Date of Report: 12/15/2011

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: Pagami Creek

B. Fire Number: MN-SUF-110519

C. State: MN

D. County: Lake

E. Region: 09

F. Forest: Superior

G. District: Kawishiwi / Tofte

H. Fire Incident Job Code: P9GC1K

I. Date Fire Started: August 17, 2011

J. Date Fire Contained: 95% 10/22/2011

K. Suppression Cost: $ $22,700,000 10/22/2011

L. Fire Suppression Damages Repaired with Suppression Funds

1. **Fireline waterbarred (miles)**: 9.5 miles of dozer line and approximately 60 miles of hand line have 14 locations where water bars were deemed necessary and appropriate.
2. **Fireline seeded (miles):** 9.5 miles of dozer line and approximately 60 miles of hand line have a total of 5.5 acres of seeding where deemed necessary and appropriate.
3. **Other (identify):** N/A

M. Watershed Number:

HUC6 Code	HUC6 Name
090300010402	Perent River
090300010403	Silver Island Lake

HUC6 Code	HUC6 Name
090300010404	Dumbbell River
090300010405	Arrowhead Creek
090300010406	Island River
090300010407	Mitawan Creek
090300010408	Little Isabella River
090300010409	Isabella River
090300010604	August Creek
090300010701	Phoebe River
090300010703	Malberg Lake-Kawishiwi River
090300010704	Alice Lake-Kawishiwi River
090300010705	Lake Insula
090300010706	Lake Four
090300010707	Lake One

N. Total Acres Burned:
88,537 NFS Acres 0 Other Federal 4,145 State Acres 0 Private

O. Vegetation Types: Forest types in the area are predominantly jack pine and aspen/birch with scattered red and white pine in the uplands. Additional vegetation types include spruce-fir, lowland conifers and lowland shrubs.

P. Dominant Soils: All soils in the burned area are derived from glacial drift over bedrock. Soils that are shallow to bedrock dominate the area comprising from 60% to 80% of the soils. Slopes are moderate (10% to 30%) to steep (20% to 60%, although typically on the lower end of this range) over a majority of the burned area. Soil surface textures are generally loamy tills and sandy outwash. Organic layers are variable across the landscape. Organic layers of two to three inches would normally occur on ridge top and upper side slope positions whereas four to six inch average depths of organic soil layers may occur in lower slope positions and wetter areas. Gravels, cobbles and rock fragments make up significant portions of the soil profile in the upland soil groups. Exposed rock and bedrock are common throughout the burned area. Soils are generally well-drained. Water movement in the soils is as interflow during the frost free and snow free periods.

Q. Geologic Types: The burn area has a variety of rock types that influence topography and soil development within the Vermilion Geomorphic Province. Generally, the burn area is comprised of Duluth Complex tractolite and anorthosite. The area mainly has bedrock outcrops and shallow soils. The most pronounced structure is a fairly well developed set of faults with directions of failure trending to the north east and some to the north west. The faults provide zones of weakness that have been exploited by weathering and glacial erosion, creating lake basins. Large lakes tend to be located at the junctions of faults or groups of faults.

R. Miles of Stream Channels by Order or Class: River - 1.28, Lake connector - 5.85, Wetland connector - 4.73, Intermittent Stream - 2.84, Perennial Stream - 73.75

S. Transportation System

Trails: 38 **miles** **Roads:** 15 **miles**
*****Trail miles include portages.

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 3,527 **(low)** 15,862 **(moderate)** 55,617 **(high)**
***Note:** The remaining acres within the burned area perimeter are comprised of approximately 8,600 acres of mapped water (lakes, rivers and streams) and approximately 9,000 acres of unburned or very low intensity burned. The severity determination was based on Burned Area Reflectance Classification (BARC) mapping.

B. Water-Repellent Soil (acres): 0

C. Soil Erosion Hazard Rating (acres): 3,527 **(low)** 15,862 **(moderate)** 55,617 **(high)**

D. Erosion Potential: N/A **tons/acre**

E. Sediment Potential: N/A **cubic yards / square mile**

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 1

B. Design Chance of Success, (percent): N/A

C. Equivalent Design Recurrence Interval, (years): 2

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 1.6 - 1.8

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

G. Estimated Reduction in Infiltration, (percent): N/A

H. Adjusted Design Flow, (cfs per square mile): N/A

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats (narrative):

The Pagami Creek Fire burned 92,682 acres within the Superior National Forest. Most of that area is in the Boundary Waters Canoe Area Wilderness (BWCAW). The BWCAW is a mosaic landscape characterized by numerous lakes, separated by areas of uplands and interspersed with wetlands, intermittent and perennial stream channels.

HUMAN LIFE AND SAFETY

The health and safety, property, and wilderness character values are at risk due to post-fire campsite, portage and trail conditions. These conditions include jackstraw and hazard trees, burned over latrines and water bars, standing snags, down trees over sites and social trails, burned over landings and latrine trails, and moderately burned vegetation to no vegetation which will contribute to campsite expansion and erosion should the site open before vegetation recovery begins. Current site conditions are such that emergency rehabilitation treatments to protect the soils from further erosion or site productivity losses are needed near campsites and social trails. Campsites, especially landings, have foot paths that can channelize the water flow and increase the soil erosion potential. Visitor use at campsites can trample vegetation that is important in stabilizing the soil. The loss of wilderness facilities (latrines) leads to a possible threat to visitor health as a result of potentially unmanaged human waste.

Visitors are only permitted to camp in designated campsites with a latrine and fire grate to concentrate the heavy use. Dispersed camping within the burned area is not permitted in order to protect wilderness character from unmanaged recreation. Compromised site integrity presents a problem in that visitors can't simply camp somewhere else when a site is damaged either now or into the near future.

The BWCAW is one of the most heavily used wilderness areas in the United States. The popularity of the area dictates rehabilitation of some campsites in order to facilitate appropriate visitor use. During times of fire or other natural disasters, campsites need to be rehabilitated and opened for use, closed for natural recovery, or the entry point quota must be reduced for long-term or permanent campsite closures. The potential risk to health and safety remains in that visitors may camp in existing sites under unsafe conditions or in an unauthorized campsite without proper human waste containment. Additionally, because of the popularity of the Lake One entry point and the fact that over 2,000 visitors past through this travel route annually presents a unique situation in that many of these campsites are utilized as a public rest stop. Many BWCAW users often stop to answer nature's call and move on to their ultimate destination. Considering this, proper rehabilitation of these sites in essential in managing human waste and ensuring adequate protection of public health and safety along with maintaining the pristine water quality associated with this wilderness. Unauthorized sites also pose a threat to wilderness character in the BWCAW in that unmanaged and inappropriate use creates situations where the opportunities for solitude, wilderness experience, and natural resources can be compromised.

Probability of Loss or Damage: **POSSIBLE**
Magnitude of Consequences: **MAJOR**
Risk: **HIGH**

PROPERTY

No critical property values or resources were identified as being threatened as a result of the Pagami Creek Fire. A bridge over the Island River was within the area impacted by the fire but upon inspection by a engineering technician it was determined there was no damage that would compromise safe use of the bridge.

NATURAL RESOURCES

Soil Productivity, Hydrologic Function and Water Quality

Soil properties do not appear to have been significantly altered by the Pagami Creek Fire. At the time of the assessment, in areas of high and moderate severity surface soils had moderate to high infiltration rates while subsurface soils had moderate to poor infiltration rates. Soils in low severity areas had moderate to high infiltration rates throughout the profile. Throughout the area exposed surfaces are rough due to coarse surface fragments and woody debris. These features will help in breaking up any surface runoff, limiting the potential of rill or gully formation.

The Pagami Creek Fire also impacted riparian areas. The fire occurred during base-flow conditions (the time of year when water levels in lakes, rivers, and wetlands are normally at their lowest) and resulted in riparian areas being consumed to water's edge and through wetlands in most cases. Vegetation in these areas, composed of shrubs, and emergent vegetation, will be some of the first to recover.

Even though the intensity of the burn was high in many places, the flat slopes, surficial geology, heterogeneous local topography, and low stream gradients will result in minimal erosion into lakes, streams, and wetlands in most cases. Effects from these inputs will be localized and recoverable.

Probability of Loss or Damage: **UNLIKELY**
Magnitude of Consequences: **MODERATE**
Risk: **LOW**

As a result of the assessment process and risk evaluation no emergency treatments will be proposed to protect soil productivity, hydrologic function and water quality. Natural recovery is expected to adequately protect these critical values.

Critical or Suitable Habitat for Threatened or Endangered Species (TES)

The area impacted by the Pagami Creek Fire provides various habitats for numerous TES. A comprehensive listing of those species can be found in the *Wildlife Resource*

Report for the Pagami BAER Assessment. Wildlife species of particular interest include Canada lynx, Gray wolf, Olive-sided flycatcher, Connecticut warbler and Bald eagle. Sensitive plant species include Pale moonwort, Least moonwort, Katahdin sedge, American shore-grass, Fall dropseed muhly and Club spur orchid. The ecosystems associated with the various species evolved with fire to some degree and the effects of the Pagami Creek fire would not result in a long-term loss of habitat.

Natural events such as large wildfires will have effects on streams, lakes and wetlands. These changes are within the natural and ecological disturbance regime of the landscape. Aquatic communities have evolved under this system to be resilient and adaptable. The management of the BWCAW enables the aquatic system to operate with a high degree of resilience on a large scale because it imposes very few stressors.

Probability of Loss or Damage: **UNLIKELY**
Magnitude of Consequences: **MINOR**
Risk: **VERY LOW**

As a result of the assessment process and risk evaluation no emergency treatments will be proposed to protect TES or riparian areas. Natural recovery is expected to adequately protect these critical values.

Non-Native Invasive Plants

Prior to the fire, much of the burned area had very low levels of known non-native invasive plant infestations (NNIP). The Pagami Creek Fire changed vegetative conditions within the fire perimeter dramatically, putting one critical value, native plant communities, at very high risk of impacts from NNIP. Lack of shade and lack of plant competition in 2012 will create very favorable conditions for NNIP spread into the burned area. Left unchecked, NNIP can cause severe ecosystem consequences.

Probability of Loss or Damage: **VERY LIKELY**
Magnitude of Consequences: **MAJOR**
Risk: **VERY HIGH**

CULTURAL AND HERITAGE RESOURCES

Cultural resource sites are nonrenewable resources that generally prove to be susceptible to effects from both fire, and post-fire erosion. Cultural resource sites are also static resources, in that they are anchored to discrete landscape locations. The sites themselves, and the information contained therein, have the ability to shed light on the struggles and accomplishments of past human societies. Soil deposition in the boreal forest province is generally shallow, and it is not uncommon to have 9,000-odd years of the archaeological record contained within a 50cm soil column. In this manner, the multiple prehistoric occupations that exist below the surface are generally susceptible to post-fire erosion and windfall. Due to the fact that the vast majority of the cultural resource sites within the fire perimeter are collocated with designated BWCAW campsites, there are also potential adverse effects associated with concentrated pedestrian trampling on fire damaged soils.

If stabilization measures are not implemented, these sites will continue to be threatened by indirect fire effects such as erosion and tree uprooting. Erosion and tree fall, if unmitigated, have the potential to damage and/or displace the subsurface integrity of archaeological sites by mixing and/or removing subsurface archaeological components from within features through transportation through colluvial activity. On fire affected soils, concentrated pedestrian trampling can facilitate erosion and compact soils containing archaeological materials. These effects are magnified in areas where the organic and A soil horizons have been fully consumed by fire. Exposure of archaeological sites also creates a situation where illegal gathering of artifacts becomes more likely.

Probability of Loss or Damage: **LIKELY**
Magnitude of Consequences: **MODERATE**
Risk: **HIGH**

B. Emergency Treatment Objectives (narrative):

HUMAN LIFE AND SAFETY

Protect health and safety from falling trees or dangerous obstacles and exposed latrine contents. Provide appropriate wilderness facilities (latrines) along heavily used travel routes to ensure human waste doesn't pose a threat to the health and safety of wilderness users.

NATURAL RESOURCES

Non-Native Invasive Plants

Prevent impacts to native plant communities from NNIP spread and establishment within the Pagami Creek Fire perimeter using an early detection/rapid response approach.

CULTURAL AND HERITAGE RESOURCES

Prevent loss or damage of cultural and heritage resources from exposure to the environment and unpermitted collection of artifacts.

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

Land NA**%** **Channel** NA**%** **Roads/Trails** NA**%** **Protection/Safety** NA**%**

D. Probability of Treatment Success

	Years after Treatment		
	1	**3**	**5**
Land	90%	90%	90%
Channel	NA	NA	NA
Roads/Trails	NA	NA	NA
Protection/Safety	90%	90%	90%

E. Cost of No-Action (Including Loss): **$1,000,000**

HUMAN LIFE AND SAFETY

Use of campsites, legal or not, that have safety hazards could likely result in injury or death. This is extremely difficult to put a cost on but would be reasonable to consider the potential consequences of. However, eventual site work and rehab work needed on newly created unauthorized sites, trails and portages could easily approach $100,000 in the next year.

NATURAL RESOURCES

Non-Native Invasive Plants

The cost of eradicating a NNIP infestation could easily approach five times the cost of detection in this report or $300,000. There is also the cost of the potential loss of wilderness character and ecological function due to a significant infestation of NNIP. This is extremely difficult to put a cost on but would be reasonable to consider the potential consequences of.

CULTURAL AND HERITAGE RESOURCES

To estimate costs associate with the loss of artifacts would be extremely difficult because a loss of these resources would be irreplaceable. However, assessments of the unevaluated sites within the area could cost as much as $600,000.

F. Cost of Selected Alternative (Including Loss): $155,365

HUMAN LIFE AND SAFETY

Item		Cost / Unit	# Of Units	Total	
Wilderness Latrine		~~$250 / latrine~~	~~44 latrines~~	~~$11,000~~	
Campsite Closures AND Safety on Open Sites	2 Person Wilderness Crew (GS-6 & GS-5)	$327 / day	~~100 days~~ 70 days	~~$32,700~~ $22,890	~~$40,100~~ $28,070
	Per diem	$37 / day / person	~~100~~ 70 days (2 people)	~~$7,400~~ $5,180	
Compliance Monitoring	2 Person Wilderness Crew (GS-6 & GS-5)	$327 / day	~~65~~ 40 days	~~$21,255~~ $13,080	~~$26,065~~ $16,040
	Per diem	$37 / day / person	~~65~~ 40 days (2 people)	~~$4,810~~ $2,960	
TOTAL				~~**$77,165**~~ **$44,110**	

NATURAL RESOURCES

Non-Native Invasive Plants

Item		Cost / Unit	# Of Units	Total	
NNIP Detection and Eradication	Student Conservation Association	$785 / day **(includes all associated costs for crew of crew leader and three crew members)**	~~70 days~~ ~~**(280 person days)**~~ **50 days**	~~$54,950~~ $39,250	
	GS-5 Biological Science Technician	$137.50 / day	~~60 days~~ 50 days	~~$8,250~~ $6,875	
	Supplies			$250	
NNIP Prevention and Protection of Wilderness	Excavator w/ Operator	$80 / hour	8 hours	$640	$890
		$250 mobilization fee	1 time fee	$250	

Character					
TOTAL				**~~$64,340~~ $47,265**	

CULTURAL AND HERITAGE RESOURCES

Item		Cost / Unit	# Of Units	Total	
Cultural and Heritage Resource Protection	2 Archaeological Technicians (GS-5)	~~$274 / day~~	~~12 days~~	~~$3,288~~	~~$5,486~~ $1,310
	Archaeologist (GS-9)	$290.45 / day	4 days	$1,162	
	Per diem	$37 / day	~~28~~ 4 days	~~$1036~~ $148	
	2 Archaeological Technicians (GS-5)	~~$274 / day~~	~~16 days~~	~~$4,384~~	~~$5,568~~
	Per diem	~~$37 / day~~	~~32 days~~	~~$1,184~~	
	Forest Archaeologist (GS-11)	$328 / day	5 days	$1,640	$2,815
	Archaeological Technician (GS-7)	$161 / day	5 days	$805	
	Per diem	$37 / day	10 days	$370	
TOTAL				**~~$13,869~~ $4,125**	

G. Skills Represented on Burned-Area Survey Team:

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

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Team Members:

Jim Barott - Soil Scientist

Jason Butcher - Aquatic Biologist

Jack Greenlee - Plan Ecologist
Lee Johnson - Archaeologist
Kari Kirschbaum - Wildlife Biologist
Tom McCann - GIS
Dan Ryan - Wildlife Biologist
Carl Skustad - Recreation / Wilderness

H. Treatment Narrative:

HUMAN LIFE AND SAFETY

Treatment #1: Administrative campsite closures and possible quota adjustments (temporary and/or long-term) – the sites will be closed via signing (at permit issuing stations, entry points and on-site) and possible flagging at dangerous locations (i.e.; unmarked latrine hole, hazard trees, etc.) and with wilderness ranger patrolling. When closing a campsite, the objective is to return the area to a natural appearance or to the acceptable Forest Plan campsite standards and to prevent campsite expansion and erosion. Currently sites are closed for the remainder of this season. Considering the popularity of the areas impacted by the fire, permanent closure would not be a viable option for all sites. Wilderness character would be compromised by dispersed use that could result from neglecting to treat many of the sites within the fire perimeter. Final field assessments show 114 sites impacted by the Pagami Creek Fire need treatment. Of those 114 sites, 48 would be closed in 2011 and 32 would be closed in 2012. These closures include permanent and temporary closures. However, 16 sites still have not been accessed.

Treatment #2: Latrine Replacement - 44 of the 114 sites would need a new latrine to adequately protect visitor health and safety.

Treatment#3: There are burned and leaning trees across the campsites, latrine trails and latrines. Because these trees constitute an urgent significant hazard, removal is necessary. Hazard trees may be cut with a cross cut saw or dispersed via explosives.

Treatment #4: Compliance monitoring - Sites closed under treatment #1 will be patrolled to prevent use in order to adequately protect visitor health and safety, and to track the progression of campsite recovery due to closures to ensure objectives are being met. If violations of the closure are common and there is a remaining concern for safety risks, further actions may be considered.

NATURAL RESOURCES

Non-Native Invasive Plants

Treatment #1: The first proposed treatment is NNIP inventory. Within the BWCAW, crews will visit all campsites, trails, and portages within the burn

perimeter to look for NNIP; these sites are where NNIP infestations are typically found in this wilderness area. At known NNIP sites in the BWCAW portion of the Pagami Fire, crews will inventory within 200 yards of the known infestation as well. Outside of the BWCAW, burned areas adjacent to roads within the fire perimeter will be inventoried for NNIP. Inventory will be conducted at the beginning of the flowering season for NNIP to insure detection. These methods have been effective in the past for detecting NNIP on the Superior National Forest. Work on all treatments inside the BWCAW would be accomplished with a Student Conservation Association (SCA) crew, and work outside the BWCAW would be accomplished by seasonal Forest Service employees.

Treatment #2: The second proposed treatment is to treat any NNIP site that is found within the fire perimeter. Hand pulling or cutting will be used inside the BWCAW, and herbicides will be used outside the BWCAW. NEPA for these types of invasive plant treatments was completed in 2006 (USDA Forest Service 2006). Past experience on the Superior National Forest has shown that hand pulling or cutting is effective at preventing weeds from going to seed, and annual monitoring of our herbicide treatments has shown that they are very effective at eradicating small NNIP infestations and preventing spread.

Treatment #3: The third proposed treatment is to prevent NNIP spread into the wilderness. As a result of the Pagami Creek Fire the trees at the Pow Wow Trail entry point that would have acted as a natural barrier to illegal motorized use no longer function as such. An excavator would be used at the trailhead and surrounding area to block the path for illegal motorized use. This treatment will also serve to protect wilderness character by preventing illegal motorized intrusions into the BWCAW.

Integration with other BAER work: Within the BWCAW, NNIP work would be integrated with approved heritage or wilderness BAER treatments. A four person SCA crew would have primary responsibility for NNIP work in the BWCAW, and would work alongside or in concert with wilderness or heritage personnel to accomplish wilderness or heritage treatments. The Superior National Forest has an existing agreement with the SCA that could be used to accomplish NNIP treatments.

CULTURAL AND HERITAGE RESOURCES

Treatment #1: Site Protection: Site protection and on-site design measures during erosion control implementation will ensure BWCAW campsites with intact archaeological components will be considered and treated. Archaeological technicians are requested for integration into BWCAW rehabilitation implementation crews. Post-treatment monitoring of the rehabilitation areas (as related to those sites with archaeological components) will ensure effectiveness. Recommended treatment for these sites includes flush cutting, and removing trees from the site area. Severe burning in some sites has exposed mineral soils (complete consumption of duff and surface vegetation) on sloping areas within and immediately adjacent to prehistoric site boundaries. These sensitive areas

have the potential to adversely affect subsurface archaeological materials and features through slope wash, burying, and undercutting. These sites will be stabilized and exposed cultural and heritage resources will be concealed with native materials to prevent illegal gathering of artifacts. Approximately 18 sites within the Pagami Creek Fire require stabilization measures.

Treatment #2: Temporary/Permanent Campsite Closure: Temporary closure is recommended for 8 cultural resource sites which are collocated with BWCAW campsites. Fire effects in these sites are severe, and the introduction of concentrated recreational use will have an adverse effect on fire damaged soils containing archaeological materials. Permanent, or a closure of 1-2 seasons, will allow native vegetation to become established. Sites may also require stabilization measures and in order to protect some, cultural and heritage resources will be concealed with native materials to prevent illegal gathering of artifacts.

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.)

HUMAN LIFE AND SAFETY

Implementation and Effectiveness

Campsite and portages will be monitored regularly throughout the field seasons as wilderness crews periodically travel through the areas where treatments are proposed. Monitoring will include photo points, general campsite inventories while integrating monitoring for NNIP and heritage resources. The monitoring will account for both ensuring the treatments were implemented correctly and that the treatments were effective in achieving objectives to protect visitors from hazard trees and ensuring sites function adequately to protect visitor health as it relates to human waste containment.

NATURAL RESOURCES

Non-Native Invasive Plants

Implementation

Superior National Forest Plant Ecologist will inspect treatments outside the wilderness to ensure that treatments are being carried out as planned. In the BWCAW, crew leaders will photo document treatments at the time of treatments to ensure that they are being carried out as planned.

The work at the Pow Wow Trail entry point will be inspected by a COR to ensure the treatments were implemented in a manner that would effectively prevent motorized intrusions to the BWCAW to prevent the spread of NNIP by ATVs.

Effectiveness
To monitor the effectiveness of hand pulling and herbicide treatments, crews will re-visit 25% – 50% of treated sites later in the FY12 field season to determine if the treatment was effective. The "percent kill" (i.e. fraction of each weed population effectively treated) for each species at each site will be recorded. Effectiveness of NNIP BAER treatments will be monitored with appropriated funds in FY13 as per interim BAER directive FSM 2523.2_2f.

The Pow Wow Trailhead will be visited periodically to ensure the work done there remains effective in preventing illegal motorized use and as a result prevent the spread of NNIP in that area. Photos would be taken to show the area and document that whether or not motorized use is occurring.

CULTURAL AND HERITAGE RESOURCES

Implementation
On-site rehabilitation monitoring and design of erosion control features by archaeological technicians will ensure that treatments (contour felling, log checks, annual seeding) are directed towards stabilizing intact portions of archaeological sites situated on, and or near BWCAW campsite use areas. It is requested that archaeological technicians are integrated into wilderness rehab implementation crews during field implementation. Expected need for implementation monitoring will be this fall and spring of FY2012. Additional monitoring will be completed on cultural sites assessed, but not scheduled for treatment.

Effectiveness
Treated cultural sites will be monitored for effectiveness in the Fall of FY2012 and spring of FY2013. Effectiveness monitoring will focus on the adequacy of erosion control treatments and whether the treatments are stabilizing and protecting artifact bearing soils within BWCAW campsite use areas. Cultural sites/BWCAW campsites slated for closure will be monitored to see if closures are adequate and fire affected soils are stabilizing.

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

			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										
NNIP Treatments				$47,265	$0		$0		$0	$47,265
Herritage / Cultural Resource Treatments	sites	$217	n/a	$4,125	$0		$0		$0	$4,125
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$51,390	$0		$0		$0	$51,390
B. Channel Treatments										
				$0	$0		$0		$0	$0
				$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										
				$0	$0		$0		$0	$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				$0	$0		$0		$0	$0
D. Protection/Safety										
Campsite Closures	days	$401	70	$28,070	$0		$0		$0	$28,070
Compliance Monitoring	days	$401	40	$16,040	$0		$0		$0	$16,040
Wilderness Latrines	latrines	$250	0	$0						$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$44,110	$0		$0		$0	$44,110
E. BAER Evaluation										
				---			$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$0		$0		$0	$0
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				$95,500	$0		**$0**		**$0**	**$95,500**
Previously approved										
Total for this request				**$95,500**						

PART VII - APPROVALS

1. ***/s/James W. Sanders*** ***12/15/11***
   Forest Supervisor (signature) Date

2. /s/ Charles Myers 2/2/12
   Regional Forester (signature) Date