8-23-2007:

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: Middle Fire

B. Fire Number: WY-BTF-000036

C. State: Wyoming

D. County: Lincoln

E. Region: 4-Intermountain Region

F. Forest: Bridger Teton Nataional Forest

G. District: Greys River Ranger District

H. Fire Incident Job Code: P4DV6H

I. Date Fire Started: 8-11-2007

J. Date Fire Contained: 8-19-2007

K. Suppression Cost: $1,217,900

L. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred and ripped (miles): 0.25 miles
2. Fireline seeded (miles): NONE
3. Other (identify):

M. Watershed Number:
170401030511 – Lower Little Greys River

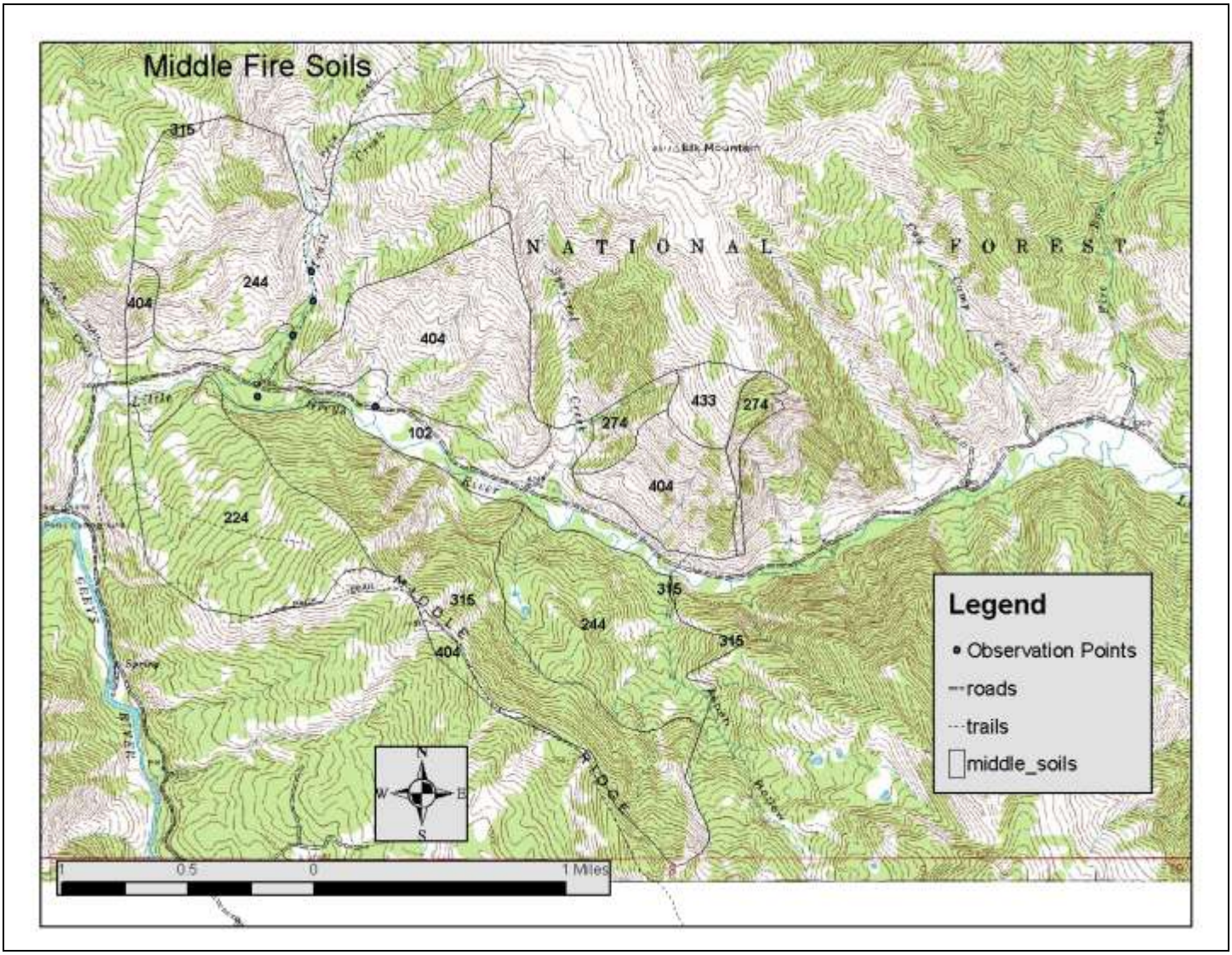
N. Total Acres Burned: 2,691
NFS Acres (2,691) Other Federal (0) State (0) Private (0)

O. Dominant Vegetation Types within the fire perimeter: (source:

Lodgepole pine, spruce-fir, mixed sagebrush and grass. Fuel model 10.

P. Dominant Soils within the fire perimeter: (source: Soil Survey, Bridger National Forest, Western Part, 1993):

SOIL	Description	Acres
244	Namon, stony - Herd - Dunlatop Families complex, 15 to 50 percent slopes. This map unit is on landslide deposits on moderately dissected mountain sideslopes. Parent materials are Quaternary landslide deposits consisting of colluvium of the Gannet group and Jurassic Twin Creek Limestone formations. Elevation ranges from 7000 to 8000 feet with aspect ranging from Northwest through southwest. Average annual precipitation ranges from 40 through 50 inches. The stability rating is marginally unstable.	956.1
315	Targhee - Mollic Paleboralfs, cobbly substratum Families complex, 30 to 60 percent slopes. This map unit occurs on sideslopes. Parent material is colluvium from the Cretaceous Aspen formation. Elevation ranges from 6500 to 8500 feet and aspect is north to northwest. Average annual precipitation ranges from 40 through 50 inches. The stability rating is marginally unstable.	496.2
404	Granmount - Mollic Paleboralfs - Hiwan Families complex, 30 to 60 percent slopes. This map unit is on dissected mountain slopes with scattered landslide deposits. Parent materials are Cretaceous Aspen shale and Bear River sandstone formations. These rock units generally dip to the west underlying slopes. Elevation ranges from 6,500 to 8,000 feet and aspect is dominantly west to south. Average annual precipitation ranges from 25 to 40 inches. The stability rating is unstable.	491.8
224	Mayflower - Booneville - Gothic Families complex 10 to 40 percent slopes. This map unit occurs at the base of north-south striking, westerly dipping (15 - 40o) bedrock ridges that have experienced episodes of landsliding. Benches and hummocky landslide deposits occur at the base of dipslopes. Resistant bedrock ridges are sandstones and siltstones of the Cretaceous Bear River and Aspen Formations; while swales and scours are found in the swale members. Quaternary landslide deposits accumulate at the base of the dipslope. Aspects are generally west, but all are included. Elevations range from 6,000 to 8,000 feet. Average annual precipitation ranges form 40 to 50 inches. The stability rating is marginally unstable to unstable.	339.1
102	This map unit is on alluvial fans, fan terraces, and terraces. Parent materials are Quaternary alluvium and colluvium consisting of gravel, sand, and clay, and angular to subangular rock debris that are moderately well sorted by gravitational and fluvial processes. Elevation ranges from 7,000 to 9,000 feet and all aspects are included. Average annual precipitation ranges from 30 to 50 inches. The stability rating is stable.	286.8
274	Midfork - Targhee Families complex, 30 to 70 percent slopes. This map unit is on oversteepened sideslopes and backslopes. Parent material is colluvium composed of sandstones and siltstones of the Cretaceous Gannet group. Elevation ranges from 6500 to 8000 feet and aspect is generally south to west. Average annual precipitation ranges from 25 to 35 inches. The stability rating is marginally unstable.	75.9
433	Beaverdam - Cowdrey Families complex, 0 to 30 percent slopes. This map unit is on broad ridgetops on dipslopes of major thrust faults. Parent material is dominantly Cretaceous Bear River formation consisting of shale, mudstone and sandstone, and Cretaceous Gannett Group consisting of Limestone, shale and siltstone. Elevation ranges from 7500 to 8500 feet and aspect is dominantly west. Average annual precipitation ranges from 30 to 40 inches. The stability rating is marginally stable	51.0



Q. Major Geologic Types by map unit within the fire perimeter: (source: Soil Survey, Bridger National Forest, Western Part, 1993):

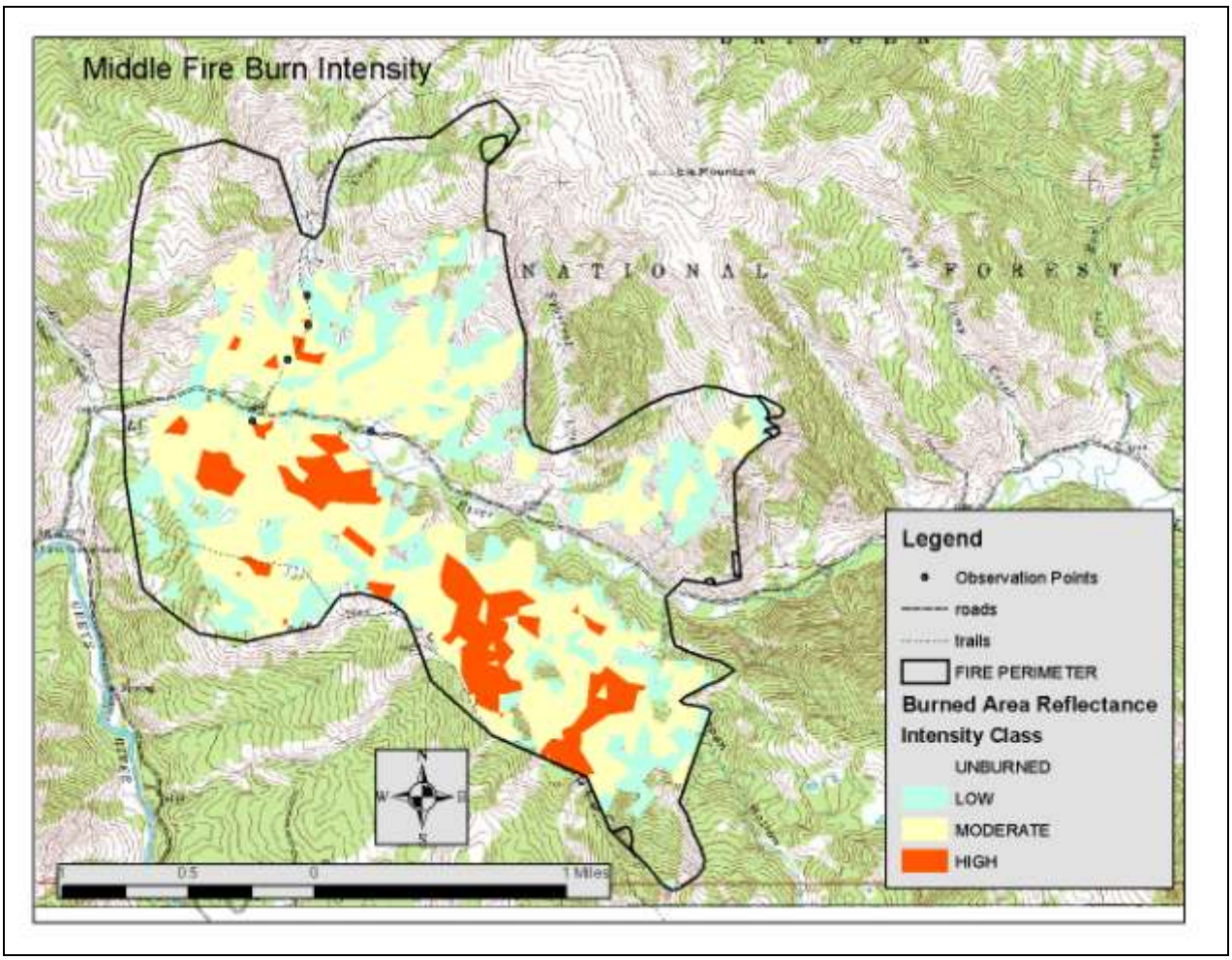
Mixed sedimentary rocks and colluvium and alluvium (see soil descriptions above).

R. Miles of Stream Channels by Order or Class:

Intermittent stream miles – unknown Perennial stream miles – 10.13

S. Transportation System

Trails: 2.36 miles Roads: 2.76 miles



View of Middle Ridge looking south west from Elk Mountain area.

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 1243.8 (unburned) 415.7 (low) 847.8 (moderate) 190.0 (high)

B. Water-Repellent Soil (acres):

National Forest	Private land
190 (7%)	0

C. Soil Erosion Hazard Rating (acres):

	Ownership Acres	
Soil Erosion Hazard Rating	National Forest	Private land
Low	0 (0%)	0
Moderate	1633 (60%)	0
High	1064 (40%)	0

Source: Soil Survey of Bridger National Forest, Western Part, 1993

D. Erosion Potential: 4.91 tons/acre (disturbed WEPP 30 year return period)

E. Sediment Potential: 4.90 tons / acre (disturbed WEPP 30 year return period)

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent): 80-90%

C. Equivalent Design Recurrence Interval, (years): 25 year

D. Design Storm Duration, (hours): 0.5 hrs

E. Design Storm Magnitude, (inches): 0.48 Inches

F. Design Flow, (cubic feet / second/ square mile): 31 csm

G. Estimated Reduction in Infiltration, (percent): 33%

H. Adjusted Design Flow, (cfs per square mile): 40csm

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The Middle fire was ignited by lightning on August 11, 2007 burning 2,691 acres on the Greys River District of the Bridger-Teton National Forest. The fire was declared 100% contained on August 20, 2007. The burn is located north east of Alpine, Wyoming in Lincoln County in the Wyoming Range.

Resource conditions resulting from the Middle Fire were reviewed in the field following containment of the fire on August 20, 2007. The BAER team made a field and aerial reconnaissance of the Middle fire on August 22, 2007. Initial concerns of the BAER team included:

1. Water quality and aquatic habitat integrity and potential impacts from excessive soil erosion and debris movement.

2. Loss of soil and soil productivity through erosion of steeper slopes in areas of moderate and high burn severity.
3. Road drainage structures in or near the fire might be undersized for increases in runoff and debris as a result of the fire.
4. Noxious weeds are known to spread rapidly following fire and may threaten the continuity and health of native plant communities within the burned area and other areas impacted by suppression activities.

Water Quality and Fisheries Resources:

Water quality will be reduced due to the burn; this may include increases in organic carbons, ash, and sediment. These increases will likely be measurable within all the perennial stream reaches within the burned area, and in a few of the unnamed tributaries to Little Greys River located in the south eastern part of the fire.

There was some sediment seen in Trail Creek but this looked to be as a result more from the rain than from suspended ash. The Little Greys River was mostly clear of suspended sediment at the time of the field visit. There were a few instances where the fire burned over the streams in the burn area but there was still riparian vegetation present as well as downed material on the hill slopes to act as buffers for overland flow into the streams and the Little Greys River.

The Little Greys River provides spawning, rearing and adult habitat for Fine spotted Snake River cutthroat trout (*Oncorhynchus clarki ssp*.). Fine spotted Snake River cutthroat trout are well distributed in the watershed and are the dominant species in the Upper Snake River. Overall health of Snake River cutthroat trout populations in the Little Greys River is strong with good conductivity between the river and its tributaries.

Burn patterns and fire intensity had very little impact to riparian vegetation. Where the fire burned across or to the waters edge was in conifer vegetation types. Willow and riparian grasses were not significantly impacted by the fire. No direct or indirect fish mortality was observed as a result of the fire. No monitoring is necessary for fisheries resources

Soil Productivity:

Soils in the fire perimeter were tested for hydrophobic conditions and none were present. Some erosion from steeper slopes and along the Trail Creek trail was observed. No large debris flows were observed in the fire area, although a recent heavy rainstorm did cause major debris flows only a few miles from the fire. Due to the mosaic nature of this fire and the relatively large percentage of unburned and low burn severity found within the fire perimeter, only .5 mile of erosion control is recommended along the Trail Creek trail.

Transportation Infrastructure:

TheMiddle fire and suppression efforts caused minor impacts to roads and trails within the affected area as follows:
Little Greys River Road 10124: This road was graded during suppression efforts and very little damage occurred.
Main Greys River Road 10138: This road is well maintained and no damage resulted from suppression efforts.

Trail Creek Trail This trail begins at the junction of Forest Road 10124. The trail is an authorized ATV trail which accesses Elk Mountain and part of a snowmobile trail in the winter. Some erosion of this trail has occurred as a result of the fire and recent heavy rains. Some ash and debris was observed in the ruts.

Drainage structures are recommended along the first .5 mile along the Trail Creek trail as the tread is already exhibiting erosion from fire effects. Erosion on this trail may be severe if drainage structures (primarily dips and waterbars) are not constructed, and this will lead to sediment delivery into Trail Creek and eventually into

the Little Greys River. Culverts on the Little Greys River road at Trail Creek were assessed and determined to be adequate to handle predicted storm events.

Hazard tree removal will be necessary within heavily burned areas along the trail for crew safety while constructing water bars. Hazard trees should be felled across the slope, perpendicular to the trail to facilitate keeping ATV's from leaving the trail.

Middle Ridge Trail. This trail starts at the confluence of the Little Greys and Greys rivers and runs up the ridge to the southeast. Erosion protection and hazard tree removal has already occurred as a result of fire suppression activities.

Noxious Weeds:

Canada Thistle (Cirsium arvense L.) and Spotted Knapweed (Centaurea maculosa L.) were documented in the fire perimeter. Treatment and monitoring for invasive weed spread within the fire perimeter, base camp and access trails is recommended to minimize the potential for invasive weed spread as a result of the fire.

B. Emergency Treatment Objectives:

Noxious Weeds: The treatment and monitoring of noxious weeds is necessary to protect native vegetation composition in and around the fire area by treating the expansion of known populations into the fire area.

Drainage Structures: Construction of water bars, dips and barriors to keep sediment from eroding off the trail and into the stream.

Hazard Trees: The removal of hazard trees in the area where drainage structures will be constructed is necessary for crew safety during the construction process.

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

Land __ % Channel ___ % Roads/Trails **50** % Protection/Safety **100** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Channel			
Roads/Trails	80	75	75
Protection/Safety	100	100	100

E. Cost of No-Action (Including Loss): $50,000 (estimated)

F. Cost of Selected Alternative (Including Loss): $8,950

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Eric Winthers, Soil and Water Program Manager, BTNF

Email: ewinthers@fs.fed.us Phone: (307) 739-5525 FAX: (307) 739-5010

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.)

Land Treatments:

No land treatments recommended

Channel Treatments:

No Channel Treatments Recommended

Roads and Trail Treatments:

Drainage Structures. Construct water bars, dips, and other drainage structures as necessary along the first .5 miles of the trail up Trail Creek from the main Little Greys River Road.

Protection/Safety Treatments:

Hazard Tree Removal Hazard tree removal will be necessary within heavily burned areas along the first .5 miles up the Trail Creek trail for crew safety while constructing drainage structures.

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.)

Effectiveness Monitoring Monitoring to determine effectiveness of erosion control efforts along Trail Creek Trail is recommended.

Noxious Weed Monitoring: Monitoring to determine effectiveness of noxious weed treatment efforts completed.

Part VI – Emergency Stabilization Treatments and Source of Funds **Interim #**

Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
Noxious Weed Monitor/Treat	Days	360	5	$1,800	$0		$0		$0	$1,800
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$1,800	$0		$0		$0	$1,800
B. Channel Treatments										
				$0	$0		$0		$0	$0
				$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										
drainage structures	Each	150	15	$2,250	$0					$2,250
				$0	$0					$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$2,250	$0		$0		$0	$2,250
D. Protection/Safety										
Hazard Tree Removal				$2,000	$0		$0		$0	$2,000
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$2,000	$0		$0		$0	$2,000
E. BAER Evaluation										
				---	$5,000		$0		$0	$5,000
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$5,000		$0		$0	$5,000
F. Monitoring										
Effectiveness Monitoring	Days	200	2	$400	$0		$0		$0	$400
Noxious Weed Monitor/Treat	Days	250	10	$2,500	$0		$0		$0	$2,500
				$0	$0		$0		$0	
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$2,900	$0		$0		$0	$2,500
G. Totals				$8,950	$5,000		**$0**		**$0**	**$13,550**
Previously approved										
Total for this request				**$8,950**						

PART VII - APPROVALS

1. /s/ Kniffy Hamilton — 9/18/07
Kniffy Hamilton — Date
Forest Supervisor (signature)

2. /s/ Mary Wagner for — 9/21/2007
JacK Troyer — Date
Regional Forester (signature)