.

Protection/Safety Treatments: In addition to the road prism stabilization above the following roads would be temporarily closed: 50092 and 50558. The Summit trail would also be temporarily closed within the fire area.

I. Monitoring Narrative: (Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

No monitoring is proposed.

Part VI – Emergency Stabilization Treatments and Source of Funds

			NFS Lands				Other Lands			All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$	$
A. Land Treatments										
EDRR	Each	8965	1	$8,965	$0		$0		$0	$8,965
weed free straw	tons	60	600	$36,000	$0		$0		$0	$36,000
Helicopter time	hrs	1300	60	$78,000	$0		$0		$0	$78,000
COR w/vehicle	day	500	10	$5,000	$0		$0		$0	$5,000
Implementation Team Leade	day	500	12	$6,000	$0		$0		$0	$6,000
inspectors (2)	day	500	10	$5,000	$0		$0		$0	$5,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$138,965	$0		$0		$0	$138,965
B. Channel Treatments										
na				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
Restore and Improve Draina	Per Mile	600	14.44	$8,664	$0		$0		$0	$8,664
Install Gate	Each	5000	2	$10,000	$0		$0		$0	$10,000
Waterbars	Each	400	30	$12,000	$0		$0		$0	$12,000
Low Water Xing	Each	1000	27	$27,000	$0		$0		$0	$27,000
Storm Patrol	Each	2000	3	$6,000	$0		$0		$0	$6,000
COR	days	500	10	$5,000	$0		$0		$0	$5,000
24" cmp culvert	LF	200	24	$4,800	$0		$0		$0	$4,800
trail crew	day	400	0	$0	$0		$0		$0	$0
trail crew boss	day	400	0	$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$73,464	$0		$0		$0	$73,464
D. Protection/Safety										
closure order	day	350	3	$1,050	$0		$0		$0	$1,050
Warning Signs	each	375	10	$3,750	$0		$0		$0	$3,750
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$4,800	$0		$0		$0	$4,800
E. BAER Evaluation										
				---	$20,000		$0		$0	$20,000
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$20,000		$0		$0	$20,000
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				$217,229	$20,000		**$0**		**$0**	**$237,229**
Previously approved										
Total for this request				**$217,229**						

PART VII - APPROVALS

1. /s/Rebecca S. Nourse 09/09/12
   REBECCA S. NOURSE
   Forest Supervisor (signature) Date

2. /s/ Frank Roth (for) 10/05/12
   Regional Forester (signature) Date