

Date of Report: July 14, 2017

Revised July 20, 2017

BURNED-AREA REPORT
(Reference FSH 2509.13)**PART I - TYPE OF REQUEST****A. Type of Report**

- ☒ 1. Funding request for estimated emergency stabilization funds
☐ 2. Accomplishment Report
☐ 3. No Treatment Recommendation

B. Type of Action

- ☐ 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)
☒ 2. Interim Report #1
☐ 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 DESCRIPTIONA. Fire Name: GoodwinB. Fire Number: AZ-PNF-000904C. State: AZD. County: YavapaiE. Region: 03, SouthwestF. Forest: Prescott National ForestG. District: BradshawH. Fire Incident Job Code: P3K2YFI. Date Fire Started: 6-24-2017J. Anticipated Fire Containment: 7/11/2017K. Suppression Cost: \$14,665,879.00**L. Fire Suppression Damages Repaired with Suppression Funds**

1. Fireline waterbarred (miles): 20 miles dozerline & 10 miles handline
2. Fireline seeded (miles): 0
3. Other (identify): Mobile Retardant Base seeding & fencing (10 acres), slash mitigation-chipping (3 miles)

M. Watershed Number: 150701020403 – Big Bug Creek – (12,373 acres)

150701020208 – Galena Gulch-Agua Fria River (259 acres)

150701020302 – Wolf Creek (9,285 acres)

150701020303 – Upper Turkey Creek (5,978 acres)

150701020301 – Bear Creek (279 acres)

150701020304 – Cedar Creek (342 acres)

N. Total Acres Burned: 28,516

NFS Acres(25,011) Other Federal (1,068) State (1,523) Private (914)

O. Vegetation Types: Interior chaparral, Pine – Gamble oak

P. Dominant Soils: Lithic Haplustalfs

Q. Geologic Types: Metamorphic and Volcanic

R. Miles of Stream Channels by Order or Class: 120.4 ephemeral miles, 0.9 perennial miles

S. Transportation System

Roads: 63.7 miles Motorized Trails: 26.5 miles Non-motorized Trails: 2.4 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 2,601 (unburned) 3,708 (low) 14,827 (moderate) 7,380 (high)

B. Water-Repellent Soil (acres): 10,583

C. Soil Erosion Hazard Rating (acres):
5,105 (low) 9,075 (moderate) 13,612 (high)

D. Erosion Potential: 18.5 tons/acre

E. Sediment Potential: 7,157 cubic yards / square mile / year

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 5-10 in chaparral

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

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

D. Design Storm Duration, (hours): 1

E. Design Storm Magnitude, (inches): 2.5

F. Design Flow, (cubic feet / second/ square mile): 2037.2 (ft³/s/mi²)

G. Estimated Reduction in Infiltration, (percent): 47.8%

H. Adjusted Design Flow, (cfs per square mile): 2427.6 (ft³/s/mi²)

Interim updates July 14, 2017. New text added below since the initial request appears in green

PART V - SUMMARY OF ANALYSIS

A. Background:

The Goodwin Fire started on June 24, 2017; the cause of the fire is under investigation. The Forest authorized extended attack to protect human life, property and resource values at risk. Incident management transitioned to a Type 1 IMT on June 26, and back to a Type 3 IMT on July 5. Low relative humidity and high temperatures combined with sporadic winds contributed to fire progression throughout this incident, which is contained as of July 10, 2017. The area within the Goodwin Fire perimeter is approximately 28,516 acres. The majority (88%) of the burned area is on the Prescott National Forest. The perimeter also includes 1068 acres of BLM lands, 1522 acres of State lands, and 914 acres of private property. The majority of the Goodwin Fire area is comprised of interior chaparral, which had heavy fuel loading and had not burned in approximately 50 years. This incident was within the natural fire return interval, but the heavy fuel loading, dry conditions and topography combined to create extensive patches of high and moderate soil burn severity with very limited remaining soil protective cover. The post-fire conditions are expected to retard natural recovery of vegetation, soil, and wildlife habitat conditions. The majority of the burn severity consisted primarily of moderate (52%) and high (26%) soil burn severity in the interior of the fire area and a mix of low (13%) and unburnt areas (9%) around the edges.

Generally, fire behavior exhibited moderate to high soil burn severity due to heavy live and dead fuel accumulation within interior chaparral. Low burn severity sites on the east flank of the fire correspond with lighter fuel loading left by the Gladiator Fire (2012) and SA Hill Fire (2015). Low soil burn severity on the west flank of the fire correspond with pine stands on Big Bug Mesa, which were subjected to an understory burn. In areas with low soil burn severity, burnt fuels are charred but distinguishable, hydrophobicity is absent, and vegetation is expected to respond quickly.

Areas with high burn severity have experienced full canopy cover consumption and full continuous vegetative ground cover consumption. Areas associated with moderate burn severity have some unburned vegetation or bare soil interspaces/rocky terrain that were not subjected to fire. Both moderate and high burn severity have medium hydrophobicity that is generally less than a .25 inch depth. Approximately 47% of the moderate soil burn severity and 53% of high soil burn severity exhibit hydrophobicity. Areas of low soil burn severity are expected to have a quick vegetative response. There is a high likelihood of accelerated erosion and soil loss in areas that experienced moderate to high soil burn severity, due to water repellency and limited soil cover.

B. Critical Values/Resources at Risk and Threats:

The primary identified value at risk within and around the fire perimeter is human life and safety, due to the very high potential for post-fire flooding, debris transport and falling trees within the burned area. The Agency Administrator has issued an area closure for the burned area and intends to keep the closure order in place at least through the monsoon season. However, enforcement of the closure order has become increasingly difficult as the fire was contained and the evacuation orders were lifted, because of the numerous Forest System and County roads that access the burned area. Current enforcement officers have reported denying entry to over 100 contacts per day. Continued enforcement patrols are needed during daylight hours, seven days per week, to protect human life, provide for public safety, and prevent unauthorized entry. With many of the sub-watersheds completely burned and the rugged topography of the area, there is a very high risk of post-fire flooding, flash floods, debris transport, and falling trees within the burned area. Additionally, many of the roads and trails cross multiple drainages or are located within drainages. With monsoon season here, storms can quickly build, and in many areas within the burn area rugged terrain hinder views of approaching storms.

Risk Assessment: using the BAER Risk Assessment Matrix

Table 1. BAER Risk Assessment			
Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
	RISK		
Very Likely	Very High (closure only)	Very High	Low
Likely	Very High (add signs)	High	Low
Possible	High (add gates/barricades)	Intermediate	Low
Unlikely	Intermediate (add patrols)	Low	Very Low

1. **Human Life and Safety:** Potential threats to visitors/recreating public and agency personnel include flash flooding, hazard trees, and rockfall along roads/trails and at trailheads, and dispersed recreation sites that are within or downstream/downslope of areas that burned at moderate or high severity.

The Risk Assessment is Very High Risk (very likely probability, major consequences) to human life and safety of recreating public and agency personnel from flash flooding, hazard trees, and rockfall when operating motor vehicles, cycling or hiking roads and trails on NFS lands within the burn perimeter. Despite the existing closure order, enforcement officers have reported denying entry to over 100 contacts per day. Therefore, the closure order alone is not sufficient to mitigate identified threats to human life and safety. Treatments PS-01, PS-02 and PS-03 are necessary to further mitigate these threats.

Very High Risk (likely probability, major consequences) to human life and safety of recreating public and agency personnel from flash flooding, hazard trees, and rockfall when operating motor vehicles, cycling or hiking roads and trails on NFS lands within the burn perimeter. Installing hazard warning signs at all points of ingress to the fire perimeter is expected to raise awareness and deter some of the public from entering the burned area, thereby reducing exposure to the identified threats to human life and safety. However, warning signs will not prevent entry into the burned area. Therefore, hazard warning signs will not fully mitigate identified threats to human life and safety. Treatments PS-01 and PS-03 are necessary to further mitigate these threats.

High Risk (possible probability, major consequences) to human life and safety of recreating public from flash flooding, hazard trees, and rockfall when operating motor vehicles, cycling or hiking roads and trails on NFS lands within the burn perimeter. Installing gates or barricades at all points of ingress to the fire perimeter is expected to deter a higher percentage of the public from entering the burned area, thereby reducing exposure to the identified threats to human life and safety. However, it is not feasible to gate or barricade all routes of ingress to the burned area. For example, County Road 177 is not under Forest Service jurisdiction, but intersects four Forest System roads within the fire perimeter. Gates or barricades would not restrict access to the burned area via several other Forest System roads that are in open terrain. Therefore, gates and barricades will not fully mitigate identified threats to human life and safety. Treatment PS-01 is necessary to further mitigate these threats.

Intermediate Risk (unlikely probability, major consequences) to human life and safety of recreating public. By implementing PS-01, PS-02 and PS-03 we reinforce the closure order to minimize exposure to identified threats (flash flooding, hazard trees, and rockfall) on NFS lands within the burn perimeter.

Gates, boulders, and other means of permanent closures will be used in conjunction with enforcement patrols to prevent public ingress during the next 2 months. The next 2 months during the monsoon season is the greatest risk to public safety due to intentional or unintentional public access to the burned area on roads or trails, creating a potentially life-threatening situation where publics can be caught in dangerous flood conditions. The immediate need for enforcement patrols until the gates can be installed is the only effective way to provide for public safety. This need is supported by the reports that during the suppression repair phase and the continued containment of the fire under the type III organization, road blocks were staffed with law enforcement officers that reported turning around about 100 people a day. The combination of enforcement patrols phasing out to physical barriers is needed because many locations where gates will be best placed are flat and will need to be designed and

monitored to ensure they remain effective. Extended wing fencing, boulders, gates, and signs will be used to ensure best effort is made to preclude public access to the burned area over the mid and long term duration of the risk.

Hazard Tree

The pine stands located along County Road 177 and FR-86 were significantly damaged by the Goodwin fire, resulting in direct fire damage which resulted in numerous standing burnt snags with confirmed mortality that are leaning towards objects of value. In addition there are a large number of trees with severe crown scorch which are expected to die in the next twelve months and pose a threat to values at risk. This severe crown scorch in combination with expected flooding and erosion is expected to result in the development of as many as 200 hazard trees which has been identified as a critical value of risk to human life and safety.

County Road 177 and FR-86 are used extensively not only by the public for access to residences and recreation sites but are also used by Forest Service personnel and permittees in their land management activities. County Road 177 is currently being assessed by Yavapai County to determine the level of mitigation that will be conducted to alleviate post fire risk. Even if public use of the road is restricted, this road will continue to be used by Forest Service personnel. Personnel will need to use this road for BAER activities including installation of gates, closure patrols, and administration of helicopter mulching contracts as well as for regular land management responsibilities. In addition, this road will be used through the administrative closure by the Yavapai County Sheriff's Department for closure enforcement, as well as by medical first responders. Even if the removal of these hazard trees is delayed due to the administrative closure, these trees will need to be removed before the road is reopened in order to ensure the safety of users.

There are several large burned snags with high complexity along the intersection of FR-86 and County Road 177, as well as a number of 8 to 14 inch treessnags which have medium felling complexity. Forest Road 86 runs north from County Road 177 and is a popular dispersed camping area and also serves as access to private residences. Even with an administrative closure, the residential users will retain access to FR 86 as this is the only access route to their homes. A BAER approved treatment of a gate installation along the entrance to FR-86, this will increase the time that residential users and FS personnel are at risk in this area as they must park and unlock gates while standing under hazard trees.

Based on the 'BAER Guidance Paper on Hazard Trees' (Forest Service, 2013) the magnitude of consequences for these hazard trees is **Major** and the probability of damage is **Very Likely** resulting in a final BAER Risk Assessment Rating of **Very High**.

2. Critical Natural Resources:

Soil and Watershed Resources

On the northern portion of the fire the preponderance of Grapevine Creek sub-watershed has been subjected to high/moderate burn severity. Grapevine Creek drains directly into Big Bug Creek in the middle of the Town of Mayer. In addition, in the southwest corner of the fire, smaller first order drainages, tributaries to Pine Creek, have also been subjected to high/moderate burn severity. These drainages happen to flow into the community of Pine Flat. Pine Creek is a critical intermittent tributary to Turkey Creek.

The primary watershed responses of the watersheds in Pine Creek and Grapevine Creek include: 1) an initial flush of ash, 2) rill and gully erosion in drainages and on steep slopes within the burned area, 3) flash floods with increased peak flows and sediment deposition. These responses are expected to be greatest in initial storm events, and will become less evident as vegetation is reestablished, providing ground cover, increasing surface roughness, and stabilizing and improving the infiltration capacity of the soils.

Preliminary flow models show that peak flows will increase by an average of 21% in the smaller catchments of Pine Creek and 21% in Grapevine Creek. Previous fires in these areas showed even

higher peak flows than modeled during similar storm events. The probability of increased flows that will impact water quality are **Very Likely** with the consequences of the increased flows **Moderate**.

Chaparral soils subjected to high burn severity have experienced full canopy cover consumption and full continuous vegetative ground cover consumption. Areas associated with moderate burn severity have some unburned vegetation or bare soil interspaces/rocky terrain that were not subjected to fire. Both moderate and high burn severity have medium hydrophobicity that is generally less than a .25 inch depth.

The areas with high/moderate burn severity would have a **Very Likely** probability for soil erosion due to the removal of vegetation and ground cover on these slopes, particularly with the ensuing monsoon weather patterns. The magnitude of the consequences is **Major** as the effects would exceed the thresholds for tolerable soil loss. This combination leads to a **Very High** risk assessment.

Areas targeted for mulch and treatment zones are generally associated with north facing orientation, are in a convex landscape position, and have depositional features with colluvial characteristics. Treatment of these areas focuses on soils most vulnerable to productivity loss on slopes <40 percent gradient that would provide the highest watershed ecological services of water storage, cation filtration, and nutrient sinks. Treatment of these areas will provide filter strips to retard overland flow, promote infiltration of uphill run-on, and provide overall stability. Preliminary flow modeling show that mulching treatments may reduce flows close to pre-fire levels. These treatments are intended to reduce negative impacts to critical resource values on the forest, primarily water quality, soil productivity and riparian connectivity for Grapevine Creek and also includes water quality and other riparian system function. The proposed treatment would also provide an ancillary benefit to private landowners downstream by minimizing the risk and attenuating high flow events and retard sediment delivery into the town of Mayer and community of Pine Flat.

Straw mulch will be applied at a rate of 1 ton per acre with an objective for ground cover of 1 inch thickness. The higher rate of mulch application is proposed because of the potentially high soil loss and instability associated with the chaparral communities. On past BAER treatments on the Prescott NF on granitic parent material and on areas with 55% slope gradient, the higher rate of mulching has been very successful for soil stabilization and promoting seed propagation. This type of treatment was effectively used on the Indian Fire in 2002, the Lane 2 Fire in 2010, and the Gladiator Fire in 2012. The seed mix will consist of a high percentage of a non-persistent cover crop to provide quick propagation for cover and root growth to promote soil structure recovery. A perennial graminoid component will also be seeded to provide subsequent year ground cover.

Proposed seed mixture includes:

- ✓ Sideoats grama *Bouteloua curtipendula* 4 pls/acre
- ✓ Barley *Hordeum vulgare* 10 pls/acre
- ✓ Western wheatgrass *Pascopyrum smithii* 2 pls/acre
- ✓ Sand dropseed* *Sporobolus cryptandrus* 1 pls/acre

*Do not use on clays or soils associated with basalt parent material

Initial soil loss modeling within Grapevine Creek and Pine Creek subwatersheds indicate that average soil loss would increase to 18.5 tons/acre which is in exceedance of tolerable soil loss levels that would negatively impact long term productivity. Mulching and seeding land treatments is expected to moderate soil loss to approximately 3.2 tons/acre which is below tolerable soil loss levels. Treatment is expected to decrease critical risk to soil productivity from Very High to Low. In addition, land treatment will alleviate the risk to exposure of soil contamination and water quality degradation affiliated with historical hard rock sites (see *mineral section*). Cooperators (Yavapai Flood Control District & NRCS-EWP) will also be conducting Aerial mulching/seeding on adjacent non-Forest Service lands.

POTENTIAL VALUES AT RISK FOR THE HYDROLOGY RESOURCE AREA

Human life and safety- Probability: Very Likely, Consequence: Major

Potential threats to human life and safety within and downstream of the burned area exist for forest visitors on NFS roads, trails, and within developed and dispersed recreation sites. Additionally, there are at least three mines of concern within the burned area: the Pentland Mine, Carbine Mine, and the Hackberry Mine. The Pentland Mine is an abandoned mine on Forest lands; the tailings from Pentland are hydrologically connected to tributaries of Big Bug Creek. In addition, the Hackberry mine, which is located on a private inholding within the burned area and situated within the confluence of two drainages is also hydrologically connected to Big Bug Creek. The Carbine mine has lower potential for tailings to hydrologically connect to drainages, but in a higher flow event, tailings will flush to nearby drainages. The increased flows and loss of vegetation on Forest Service lands from the burned areas will likely cause contaminants from heavy metals to an unnamed tributary to Big Bug Creek prior to Big Bug entering the town of Mayer, AZ.

Property- Probability: Very Likely, Consequence: Moderate

Potential threats to property and infrastructure on NFS lands within and downstream of the burned area exist primarily along the road and trail networks. Roads identified at High Probability of failure from post-fire floods with moderate consequences include Forest Road #86, 87A, 87B, and 89A.

Natural Resources-Water Quality-Probability Very Likely, Consequence- Major from Heavy Metal Contaminants and Consequence-Moderate from Sediment

Potential threats to water quality on NFS Lands within the burned area exist on areas of moderate and high soil burn severity. The presence of hydrophobic soils, loss of vegetation, and loss of ground cover, have the potential to contribute to increase watershed response during and after precipitation events. The increased runoff will result in erosion with ash and sediment reaching riparian areas and stream channels. In locations of mines, mobilized contaminants during higher flows will degrade water quality when they reach stream channels.

RESOURCE CONDITION ASSESSMENT

The majority (88%) of the burned area is on the Prescott National Forest, with 1068 acres of BLM lands, 1522 acres of State lands, and 914 acres of private property. The fire burned within six –HUC 6 level subwatersheds, but primarily impacted 3 watersheds listed in Table 1.

Table 1. Subwatersheds Affected by the Goodwin Fire and Soil Burn Severity in the Watersheds

Affected Watershed Basin	Located in 6th Code HUC	Basin Area (Mi2)	Basin Area (Acres)	Unburned (Acres)	Low (Acres)	Mod (Acres)	High (Acres)	Area of Watershed Low, Mod. High Severity (Acres)	% of Watershed Low, Mod. & High Burn Severity
Bear Creek	150701020301	27.62	17675.10	11.94	40.20	218.70	7.81	278.65	1.58
Big Bug Creek	150701020403	88.25	56478.28	1457.53	1129.83	6649.59	3136.09	12373.05	21.91
Cedar Creek	150701020304	18.97	12142.46	6.33	83.71	249.75	2.71	342.50	2.82
Galena Gulch-Agua Fria River	150701020208	82.99	53112.45	13.28	133.81	111.75		258.85	0.49
Upper Turkey Creek	150701020303	37.72	24143.28	157.53	740.07	3013.04	2067.67	5978.30	24.76
Wolf Creek	150701020302	28.94	18523.90	942.06	1539.79	4675.13	2127.68	9284.66	50.12

Methods for Assessing Hydrologic Response to Fire

The BAER Team collected field data at locations throughout the Goodwin Fire perimeter to evaluate soil burn severity, soil hydrologic condition, and characterize watershed response of the burned hillslopes and smaller catchments. Developing post-fire storm flow estimates requires a combination of field data, spatial analysis, flow modeling, and professional judgement to interpret flow estimates. Two models, Wildcat 5, a Curve Number Model, and WEPP-PEP were used to evaluate changes in runoff and peak flows from burned hillslopes and sub-catchments. The larger sub-watersheds were delineated into smaller sub-catchments and hillsides for evaluating hydrologic response as shown in Figure 1.

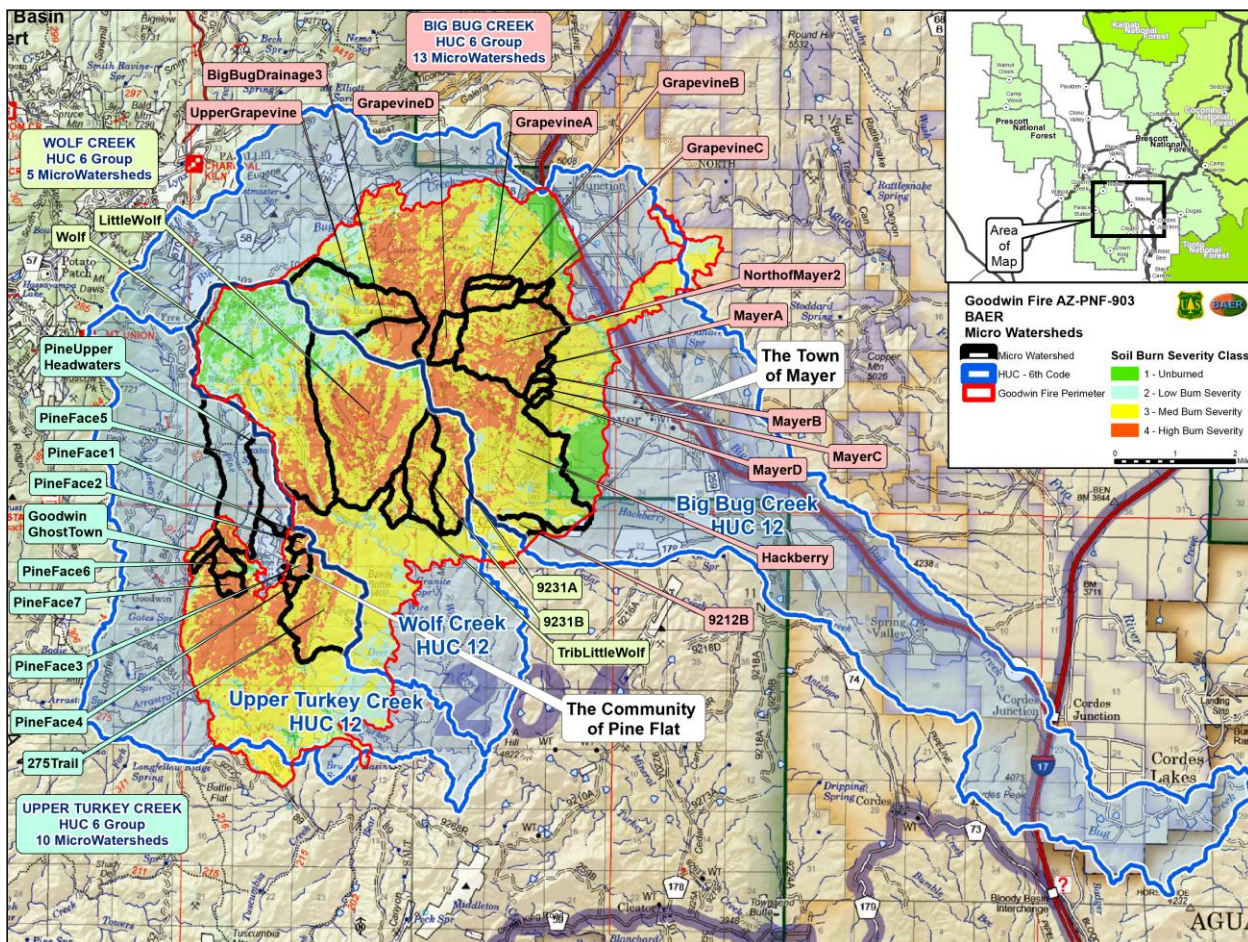


Figure 1. Sub-catchments delineated for modeling increased peak flows.

Post-Fire Hydrologic Response

Field reconnaissance indicated that the moderate and high burn severity areas experienced near complete consumption of vegetative ground cover, litter, and canopy with mostly black and some grey-white ash. Post-burn ground coverages were between 5% and 15% in moderate and high burns. Most of the moderate and high severity areas exhibited hydrophobicity. This hydrophobic condition will further retard infiltration resulting in even higher levels of runoff. The higher levels of runoff will cause increased erosion, possible debris flows on the steeper, dissected slopes, and flooding of streams and washes.

Water Quality: The most immediate impacts to water quality from the fire will be related to ash washed into the stream channels from adjacent burned slopes. Ash is quickly mobilized by summer rains, and tends to be rapidly conveyed through the stream network. Impacts of the ash are generally short term but can be severe to aquatic life downstream from ephemeral or intermittent stream channels that cross the burned area. Ash entering waterbodies would likely lower the pH, and change the ionic balance of stream chemistry, which in turn is likely to result in fish kills (where fish are present). There is little that can be done to effectively prevent the ash input to the surface waters. Once the ash is flushed out of the system, probably within a year's time, the stream chemistry is likely to improve naturally.

Longer term impacts will occur from accelerated levels of sedimentation into streams courses throughout the burned area. The streams in the burned area are primarily ephemeral and intermittent in nature. Sediment transport capacities of the streams should allow rapid redistribution of sediments conveyed to the channels after a few years of normal storm events. The principal impacts of the

increased sedimentation will be related to a short-term potential to plug any inadequately sized culverts or drainage features.

Of particular concern for water quality are the potential heavy metal and arsenic contaminants in the abandoned mine tailings. Increased runoff and loss of vegetation will likely create water quality impacts to the unnamed drainages leading to Big Bug Creek and Big Bug Creek itself, downstream of the mine tailings from the Pentland and Carbine mines located on Forest Service lands and the Hackberry mine that is located on private land surrounded by Forest lands.

Channel Stability: Stream channel stability in the area of the fire is generally good due to the generally confined, rock armored, nature of the stream beds. Sediment transport and subsequent deposition through the system is expected to be more prevalent than stream bed incision (down cutting).

Hillslope Stability: Debris flows and rock fall are possible in the steeper, dissected terrain of the Wolf Creek Sub-watershed and portions of the Grapevine drainage. Because of the locations of these area further away from arterial Forest Roads, the impacts to Forest Roads will be minor. However, possible rock fall onto County Road #177 could be much higher.

Effectiveness of Treatment

Hillslopes that are moderately and severely burned have similar loss of cover and hydrophobicity and will likely respond similarly to monsoonal storms and more intense winter precipitation events. Hillslopes targeted for treatment are above values at risk where the impacts of increased runoff and the loss of vegetation could be more long lasting. These areas focus on the sensitive land types in the Grapevine Watershed and the slopes where abandoned mine tailings are hydrologically connected to Big Bug Creek and may serve as a recharge area for the town of Mayer's municipal well system. Yavapai County will connect treatments off Forest lands to the Forest's proposed treatments. The connected treatments will likely increase the efficacy above what is detailed below in Table 2.

Table 2. Summarized WEPP-PEP Output from Hillside Modeling of Treatment Effectiveness

Sub-Catchment	Storm Characteristics		Post Fire Condition			Mitigation			Percent Decrease in Peak
	Recurrence Interval	Precipitation	Runoff	Peak	Sediment Yield	Runoff	Peak	Sediment Yield	
	years	(in)	(in)	(ft ³ /s)	(ton/acre)	(in)	(ft ³ /s)	(ton/acre)	%
1	2	1.96	0.497	20.1	0.356	0.0416	2.8	0.000471	86.1%
	5	2.15	1.05	38.5	0.803	0.199	10.9	0.00306	71.7%
	13	3.33	1.71	58.7	0.572	0.25	13.3	0.0227	77.3%
2	2	1.51	0.281	20.1	0.17	0.186	13	0.0127	35.3%
	5	2.15	0.701	44.5	0.639	0.204	14	0.0928	68.5%
	13	1.93	0.828	51.4	0.656	0.374	23.7	0.179	53.9%
3	2	1.88	0.342	33.3	0.655	0.116	12.6	0.0708	62.2%
	5	0.87	0.194	20.2	1.15	0.477	43.4	0.347	--
	13	1.63	0.81	70.9	1.64	0.51	46.1	0.692	35.0%
	26	1.23	0.62	56.1	2.81	0.61	53.9	0.819	3.9%

Minerals

Within the vicinity of the town of Mayer, which is located within the northwest portion of the fire, there is a rich history of historical hard rock mining. The primary commodities mined includes copper, lead, silver and gold. Many of these historical non-active mining sites are located within high concentration surrounding the town of Mayer. These mining sites are located on forest lands, private inholdings, or outside forest service lands but are part of the same watershed contributing to the town of Mayer. Potential threats to human life and safety and critical natural resources includes heavy metal, arsenic, and pH levels that are in exceedance of EPA health standards. The Forest Service has recently conducted 2 CERCLA restoration projects (2015) within the watershed contributing to the town of Goodwin. There are many mines within the burnt perimeter which potentially can contaminate soils and negatively impact water quality on Forest Service lands due to projected post fire soil instability. Mine sites of particular concern that has the potential to cause soil contamination and water quality degradation include the Pentland and Carbine mines located on Forest Service lands and the Hackberry mine that is located within a Forest Service inclusion. The Pentland Mine has been initiated to undergo a Preliminary Assessment Site Inspection (PASI) for further evaluation to conduct future CERCLA action. The Carbine Mine has been identified also as a potential non-point pollution but has not been nominated for a PASI, at this time. It is also suspected that the Hackberry Mine, located within a private land inholding, maybe in exceedance of health standards. The instability of these mines' tailings from post fire conditions is highly likely to contaminate Forest Service lands. In accordance with the BAER Risk Assessment, the probability of soil contamination and contribution to water quality degradation is **Very Likely** and the magnitude of consequences is **Major/Moderate** resulting in a final risk rating of **Very High**.

Mulching and seeding treatment delineations would include treatment of the Pentland, Carbine, and Hackberry Mines. These soil stabilization treatments are expected to minimize post fire mine tailing instability from a probability of Very Likely to Possible. The magnitude of consequences would remain in the Major category. The final BAER Risk Assessment rating, with treatments, are projected to decrease from **Very High** to **High**.

Noxious Weed

Suppression efforts are likely to have spread noxious weeds within the burned area and the disturbance of the fire may have promoted the enhancement or expansion of existing noxious weed populations. There are documented infestations of tree-of-heaven, Dalmatian toadflax, Scotch thistle, and saltcedar within the burned area. These species have the potential to impact native plant communities in uplands and riparian areas. The tri-forest EIS for noxious weeds identified an objective of contain/control for noxious species, and in order to track and mitigate possible spread, it will be necessary to provide for detection of possible infestations.

Noxious Weed Detection and Rapid Response

Weed detection surveys and rapid response eradication treatments are to determine whether ground disturbing activities related to the Goodwin Incident and the fire itself have resulted in new or the expansion of existing noxious weed infestations. This detection effort will allow the forest to track and mitigate any possible infestations within the burned area. Monitoring should be conducted in the late summer or early fall after the summer rains and again in April or May of next year. Priority for weed detection surveys should be the expansion of existing populations of tree-of-heaven infestation, Dalmatian toadflax, scotch thistle, and saltcedar, as well as areas where fire suppression efforts caused ground disturbance. Based on the results of the surveys, weed treatments may be implemented in the spring or fall of the following year. Treatment of noxious weeds is addressed in the Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds, Coconino, Kaibab, and Prescott National Forests within Coconino, Gila, Mohave, and Yavapai Counties, Arizona.

Wildlife, Fish, and Rare plants:

Gila trout & Verde Rim springsnails: Given the moderate and severe burn severity adjacent to Grapevine Creek, the probability of damage or loss of the Gila trout population is **Very Likely** due to the likelihood of flood/scour impacts moving fish downstream into unsuitable habitat, and ash, soil, and debris being moved into the aquatic habitat rendering it unsuitable for fish. The moderate burn severity

surrounding the springsnail habitat would have a **Very Likely** probability of damage or loss to the spring habitat for the springsnails due to material moving into the spring habitat and making it unsuitable for springsnails. For these two species, the loss of these populations would have an irreversible damage to the genetics of the species, thus a **MAJOR** magnitude of consequences to natural resources.

The combination of a **Very Likely** probability of damage or loss and a **Major** magnitude of consequences would result in a **Very high** risk assessment for these resources. Emergency evacuation plans for the Gila trout are a high priority given the Very high risk assessment.

The fish evacuation would occur at the first safe opportunity to enter the area and would only take a day to implement. The biological assessment determination for the Gila trout is may affect, likely to adversely affect due to the proposed capture of individual fish for species recovery actions through the BAER process. There were no suppression actions impacting the Gila trout.

Mexican spotted owl: For the 680 acres of MSO PAC habitat within the fire area, the burn severity mix includes 47% high or moderate burn severity where tree mortality is expected to occur on 75 to 90 % of the burned area. For the 53% of the PAC habitat where burn severity is low or none, little tree mortality is expected. The **probability of loss** would be **likely** to occur in MSO PAC habitat within one year of the Goodwin Fire. For the MSO within the fire area, the **magnitude of the consequences** are **minor** as they are limited to parts of two territories for the MSO. The combination of a Likely probability of damage or loss and a minor magnitude of consequences would result in a **low risk assessment** for Mexican spotted owl.

Mexican spotted owl Critical Habitat: For the 70 acres of MSO Recovery habitat within Critical Habitat, 58% is high to medium burn severity and would expect 75-90% mortality in the conifer trees. The remaining 42% would not expect much tree mortality. The **probability of loss** is **Likely** to occur with tree mortality from the impacts of the fire. For only 70 acres, the **magnitude of consequences** is **minor**. The combination of a Likely probability of damage or loss and a minor magnitude of consequences would result in a **low risk assessment** for Mexican spotted owl.

Northern goshawk: For the 644 acres of PFA habitat within the fire area, the burn severity mix includes 52% high or moderate burn severity where tree mortality is expected to occur on 75 to 90 % of the burned area. The **probability of loss** would be **Likely** to occur in northern goshawk PFA habitat within one year from the Goodwin Fire. For the northern goshawk within the fire area, the **magnitude of the consequences** are **minor** as they are limited to a single territory for the goshawk. The combination of a Likely probability of damage or loss and a minor magnitude of consequences would result in a **low risk assessment** for northern goshawk.

Peregrine falcon: With peregrine falcon nesting habitat on rock cliff faces, there is no likelihood of impacts to the nest site. Given the impacts immediately around the nest site, **probability of loss** to the peregrines is **likely** to occur. Only a single territory was impacted. It is not known if this was a pair with young; still, it is only one territory. The **magnitude of impacts** would be **minor** for the species. The combination of a **Likely** probability of damage or loss and a **minor** magnitude of consequences would result in a **low** risk assessment for this species.

Desert tortoise: Given the relatively small portion of habitat for this species affected within or adjacent to the Goodwin Fire area and the light to moderate burn severity in these areas, there is an **unlikely** occurrence of damage or loss of desert tortoises from the Goodwin Fire. The magnitude of consequences is **minor** for the Desert tortoise. The combination of an **unlikely** probability of damage or loss and a **minor** magnitude of consequences would result in a **very low** risk assessment for this species.

Big Bug Creek: For the lowland leopard frog and desert sucker, the probability of damage or loss of habitat in Big Bug Creek is **very likely** to occur from sediment and ash washing down from the fire area to the aquatic habitat. The magnitude of consequences to habitat in Big Cub Creek is **major** due to

contaminants and sediment. The **very likely** probability of damage and the **major** magnitude of consequences would result in a **very high** risk assessment for these resources.

Turkey Creek: For the lowland leopard frog the probability of damage or loss of habitat in Turkey Creek is about 55% or **likely** to occur from sediment and ash washing down from the fire area to the aquatic habitat. The magnitude of consequences to habitat in Turkey Creek is **minor** given that the effects are only expected to last for a few years within what is already limited habitat for the species. The **likely** probability of damage and the **minor** magnitude of consequences would result in a **low** risk assessment for these resources.

Treatments prescribed for other resources in the surrounding area will inherently reduce the risk to WFRP resources including the aquatic species in Turkey Creek.

No critical cultural resources were identified within the Goodwin Fire perimeter.

3. Roads and Trails

In general, Forest Service Roads and Trails located within the fire perimeter will be impacted by increased flows, accelerated erosion, sedimentation, and unstable rock and soil wasting in the aftermath of the fire. Post-fire flow events are expected to plug culverts, fill and/or scour road/trail crossings, and overtop the road and trail prisms causing degradation of fill slopes and potentially concentrated flows within the road and trail prism causing hazardous conditions that vary by route. The probability of damage or loss is directly related to the watershed burn severity, and the magnitude of consequences is related to the use-level of a road, and investment in road infrastructure. There were over 25 additional travel routes throughout the burned area that were not considered high or very high risk in accordance with the BAER Risk Assessment Matrix found in FSM 2500. These 25 routes likely still require storm proofing after the first major storm events to continue to keep the routes at the intended operational maintenance level.

The probability of damage and loss to human life and safety, hydrologic function, and soil erosion on trails and roads is likely because of the steep slopes and burn severity. The critical areas are on portions of Roads 86, 87A, 87B, 89, 89B, 9213A and Trails 4, 275, 289, and 304. All of the other trails and roads within the fire have a possibility to suffer some erosion damage during the first few storm events, but are not located on steep side slopes with high burn intensity.

Trail Class, (TC) 2 Trails are moderately developed and provide for intermediate riding and hiking opportunities. Motorcycles typically provide the bulk of the users in this trail system, although hiking, mountain biking and horseback riding are not uncommon.

Maintenance Level, (ML) 2 roads are open for use by high clearance vehicles. Passenger cars are typically not a consideration. The ML 2 roads throughout the Goodwin Fire are typically traveled by UTVs, Jeeps, and other high clearance vehicles.

Damage during storm events that may occur to these routes could cause the route to no longer meet its trail class or maintenance level, thereby decrease safety and user comfort.

The following table summarizes the roads and trails affiliated with the Goodwin Fire, and the BAER Risk Assessment only for roads and trails with a high or very high risk. Roads and trails located within the fire perimeter with low or very low risk were not included in this table, as it is difficult to justify treatments for these types of transportation routes.

Summary of Roads and Trails and Risk Assessment

Table 2. Summary of Roads and Trails and Risk Assessment						
Road/Trail	Name	Total Miles	Miles Affected	ML(Road) TC (Trails)	Magnitude of Consequences	Probability of Loss
Risk: Very High						
RD 86	Watson Spring	3.0	3.0	2	Major	Very Likely
RD 87A	Grapevine	1.45	1.45	2	Moderate	Very Likely
RD 87B	Hackberry	0.8	0.8	2	Moderate	Very Likely
RD 89B	Hawkeye Well	0.7	0.7	2	Moderate	Very Likely
TR 4	Grapevine	2.97	2.97	2	Moderate	Very Likely
TR 275	Arastra	8.5	3.17	2	Moderate	Very Likely
TR 289	Pine Creek	2.7	1.1	2	Moderate	Very Likely
TR 304	Little Wolf Cr.	3.14	2.5	2	Moderate	Very Likely
Risk: High						
RD 9213A	Chalk Springs	1.5	1.5	2	Moderate	Likely
RD 89	Battle Flat	7.17	0.5	2	Minor	Likely

Treatment Recommendations

Adequate drainage is one of the most important attributes to our transportation system. The presence of excess water on the roadways and trails is likely to cause damage when inadequate drainage exists. The increase in flows is directly proportional to the likelihood of road and trail failure.

Road/trail drainage systems must drain water away from the travel ways and successfully dissipate the force of the water when exiting the travel way. The most successful method on the Prescott National Forest regarding drainage improvement is the installation of drainage dips and outsloping or grading the existing routes. An important prevention measure to lessen the destructive abilities of increased flows is outsloping and shaping the road template to shed water. Outsloping roads and trails also reduces the likelihood that water will settle and pond on the travel way.

Outsloping does not allow for large amounts of water to channel within the road or railway and cause excessive erosion down the center of the road. If outsloping is done correctly it will save fine materials located on the roads and trails and will keep fill material from eroding downslope.

The current condition of the roads and trails surveyed have varying levels of existing drainage. In many cases the current amount of drainage is not great enough to overcome the post-fire projected additional volume of water once the monsoons begin. Under monsoonal weather these roads and trails will lose significant amounts of fine material.

Increased velocity carrying sediment down the road and railways concentrates as it continues down slope and could likely cause hill side slumps and mass wasting when the water exits the roadway. As discussed in other reports the use of seed and mulch and the accompanying plant growth along road and trail cuts and fills and in some drainages can help deter water from channeling onto the road and railways.

Removing non-native plants allows native plants to stabilize the cut and fill providing long-term benefits to the road and trail prisms.

C. Emergency Treatment Objectives:

1. Protect human life and safety by implementing and enforcing area closure.

➤ Mitigate and protect, to the extent possible, threats to human life and safety of forest visitors and Forest Service employees by enforcing area closure order and raising awareness through posting hazard warning signs on roads, trails, and recreation facilities to communicate hazards of burned trees, flooding, debris flows, and rock fall where there are threats to human life and safety.

Communicate risks to cooperating agencies, local communities, and user groups. Continue implementing administrative area closure of NFS lands and recreation facilities to protect life & safety of visitors.

- Implement monsoon-season administrative closure to ensure effectiveness of implemented BAER treatments and to protect the investment cost of those treatments.
- Assist local, State, and Federal agencies and other cooperators with the interpretation of the assessment findings and potential post-fire impacts to important cultural resources, water quality, and aquatic habitat.

2. Protect soil and water resources by applying seed and mulch.

- Promote natural recovery
- Minimize the loss of designated botanical ecological values and riparian function.
- Reduce the risk to human life, safety, and property.
- Mitigate effects of changed post-fire watershed response on long-term soil productivity and hydrologic function.
- Minimize instability and exposure of soil contamination from historical heavy metal mine sites.
- Remove imminent hazard tree that pose a risk to human life and safety

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

Land **50** % Channel **NA** % Roads/Trails **50** % Protection/Safety **90** %

D. Probability of Treatment Success

Table 3. Probability of success			
Type of Treatment	Years post-treatment		
	1	3	5
Land	50	80	90
Channel	NA	NA	NA
Roads/Trails	NA	NA	NA
Protection/Safety	90	80	85

E. Cost of No-Action (Including Loss): **\$52,531,340**

F. Cost of Selected Alternative (Including Loss): **\$50,836,504**

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Geology	<input type="checkbox"/> Range	<input type="checkbox"/>
<input checked="" type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering	<input type="checkbox"/>
<input type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Ecology	<input type="checkbox"/> Botany	<input type="checkbox"/> Archaeology	<input type="checkbox"/>
<input checked="" type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS	

Team Leader: Michael Kellett
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Phone: 928-227-7409

Team Members:

Terry Hardy, Watershed Program Manager, R4 - Boise NF
Dave Moore, Soil Scientist, Prescott NF
Rebecca Lloyd, Soil Scientist, R1 - Nez PerceNF
Alexandra Rozin, Soil Scientist, R1 - Nez PerceNF
Kendra Bull, Forest Engineer, Prescott NF
Chad Yocum, Forest Hydrologist, Prescott NF

Francisco Anaya, Forest Ecologist, Prescott NF
 Tom Potter, GIS Specialist, Prescott NF
 Ben Roe, Forester, Prescott NF
 Tom Ruszkowski, GIS Specialist, Alaska Division of Forestry
 Francis Alvarado, Geologist, Prescott NF
 Justin Haynes, Forestry Technician, Prescott NF
 Noel Fletcher, Wildlife Biologist, Prescott NF
 Albert Sillas, Aquatic Biologist, Prescott NF

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.)

Protection/Safety Treatments:

The safety and well-being of visitors utilizing Forest Roads and recreation facilities necessitate they are notified of hazards when entering the burned area. Proper signage along roads entering or leading to the burned area is needed to provide ample warning to recreationists. Potential threats to the public and agency personnel include flooding and debris flows, hazard trees, and rockfall along roads, trails, and at recreation facilities that are downstream or downslope of areas with moderate to high burn severity.

Given it was not feasible to reduce the magnitude of consequences to human life and safety from identified hazards, this assessment focused on reducing the probability of damage or loss. Treatments PS-01, PS-02 and PS-03 work together to reinforce the closure order to minimize exposure to identified threats (flash flooding, hazard trees, and rockfall) on NFS lands within the burn perimeter.

PS-01 Access Closure Enforcement Patrols – Provide cooperative agency law enforcement patrols of the closure area through the monsoon season, to protect human life, provide for public safety, and prevent unauthorized entry.

Table 4. – PS-01					
PS-01 – Access Closure Enforcement Patrols	QTY	Rate	UOM	DAYS	Total
AGFD Sec1 Officer with patrol vehicle	6	\$4,380	day	60	\$262,800.00
Treatment Total					\$262,800.00

NOT APPROVED 7/12/2017

PS-02 Hazard Warning Signs - Roads: Purchase and install 'Entering Burned Area" hazard warning sign at 14 locations accessing the burned area. Signs will be installed in visible locations on uphill side of road. Signs will be installed consistent with FHWA Standard Specifications for Roads and Bridges on Federal Highway Projects (FP-03) with Forest Service supplemental specifications and follow sign and poster guidelines for the Forest Service EM7100-15. Refer to BAER Treatment map for specific locations.

Table 5. PS-02 Roads: Burned Area Hazard Warning Signs				
Items	QTY	Rate	UOM	Total
Forestry Technician (GS-7)	10	\$260	day	\$2600.00
Forestry Technician (GS-5)	10	\$200	day	\$2600.00
Burned Area Hazard Sign, posts, and hardware	14	\$300	each	\$4,200.00
Mileage - 4x4 pickup truck (1/2 ton)	150	\$0.55	mile	\$82.50
Treatment Total				\$9,482.50

APPROVED 7/12/2017

PS-03 Gates/Barricades - Roads: Purchase and install gates or barriers at 14 locations accessing the burned area.

Table 6. PS-03 – Roads: Barriers and Gates				
Items	Unit	Quantity	Unit Price	Total Price
Gate Materials	Each	16	\$ 3,000.00	\$ 48,000.00
Gate Installation [#]	Each	16	\$ 2,000.00	\$ 32,000.00
COR Design/Inspect*	Lump Sum	1	\$ 3,500.00	\$ 3,500.00
Treatment Total				\$ 83,500.00

*This includes heritage clearance surveys for the gate installations.

[#]The BAER Team identified and mapped 22 points of ingress to the burned area. To mitigate threats to human life and safety, at least 14 of these locations require gates and signs; other very low-traffic routes may only require signs. Two additional gates were requested to address sites where there is uncertainty about the most effective treatment to mitigate threats to human life and safety

APPROVED 7/12/2017

PS-04 Hazard Tree Removal:

- Immediately fell the approximately 41 standing burned snags along County Road 177 and FR-86 that are of imminent risk.
- Monitor and assess the remaining 160 potential hazard trees and fell remove trees identified as hazard trees within the next 1 year12 months.

PS-04 – Hazard Tree Removal	Unit	Quantity	Unit Price	Total Price
Felling of 41 medium-complexity standing burned snags	Each	1	\$ 1500.00	\$ 1500.00
Specialty felling of 2 large, complex trees	Each	1	\$ 1055.00	\$ 1055.00
Hazard tree assessment	Each	4	\$ 795.00	\$ 795.00
Felling of up to 160 potential hazard trees	Days	5	\$1500	\$7500.00
Treatment Total				\$ 10,850

NOTE: This activity was only partially approved by the Washington Office. 7/20/2017

Land Treatments:

CNR-01 Mulch/Seed: Aerial application of mulch and seed in lower Grapevine Creek and Pine Creek tributary drainages.

CNR -01 – Soil Aerial Mulch/seed	Unit	Quantity	Unit Price	Total Price
Aerial mulch	acres	1417	\$ 800.00	\$1,133,600.00
Aerial seed	acres	1417	\$ 100.00	\$141,700.00
COR Inspect	Lump Sum	1	\$ 3,500.00	\$3,500.00
Treatment Total				\$ 1,278,800.00

Aerial mulch delineation associated with treatments adjacent to the vicinity of the Town of Major and Grapevine Creek was conducted in conjunction with the Yavapai Flood Control and NRCS-EWP. Further refinement of treatment acres on the far east side was adjusted to eliminate some treatment acres within the 0-20% slope gradient range. However, many lower gradient treatment acres have been retained to

address treatment of critical hardrock mining wastes that are hydrologically connected and to retain the continuity of slope treatment into other lands that will be conducted by Yavapai Flood Control District and NRCS EWP. Initial mulch/seed treatment acres of 1600 has been reduced to 1417 acres, approximately a 10% reduction.

NOTE: WO Approved the mulch/seed at a lower unit cost. 7/20/2017

CNR-02 Noxious Weed Detection and Rapid Response

Weed Detection and Rapid Response Cost				
FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST
2018	GS-11 Ecologist	\$310/Day	5	\$1,550
	GS-11 Range Staff/COR	\$300/Day	3	\$900
2019	GS-11 Ecologist	\$310/Day	5	\$1,550
TOTAL				\$4,000

Channel Treatments: none in the initial request

Road and Trail Treatments: CPR-01

ITEM	DESCRIPTION	MEASUREMENT METHOD	UNIT	Road 86	Road 87A	Road 87B	Road 89B	Road 9213A	Road 89	Trail 4	Trail 275	Trail 289	Trail 304	TOTAL	UNIT PRICE	TOTAL PRICE
20401	Drainage Excavation, Type Drive-Thru Drain Dip	AQ	EA	16	10		4	7	3		25	13	11	89	\$ 300.00	\$ 26,700.00
20402	Drainage Excavation, Type Pedestrian Drain Dip	AQ	EA							30				30	\$ 100.00	\$ 3,000.00
20403	Drainage Excavation, Type Catch Basin	AQ	EA			1								1	\$ 60.00	\$ 60.00
25102	Placed Rip Rap Class II	AQ	CY			6	6							12	\$ 75.00	\$ 900.00
30301	Route Rehabilitation	AQ	MI	3	1.45	0.8	0.7	1.5	0.5		3.17	1.1	2.5	14.72	\$5,000.00	\$ 73,600.00
30302	Route Rehabilitation-Ditch Pull	AQ	MI						0.5					0.5	\$1,000.00	\$ 500.00
30303	Trail Rehabilitation, non-motorized	AQ	MI							2.97				2.97	\$1,000.00	\$ 2,970.00
30310	Aggregate Compacted, Method B	AQ	CY			27								27	\$ 130.00	\$ 3,510.00
62201	Excavator Equipment Hours	AQ	HR			4			8		8	2		22	\$ 120.00	\$ 2,640.00
																\$ 113,880.00

Gila trout Salvage Operation:

In cooperation with Arizona Game and Fish Department and the US Fish & Wildlife Service, the Prescott NF will work on a fish salvage project to rescue and recover a genetically significant population of Gila trout essential to the species conservation. The costs to the Forest Service would be Prescott NF personnel time to prepare for and conduct the survey. The genetically unique Verde Rim springsnail also located in Grapevine will also be collected during the same day.

CNR-03 – Gila trout population rescue in Grapevine Creek				
FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST
2018	GS-11 Fish Biologist	\$390/Day	4	\$1560
	GS-11 Range Staff/COR	\$300/Day	2	\$600
TOTAL				\$2160

NOTE: This activity was not approved. 7/20/2017

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 in this request. However, the forest will adjust its MSO monitoring schedule to include these two Mexican spotted owl PACs in the 2018 field season program of work.

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

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands				All Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units	Non Fed \$	
A. Land Treatments										
CNR-01	acres	701.48	1417	\$994,000	\$0		\$0		\$0	\$994,000
CNR-02	each	1	4000	\$4,000	\$0		\$0		\$0	\$4,000
CNR-03	each	2160	1	\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Land Treatments				\$998,000	\$0		\$0		\$0	\$998,000
B. Channel Treatments										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
CPR-01	each	113880	1	\$113,880	\$0		\$0		\$0	\$113,880
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Road & Trails				\$113,880	\$0		\$0		\$0	\$113,880
D. Protection/Safety										
PS-01	days	4380	0	\$0	\$0		\$0		\$0	\$0
PS-02	each	677.29	14	\$9,482	\$0		\$0		\$0	\$9,482
PS-03	gates	5219	16	\$83,504	\$0		\$0		\$0	\$83,504
PS-04	each	2555	1	\$2,555	\$0		\$0		\$0	\$2,555
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Structures				\$95,541	\$0		\$0		\$0	\$95,541
E. BAER Evaluation										
Team	each	90000	1	---			\$0		\$0	\$0
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
Subtotal Evaluation				---	\$0		\$0		\$0	\$0
F. Monitoring										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$0	\$0		\$0		\$0	\$0
G. Totals				\$1,207,421	\$0		\$0		\$0	\$1,207,421
Previously approved				\$92,986						
Total for this request				\$1,114,435						

PART VII - APPROVALS

1. _____
Forest Supervisor (signature)

Date

2. _____
Regional Forester (signature)

Date