Date of Report: November 22, 2022

BURNED-AREA REPORT

PART I - TYPE OF REQUEST

A. Type of Report

☒ 1. Funding request for estimated emergency stabilization funds
☐ 2. No Treatment Recommendation

B. Type of Action

☒ 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

☐ 2. Interim Request #___
☐ Updating the initial funding request based on more accurate site data or design analysis

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Kimble Complex

B. Fire Number: OHWAF-1572

C. State: Ohio

D. County: Lawrence

E. Region: 09

F. Forest: Wayne National Forest

G. District: Ironton Ranger District

H. Fire Incident Job Code: P9 P4FZ (0914)

I. Date Fire Started: 11/08/2022 – 11:00 am

J. Date Fire Contained: Est. 11-19-22

K. Suppression Cost: $466,228.11 (as of 11-18-22)

L. Fire Suppression Damages Repaired with Suppression Funds (estimates):

Reference the Kimble Fire suppression rehabilitation plan for more information.
Fireline repaired (miles): Approximately 1.32 miles of dozer line have been repaired to date

1. Water bars will be constructed to reduce erosion and slash dispersed onto the Fireline to obscure and hinder use.
2. **Pump Sites:** Pump sites are identified for the removal of dams, recontouring disturbed areas, rehabbing user-created trails, and removal of contaminated soils and all plastic, trash or other foreign materials at the sites.
3. **Other (identify):** Incident command, base camps, staging areas and drop points are identified for suppression repair activities, including removal of flagging and trash, scattering of slash, and rehabbing any user-created trails. BAER treatments include Early Detection and Rapid Response (EDRR) in these locations during the next year to prevent noxious and invasive plants. EDRR will be used on areas where surface soils were disturbed and/or equipment may have moved non-native seed into the suppression activity areas.

M. Watershed Numbers:

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
050901030202	Headwaters Pine Creek	21,330	1,320	6.2%
050901010902	Buffalo Creek	11,235	13.7	0.1%
050901030201	Hales Creek	20,669	3.7	0.02%

N. Total Acres Burned: 1,338

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	1,124
OTHER FEDERAL (LIST AGENCY AND ACRES)	-
STATE	-
PRIVATE	214
TOTAL	1,338

O. Vegetation Types: mixed hardwoods-- oaks, gum, maple, yellow-poplar, cucumber, and some pine and hemlock.

P. **Dominant Soils:** Silt loams dominate this fire footprint. They consist of deep and very deep, well-drained, moderately permeable soils formed in mixed colluvium from shale, siltstone, and sandstone or colluvium and residuum. They are on steep concave mountainsides, foot slopes, and benches. Slopes range from 2 to 90 percent.

Soil	Texture	Acres
Shelocta Latham association	Silt loam	1069
Coolville	Silt loam	69.4
Gilpin-Latham	Silt loam	58.8
Upshur-Gilpin complex	Silt loam	52.6

O. Geologic Types: Pennsylvanian (about 307 to 318 million years ago). Sedimentary rocks: mainly sandstone, siltstone, shale, and conglomerate, with some coal and limestone. Deltaic and marine origin.

Q. Miles of Stream Channels by Order or Class:

Table 3: Miles of Stream Channels by Order or Class

STREAM TYPE	MILES OF STREAM
PERRENIAL	0.8
INTERMITTENT	5.3
EPHEMERAL	
OTHER (DEFINE)	

R. **Transportation System:**
Trails: *National Forest (miles):* 0 miles
Roads: *National Forest (miles):* 0 miles (open); 2 miles (closed)

PART III - WATERSHED CONDITION

A. Burn Severity (acres): SBS was not verified due to not having a trained soil scientist on the ground from pictures the BARC looked fairly accurate. The number below are from the BATC map that is being used for general soil erosion numbers and a substitute for SBS

Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal (List Agency)	State	Private	Total	% within the Fire Perimeter
Unburned					84	
Low					744	
Moderate					490	
High					0	
Total					1,318	100%

B. Water-Repellent Soil (acres):

C. Soil Erosion Hazard Rating: Landtype inherent surface erosion hazards range low to moderate for bare soils. Due to the fine texture of soils, most of the fire footprint has a moderate soil hazard rating, with a slit rating on the ridge tops and the river floodplains.

D. Erosion Potential: From WEPP Cloud the average annual sediment delivery from the hillslopes will be 25 tons/ yr**.** Around 26% of the eroded fraction would be silt and 31% clay material.

E. Sediment Potential: No USGS debris flow modeling completed

F. Estimated Vegetative Recovery Period (years): 1 to 3 years for understory graminoids/shrubs

G. Estimated Hydrologic Response (brief description): It is reasonable to expect increased post-fire runoff in Headwaters Pine Creek watershed. Kimble Creek stream discharge is expected to be 9.99 in/yr

PART V - SUMMARY OF ANALYSIS

Introduction/Background

The Kimble Fire started in the Wayne National Forest on Nov 8th, 2022, and grew to approximately 1,337 acres. Fire crews burned off the township road (166), Due to the Rx burn and wetting rains that occurred over several days, the fire crews were able to quickly get the fire under control.

The BAER assessment initiated field reconnaissance of the burned area on October Nov 17th, 2022. The Kimble Fire burned in Headwaters Pine Creek, Buffalo Creek, and Hales Creek watersheds in the Wayne National Forest.

The primary values at risk from post-fire effects due to the Kimble Fire are native vegetation communities and increased runoff into waterways. The primary threats caused by the fire include increased runoff, which is expected to intensify the first 2 to 5 years following the fire until the burned watersheds recover, and accelerated hillslope erosion, which would result from amplified runoff and decreased infiltration rates. High-intensity, short-duration rainfall may result in sediment loading into Kimble creek and other drainages. Additional threats include falling trees and rolling rocks originating from destabilized hillslopes in the burned area.

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

Table 5: Critical Value Matrix

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**

1. Human Life and Safety (HLS):

Potential threats to visitors/recreating public, residents of private lands, & Forest Service employees include hazardous trees and rock fall, and loss of ingress and egress. These threats exist along roads, and to permitted uses downstream or downslope of burned slopes, particularly in areas with a moderate soil burn severity. Risk is increased with higher probability in places having greater access and more frequent concentrations of people.

Intermediate risk (unlikely, major) to forest visitors and Forest Service employees within and adjacent to the burned area on township roads and close FS roads, due to the increased threat of falling trees, rolling rocks, erosion, and road washouts within the burned area. (Treatments PS-01 Warning Signs)

2. Property (P):

Road Infrastructure

There are 2 miles of close and unmaintained Forest roads within the fire perimeter. All roads (Forest Service and Township roads) are on ridge tops and have an unlikely possibility of major damage from runoff.

There are no other Forest Service properties within the fire footprint.

3. Natural Resources (NR): Native Plant Communities

Very High Risk (Very Likely, Major) The threat to the critical value of native plant communities is the spread of pre-fire infestations (including but not limited to tree-of-heaven, Amur honeysuckle, Ailanthus altissima, Lonicera maackii, princess tree, autumn olive, winged burning bush, Japanese barberry, and European privet) into native vegetation communities. The probability of Damage or loss is very likely due to the fast-growing nature of these invasive species that have root systems that are almost impossible to control once established. The Magnitude of the consequence is Major. Once established, the harm caused by invasive species to natural vegetation recovery is expected to be long-lasting and costly to reverse. These invasives have the ability to grow on a wide range of site conditions, tolerating all soil conditions. Invasive plants often spread quickly once established, impairing the post-fire recovery of native vegetation communities. The Wayne National Forest has invested a substantial amount of time and money to date to eradicate noxious weeds and immediate action is critical to support the effort already invested in invasive species removal. Therefore, EDRR surveys and subsequent contracted treatments are proposed to reduce future burn area degradation from NNIS establishment and proliferation. (L-01 EDRR)

Soil Productivity

There is a high risk (likely, moderate) to soil productivity associated with post-fire threats from accelerated hillslope and sheet erosion, rilling, and gullying in moderate areas. Increases in soil erosion are expected from post-fire environments primarily from the loss of protective soil cover and nutrient-rich organic matter, thereby decreasing soil productivity. Analysis of existing soil textures in the burned area suggests an increased probability for elevated erosion. Damaging erosion events will likely be

localized in the moderate soil burn severity areas in the short term (< 10 years) and not result in long-term soil degradation. Risks to soil productivity will diminish as forest floor recovery occurs, therefore natural soil recovery is considered an appropriate response action. While there are no treatments recommended to protect the soil productivity, other land and road treatments will provide some protection to soil productivity in the burn area.

Hydrologic Function

High risk (likely, moderate) from increased run-off with overland flow influencing erosion and sediment delivery to hydrologic function from post-fire conditions. The conditions that contribute to these include: decreased infiltration, reduced vegetation canopy and ground cover. Impacts to watershed process that regulate hydrologic function are expected within moderate severity areas. The recommended response action is natural recovery.This potential threat is from increased sediment. No treatments recommended.

4. Cultural and Heritage Resources:
Site LE0540, which is off County Rd 193E, was burned over. Due to weather conditions, the entire site was unable to be relocated. However, the portion of the site that was relocated, was on a relatively flat area that was slightly higher than the road. Damage will not likely occur from future rain or snow events. The threat of Artifact Looting, erosion, and possible debris flow damaging sites is very low. Increased runoff, debris flows, and erosion/sedimentation potential in moderate to high soil burn severity are also very low.
The “Risk” would be Very Low as the Probability of Damage to the heritage significant NRHP eligible resources is Unlikely with consequences being Minor.

B. Emergency Treatment Objectives:

1. Reduce unacceptable risks to human life and safety from flooding, debris flows, washouts, and other threats such as hazard trees. Taking immediate actions to protect human life is the single overriding objective prior to implementing other actions.
2. Reduce unacceptable risks to native and naturalized vegetation communities from the threat of noxious weeds and invasive species.

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

Land: NA
Channel: NA
Roads/Trails: NA
Protection/Safety: 90%

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

	1 year after treatment	*3 years after treatment*	*5 years after treatment*
Land	80	80	90
Channel			
Roads/Trails			
Protection/Safety	90	80	70

E. Cost of No-Action (Including Loss): The cost of loss related to human life and safety cannot be calculated.

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

☒ Soils ☒ Hydrology ☐ Engineering ☐ GIS ☒ Archaeology
☒ Weeds ☐ Recreation ☐ Fisheries ☐ Wildlife
☐ Other:

Team Leader: Anna Plumb
Email: anna.plumb@usda.gov **Phone(s)** 630-632-5589

Forest BAER Coordinator: Danding Gan Wayne National Forest
Email: danding.gan@usda.gov **Phone(s):** 740-753-0912

Team Members: *Table 7: BAER Team Members by Skill*

Skill	Team Member Name
Team Lead(s)	Anna Plumb
Soils	Anna Plumb
Hydrology	Danding Gan
Engineering	
GIS	
Archaeology	Andrew Tremayne
Weeds	Gerald Scott
Recreation	
Fisheries	
Other	

H. Treatment Narrative:

Land Treatments:

L-01 EDRR: Reduce the potential for the establishment of new noxious weed infestations in native or naturalized communities, particularly the establishment of new noxious weed infestations in highly susceptible burned areas, prevent spread of existing infestations, and decrease rate of spread of weed density from existing infestations. The proposed treatment area was developed by identifying those invasive species most likely to infest the burned area and reviewing scientific literature that focuses on species' dispersal. The primary invasive tree known in the vicinity is Ailanthus altissima (tree-of-heaven), and the primary invasive shrub is Lonicera mackii (Amur honeysuckle). Both species are problematic invaders of disturbance corridors, road edges, and canopy gap areas. With the slightest disturbance (low and moderate SBS, and minor disturbance along roads, along with bare soil) these species are likely to establish. When native plants are hindered or killed, the tree of life and Amur honeysuckle upsets the balance of the native ecosystem and biodiversity, potentially leading to extinctions of native plant and animal species across the whole ecosystem.

Invasive plants and weed assessments will be conducted in FY2023 for Early Detection and Rapid Response (EDRR) on any new infestation located within the fire perimeter. Treatments will occur at the proper phenology of each species to ensure maximum control. This treatment will be supplemented by natural re-vegetation. Assess areas that have a high potential for weed/invasive species establishment. The fire area falls within an area that is aimed at restoring oaks and other native plant communities, therefore the invasive plants that are within proximity can cause major irreversible damage to the native plant communities if established. Additional critical areas include roads, hand lines, and burned areas where suppression vehicles and equipment traveled through known noxious weed/non-native invasive plant species populations. Acres priority for EDRR are as follows:

Suppression EDRR Kimble Complex Total Acres burned = 1337

1) Dozer Line 1.4 miles

2) Handline 2.5 miles (2 feet wide = .6 acres)
3) Road used as line 3.9 miles
Total: (5.3 miles= 96.4 acres + .6 acres= 97 acres)

BAER EDRR Kimble Creek (Total Acres = 97 acres)

1) Existing, known weed population extent inside fire perimeter 178.4 acres

BAER Proposed Treatment Area (Total Acres = 0 acres)

1) Existing dozer, handline, and road used as line

1. Conduct short-term monitoring in FY2023 using early detection and rapid response (EDRR) assessment/monitoring of noxious weed/non-native invasive plant species infestations within the burned area. Monitoring to determine the post-fire presence or spread of invasive species throughout the fire area.

2. Inventory/assessment, photos and map new noxious weed infestations within the burned area using GPS technology and upload into the Ironton Ranger District GIS Noxious Weeds database.

3. Chemical treatments using pickups, UTVs and backpack spray units will be used on any noxious weeds located within the fire on public lands. Coordination with County Departments of Agriculture and or the private land owner will be conducted on noxious weeds found on private lands inside and outside of the burn perimeter.

EDRR Treatment Cost Estimate

Item	UOM	Unit cost	# of units	Total Cost
BAER EDRR	Acre	$142	97	$13,774
Total				**$13,774**

Channel Treatments: None proposed.

Roads and Trail Treatments: None proposed.

Protection/Safety Treatments:

PS-01 Warning Signs The overall purpose of this treatment is to reduce risks to human life and safety by warning motorists and/or Forest visitors of existing threats while traveling within and downstream of the burned area.

“Entering Burned Area” signs are needed to alert the public of possible threats to their life and safety that exist within or downstream of a burned area. The signs contain language specifying items to be aware of when entering a burn area such as falling trees and limbs, rolling rocks, and flash floods.

Hazard Warning Signs Cost Estimate.

Item	UOM	Unit cost	# of units	Total Cost
Roadside & Trailhead Signs: “Entering Burned Area Warning”	Number of signs	$319	2	$638

I. Monitoring Narrative:

LT-01 Treatment sites will be evaluated annually for the next three years to ensure control methods are meeting resource objectives and to inventory for new invaders. Weed specialists/technicians will visit chemically treated sites after treatment; this is especially important for weed populations that are sprayed to ensure efficacy of herbicide application. Initiate follow-up treatments if additional non-native species or new infestations are discovered. Control will be considered successful upon determination that all noxious weeds have been controlled and non-native invasive plants have not spread beyond their pre-fire locations.

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											
L-01 EDRR BAER		142	97	$13,774	$0			$0		$0	$13,774
L-01 EDRR Fire Suppression		0	0	$0	$0			$0		$0	$0
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Land Treatments				$13,774	$0			$0		$0	$13,774
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 Treatments				$0	$0			$0		$0	$0
C. Road and Trails											
RT-01 Road Drainage Storm	Miles	0	0	$0	$0			$0		$0	$0
RT-02 Trail Drainage Rehab	Site	0	0	$0	$0			$0		$0	$0
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Road and Trails				$0	$0			$0		$0	$0
D. Protection/Safety											
PS-01 Warning Signs	Sign	319	2	$638	$0			$0		$0	$638
PS-02 Recreation Site Haza	Site	0	0	$0	$0			$0		$0	$0
PS-03 Cultural Resource Pr	Site	0	0	$0							$0
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Protection/Safety				$638	$0			$0		$0	$0
E. BAER Evaluation											
Initial Assessment	Report			$4,500	$0			$0		$0	$0
				$0	$0			$0		$0	$0
Insert new items above this line!				---	$0			$0		$0	$0
Subtotal Evaluation				$4,500	$0			$0		$0	
F. Monitoring											
				$0	$0			$0		$0	$0
				$0	$0			$0		$0	$0
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Monitoring				$0	$0			$0		$0	$0

PART VII - APPROVALS

1. LEE STEWART Digitally signed by LEE STEWART Date: 2022.12.01 13:12:14 -05'00'

Forest Supervisor Date