2016 VIRGINIA MOUNTAINS COMPLEX

TULE FIRE

BURNED AREA
EMERGENCY RESPONSE PLAN

RENO, NEVADA
AUGUST 2016
INTERAGENCY BAER TEAM

BURNED AREA EMERGENCY RESPONSE PLAN

2016 VIRGINIA MOUNTAINS COMPLEX

TULE FIRE

AGENCY/UNIT: Bureau of Indian Affairs
Pyramid Lake Paiute Tribe

LOCATION: Reno, Nevada

DATE: August, 2016

PREPARED BY: Interagency Burned Area Emergency Response Team (TJ Clifford)

Hardscrabble Creek Above Reservoir

Submitted By: _____

TJ Clifford, BAER Team Leader, BLM – Boise, ID

BURNED AREA EMERGENCY RESPONSE PLAN

2016 VIRGINIA MOUNTAINS COMPLEX

TULE FIRE

REVIEW AND APPROVAL - BUREAU OF INDIAN AFFAIRS

I. EMERGENCY RESPONSE PLAN CONCURRENCE

☐ **Concur**

☐ **Concur with Revision**

☐ **Disapproved**

Explanation for Revision or Disapproval:

Robert Eben, Superintendent, Western Nevada Agency, BIA **Date**

II. EMERGENCY RESPONSE PLAN CONCURRENCE

☐ **Concur**

☐ **Concur with Revision**

☐ **Disapproved**

Explanation for Revision or Disapproval:

Bryan Bowker, Regional Director, Western Region, BIA **Date**

III. EMERGENCY RESPONSE PLAN CONCURRENCE

☐ **Approval**

☐ **Approval with Revision**

☐ **Disapproved**

Explanation for Revision or Disapproval:

Aaron Baldwin, Director, Branch of Wildland Fire Management, BIA **Date**

Executive Summary

Background Information

On July 28, 2016, the Virginia Mountains Complex started 35 miles north of Reno, Nevada, and consisted of five fires (See Table 1) with the addition of the Jackpot Fire that started on August 6, 2016. These fires burned a total of 63,036 acres in Washoe County, Nevada. The Virginia Mountains Complex was declared 100% contained on August 6, 2016. A Burned Area Emergency Response Team was ordered on August 6 to assess values affected by the fire. The team consisted of individuals representing hydrology, soils, cultural resources, wildlife, vegetation, fisheries, rangeland management, hazardous materials, noxious weeds, and geographic information systems. The official in-briefings were held on August 8th with the local agencies of BLM, BIA, and the Pyramid Lake Paiute Tribe to identify values important locally and within the burned perimeter. Field reconnaissance occurred between August 8 and August 13, 2016. Data from the field missions were compiled, and added to existing, pre-burn information to create a list of values threatened by the fire or potential post-fire effects.

Table 1 - Virginia Mountains Complex Acreages

Jurisdiction	Tule	Anderson	Rock	Sage	Seven Lakes	Jackpot	Total
BLM	13,311	14,428	2,270	3,713	2,762	1,551	38,035
BIA/Tribal	22,450	0	0	0	0	0	22,450
Private	381	1,274	23	525	301	47	2,551
TOTAL	36,142	15,702	2,293	4,238	3,063	1,598	63,036

Rapid Assessment Process

The tight timelines associated with emergency response planning require a rapid assessment of post-fire changes to values at risk at a landscape level. Field reconnaissance and data compilation/analysis within an incident as large as the Virginia Mountains Complex requires a highly coordinated effort between an interdisciplinary team, the local field offices, tribes, State and Federal agencies, landowners, permittees, and suppression forces. Information used in this report was generated from field reconnaissance, review of relevant literature, management plans, GIS databases, and discussion with stakeholders. Field reconnaissance consisted of on-site inspection of fire impacted habitats, watersheds, grazing allotments, and other site specific values and hazards on BLM lands. An official species list was generated from the US Fish and Wildlife Service Office to identify federally listed species within and adjacent to the fire perimeter. Additionally, agency GIS and field survey databases were consulted to determine if there were known occurrences within the fire perimeter or immediately downstream. Hydrologic models were used to estimate risks to structures and important habitat areas from run-off and sedimentation. Satellite imagery was also used to develop maps of soil burn severity within the fire perimeter.

The following tables provide background information on key resources and values at risk within the Virginia Mountains Complex Fire. Reports for each specialist group provide more detailed assessments of post fire impacts to resources.

Table 2 - Greater Sage-Grouse Habitat Management Areas (MA), BLM

Habitat Category	Anderson	Rock	Sage	Seven Lakes	Jackpot	Tule	Total
Priority Habitat MA	7,699	0	2,972	0	0	165	10,836
General Habitat MA	6,729	1,392	671	1,444	769	3,409	14,414
Other Habitat MA	0	877	70	1,318	782	1,710	4,757
TOTAL	**14,428**	**2,269**	**3,713**	**2,762**	**1,551**	**5,284**	**30,007**

Table 3 – Property & Resource Uses Affected by Virginia Mountains Complex

Property & Resource Uses	Affected Acres, Miles, Number
BLM grazing allotments	8
Fences	29 miles, plus 13.5 of Boundary fence
Range Improvement Projects	27

Table 4 – Examples of Resources Affected by Virginia Mountains Complex

Resource	Affected Acres, Miles, Number
HMAs	4
Springs	46 (2 RIPs)
Sage-grouse habitat, priority	10,835
Sage-grouse habitat, general	14,415
Sage-grouse habitat, other	4,758

Issues and Objectives

Many threats were identified during this assessment; however, the team concluded that three of those threats pose the greatest risk across the landscape:

1. Increased runoff, erosion potential, and resulting flooding.
2. Expansion of noxious weeds and invasive plant species.
3. Vegetation recovery for wildlife habitat, particularly Greater sage-grouse.

Primary objectives of the actions proposed include:

- Mitigate threats to human life, property, and critical cultural and natural resources
- Mitigate watershed response and stabilize soils
- Restore habitat for Greater sage-grouse, a federal candidate species
- Reduce post-fire effects

- Utilize early detection and rapid response to treat noxious weeds and invasive plant species
- Repair/replace fire-damaged facilities

This rapid assessment has identified an initial set of treatments that must be applied collectively to ensure success. These actions are summarized in Table 5 to identify the value, the threat, and the actions designed to mitigate identified threats. The estimated costs are based on similar, past projects. The team has provided the information necessary to make a clear connection between a value-at-risk and its identified threat. This will aid in selecting the appropriate funding mechanism. These actions will:

- Mitigate the immediate threat
- Achieve the stabilization objectives
- Provide the foundation to proceed with further rehabilitation or restoration
- Restore vegetation to provide resilient and resistant vegetation conditions

The actions are grouped into the following categories, and are elaborated on in the Implementation Strategy:

- **Specification** actions include the following**:**
    - **Emergency Stabilization (ES)** is action critical to stabilizing or protecting values at risk. These actions usually occur within the first year.
    - **Burned Area Rehabilitation (BAR)** actions will create a resistant and resilient situation to reduce or eliminate threats to values and usually occur within the first 5 years.
- **Non-Specification** actions may begin with stabilization or rehabilitation actions, however, may just pertain to actions that do not fit within the ES or BAR authorities.
- **Not an Issue** defines values at risk or issues that were brought forth during initial discussions, however, the team's assessment process determined that there is not a risk to that value that is associated with the fire.
-

Table 5 - Actions with Specifications or Non-Specification Recommendations

Value	Action	Unit	Total
FLOODING **(Human Health & Safety)**	Reservoir Protection/ Channel Clearing/Engineering and Design/Culvert Cleaning	Number	8
	Road Drainage Improvement	Miles	2
	Storm Patrol	WMs	3
	Early Alert System		1
	Hazard warning signs	Number	15
	Point Protection Structures		2
	Hazard Tree Assessment and Removal	Number	25
HAZARDOUS MATERIALS	Work with AML as Human Health & Safety Issues	Number	1

INFRASTRUCTURE AND WATER QUALITY	Assess and repair/replace damaged fences	Miles	38.5
	Temporary protection for treatments	Miles	15
WILDLIFE/VEGETATION/CULTURAL	Aerial herbicide application	Acres	850
	Sagebrush and Bitterbrush seedlings grow/plant	Number	237,500
	Aerial Seeding - Sagebrush/Forb Mix	Acres	2500
	Traditional Gathering Site Restoration	Acres	50
	Monitoring of Treatment Establishment	Acres	50
	Ground Seeding Application	Acres	1200
	Early Detection/Eradication of Noxious Weeds	Acres	TBD
	Cultural clearances for ground-disturbing treatments	Number	1
	Increase LE Patrols	Number	1
GRAZING ADMINISTRATION	Closures or rest	Number	TBD
WILD HORSE & BURRO	Horse Gather and Temporary Removal	Number	1

NEPA Compliance

The proposed actions associated with this assessment plan are compliant with laws, regulations, and policies by meeting NEPA guidelines. These actions are immediately implementable, pending funding and alignment of assets. However, Non-Specification Actions will require additional planning, and collaboration with partners to develop a plan for implementation.

Findings, Conclusions, Key Messages

Vegetation Treatments and Herbicide Application

Initial proposals have been developed that can immediately be implemented. The initial design considers a future need for adaptive management to adequately assess the effectiveness of each action in meeting objectives. New projects may be proposed if objectives haven't been met, but may require further planning and analysis.

Coordination of Resources

Coordination has already been initiated between the Tribe, BLM, and BIA as well as other cooperating State and Federal agencies. It is critical that this continues, particularly as the actions progress to the implementation phase to allow for resource sharing. Also, continued coordination will help streamline any consultation or required input on affected resources that could otherwise pose an issue or threaten the most effective timeline.

Cultural Coordination

Any treatments or related activities with the potential to affect cultural resources (e.g., drill seeding) will require inventory. For actions on BLM lands, a Class I records search will be required, followed by Class II (sample) or Class III complete inventories as defined by the BLM 8100 Manual for Cultural Resources, the BLM Protocol Agreement with the State Historic Preservation Office (SHPO), and other applicable regulations. A sampling strategy for inventories will be developed in consultation with the SHPO for large treatment areas. Although, inventory and survey for potential effects on tribal lands is similar, consultation must instead be through the Tribal Historic Preservation Office (THPO).

Due to confidentiality concerns including Archaeological Resource Protection Act (ARPA) requirements, site locations and specifics will be in a separate report.

Section 7 Consultation

As part of this plan, federally listed threatened and endangered species occurring within the fire perimeter were assessed to determine fire effects and to conduct Section 7 Emergency Consultation. Threatened and Endangered species present in the Virginia Mountains Complex include Lahontan cutthroat trout, Cui-ui, Carson wandering skipper, and North American wolverine. The biological assessment conducted in compliance with the Endangered Species Act (ESA) for this incident concludes a "no effect" determination for all of the above listed species. Though not required under Section 7 of the ESA, impacts of the fire and emergency stabilization treatments to the greater sage-grouse were also considered. Although coordination will continue, no additional formal consultation is currently needed.

Affected Resources

In order to successfully complete an evaluation of 63,036 acres of burned area, team members identified values within the fire respective to their resource. Post-fire threats to the affected values were then evaluated through a combination of field work, spatial analysis, and research review. Each resource used the risk matrix illustrated in Table 6 to apply risk rating to each value that was based on the probability of occurrence and the level of consequence. Actions identified within the plan are based on the risk rating and usually designed to mitigate threats to values-at-risk in the medium to extreme categories. Complete resource assessments are available in the project record. These resource assessments include pertinent information to support the approved set of actions listed in this report.

Table 6 - Risk Matrix utilized to apply risk rating to values within the burned area.

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Catastrophic
PROBABILITY	Likely	Low	Medium	Extreme	Extreme	Extreme
	Probable	Low	Medium	High	Extreme	Extreme
	Possible	Low	Low	Medium	High	Extreme
	Unlikely	Low	Low	Medium	Medium	High
	Rare	Low	Low	Medium	Medium	Medium

Threats Defined

Hydrologic Modeling

The National Interagency BAER team completed a burned area assessment for the Virginia Mountains Complex which analyzed the effects of the fires on several watersheds. The Watershed report identified the potential for downstream effects and provided treatment recommendations to mitigate these effects. An assessment of soil burn severity acquired through satellite imagery resulted in 173 acres of high burn severity, 14,005 acres of moderate burn severity, 40,217 acres of low burn severity and 7,042 acres of unburned land within the fire areas.

The watershed team used the Automated Geospatial Watershed Assessment (AGWA) tool to model the post-wildfire watershed response on the several watersheds impacted by the Virginia Mountains Complex that contained identified values at risk. AGWA is designed to provide qualitative estimates of runoff and erosion relative to landscape change (wildfire). Model parameters were selected using professional judgment and field observation. We used a 10-year, 3-hour storm event that produces 1.01" of uniformly distributed rainfall over the modeled watersheds. Three of the modeled watersheds had the highest concentration of values at risk, Hardscrabble Creek, Poison Creek, and Jigger Bobb Creek that resulted in significant increases in post-fire peak flows and sediment yields. AGWA results for Hardscrabble Creek showed a 364% increase in peak flows and 723% increase in sediment yield, Poison Creek a 96% increase in peak flows and 247% increase in sediment yield, and Jigger Bobb Creek a 91% increase in peak flow and 151% increase in sediment yield.

As a result of the watershed modeling and field observations watershed response actions are recommended and include Reservoir Protection, Engineering Assessment, Channel Clearing, Culvert Cleaning, Road Drainage Improvement, Storm Patrols and Clearing, Early Alert System, Signs for Resource Protection and Safety, and Structure Protections. The recommended treatments are designed to minimize damage to the community of Sutcliffe, road/highway infrastructure, recreational facilities, Dunn Fish Hatchery, stream channels and riparian areas by allowing for improved drainage of post-fire runoff. In addition, natural recovery rates of impacted riparian and hillslope vegetation will accelerate the hydrologic recovery of the watersheds in the Virginia Mountains Complex.

Vegetation

The Virginia Mountains Complex burned throughout a mosaic of sage-steppe plant communities. Some of the species burned are fire tolerant and will resprout, such as perennial bunch grasses. While others, like Wyoming sagebrush and bitterbrush, perished and may require assistance to recover or the communities may degrade to annual grass. Existing populations of annual invasive grasses and other weeds can out-compete native plants post-fire, further slowing native plant recovery critical for wildlife, cattle grazing, and native pollinators.

Noxious Weeds

A multitude of noxious weed species are present in and around the burn area. Roadsides, trails, riparian areas, areas disturbed during fire management operations, and open rangelands are susceptible to invasion by noxious weeds. Repeated inventories and treatments (chemical and mechanical) within the

burn perimeter can prevent rapid spread and establishment of noxious weeds. Noxious weeds and invasive plant species have been identified as a threat to native plant community recovery, cultural use plants, grazing, and native pollinators.

Greater Sage-grouse

A total of 8 active lek complexes are located within and adjacent to the fires. Within sage-grouse nesting, brood rearing, and fall staging areas, vegetation mortality was high with consumption of most of the sagebrush species, perennial grasses, and forbs. While the seed bank remains intact, most of the native perennial and annual grasses and forbs will naturally regenerate. The fire resulted in high mortality to sagebrush and other brush species. Due to this area's low resilience to wildfire, the probability of invasive annual grasses dominating this site and precluding it from becoming suitable sage-grouse nesting/wintering habitat is likely. Since the fires impacted Priority Habitat Areas with known populations of greater sage-grouse, the consequence of this threat would be major. Furthermore, wildfire resulted in the loss of a significant percentage of the nesting and brood rearing habitat; it is likely that birds will leave previously occupied habitats. Almost the entire fire area is unsuitable in the short term for sage-grouse to utilize.

In addition, fire impacts to sagebrush, riparian zones and spring sites have been heavily affected. These areas serve as prime habitat for late brood rearing for sage-grouse. While they provide protective cover from predators, the seeps, springs, and water courses also support an abundance of invertebrates and palatable grasses and forbs. Both food sources have a high protein content that is key to the growth and development of sage-grouse chicks. The fire burned in a mosaic pattern in much of these springs and seeps and left patches of unburned vegetation throughout the fire. Canyon bottoms with the heavier fuel loads found in riparian zones produced a higher burn severity that may suppress resprouting of riparian species from root crowns. However, areas of low to moderate severity will likely regenerate. The fire has further removed vegetation and exposed the sites to invasion by noxious weeds and invasive plant species.

Other Wildlife Species

The loss of sagebrush and bitterbrush will also result in a temporary loss of habitat utilized by pronghorn, mule deer, bighorn sheep, upland game birds and other wildlife species. Until natural regeneration occurs and/or seeding treatments establish, the area will not provide appropriate cover or forage habitat for these species. However, these species are highly mobile and have very large home ranges that will allow them to move to appropriate habitats until the VMC area recovers. Many of the seedling planting treatments proposed (especially sagebrush and bitterbrush) and herbicide treatments will benefit the ungulate species and upland game bird species that occur within the fire area. Small mammals that utilize these areas and serve as a prey base for raptors and meso-carnivores will also benefit from planting, seeding, and herbicide treatments.

Hazardous Materials, Minerals, Geology, and AML

One mine was identified as a potential hazard in proximity to the Complex. While incidents around mine workings are rare, results can be catastrophic. However, access to the mine and the integrity of associated features were not affected by the fire.

Cultural Resources

The objective of the cultural resources specialists is to assess potential values at risk from post-fire effects resultant from erosion, flooding, or other fire related effects and looting. Additionally, there may be treatments prescribed to address other values at risk that could jeopardize high value cultural resources. Cultural treatments are prescribed to avoid or mitigate these risks. Issues expressed by BLM and/or the Pyramid Lake Paiute Tribe relevant to cultural resources included post-fire risks to archaeological sites due to exposure from burned over vegetation, culturally sensitive plants, and traditional use areas. Sixteen archaeological sites were assessed. Additionally, it was observed that traditional use areas that host important cultural plants sustained fire damage. Emergency stabilization treatments were specified to ensure agency compliance with Section 106 of the National Historic Preservation Act on BLM administered lands where hand planting is proposed to address Greater Sage-grouse habitat, and on BIA administered land where ground seeding is proposed to re-establish native vegetation. Burned Area Rehabilitation Treatments were specified on both BIA and BLM administered lands to address concerns over sensitive cultural plants that may not recover naturally. Non-specification management recommendations were made to address opportunities that could not be funded through the BAER process.

Cultural use plants

The Virginia Mountains Complex burned many plant species of cultural importance to local tribes. Many of the riparian areas, where most of the plants occur, burned with moderate to high soil burn severity. Areas with these soil burn severity ratings could take up to 15 to 20 years to recover naturally. Additionally, cheat grass and noxious weeds could inhibit their re-establishment.

Rangeland Management

Eight grazing allotments in the Sierra Front Field office, in the Carson City District were impacted by the Virginia Mountains Complex Fire. Livestock AUMs in the burned area are affected in the short-term by the removal of vegetation. Since this is an immediate and nearly complete removal, the impact is high to very high. Infrastructure and rangeland improvement projects (RIPs) are necessary to manage livestock grazing. Many of these in the burned area were damaged or destroyed during the fires, and will need to be repaired or replaced, or alternate management created, prior to resumption of livestock grazing.

Wild Horse Herd Management Areas

The loss of vegetation has reduced the forage available in the Granite Peak, Dogskin, Fort Sage, and Flanigan Herd Management Areas (HMAs). Infrastructure was damaged or destroyed in the fire, which is necessary to provide water sources and adequate management of the HMAs. The loss of these resources is a major threat to the horses, the function of the HMAs, and the natural resources within burned areas.

BURNED AREA EMERGENCY RESPONSE PLAN

2016 VIRGINIA MOUNTAINS COMPLEX TULE FIRE

TABLE OF CONTENTS

BURNED AREA EMERGENCY RESPONSE PLAN

2016 VIRGINIA MOUNTAINS COMPLEX

PART A. FIRE LOCATION AND BACKGROUND INFORMATION

Fire Name	TULE	**Jurisdiction**	**Acres**
Fire Number	KJL8	**BIA/PAIUTE_Trust**	**20,977**
Agency Unit	NV-CCD	**PAIUTE_Non-trust**	**1,473**
Region	Western	**BLM**	**13,311**
State	AZ	**PRIVATE**	**381**
County	Washoe		
Ignition Date/ Manner	June 29th, 2016, Lightning		
Zone	Nevada Carson City District		
Date Contained	8/5/16	**TOTAL ACRES**	**36,142**

PART B. NATURE OF PLAN

I. Type of Plan (check one box below)

	Short-term Emergency Stabilization Plan
	Long-term Rehabilitation
√	**Both Long and Short-term Rehabilitation**

II. Type of Action (Check One box below)

√	**Initial Submission**
	Updating Or Revising The Initial Submission
	Supplying Information For Accomplishment To Date On Work Underway
	Different Phase Of Project Plan
	Final Report (To Comply With The Closure Of The EFR Account)

EMERGENCY STABILIZATION OBJECTIVES

- **Determine need for and to prescribe and implement emergency treatments**
- **Minimize threats to human life, safety, and property**
- **Identify threats to critical cultural and natural resources**
- **Promptly stabilize and prevent unacceptable degradation to resources**

PART C. TEAM ORGANIZATION

BAER TEAM MEMBERS

POSITION	TEAM MEMBER / AFFILIATION
Team Leader	TJ Clifford, BLM
Deputy Team Leader	Gavin Lovell, BLM
BAER Coordinator/Liaison	Darryl Martinez, BIA
Environmental Compliance	Jack Oelfke, NPS
Vegetation	Johanna Blanchard, BLM Garrett Dickman, NPS
Cultural Resources/Archeologist	Dan Hall, BIA
GIS Specialist	Luther Arizana, BIA Trisha Johnson, Confederated Tribes of Warm Springs Kenneth Elsner, USFWS
Hydrology	David Mattern, BLM Rich Pyzik, USFS
Wildlife	Kenn Griggs, USFWS
Documentation Specialist	Wayne Waquiu, BIA Danelle Nance, BLM
AGWA Modeler	Richard Easterbrook, USFWS

RESOURCE ADVISORS: (Note: Resource Advisors are individuals who assisted the BAER Team with the preparation of this plan. See the Consultations section of this plan for a full list of agencies and individuals who were consulted or otherwise contributed to the development of this plan.

Name	Affiliation
Vinton Hawley	Pyramid Lake Paiute Tribe
Mervin Wright	Pyramid Lake Paiute Tribe
John Guerrero	Pyramid Lake Paiute Tribe
Donna Marie Noe	Pyramid Lake Paiute Tribe
Paul Fuselier	BLM
Mark Coca	BLM
Ryan Elliot	BLM
John Christopherson	Nevada Division of Forestry
Kacey KC	Nevada Division of Forestry
Joe Freeland	Nevada Division of Forestry
Cheryl Surface	Washoe County
Marsha Gibson	USGS
Steven N. Berris	USGS
Thor Dyson	NDOT
Mike Fuess	NDOT
Karen Shaw	Paiute Tribe Cattleman's Association
Montina Threefingers	BIA
Gerry Emm	BIA

CONSULTATIONS

***** See Resource Assessments APPENDIX I , SECTION V, CONSULTATIONS**

PART D. TREATMENT COSTS BY REGION AND FIRE

Western Region

2016 VIRGINIA MOUNTAINS COMPLEX_TULE FIRE

AGENCY	TREATMENT	
BIA_Spec. #	**EMERGENCY STABILIZATION (ES)**	
1.	Engineering/Design	$15,000
2.	Channel Clearing	$15,280
3.	Culvert Cleaning	$12,300
4.	Road Drainage Improvement	$13,150
5.	Storm Patrol	$85,490
6.	Early Alert System	$285,360
7.	Hazard Warning Signs	$2,701
8.	Structure Point Protection	$26,110
9.	Assessment for Hazmat Potential	$4,652
10.	Repair/Replace Damaged Fence	$7,071
11.	Archaeological Survey of Drill Seedling and/or Chaining Locations	$48,000
12.	Inventory Noxious Weeds	$4,820
13.	Pretreatment of seeded areas	$31,800
14.	Ground Based Seeding Application	$86,895
15.	Hazard Tree Assessment/Removal	$5,580
16.	Monitoring Vegetation Treatments	$16,220
17.	Project Administration	$32,735
BIA TOTAL		**$693,164**

BIA_Spec.#	BURNED AREA REHAB (BAR)	
18.	Treatment of Noxious Weeds	$28,200
19.	Planting of Traditional Gathering Areas	$85,640
BIA TOTAL		**$113,840**

2016 VIRGINIA MOUNTAINS COMPLEX

TULE FIRE

INTERAGENCY BURNED AREA EMERGENCY RESPONSE PLAN

PART E – SUMMARY OF ACTIVITIES – COST SUMMARY TABLE – BUREAU OF INDIAN AFFAIRS

EMERGENCY STABILIZATION ACTIVITIES COST SUMMARY

TREATMENT SPECIFICATION		NFPORS CAT.	UNIT	UNIT COST	# OF UNITS	Fiscal Year			TOTAL
						2016	2017	2018	
WESTERN REGION									
1.	Engineering / Design	Assessment	alternatives / design	$7,500	2		$15,000		$15,000
2.	Channel Clearing	Erosion/Sedimentation	channel reach	$15,280	1	$15,280			$15,280
3.	Culvert Cleaning	Roads	culvert	$2,460	5	$12,300			$12,300
4.	Road Drainage Improvements	Roads	rolling dips	$6,575	2	$13,150			$13,150
5.	Storm Patrol	Roads	hazard removal	$28,497	3		$85,490		$85,490
6.	Early Alert System	Protection & Warning	warning system	$285,360	1		$285,360		$285,360
7.	Hazard Warning Signs	Protection & Warning	signs	$540	5		$2,701		$2,701
8.	Structure Point Protection	Facility and Infrastructure	sites	$13,055	2	$26,110			$26,110
9.	Assessment for Hazmat Potential	Assessment	survey	$4,652	1		$4,652		$4,652
10.	Repair / Replace Damaged Fence	Facility and Infrastructure	miles	$589	12	$7,071			$7,071
11.	Archaeological Survey of Drill Seedling and / or Chaining	Planning	acres	$40	1200		$48,000		$48,000
12.	Inventory Noxious Weeds	Monitoring	miles	$138	35		$4,820		$4,820
13.	Pretreatment of Seeded Areas	Invasives Species	acres	$27	1,200		$31,800		$31,800
14.	Ground Based Seeding Application	Invasive Species	acres	$72	1200		$86,895		$86,895
15.	Hazard Tree Assessment / Removal	Roads	trees	$223	25		$5,580		$5,580
16.	Monitoring Vegetation Treatments	Monitoring	acres	$676	24		$8,110	$8,110	$16,220
17.	Project Administration	Administration	implementation		1	$8,190	$16,375	$8,170	$32,735
	TOTAL					**$82,101**	**$594,783**	**$16,280**	**$693,164**

PART E – SUMMARY OF ACTIVITIES – COST SUMMARY TABLE – BUREAU OF INDIAN AFFAIRS

REHABILITATION (BAR) ACTIVITIES COST SUMMARY

TREATMENT SPECIFICATION	NFPORS CAT.	UNIT	UNIT COST	# OF UNITS	Fiscal Year					TOTAL
					2016	2017	2018	2019	2020	
WESTERN REGION										
18. Treatment of Noxious Weeds	Invasive Species	Acres	$972	29		$14,100	$14,100			$28,200
19. Planting of Traditional Gathering Areas	Heritage Resources	Acres	$1,713	50		$41,960	$20,960	$11,360	$11,360	$85,640
TOTAL						**$56,060**	**$35,060**	**$11,360**	**$11,360**	**$113,840**

BURNED AREA EMERGENCY RESPONSE PLAN

2016 VIRGINIA MOUNTAINS COMPLEX

TULE FIRE

PART F SPECIFICATIONS

Tribe and BLM Boundary Fence_Northern Portion

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Engineering/Design Assessment	**PART E Spec-#**	BIA ES_#1
NFPORS TREATMENT CATEGORY*	Assessment	**FISCAL YEAR(S) (list each year):**	2017
NFPORS TREATMENT TYPE *	Risk Assessment	**WUI? Y / N**	Y
IMPACTED COMMUNITIES AT RISK	Sutcliffe	**IMPACTED T&E SPECIES**	None

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: Two engineering assessment are needed 1) develop a comprehensive design t solution to stream channel inflows from the Dunn Fish Hatchery to the culvert under Hwy 445 and 2) develop a stream channel and flood protection on Hardscrabble Creek downstream of Hwy 445.
- **Location/(Suitable) Sites:** Hardscrabble Creek Road at Dunn Fish Hatchery downslope to and through tribal fee land in the community of Sutcliffe (See Treatment Map)
- **Design/Construction Specifications:** Civil engineering services to assess and design channel capacity for a 363% peak flow increase from the Dunn Fish Hatchery downstream to Hwy 445 stream crossing on Hardscrabble Creek at the community of Sutcliffe. The primary purpose is to reduce the threat to Sutcliffe. Survey and design could be coordinated with appropriate agencies.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire):** The majority of the Hardscrabble Creek watershed above the community of Sutcliffe was burned as part of the Virginia Mountains Complex Fire. Post-fire watershed modeling results for Hardscrabble Creek show a potential percent increase in peak streamflow of 364% and a 723% increase in sediment yield. The purpose of the specification is to develop the design for long-term treatments that successfully processes post-fire watershed response impacts to the Dunn Fish Hatchery and Sutcliffe community.

Why is the treatment/activity reasonable, within policy, and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** Specification provides needed expertise for effective specific treatment designs to minimize post fire effects to the community of Sutcliffe and other infrastructure.
- **Treatment Effectiveness Monitoring Proposed:** Monitoring will be the professional peer review and acceptance of the design and implementation of treatments as a result for the civil engineering surveys.

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** This treatment is consistent with the Pyramid Lake Paiute Tribe Water Quality Control Plan (2015) relating to concern about sedimentation impacts on water quality.

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Administrative Oversight	$2,500
Civil Engineer GS-11 or equivalent, $75/hour X 80 hours	$6,000
Civil Engineering Technician GS-7 or equivalent, $50/hour X 80 hours	$4,000
TOTAL PERSONNEL SERVICE COST	**$12,500**

EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
TOTAL MATERIALS AND SUPPLY COST	
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
1 4WD pickup @$250/day X 10 days	$2,500
TOTAL TRAVEL COST	**$2,500**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2017	10/1/2016	9/30/2017	F	Alternatives/ Designs	$7500	2	$15,000
						TOTAL	**$15,000**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, T
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix IV, Virginia Mountains Complex Treatment Maps

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Channel Clearing	**PART E Spec-#**	BIA_ES # 2
NFPORS TREATMENT CATEGORY*	Erosion / Sedimentation	**FISCAL YEAR(S) (list each year):**	2016
NFPORS TREATMENT TYPE *	Channel Debris Removal	**WUI? Y / N**	Y
IMPACTED COMMUNITIES AT RISK	Sutcliffe, NV	**IMPACTED T&E SPECIES**	N

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: Increase the channel capacity and remove woody debris on 400 feet of Hardscrabble Creek above Hwy 445. This will help improve the efficiency of the culvert inlet at Hwy 445 at Sutcliffe.
- **Location/(Suitable) Sites:** Only a single location is involved as described above. (See Appendix V., Virginia Mountain Complex, Treatment Maps)
- see map)
- **Design/Construction Specifications:** Increase the channel capacity of 400 feet of Hardscrabble Creek above the culvert at Hwy 445. Use an excavator to shape the 400 feet of channel to approximate the dimension of the upstream segments that are deeper. Make the constructed channel of a uniform gradient from the upstream excavation limit to the invert (low point) of the culvert. Incorporate some sinuosity into the design and armor the bends with rip-rap. If head cutting should result from the increased velocity in the newly-shaped channel, stabilize with rip-rap.
  Coordination needs: The final channel design and permitting requirements will be coordinated with appropriate Nevada Department of Transportation (NDOT) personnel.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:* The burned watershed is expected to deliver increased flow and sediment to this location. In this location, the channel capacity has already been reduced through the process of aggradation. The purpose of the treatment is to improve the hydraulic efficiency of the channel and the culvert inlet (inflow rate) to keep water from backing up above the culvert and possibly overtopping Hwy 445, and to keep sediment from depositing above the culvert.

Why is the treatment/activity reasonable and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** The treatment reduces the chance of streamflow overtopping Hwy 445. Watershed modeling results show a percent increase in peak flows of 364% and sediment yield of 723% to this location, which results in an extreme overtopping risk to Hwy 445 at this point. The treatment is cost effective compared to replacing or up-sizing the culvert under the paved highway.
- **Treatment Effectiveness Monitoring Proposed:** After streamflow events, observe whether or not the constructed channel cross-section needs to be maintained due to aggradation or headcutting.

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** This treatment is consistent with the Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005) and Pyramid Lake Paiute Tribe Water Quality Control Plan (2015). Project will require evaluation by the Pyramid Lake Paiute Tribe for consideration of a Section 401 of the Clean Water Act permit.

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Administrative Support Services: 20%	$2,500
Project supervisor: 24 hours @ $50/hour	$1,200
Transport (lowboy)operator @ $40/hr. X 16 hours	$640
TOTAL PERSONNEL SERVICE COST	**$4,340**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
Excavator w/operator@ $130/hr. X 40 hours	$5,200
Excavator transport w/ trailer @ $150/day. X 2 days	$300
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$5,500**
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
50 tons rip-rap (delivered) X $100/ton	$5,000
TOTAL MATERIALS AND SUPPLY COST	**$5,000**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
2WD pickup (project supervisor)@ $70/day X 2 days	$140
Utility/fuel tender truck @ $100/day X 3 days	$300
TOTAL TRAVEL COST	**$440**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	**0**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2016	9/1/2016	10/30/2016	F	channel reach clearing	$15,280	1	**$15,280**
						TOTAL	**$15,280**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, E
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix IV., Virginia Mountains Complex, Treatment Maps

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Culvert Clearing	**PART E Spec-#**	BIA ES_#3
NFPORS TREATMENT CATEGORY*	Roads	**FISCAL YEAR(S) (list each year):**	2016
NFPORS TREATMENT TYPE *	Culverts; Hazard Removal	**WUI? Y / N**	Y
IMPACTED COMMUNITIES AT RISK	Sutcliffe, NV; Pyramid Lake Access	**IMPACTED T&E SPECIES**	N

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: Culverts will be at elevated risk from post-fire flood and debris flow deposits and must be cleared to ensure maximum flow capacity and accessibility. Prior to the fall and winter wet season, use appropriate heavy equipment to remove sediment and debris from culvert inlets and outlets. Heavy equipment will be required due to the volume and weight of material that needs to be removed.
- **Location/(Suitable) Sites:** Two (2) sites on Hardscrabble Creek, two (2) sites on Big Canyon Creek, one (1) site on Jigger Bob Canyon. See map for culvert locations.

- **Design/Construction Specifications:** At culverts, clean out all deposited material so that entire culvert openings can convey flow. If necessary, the immediately-adjacent upstream and downstream channels (the culvert "approach" and "exit" channel sections) may need to be modified to a shape and gradient that maintains stream velocity through the culvert to maintain/improve the sediment transport capability. The approach and exit sections will also be cleared of live and dead vegetative material that may block free-flow culverts. Removed material should be placed out of the floodplain on higher ground to prevent any transport of material back into channels.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:* Due to the burned watershed, increases in peak flows, sediment delivery, and debris flow deposits will threaten to block culverts and overtop roads. The purpose of the treatment is to prevent overtopping of roadways caused by fully or partially blocked culverts. In such cases, flood deposits may occur on roadways and make them impassable and unsafe. Uncontrolled water that overtops roadways may also damage adjacent infrastructure.

Why is the treatment/activity reasonable and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** This treatment is reasonable and cost effective as it prevents the much greater cost of repairing road washouts or damage to adjacent facilities from floods overtopping road crossings. Watershed modeling results show increases in peak flows and sediment yield at these locations. This treatment protects roads and also adjacent infrastructure from overtopping floods due to blocked culverts.

- **Treatment Effectiveness Monitoring Proposed:** Prior to winter storms, culvert should be checked and cleared. After winter storms, culverts should be re-checked for repeat cleaning if needed. Watersheds typically exhibit increase flood risk for several years after a fire depending on the burn severity.

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** This treatment is consistent with Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005) and BIA Categorical Exclusion 10.5 A, Operation, Maintenance, and Replacement of Existing Facilities. Examples are normal renovation of buildings, road maintenance and limited rehabilitation of irrigation structures.

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Administrative Support Services	$2,000
Project Supervisor / Civil Engineering Specialist, 24 hrs. @ $65 /hour	$1,560
Equipment Operator: 40 hrs. @ $50 /hour	$2,000
TOTAL PERSONNEL SERVICE COST	**$5,560**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
Backhoe @ $100/hour x 40 hours	$4,000
Backhoe transport @ $100/hour X 20 hours	$2,000
TOTAL EQUIPMENT COST	**$6,000**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
4WD pickup (project supervisor) @$80/day X 3 days	$240
Utility/fuel tender truck @ $100/day X 5 days	$500
TOTAL TRAVEL COST	**$740**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2016	9/1/2016	9/30/2016	F	Culverts	$2,460	5	**$12,300**
						TOTAL	**$12,300**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, E
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See, Appendix IV, Maps_ Watershed Treatment Map for locations.

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Road Drainage Improvements	**PART E Spec-#**	BIA ES# 4
NFPORS TREATMENT CATEGORY*	Facility & Infrastructure	**FISCAL YEAR(S) (list each year):**	2016
NFPORS TREATMENT TYPE *	Protect Structures	**WUI? Y / N**	Y
IMPACTED COMMUNITIES AT RISK	Sutcliffe, NV	**IMPACTED T&E SPECIES**	N

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: The purpose of this treatment is to create additional streamflow capacity at two culverted road crossings on Hardscrabble Creek Road. In the event of a flood that exceeds the capacity of the culverts, an excavated dip in the roadbed directly over/near the culvert will add additional capacity to control flows. The objective is to keep the flow centered in the channel rather than allowing the overtopping flows to run uncontrolled down the roadway.
  .
- **Location/(Suitable) Sites:** (1.) Hardscrabble Creek culvert adjacent to Dunn Fish Hatchery. (2.) Hardscrabble Creek culvert 0.5 miles upstream of fish hatchery.

- **Design/Construction Specifications:**
  Rolling Dips

  1. Excavate a road dip over/near each of the two (2) existing Hardscrabble Creek culvert crossings (as specified above) to provide additional capacity in the case of a flow that exceeds the culvert capacity. The dip shall extend across the road fill, leaving 18" of fill for protection of the existing culvert if possible. The supervising road engineer will determine the exact dimensions and alignment of the excavated dips in order to accommodate excess streamflow over the road while protecting the culvert and road prism from damage. Note: At the location near the Dunn Hatchery, the road engineer may design the dip to drain into both the active channel as well as the adjacent original (inactive) channel if the existing water system infrastructure is not in the way.

  2. Use the excavated material to form the berm element of the rolling dip. In the case of overbank flows, the rise will keep floodwater in the dip and keep flow from proceeding uncontrolled down gradient along the roadway. The compacted berm must be passable to vehicles but high enough to prevent flows from running down the roadway.

  3. Import additional suitable fill material if needed to form the berm element of the rolling dip. Compaction will be required for resistance to streamflow and road traffic.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:*
  Watershed modeling results show a percent increase in peak flows of 364% and sediment yield of 723% to these locations, representing an extreme risk to these structures. The purpose of this treatment is to reduce / mitigate the risk of road damage, and to preserve accessibility into Hardscrabble Creek.
  .

Why is the treatment/activity reasonable and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** The treatment is cost effective compared to the much greater cost of either up-sizing the existing culverts, or reconstructing the road in the event of a road washout caused by overtopping.
- **Treatment Effectiveness Monitoring Proposed:** After streamflow events, observe whether or not the rolling dips have been damaged or need maintenance, and repair accordingly.

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** This treatment is consistent with the Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005) to support the fish hatchery that raises Lahontan cutthroat trout.

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Administrative Support Services	$2,200
Operator : WG-10 @ $65/hr. x 40 hours x 1 operators (transport, front end loader, backhoe)	$2,600
Staff Engineer supervisor: GS-11 @ $75/hr. x 32 hours	$2,400
TOTAL PERSONNEL SERVICE COST	**$7,200**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
Medium dozer @ $50/hr. X 32 hours	$1,600
Equipment transport w/ trailer @ $150/day. X 5 days	$750
Compactor @ $150/day X 5 days	$750
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$3,100**
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
40 cubic yards (delivered) compactible road fill @ $50/cu-yd	$2,000
TOTAL MATERIALS AND SUPPLY COST	**$2,000**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
2WD pickup (project supervisor)@ $70/day X 5 days	$350
Utility/fuel tender truck @ $100/day X 5 days	$500
TOTAL TRAVEL COST	**$850**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	**0**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISH MENTS	PLANNED COST
2016	9/1/2016	9/15/2016	F	Rolling dips	$6,575	2	**$13,150**
						TOTAL	**$13,150**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, E
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix IV., Virginia Mountains Complex Treatment Maps

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Storm Patrol & Cleaning	**PART E Spec-#**	ES_BIA #5
NFPORS TREATMENT CATEGORY*	Roads	**FISCAL YEAR(S) (list each year):**	2017
NFPORS TREATMENT TYPE *	Hazard Removal	**WUI? Y / N**	Y
IMPACTED COMMUNITIES AT RISK	Sutcliffe	**IMPACTED T&E SPECIES**	None

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: There are many places at risk of inundation, debris deposition, flood damage and other post-fire related impacts from elevated flows carrying sediment and debris. There are several stream crossing along Hardscrabble Road and along Surprise Valley Road where these roads could be damaged limiting access into Hardscrabble Creek and ingress/egress to Pyramid Lake. After rainfall events these areas will be assessed for any potential damage to the roads and infrastructure. If the culverts are plugged or damaged then the areas could be cleaned out immediately to avoid further damage during the next rainfall event. Additionally, other values at risk (buildings, well heads, diversion structures, etc.) in the floodplain area will be assessed during storm patrol.

  The patrols are used to identify those road problems such as plugged culverts and washed out roads and to clear, clean, and/or block those roads that are or have received damage. The storm patrollers shall have access to equipment that can be used when a drainage culvert is plugged or soon to be plugged and to repair any road receiving severe surface erosion.

  Work should be performed in the morning and early afternoon. Leave drainages when chance of rain is moderate or higher. Store equipment and materials out of flood plains and where chance of loss is low.

- **Location/(Suitable) Sites:** Hardscrabble Road, Surprise Valley Road
- **Design/Construction Specifications:**
  1. Immediately after receiving heavy rain the PLPT/BIA will send out patrols to the roads and facilities of high importance on Tribal lands to identify road and other hazard conditions – obstructions such as rocks, sediment, washouts and plugged culverts so the problems can be corrected before they worsen or jeopardize motor vehicle users.
  2. The road patrols shall bring in heavy equipment necessary to mechanically remove any obstructions from the roads and culvert inlets and catch basins where necessary.
  3. All excess material and debris removed from the drainage system shall be placed outside of the bank-full channel and floodplain where it cannot re-enter stream channels. Preferably the material will be moved off-site.
  4. After each storm event, PLPT will identify the location(s) along roads, ponds and structures where debris material is located and what debris material has been removed.

How does the treatment relate to damage or changes caused by the fire?

Purpose of Treatment Specifications (relate to damage/change caused by fire): There is an immediate and future threat to travelers along these roads within the burned area due to the increased potential for rolling and falling rock from burned slopes and increased potential for flash floods and debris flows. With the loss of vegetation normal storm frequencies and magnitudes can more easily initiate rill and gully erosion on the slopes and it is likely that this runoff will cover the roads or cause washouts. These events make for hazardous access along steep slopes and put the safety of users at risk.

The storm patrol is intended to identify and mitigate issues immediately after a rainfall event to avoid further damage during subsequent events. The purpose of the monitoring is to evaluate the condition of roads for motorized access and to identify and implement additional work needed to maintain and/or

repair damage to road surfaces and flow conveyance structures across roads in order to provide safe access across Tribal lands. PLPT and/or BIA Engineering personnel will survey the roads within the fire perimeter after high-intensity storms. Survey will inspect road surface condition, ditch erosion, and culverts/inlet basins for capacity to accommodate runoff flows.

Why is the treatment/activity reasonable, within policy, and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** Treatment is reflective of the number of storm events typical for the region. Post event cleaning of infrastructure prevents further degradation and or failure of road systems with future storm events.
- **Treatment Effectiveness Monitoring Proposed:** The storm patrol will verify that the work has been completed and the infrastructure is ready for the next rain event. Storm patrollers can also recommend changes to, or additional treatments, in the first year after the fire.

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** This treatment is consistent with the Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005).

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Administrative Oversight	$14,250
Storm Patrol Assessors (GS-7 equiv. @ $250/day x 2 teams of 2 people x 5 events)	$5,000
Implementation Team Leader (GS-9 equiv. @ $300/day x 10 days) - patrol	$3,000
Implementation Team Leader (GS-9 equiv. @ $300/day x 15 days) - clearing	$4,500
TOTAL PERSONNEL SERVICE COST	**$26,750**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
TOTAL MATERIALS AND SUPPLY COST	
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
JD 160 or equivalent excavator (incl. operator): $1040/day x 5 days/event x 3 events	$15,600
140H Grader or equivalent (incl. operator):: $800/day x 5 days/event x 3 events	$12,000
D6 Dozer (incl. operator):: $680/day x 5 days/event x 3 events	$10,200
10 yd. Dump truck with 3 axle tilt trailer (incl. operator) $680/day x 2 dump trucks/trailers x 5 days/event x 3 events	$20,400
Patrols: 4 X 4 pickup: 100 miles X $0.54/ mile x 5 patrols x 2 teams	$540
TOTAL TRAVEL COST	**$58,740**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2017	10/1/2016	9/30/2017	F	Hazard removal	$28,497	3	$85,490
						TOTAL	**$85,490**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P, E, T
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix IV, Virginia Mountains Complex Treatment Map

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Early Alert Systems	**PART E Spec-#**	BIA ES_#6
NFPORS TREATMENT CATEGORY*	Protection and Warning	**FISCAL YEAR(S) (list each year):**	2017
NFPORS TREATMENT TYPE *	Flood Warning System	**WUI? Y / N**	Y
IMPACTED COMMUNITIES AT RISK	Sutcliffe	**IMPACTED T&E SPECIES**	None

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: The community of Sutcliffe is downstream of the burn area and is at risk of increased post-fire stream flow flooding and debris torrents. Early alert systems (EAS) for precipitation and stream flow can provide residents with some advanced warning of conditions that could result in these elevated flows. After the Virginia Mountains Complex Fire many agencies and communities wished to install early alert systems to address the risk to life and property downstream of the burn area, especially in watersheds burned at moderate soil burn severity. To ensure that the systems are coordinated and appropriate warnings are given at the earliest possible time, the agencies have devised a process diagrammed below.

  This specification includes the installation and maintenance of 2 stream stage gauges and 3 stand-alone precipitation gauges by the U. S. Geological Survey and 1 siren to be installed and maintained by the Pyramid Lake Paiute Tribe. Maintenance will occur for 3 years. Data from the gauges will be available to the public on the U.S. Geological Survey's website and are provided to the National Weather Service for use in tracking storm events. It will also be available to whomever the Pyramid Lake Paiute Tribe designates for emergency notification.

- **Location/(Suitable) Sites:** 3 precipitation gauges in the headwaters of Hardscrabble Creek on BLM and stage gauges in two sections of stream channel on PLPT land.
- **Design/Construction Specifications:** The precipitation and streamflow network is set up to provide warning to various entities as rain events move into the area. Rain events will be recorded by the individual gauges on the ridge lines at higher elevations as well as at the locality of the streamflow gauge. Rain gauges are located such that storm activity can be monitored for storms approaching from all directions. A combination of data from all rain sites will provide storm intensity as well as help predict the path of most rain events. Response of the basin to rain events will be captured by the streamflow gauge in the lower parts of the basin as flow begins to occur. The stream stage gauge will use radar to provide real-time gauge height data in the reality of a flood event. Data from all gauges is transmitted from the gauge site over the West Satellite System and received by the National Weather Service and is displayed on the U.S. Geological Survey website within minutes of the gauge transmit. Police, Sheriff Departments, Tribal, County Officials, and individuals living in the area have unlimited access to the data on the U.S. Geological Survey Website and are also able to receive automatically-generated email or cell phone text messages when a selected gauge passes a pre-set threshold. Points of Contact must be established for all involved or affected agencies.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire):** The majority of the Hardscrabble Creek watershed burned as part of the Virginia Mountains Complex Fire. Post-fire watershed modeling results show a 363% increase in peak streamflows to the Hwy 445 crossing of Hardscrabble Creek at the community of Sutcliffe. Provide downstream communities, workers in the watershed and recreational users with the necessary information to be prepared for potential flooding events.

Why is the treatment/activity reasonable, within policy, and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** Installation of the EAS is done relatively quickly with thresholds for warnings established by the PLPT and National Weather Service which will allow for early notification for evacuations. The protection of life and property in the community of Sutcliffe is the primary intent of the EAS and although the cost is high, it outweighs the potential outcome of a flood event with no EAS in place.
- **Treatment Effectiveness Monitoring Proposed:** Monitoring of the system will be done by the USGS (or other awarding company) as part of annual operation budget. Monitoring of the siren will be the responsibility of the Pyramid Lake Paiute Tribe and be part of their annual operating budget.

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** This treatment is consistent with the Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005), and the BLM NEPA Handbook Categorical Exclusion 516 DM 11.9 J. Other 8. "Installation of minor devices to protect human life"

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Administrative Oversight	$47,560
Contracting/Agreement Officer (GS-12 @ $400/day x 3 days)	$1,200
Implementation Team Leader (GS-9 equiv. @ $300/day x 5 days)	$1,500
TOTAL PERSONNEL SERVICE COST	**$50,260**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
TOTAL MATERIALS AND SUPPLY COST	
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Equipment and labor for installation of early warning stream stage alert systems x 2 @ $30,000 each	$60,000
Operation of early warning systems x 2 system x 3 years @ $11,600 per year	$69,600
Equipment and labor for installation of early warning precipitation station x 3 stations @ $15,000 each	$45,000
Operation of early warning precipitation station x 3 stations x 3 years @ $15,000 per year	$45,000
Equipment and labor for installation of siren x 1 @ $11,000 each	$11,000
Maintenance of siren x 1 x 3 years @ $1,500 per year	$4,500
TOTAL CONTRACT COST	**$235,100**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2017	10/1/2016	9/30/2017	C	Warning system	$285,360	1	$285,360
						TOTAL	**$285,360**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P, M, C
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix IV, Virginia Mountains Complex Treatment Map

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Hazard Warning Signs	**PART E Spec-#**	BIA ES_#7
NFPORS TREATMENT CATEGORY*	Protection & Warning	**FISCAL YEAR(S) (list each year):**	2016
NFPORS TREATMENT TYPE *	Warning Signs	**WUI? Y / N**	N
IMPACTED COMMUNITIES AT RISK	N/A	**IMPACTED T&E SPECIES**	N/A

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

General Description:

This treatment is for the installation of burned area warning and flood hazard warning signs. These signs will warn the public of dangers on roads that have changed as a result of the fire. Burned area signs consist of a warning to the public and identifying the possible dangers associated with a burned area and to stay on existing roads. Flood hazard signs warn the public that they are entering an area prone to flooding during rain events. The signs shall contain language specifying issues to be aware of when entering a burn area such as rolling rocks, and flash floods and to stay on existing roads.

Location/(Suitable) Sites: Locations will be identified by local tribal and BIA personnel.

Design/Construction Specifications:

Hazard Warning Signs: Entering Burned Area and Water Crossing signs along the roads shall measure, at a minimum, 3 feet by 3 feet and consist of 0.08" aluminum, sheeted in high intensity orange with black letters. Suggested wording - "**ENTERING BURNED AREA - INCREASED RISK OF FLOODS, AND FALLING ROCKS - PLEASE STAY ON EXISTING ROADS"**.

How does the treatment relate to damage or changes caused by the fire?

Purpose of Treatment Specifications (relate to damage/change caused by fire):

Provide workers and recreation and traditional users with the necessary information to be prepared for being in a post-fire environment. Ensure that habitat is protected from Off-Highway use within burned area.

Why is the treatment/activity reasonable, within policy, and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** Minimal cost for protection of human life and habitat.
- **Treatment Effectiveness Monitoring Proposed:** Implementation Leader will verify installation and locations. Road Maintenance will verify that signs remain in good condition and are visible.

Land Use Plan Conformance:

This treatment is compatible with the *Tribal Resource Management Plan.*

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Laborers: 2 ea. @ $18/hr. X 24 hrs.	$864
TOTAL PERSONNEL SERVICE COST	**$864**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
Post driver, wrenches, misc. tools	$150
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$150**
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
5 "**Entering Burn Area…**" signs @ $200.00 each	$1,000
12 Steel U-channel sign posts @ $30.00 each	$360

24 - 3/8” machine bolts, nuts, washers—hex head @ $3.00 each	$72
TOTAL MATERIALS AND SUPPLY COST	**$1,432**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
4 X 4 pickup: 500 miles X $0.51/ mile	$255
TOTAL TRAVEL COST	**$255**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE MM/DD/YYYY	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2017	10/1/2015	11/1/2015	F	Signs	$540	5	$2,701
						TOTAL	$2,701

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	T, E, P, M
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See, Appendix IV, Maps

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Point Protection Structures	**PART E Spec-#**	BIA ES #8
NFPORS TREATMENT CATEGORY*	Facility & Infrastructure	**FISCAL YEAR(S) (list each year):**	2016
NFPORS TREATMENT TYPE *	Protect Structures	**WUI? Y / N**	Y
IMPACTED COMMUNITIES AT RISK	Sutcliffe, NV	**IMPACTED T&E SPECIES**	N

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: The purpose of this treatment is to reduce / mitigate the risk to structures. This proposed treatment is to protect the Dunn Fish Hatchery facilities and a private residence from potential post-fire flooding, sedimentation, and debris flows. Protection will consist of constructing continuous flood barriers made of 10-foot concrete highway barriers (K-rails) and sandbags.
- **Location/(Suitable) Sites:** 1. Dunn Fish Hatchery. 2. Private residence downstream of hatchery.

- **Design/Construction Specifications:**
  General specifications for placement of Concrete Barriers (K-rails):
  1. Install approximately 40 10-ft. K- rails to prevent Hardscrabble Creek overbank flows from flooding the hatchery facilities.
  2. Level site for K-rails with backhoe or suitable equipment
  3. K-rails should be placed end to end on level ground.
  4. Sandbags need to be placed in a single row and against the seams on uphill side of K-rail and a single row on downhill side.
  5. To maximize flood protection, K-rails should be inter-pinned with 30 inch length, 8 gauge rebar.
  6. K-rails delivered to site must not be staged in drainages.
  7. Store any extra sandbags in locations to easily deploy if needed.
  8. Delivered or stored sandbags will not be placed in stream channels.
  9. Inspect sites after large storm events, clean out sediment; replace damaged bags.

  Dunn Hatchery
  Place approximately 40 (10 ft.) K-rails on the north side of the hatchery to protect from potential out-of-bank flows from Hardscrabble Creek. This set of K-rails will be connected to the rolling dip (spec # BIA 4) that prevents potential flow from Hardscrabble from running down the Hardscrabble Creek Road toward the hatchery.
  Private Residence
  Place approximately 16 (10 ft.) K-rails on the overflow swale on north side of the residence to protect home from potential out-of-bank flows from Hardscrabble Creek.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:*
  The purpose of this treatment is to protect structures from flooding, sedimentation, and debris flows in the event the Hardscrabble Creek overflows its banks. Watershed modeling results show a post-fire percent increase in peak flows of 364% and sediment yield of 723% at these locations, representing an extreme risk to these structures.

Why is the treatment/activity reasonable and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** The treatment is a cost effective compared to the potential loss of these structures. The value of the hatchery to tribal operations is unique and essential.
- **Treatment Effectiveness Monitoring Proposed:** After streamflow events, observe whether or not the concrete barriers and sandbags have been damaged and need maintenance, and repair accordingly.

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** This treatment is consistent with the Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005), particularly in supporting the management of the fish hatchery for raising Lahontan cutthroat trout. ***Note that the ground disturbance that precedes placement of the K-rails will require Section 106 of the NHPA compliance.***

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Administrative Support Services: 20%	$4,300
Operator : WG-10 @ $65/hr. x 40 hours x 1 operators (transport, front end loader, backhoe)	$2,600
Staff Engineer / supervisor: GS-11 @ $75/hr. x 24 hours	$1,800
4- person crew (sandbagging) @ $600/day x 5 days	$3,000
TOTAL PERSONNEL SERVICE COST	**$11,700**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
Front end loader @ $200/day X 5 days	$1,000
Backhoe @ $200/day x 1 days	$200
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$1,200**
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
1000 Sandbags @ $1.50 ea.	$1,500
60 K-rails @ $175 ea., delivered. (Local unit unloads w/ front end loader)	$10,500
20 yd^3 sand @ $40/$yd^3$, delivered.	$800
TOTAL MATERIALS AND SUPPLY COST	**$12,800**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
2WD pickup (project supervisor)@ $70/day X 3 days	$210
Utility/fuel tender truck @ $100/day X 2 days	$200
TOTAL TRAVEL COST	**$410**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	**0**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2016	9/1/2016	9/15/2016	F	Sites	$13,055	2	**$26,110**
						TOTAL	**$26,110**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, E
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix IV., Virginia Mountains Complex Treatment Maps

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Hazardous Material Site Identification and Assessment	**PART E Spec-#**	BIA –ES # 9
NFPORS TREATMENT CATEGORY*	Protection and Warning	**FISCAL YEAR(S) (list each year):**	2017
NFPORS TREATMENT TYPE *	Toxic Substance Mitigation	**WUI? Y / N**	Y
IMPACTED COMMUNITIES AT RISK	Sutcliffe	**IMPACTED T&E SPECIES**	N/A

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: The Pyramid Lake Paiute Tribe expressed concerns that the Tule fire may have burned over some illegal dump sites. It is known that some structures (at least two trailers) burned over, but it is unknown if any hazardous materials are present onsite, or if there are potential HazMat sites elsewhere (illegal dumps) within the burn area.
- **Location/(Suitable) Sites:** On Trust lands within the Tule Fire, along the west side of Pyramid Lake.
- **Design/Construction Specifications:** Using Pyramid Lake Paiute Tribe Natural Resource staff, complete initial identification of HazMat sites near community dump sites or likely routes/locations where dumps would be found. Followup for all possible HazMat cleanup with qualified personnel.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:* Structures and possible illegal dump sites were burned over, possibly resulting in hazardous materials present onsite being exposed. Inventory/assessment by local staff familiar with the area will identify the locations of those sites that may have human health and environmental hazards; if locations are found then a qualified specialist will need to follow-up and make recommendations for cleanup/removal.

Why is the treatment/activity reasonable and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** The initial identification of possible hazardous materials onsite can best be done with local tribal staff familiar with trust lands. If sites are found then follow-up actions will include evaluation under the direction of qualified environmental hazardous materials specialists, who also would provide cleanup recommendations.
- **Treatment Effectiveness Monitoring Proposed:** N/A

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005), which includes an objective "to protect human and animal health by sustaining healthy ecosystems and providing environmental protection".

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Natural Resource staff for field survey: $30.15/hr x 80 hrs x 1 fiscal year	$2,412
Project Management: BIA Natural Resource Spec. (GS-7/1): 10 days X 8 hours/day @ $28/hour X 1 FY	$2,240
TOTAL PERSONNEL SERVICE COST	**$4,652**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	

MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
TOTAL MATERIALS AND SUPPLY COST	
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2017	10/01/2016	12/1/2016	P,S	survey	$4,652	1	$4,652
						TOTAL	

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Repair/replace Damaged Pyramid Lake Highway Fence - ES (BIA)	**PART E Spec-#**	ES_BIA #10
NFPORS TREATMENT CATEGORY*	Facility & Infrastructure	**FISCAL YEAR(S) (list each year):**	2016
NFPORS TREATMENT TYPE *	Fence Replacement	**WUI? Y / N**	N
IMPACTED COMMUNITIES AT RISK	Sutcliffe	**IMPACTED T&E SPECIES**	N/A

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: Repair and recondition 12 miles of fences adjacent to Pyramid Lake Highway to prevent human life and safety risks related to livestock and animals in the roadway.
- **Location/(Suitable) Sites:** Repair and recondition of fences from Sutcliffe to Big Canyon.
- **Design/Construction Specifications:** Fence repair will be limited to replacement of end panels, H braces, and angle breaks destroyed by the fire. The remainder of the fence appears to be in good condition and relatively intact.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:* Fire damage has compromised the integrity of the fence by destroying the minor structures that the fence relies upon to provide structure. This allows for wildlife and livestock migration across the highway and represents a human life and safety risk that must be mitigated.

Why is the treatment/activity reasonable and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** Functional loss of the highway protection fences allows for the movement of livestock and wildlife on to the heavily used roads in and around Sutcliffe. This represents an unacceptable risk to human life and safety and must be mitigated.
- **Treatment Effectiveness Monitoring Proposed:** Treatment will be considered successful when highway fence is repaired to the extent that it is a functional barrier to animal movement onto the highway.

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005), which includes a recommended conservation practice "fencing and cross-fencing" to address a resource concern of "fencing and water developments in need of repair and maintenance".

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Project Management: Natural Resource Specialist 3 days X 8 hours/day @ $65/hour X 1 fiscal years	$1,560
Fence Repair Crew: 3 Range Technicians X 5 Days X 8 hrs/day @ $35/hour X 1 fiscal year	$4,200
TOTAL PERSONNEL SERVICE COST	**$5,760**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	

MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
6 foot X 3" Steel Brace Posts: $7.00/post X 36 ea.	$252
6 foot X 1.5" Steel h-brace pipes: $5.75/pipe X 22 ea.	$126
H-brace end cups: $.75/cup X 44 cups	$33
12 ½ gauge galvanized twisted Smooth wire: 5 spools @ $54.00/Spool	$270
TOTAL MATERIALS AND SUPPLY COST	**$681**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
1 4WD pickup @ .70/Mile X 900 Miles X 1 fiscal year	$630
TOTAL TRAVEL COST	**$630**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2016	8/20/2016	9/30/2016	F	Miles	$589	12	**$7,071**
						TOTAL	**$7,071**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, T, M
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See, Appendix IV, Treatment Map

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Archaeological Survey of Drill Seeding and/or Chaining Locations	**PART E Spec-#**	BIA_ES #11
NFPORS TREATMENT CATEGORY*	Planning	**FISCAL YEAR(S) (list each year):**	2017
NFPORS TREATMENT TYPE *	NEPA/CATX	**WUI? Y / N**	N
IMPACTED COMMUNITIES AT RISK	N/A	**IMPACTED T&E SPECIES**	N/A

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: Approximately 1200 acres are proposed for drill seeding and/or chaining to re-establish native vegetation. As a ground disturbing activity, this treatment will require compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act, as amended (NHPA).

- **Location/(Suitable) Sites:** Four polygons identified for this treatment are situated along the east flank of the fire from south of Sutcliffe and below Hardscrabble Creek and extend north to Big Canyon and the northern extent of the burned area.

- **Design/Construction Specifications:**
  1. Conduct archaeological survey of all 1200 acres proposed for drill seeding/hand planting.
  2. Identify historic properties and recommend measures to avoid or mitigate adverse effects.
  3. Prepare report of findings and recommendations consistent with agency standards for meeting NHPA compliance requirements.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:* This treatment is not directly related to fire caused damages. It is required to assist in agency compliance with the NEPA/NHPA in conjunction with treatments prescribed to address fire effects to native vegetation.

Why is the treatment/activity reasonable, within policy, and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** The treatment is required to ensure agency compliance with the NEPA/NHPA. Cost is in conformance with contract labor estimates used for other agency undertakings.
- **Treatment Effectiveness Monitoring Proposed:** In the event historic properties are identified in the area proposed for drill seeding/chaining, an archaeologist should be onsite to ensure that significant cultural values are not compromised.

Land Use Plan Conformance:

Treatment consistent with Agency Land Management Plan (identify which plan): Pyramid Lake Indian Reservation Comprehensive Resource Management Plan, 2005.

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
TOTAL PERSONNEL SERVICE COST	

EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
TOTAL MATERIALS AND SUPPLY COST	
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Archaeological Survey @ $40./acre x 1200 acres	$48,000
TOTAL CONTRACT COST	**$48,000**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2017	5/1/2017	06/01/2017	S	Acres	$40.	1200	$48,000
						TOTAL	**$48,000**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	S
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See treatment map associated with vegetation assessment and ES #25, Ground based Seeding Application

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Inventory Noxious Weeds	**PART E Spec-#**	BIA ES #12
NFPORS TREATMENT CATEGORY*	Monitoring	**FISCAL YEAR(S) (list each year):**	2017
NFPORS TREATMENT TYPE *	Ecosystem Recovery Monitoring	**WUI? Y / N**	N
IMPACTED COMMUNITIES AT RISK	N/A	**IMPACTED T&E SPECIES**	Greater sage grouse (candidate)

** See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**:
  This specification proposes noxious weed monitoring within the Virginia Mountain Complex on the Tule Fire. The purpose is to identify the establishment and monitor the spread of noxious weeds. Monitoring by trained botanists should begin in spring 2017 as soon as plant identification is possible. Priority should be given to areas impacted by fire management operations and known noxious weed locations. The miles estimated for survey were determined through ArcGIS by estimating the area of suitable locations (see below), actual total survey area may vary. The data collected for the noxious weed survey should include species, location, area infested and density. Treatments should be prescribed to control noxious weed invasion and spread.

- **Location/(Suitable) Sites:**
  Assess known locations of noxious weeds and areas based on motor vehicle use, heavy equipment impacts used during fire suppression and mop-up activities. Areas prone to weed establishment are:
  - Arterial road right-of-ways used by fire traffic within the fire, within the perimeter, or used to stage outside the fire
  - Secondary roads that were used for fire access and/or suppression tactics
  - Dozer lines and handlines, including those that were burned over
  - Fire perimeter where mop-up occurred
  - Communities (Sutcliffe) and developed areas (e.g. recreation sites, ranches, etc.)
  - Fire retardant drops
  - Staging areas
  - Drop points
  - Previous known locations

- **Design/Construction Specifications:**
  1. Survey for presence / absence of noxious weed species during the green up period and at future, selected intervals of time.
  2. Inventory, photo document and map novel infestations of noxious weeds using GPS.
  3. Sampling should determine species composition, density and quantify the area affected (e.g. square feet, acres).
  4. Initiate approved control measures where detection demonstrates the establishment or expansion of noxious weed populations. Integrated weed management strategies should be used to control / mitigate establishment and spread of noxious weeds. See specification #17, treatment of noxious weeds.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:*
  The purpose of this specification is to detect establishment and spread of non-native invasive plant species. Detection should be followed by treatment prescriptions to control the spread into susceptible burn areas. Noxious weeds can hinder recovery of the ecosystem post-fire (Pyke et al., 2015). The sage-steppe ecosystem is especially vulnerable post-fire (Keeley 2006, Brooks and Pyke 2001). Noxious weeds known to grow in the area can displace plants gathered for traditional use, reduce biodiversity (Chapin et al 2000), and modify fire behavior and fire return interval (Young et al 1987, Melgoza et al., 1990). While cheat grass may already be well-established in the fire footprint, other species such as knapweeds, medusahead, and thistles have a low presence that could increase without intervention. Early detection and control will help minimize the establishment of non-native invasive species within the burn area (Brooks et al., 2004) and help protect wildlife habitat, native plant diversity, native pollinators, and traditional use plants.

Why is the treatment/activity reasonable, within policy, and cost effective?

Treatment Reasonableness and Cost Effectiveness: Control and detection of noxious weed species in burned areas will be monitored according to the strategy outlined in the specification. Control will be considered successful upon determination that all noxious weeds have been controlled and non-native, noxious weeds have not spread beyond their pre-fire locations. Monitoring is required to determine whether vegetative recovery of habitat has, as anticipated, occurred. Additional treatments may be proposed if monitoring determines that the criteria for re-vegetation success are not achieved. The most effective weed strategy after a disturbance is early detection and rapid response (Naylor 2000).

- **Treatment Effectiveness Monitoring Proposed:** Yes

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** This treatment is consistent with consistent with the Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005), which includes discussion on their Integrated Weed Management Program.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
BAER implementation leader @ $40 hr x 10 hrs	$400
TOTAL PERSONNEL SERVICE COST	**$400**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	$
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
TOTAL MATERIALS AND SUPPLY COST	**$**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	**$**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Botanical survey technicians 2 @ $25/hr X 10 hrs/day X 6 days	$3,000
GIS technician @ $32/hr X 10 hrs/day X 1.5 days	$480
Misc supplies (e.g. PPE, GPS, etc.) @ $700	$700
Vehicle @ $40 /day X 6 days	$240
TOTAL CONTRACT COST	**$4,420**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY 17	10/01/2017	09/30/2017	S	Miles	$138	35	$4,820
						TOTAL	**$4,820**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	M
3. Estimate supported by cost guides from independent sources or other federal agencies	P,E
4. Estimates based upon government wage rates and material cost.	P, T
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See, Vegetation Assessment ; Specification #17 Treatment of noxious weeds; Appendix IV, Maps

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Pretreatment of seeded areas	**PART E Spec-#**	BIA_ES #13
NFPORS TREATMENT CATEGORY*	Invasive species	**FISCAL YEAR(S) (list each year):**	2017
NFPORS TREATMENT TYPE *	Chemical treatment	**WUI? Y / N**	N
IMPACTED COMMUNITIES AT RISK	n/a	**IMPACTED T&E SPECIES**	n/a

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**:
  This specification outlines the application of herbicide to reduce the competitive pressure of annual invasive grasses, specifically cheat grass, on the establishment of native shrub communities in the Tule Fire as part of the Virginia Mountains Complex. Application of pre-emergent herbicide will greatly improve planting efforts by reducing the competitive capacity of cheat grass (Bahm and Barnes 2011). The areas outlined for herbicide application and seeding (see specification #14) are necessary for re-establishment of the sage-steppe vegetation communities, as they are unlikely to recover post-fire without intervention due to competition from cheat grass. Areas outside the seeding areas are not specified for treatment because the native plant communities will likely recover (e.g. riparian areas, or rabbitbrush and ephedra dominated communities). Application may be performed either through fixed wing, helicopter, or through truck/UTV boom mounted spray units.

- **Location/(Suitable) Sites:**
  Areas suitable for treatment are the alluvial outwash plains in the north east corner of the Tule Fire as part of the Virginia Mountains Complex. Applications should be made between Big Canyon and Wood Canyon and between Pyramid lake and where slopes rise into the mountains and have less impacted vegetation communities. Within the fire, 1,200 acres have been identified as appropriate for herbicide application and seeding efforts.

- **Design/Construction Specifications:**

1. Mix the pre-emergent herbicide imazapic at 6 ounces per acre.
2. Apply herbicide over 850 acres in the autumn after the first rains (so that herbicide does not bind to ash), but prior to cheat grass green-up to maximize efficacy.
3. Applications may be made by fixed wing aircraft, helicopter or truck/UTV boom sprayers under meteorological conditions specified by the herbicide label.
4. Herbicide applications should occur either prior to ground based seeding or at least one year after seeding.
5. Herbicide applications will only be made by qualified applicators according to the label and following state and federal regulations. All applications must be documented and reported according to state and federal guidelines.
6. Monitor treatment efficacy (see Elzinga et al., 2015 for example monitoring designs).

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:*
  The Tule Fire burned thousands of acres of shrub communities with the sage-steppe ecosystem. Two treatments (specs 14, and 17) are necessary to ensure recovery of fire-intolerant shrubs, grasses, and forbs. The sage-steppe ecosystem is especially vulnerable post-fire to the noxious weeds that hinder ecosystem rehabilitation (Pyke et al., 2015). Pre-emergent herbicide application will support vegetation recovery (Eiswerth et al. 2009) and enhance the planting and seeding efforts by reducing the competitive pressure of established annual invasive cheat grass (Chamber et al., 2014, Bahm and Barnes 2011). Reducing cheat grass will also decrease fire extent and decrease intensity by reducing fuel loading, thereby providing time for vulnerable seedlings to establish (D'Antonio and Vitousek 1992, Miller et al. 2015).

Why is the treatment/activity reasonable, within policy, and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:**
  Aerial application of herbicide is the most cost-effective treatment application on a landscape level, though truck of UTV boom mounted spraying are also feasible in flat, even terrain. Herbicide treatment increases the probability of success for planting and seeding efforts and improves the overall cost-effectiveness and efficacy of the aerial seeding and hand-planting efforts. Without herbicide applications, cheat grass may negate the seeding efforts in the marginal habitat identified for seeding (specification #17).

- **Treatment Effectiveness Monitoring Proposed:** Monitoring for efficacy of herbicide application will be necessary to ensure ground based seeding success (Specification #16) (see Elzinga et al., 2015 for example monitoring designs).

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** This treatment is consistent with the Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005), but an approved NEPA plan for herbicide use will be necessary before implementation of herbicide treatments.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
BAER implementation and contract oversight@$40/hr x 50 hrs	$2,000
Botanist @$40/hr x 40 hrs	$1,600
TOTAL PERSONNEL SERVICE COST	**$3,600**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$0**
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
Herbicide (imazapic) @ $6ounce/acre x 1.75 ounce x 1,200 acres	$12,600
TOTAL MATERIALS AND SUPPLY COST	**$12,600**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	**$0**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Aerial application @ $13 acre x 1,200 acres	$15,600
TOTAL CONTRACT COST	**$15,600**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2017	10/01/2016	9/30/2017	S	Acre	$26.5	1,200	$31,800
						TOTAL	**$31,800**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	S, M
3. Estimate supported by cost guides from independent sources or other federal agencies	M
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

Refer to specification #14 Ground based seeding application, specification #16 Monitoring, and Vegetation Assessment. See, Appendix IV, Maps

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Ground Seeding Application	**PART E Spec-#**	BIA ES_#14
NFPORS TREATMENT CATEGORY*	Invasive Species	**FISCAL YEAR(S) (list each year):**	2017
NFPORS TREATMENT TYPE *	Prevention/Seeding	**WUI? Y / N**	N
IMPACTED COMMUNITIES AT RISK	N/A	**IMPACTED T&E SPECIES**	N/A

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: This specification seeks to stabilize and rehabilitate lands impacted by the Tule Fire on the Virginia Mountains Complex, by re-establishing sagebrush, perennial grasses, and other upland species through ground-based seeding.

- **Location/(Suitable) Sites:** Through field reconnaissance, consultation with local specialists, and examination of GIS layers, we identified areas in which to ground -seed upland plant species. This information was combined with slope measurements and NRCS Soil Mapper Rangeland Seeding Suitability data to delineate an area of 1,200 acres spanning the eastern edge of the Tule Fire on Tribal land. Part of these lowland alluvial flats are identified as high priority habitat for the Greater sage grouse, has appropriate soils and topography to support upland species seed, and was impacted by the fire. However, no telemetry data has shown Greater sage grouse use in the last ten years.

- **Design/Construction Specifications:** Native seed will be purchased from a local seed warehouse: Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), spiny hopsage (*Grayia spinosa)*, Fourwing saltbush (*Atriplex canescens*), needle and thread grass (*Hesperostipa comata*), Squirreltail (*Elymus elymoides*), Indian rice grass (*Acnatherum hymenoides*), basin wildrye (*Leymus cinereus*), and Sandberg's bluegrass (*Poa secuda*). We expect this seed mixture will be successful in warding off non-native annual grasses in combination with the pre-treatment of herbicide to the sites (Specification #24). Species may be changed to more drought-tolerant non-native grass species in order to combat cheatgrass, such as Siberian wheatgrass, if herbicide application is not completed.

- Seed will be sown in fall or early winter. We suggest consultation with local botanists and range conservationists to decide timing and specific techniques. Techniques may be used for ground-based seeding such as drill-seeding or UTV-based broadcast seeding followed by harrow.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:* The fires of the Virginia Mountains Complex removed sagebrush (Shrub Mortality Map in Appendix IV) and other species utilized by species dependent on sage-steppe habitat such as mule deer, pronghorn antelope, upland game birds, and golden eagles. Sagebrush is a primary habitat constituent that is utilized by Greater sage-grouse and many other species for cover, nesting, and forage. Cheatgrass invasion prevents the natural reestablishment of sagebrush, rabbitbrush, and bitterbrush by quickly colonizing burned areas and out-competing slower growing brush species. The ground seeding treatment proposed, coupled with herbicide treatments (Specification # 24), will jump start recovery and help stabilize and rehabilitate this degraded landscape. The landscape may not recover from wildfire damage without replacing some of the species removed from the habitat.

Why is the treatment/activity reasonable and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** With appropriate ground preparation, planning, and implementation we expect a moderate success rate. It is more cost effective to prevent nonnative annual grass invasion rather than treat for it after it has encroached. Ground application of seed is

moderately to poorly effective in this area according to the NRCS Soil Mapper Rangeland Seeding Suitability data. The moderately effective seeding area is located in the south-east end of the Tule Fire, while the poorly suitable soil is located in the north-east portion of the fire. Local BLM botanists, range conservationists, and ES&R coordinator who have conducted these treatments in this relative area have confirmed the predicted success. The treatment design accounts for the poor to moderate soil suitability.

- **Treatment Effectiveness Monitoring Proposed:** A separate specification (#30) to monitor revegetation effectiveness has been prepared and will help evaluate ground-based seeding success.

  Pre-seeding data, using the same methodology should be collected and compared with post-seeding data over time to assess long term success and whether the treatment is meeting rangeland health assessment standards for the area. In the short term, plant survival and canopy cover should be assessed using a point intercept or quadrat sampling method. Retreatment considerations will be made if monitoring objectives are not met.

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** Pyramid Lake Indian Reservation Comprehensive Land Management Plan (2005).

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
Project Management: Natural Resource Specialist 30 days X 8 hours/day @ $65/hour X 1 fiscal year	$15,600
Seeding crew: 6x Biological Technician (GS 07), 15 days x 8 hours/day @ $47.50/hour x 1 fiscal year	$34,200
TOTAL PERSONNEL SERVICE COST	**$49,800**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
UTV @ $2.00/hour X 8 hours/day X 15 days X 1 fiscal year	$240
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$240**
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
Seed @ 1,200 acres @ $29.17/acre	$35,000
Shipping seed from warehouse	$900
TOTAL MATERIALS AND SUPPLY COST	**$35,900**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
1 X 2 ton freight truck @$1.50/mile X 170 miles/day X 1 day X 1 fiscal year	$255
2 X ¾ pickup 4WD @ $0.68/mile X 170 miles/day x 3 days X 1 fiscal year	$700
TOTAL TRAVEL COST	**$955**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	**$0**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2017	10/1/2016	9/30/2017	F, S	Acres	$72	1200	$86,895
						TOTAL	**$86,895**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	C, M, E, P, T
2. Documented cost figures from similar project work obtained from local agency sources.	C, M, E, P, T
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	M, E
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See, Appendix IV, Weed Treatment and Aerial Seeding Specifications, Treatment Maps

Species	% PLS	Seeds/lb (bulk)	Total Seeds/Acre (Bulk)	PLS Seeds/acre	PLS Seeds/sq.ft.	Aerial Seeding [Acres]	Lbs/Acre	Total Lbs.	Cost / Lb.	Total Cost
ARTRW	0.85	2,000,000	2,000,000	1,700,000	39.03	1,200	1	1,200	$7.36	$8,832.00
GRSP	0.85	250,000	25,000	21,250	0.49	1,200	0.1	120	$40.00	$4,800.00
ATCA	0.85	100,000	10,000	8,500	0.20	1,200	0.1	120	$8.15	$978.00
ACHY	0.85	250,000	250,000	212,500	4.88	1,200	1	1,200	$4.69	$5,628.00
HECO26	0.85	115,000	11,500	9,775	0.22	1,200	0.1	120	$50.00	$6,000.00
POSE	0.85	1,000,000	250,000	212,500	4.88	1,200	0.25	300	$7.10	$2,130.00
ELEL5	0.85	200,000	20,000	17,000	0.39	1,200	0.1	120	$18.11	$2,173.20
LECI4	0.85	130,000	32,500	27,625	0.63	1,200	0.25	300	$12.00	$3,600.00
Totals					**51.30**		**2.90**	**3,480**		**$34,141.20**

ARTRW	*Artemisia tridentata wyomingensis*	Wyoming big sage
GRSP	*Grayia spinosa*	Spiny hopsage
ATCA	*Atriplex canescens*	Fourwing saltbush
ACHY	*Achnatherum hymenoides*	Indian ricegrass
HECO26	*Hesperostipa comata*	Needle and thread grass
POSE	*Poa secunda*	Sandberg's bluegrass
ELEL5	*Elymus elymoides*	Bottlebrush squirreltail
LECI4	*Leymus cinereus*	Basin wildrye

NATIVE/NON-NATIVE PLANT WORKSHEET – N/A

A. Proposed Native Plants in Seed Mixtures (Both ES & BAR Treatments)

1. *Are the native plants proposed for seeding adapted to the ecological sites in the burned area?*
|X| Yes |__| No
Rationale: The proposed native species are all adapted to the ecological sites within the proposed seeding area. All of these species have been utilized in similar ecological sites within the Carson City Field Office management area.

2. *Is seed or seedlings of native plants available in sufficient quantity for the proposed project?*
|X| Yes |__| No
Rationale: Native seed proposed for use is generally available in the required quantities. Ground-based seeding may not occur until the fall of 2017 which should allow seed quantities to be more available.

3. *Is the cost and/or quality of the native seed reasonable given the project size and approved field unit management and ESR Plan objectives?*
|X| Yes |__| No
Rationale: The native seed proposed for use has been increasingly utilized in recent years for stabilization, rehabilitation and restoration. The demand has resulted in increased production and decreased price.

4. *Will the native plants establish and survive given the environmental conditions and the current or future competition from other species in the seed mix or from exotic plants?*
|X| Yes |__| No
Rationale: The native taxa proposed for seeding have exhibited the ability to establish and persist in similar ecological sites in the Carson City Field Office.

5. *Will the current or proposed land management (e.g. wildlife populations, recreation use, livestock, etc.) after the seeding establishment period maintains the seeded native plants in the seed mixture?*
|X| Yes |__| No
Rationale: The seeded area will be rested until management objectives for the treatment are met for establishment prior to resumption of livestock use. The current livestock management grazing system should effectively maintain the plant community over the long term.

B. Proposed Non-native Plants in Seed Mixture (Both ES & BAR Treatments) – N/A
General Note:
1. *Is the use of non-native plants necessary to meet objectives, e.g., consistent with applicable approved field unit management plans?*
|_| Yes |X| No
Rationale: Non-native plants are not necessary to meet objectives of this treatment.

2. *Will non-native plants meet the objective(s) for which they are planted without unacceptably diminishing diversity and disrupting ecological processes (nutrient cycling, water infiltration, energy flow, etc.) in the plant community?*
|_| Yes | X | No

3. *Will non-native plants stay on the site they are seeded and not significantly displace or interbreed with native plants?*
|_| Yes | X | No

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Hazard tree assessment/removal	**PART E Spec-#**	BIA ES #15
NFPORS TREATMENT CATEGORY*	Roads	**FISCAL YEAR(S) (list each year):**	2017
NFPORS TREATMENT TYPE *	Hazard Removal	**WUI? Y / N**	Y
IMPACTED COMMUNITIES AT RISK	Sutcliffe, Hardscrabble Canyon Road	**IMPACTED T&E SPECIES**	N/A

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**: Identify, assess, and fell immediate hazards for the safety of the public within at least one tree length from infrastructure, developed sites, and roads. Tree hazards to be mitigated must have been killed or damaged by the wildfire. Hazard tree assessment and removal are necessary to protect health of the public, workers, infrastructure, and access.

- **Location/(Suitable) Sites:** Survey areas within Sutcliffe and along Hardscrabble Canyon Road for hazard trees. Most hazard trees will be cottonwoods. Hazard trees must be both compromised as assessed by a professional, and have a target. For example, trees 500 feet from the nearest road or infrastructure are unlikely to be a hazard.

- **Design/Construction Specifications:**

1. Professional sawyer identifies and marks hazard trees
2. Directionally fell identified tree hazards
3. Flush cut stumps as low as possible
4. Limb, buck to firewood length, and stack wood on roadside and away from streams
5. Any trees that fall in stream channels will need to be removed as to allow water flow
6. Any material left on side can be either chipped or slash burned as appropriate

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:* To ensure the safety of workers and the public in Sutcliffe and along Hardscrabble Canyon Road.

Why is the treatment/activity reasonable, within policy, and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:** Trees damaged by wildfire pose an immediate and severe hazard to human health and property. Weakened trees or branches could fail without warning and blocks roads, hit infrastructure, or injure or kill the public or workers. Removal by trained professionals is necessary.

- **Treatment Effectiveness Monitoring Proposed:** Site inspection by lead sawyer.

Land Use Plan Conformance:

Treatment consistent with Agency Land Management Plan (identify which plan): This treatment is consistent with the BIA Categorical Exclusion 516 DM 10.5 H. Forestry 6) Approval of emergency forest and range rehabilitation plans when limited to environmental stabilization on less than 10,000 acres and not including approval of salvage sales of damaged timber.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
BAER implementation and contract oversight @ $40/hour x 20 hours	$800
TOTAL PERSONNEL SERVICE COST	**$800**

EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$**
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
TOTAL MATERIALS AND SUPPLY COST	**$**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	**$**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Labor	
Crew boss sawyer @ $35/hour x 40 hours	$1,400
Hand Crew Laborer 3 @ $25/hour x 40 hours	$3,000
Equipment	
Misc supplies (e.g. saw fuel, 2-cycle mix, bar oil, etc.)	$200
Vehicles	
4WD Pickups 1 @ $45.00/Day x 4 Days	$180
TOTAL CONTRACT COST	**$4,780**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISH MENTS	PLANNED COST
2017	10/1/2016	9/30/2017	S	trees	$223	25 trees	**$5,580**
						TOTAL	**$5,580**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	C
2. Documented cost figures from similar project work obtained from local agency sources.	C
3. Estimate supported by cost guides from independent sources or other federal agencies	C
4. Estimates based upon government wage rates and material cost.	P,C
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See vegetation assessment

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Monitor Vegetation Treatments	**PART E Spec-#**	BIA ES #16
NFPORS TREATMENT CATEGORY*	Monitoring	**FISCAL YEAR(S) (list each year):**	2017, 2018
NFPORS TREATMENT TYPE *	Treatment effectiveness monitoring	**WUI? Y / N**	N
IMPACTED COMMUNITIES AT RISK	N/A	**IMPACTED T&E SPECIES**	N/A

** See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**:

  This specification proposes to monitor 1) emergency stabilization vegetation treatments and 2) natural recovery on west of Pyramid Lake on the Tule Fire, Virginia Mountains Complex. Monitoring will provide managers with data to assess treatment efficacy and to determine if further treatments are merited. The area proposed for treatment was a Wyoming big sagebrush community that burned with high shrub mortality and is unlikely to recover to a functioning plant community without intervention. The purposes of the vegetation treatments are to establish native plants lost in the Tule fire (specification BAR_#19) and remove annual invasive grasses that could inhibit native plant recovery (specification BAR_ #18). If monitoring shows that the objectives of emergency vegetation treatments are met, treatments may be considered for an additional area south of the proposed treatment area, if natural recovery is not occurring at that site.

- **Location/(Suitable) Sites:**

  1) Proposed site (N Tule): Selected areas of burned alluvial outwash plains in the northeastern part of the Tule Fire as part of the Virginia Mountain Complex between Big Canyon (north), Water Hole Canyon (south), Pyramid lake/Sutcliffe Highway (east), and where slopes are greater than 10 degrees as they transition from plains to mountains (west). This plan proposes a seeding treatment specification and an aerial herbicide application specification.

  2) Potential site (S Tule): Select areas of burned alluvial outwash plains in the southeast corner of the Tule Fire south of Water Hole Canyon (north), Sutcliffe (south), Pyramid lake/Sutcliffe Highway (east) and where slopes are greater than 10 degrees as they transition from plains to mountains (west). This area burned with medium shrub mortality. Based on soil layers and vegetation communities, natural recovery may occur. No specification for rehabilitation currently exists. If natural recovery does not occur a request for funding may be made contingent on the success of emergency stabilization treatments at N Tule.

- **Design/Construction Specifications:**

  Use pre- and post- monitoring protocols to evaluate treatment success. Establish monitoring plots at locations representative of site variability in both N Tule and S Tule. Recommended monitoring protocols are in Elzinga et al., Measuring and Monitoring Plant Populations (1998). Sample size and plot distribution needs to be sufficient to provide enough statistical power to ensure objectives are met.

  1) The objective for treatments (specs 18 & 19) at N Tule is to establish a perennial dominated plant community within 5 years. The following grass, forb, and shrub density objectives are based on ecological site potential.

  The ground-based seed treatment meets objectives if seeded grass, forb, and shrub species reach the following densities:

  - 2 perennial grass per square meter;
  - 0.4 forb per square meter;
  - 0.4 shrub per square meter

  2) Monitoring at S Tule will assess natural recovery of the site. If natural recovery at S Tule does not meet management objectives, treatments used at N Tule should be considered for S Tule. If S Tule meets management objectives, then rehabilitation is unnecessary.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)***:*

This specification does not relate to the damage caused by fire. This specification monitors effectiveness of ground based seeding (Specification #14) and pre-treatment of seeded areas (Specification #13).

If monitoring shows treatment objectives are met, more funding may be requested for Specifications #13 and #14 to

expand the treatment area (up to 3,500 acres; Ground Seeding Treatment Map in Appendix IV).

Why is the treatment/activity reasonable, within policy, and cost effective?

Treatment Reasonableness and Cost Effectiveness: This specification monitors the efficacy of emergency stabilization vegetation treatments. Monitoring provides data needed for managers to make appropriate adaptive management decisions. With this monitoring treatment, managers can determine if further funding is needed to protect treatment investments, expand the treatment area, or if no further funding is needed.

- **Treatment Effectiveness Monitoring Proposed:** Yes

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):** Monitoring is consistent with the Pyramid Lake Indian Reservation Comprehensive Land Management Plan (2005).

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
BAER implementation leader @ $65 hr x 10 hrs x 2 years	$1,300
TOTAL PERSONNEL SERVICE COST	**$1,300**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
	$0
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	$0
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
	0
TOTAL MATERIALS AND SUPPLY COST	**$0**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	**$0**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Botany monitoring technicians 2 @ $25/hr X 120 hrs x 2 years	$12,000
Data management @ $32/hr X 30 hrs x 2 years	$1,920
Vehicle @ $50 /day X 10 days x 2 years	$1,000
TOTAL CONTRACT COST	**$14,920**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY 17	010/01/2016	09/30/2017	S, F	Acres	$676	12	$8,110
FY 18	10/01/2017	09/30/2018	S, F	Acres	$676	12	$8,110
						TOTAL	**$16,220**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	M
3. Estimate supported by cost guides from independent sources or other federal agencies	P,E
4. Estimates based upon government wage rates and material cost.	P, T
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See, Appendix IV, Treatment Maps

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	BIA Project Administration	**PART E BIA Spec #**	BIA_ES #17
NFPORS TREATMENT CATEGORY*	Administration	**FISCAL YEAR(S) (list each year):**	2016, 2017, and 2018
NFPORS TREATMENT TYPE *	Contract Administration	**WUI? Y / N**	N
IMPACTED COMMUNITIES AT RISK		**IMPACTED T&E SPECIES**	

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

A. General Description: The Project Administrator will provide oversight of the BIA Burned Area Emergency Response plan and implementation.

B. Location/(Suitable) Sites: Bureau of Indian Affairs, Pyramid Lake Paiute Reservation lands impacted by the Tule Fire (one of five fires that make up the Virginia Mountains Complex Fire).

C. Design/Construction Specifications:
1. Appoint, hire or contract a qualified Project Administrator. Qualifications include adequate training and/or experience in engineering, forestry, or other natural resource related fields pertinent to the emergency stabilization work to be performed.
2. In accordance with ethical guidelines set forth in federal regulations, the Project Administrator shall have no vested interest or relationship, perceived or actual, in any hiring, contracting or procurement associated with emergency stabilization work to be performed.
3. The Project Administrator will provide oversight of all activities specified in the BAER plan, including implementation of treatment specifications and activities, preparation of commercial and self-determination contract packages, documentation of treatments installed, tracking of allocated funds and expenditures, preparation of annual and final accomplishment reports, development of supplemental requests for funding, completion of all approved treatments, and coordination with the Western Nevada Agency, Pyramid Lake Paiute Tribe, and other involved parties.
4. Monitor treatment effectiveness and determine need for and coordinate preparation of modifications to the BAER Plan to request and secure funding for additional treatments as determined necessary.
5. Maintain records of all implementation activities, associated costs and treatment effectiveness monitoring data including photos.

D. Purpose of Treatment Specifications (relate to damage/change caused by fire): The Project Administrator is necessary to ensure the work specified in the BAER plan is completed in a timely and professional manner, and adequate accountability of treatment effectiveness and funding expenditures is maintained and documented.

E. Treatment consistent with Agency Land Management Plan (identify which plan): Pyramid Lake Paiute Tribe Comprehensive Resource Management Plan (2005).

F. Treatment Effectiveness Monitoring Proposed: The Project Administrator will monitor to ensure specified projects are successfully completed on time and within budget, including any projects incorporated by approved plan amendments.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
FY16 GS-11 Base Salary $32.00/hr. X 1.4 EBC X 80 hrs./PP X 2 PP	$ 7,170
FY17 GS-11 Base Salary $33.00/hr. X 1.4 EBC X 80 hrs./PP X 4 PP	$ 14,785
FY18 GS-11 Base Salary $34.00/hr. X 1.4 EBC X 80 hrs./PP X 2 PP	$ 7,620
TOTAL PERSONNEL SERVICE COST	**$29,575**

EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
TOTAL MATERIALS AND SUPPLY COST	
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
FY16 Mileage $0.51/mi. x 200 mi./day x 10 days	$ 1,020
FY17 Mileage $0.53/mi. x 200 mi./day x 15 days	$ 1,590
FY18 Mileage $0.55/mi. x 200 mi./day x 5 days	$550
TOTAL TRAVEL COST	**$3,160**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISH MENTS	PLANNED COST
FY16	8/21/16	9/30/16	F	Implementation		1	$ 8,190
FY17	10/1/16	9/30/17	F	Implementation		1	$ 16,375
FY18	10/1/17	9/30/18	F	Implementation		1	$ 8,170
						TOTAL	**$32,735**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	T
3.	Estimate supported by cost guides from independent sources or other federal agencies	
4.	Estimates based upon government wage rates and material cost.	P
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Virginia Mountain BIA BAER Plan specifications.

PART F - INDIVIDUAL SPECIFICATION

TREATMENT/ACTIVITY NAME	Treatment of noxious weeds	**PART E Spec-#**	BIA_BAR #18
NFPORS TREATMENT CATEGORY*	Invasive species	**FISCAL YEAR(S) (list each year):**	2017, 2018
NFPORS TREATMENT TYPE *	Chemical treatment, hand treatment, mechanical treatment	**WUI? Y / N**	N
IMPACTED COMMUNITIES AT RISK	N/A	**IMPACTED T&E SPECIES**	N/A

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE:

Treatment/Activity Description:

General Description: Control known noxious weed infestations in areas impacted within the Virginia Mountain Complex in the Tule fire and populations that may have been introduced during fire management operations. Use integrated pest management techniques (herbicides, mechanical, and/or biological) as appropriate to prevent the spread and establishment of noxious weeds within the fire area. This specification addresses populations that can be treated through appropriate spot treatments either mechanically, backpack sprayers, truck sprayers, etc. For example, high priority species for treatment are tall whitetop (*Lepidium latifolium*), salt cedar (*Tamarix ramossisima*), Scotch thistle (*Onopordum acanthium*), and knapweeds (*Centaurea* sp.). Some of these species have a low likelihood of treatment success through manual/mechanical methods due to large underground root systems (e.g. tall whitetop, salt cedar), while others, (e.g. Scotch thistle, knapweeds) may be treatable mechanically/manually.

Location (Suitable) Sites: Within the fire footprint, treat known noxious weed populations, and any new populations discovered as part of specification #23, inventory noxious weeds. These may include riparian areas, along road systems and disturbed areas where fire access and suppression activities occurred (dozer lines, hand lines, roads safety zones, parking areas and off- road trafficked areas).

Design/Construction Specifications: Treatments will be implemented in accordance with the following:

1. Locate infestations within fire perimeter as per invasive weed monitoring specification #23.
2. Treat invasive weeds using a variety of equipment and methods including manual, mechanical or chemical means as appropriate. For any herbicide treatments, herbicide storage, transportation, application and disposal will be conducted in strict accordance with manufacturer's label directions, tribal and federal regulations, and NEPA compliance documents.
4. Areas located at springs, along streams, or near traditional gathering areas where herbicide will not be applied will be treated manually or mechanically according to best management practices.
5. Apply control treatments prior to seed-set. Any mature seed heads should be collected and bagged for disposal.
6. Record treated areas by GPS. Maintain location, species, extent of infestation, treatment method (including chemical used), and detection and treatment dates in a GIS database.
7. Periodically re-survey identified sites and apply needed treatments as phenology and population persistence dictates.
8. Herbicide applications will only be made by qualified applicators according to the label and following state and federal regulations. All applications must be documented and reported according to state and federal guidelines.
9. Monitor treatment efficacy each year to ensure treatment success as measured by population decline. If populations persist beyond year 2, Burn Area Rehabilitation may be considered to continue treatments.

How does the treatment relate to damage or changes caused by the fire?

Purpose of Treatment Specifications: The purpose of this specification is to control noxious weeds to minimize spread into non-infested areas of the burn following the findings of noxious weed survey (specification #23).

Noxious weeds can hinder recovery of the ecosystem post-fire (Pyke et al., 2015). The sage-steppe ecosystem is especially vulnerable post-fire (Keeley 2006, Brooks and Pyke 2001). Noxious weeds known to grow in the area can displace plants gathered for traditional use, reduce biodiversity (Chapin et al 2000), and modify fire behavior and fire return interval (Young et al 1987, Melgoza et al., 1990). While cheat grass may already be well-established in the fire footprint, other species such as knapweeds, medusahead, and thistles have a low presence that could increase without intervention. Early detection and control will help minimize the establishment of non-native invasive species within the burn area (Brooks et al., 2004) and help protect wildlife habitat, including the greater sage grouse, native plant diversity, native pollinators, and traditional use plants.

Why is the treatment/activity reasonable and cost effective?

Treatment Reasonableness and Cost Effectiveness: This specification is to spot treat infestations of noxious weeds with the potential to increase population size post-fire, and to treat noxious weeds that may have been introduced during fire management operations. It does not fund treatment of landscape level noxious plant populations such as cheat grass. Treating small populations of noxious weeds immediately post-disturbance is the most cost-effective treatment option available outside of prevention (Naylor 2000).

Treatment Effectiveness Monitoring Proposed: Spot checking will be conducted for one year following treatment to determine treatment effectiveness and continued weed occurrence. Records will be maintained and uploaded to the appropriate databases (e.g. NISMS). Control treatments will be considered to be successful upon determination that noxious weeds have been eliminated or populations reduced to control level.

Land Use Plan Conformance

Treatment Consistent with Agency Land Management Plan: Noxious weed treatments are consistent with the Pyramid Lake Indian Reservation Comprehensive Resource Management Plan (2005), with the exception of herbicide treatments – that treatment method will require further NEPA analysis.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
BAER implementation leader @ $40 hr x 15 hrs x 2 years	$1,200
Botanist (oversight) @ $40/hr x 40 hrs x 2 years	$3,200
TOTAL PERSONNEL SERVICE COST	**$4,400**

EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	**COST / ITEM**
	$0
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$0**

MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	**COST / ITEM**
TOTAL MATERIALS SAND SUPPLY COST	**$0**

TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	**COST / ITEM**
TOTAL TRAVEL COST	**$0**

CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST / ITEM**
Treatment technicians 4 @ $25/hr x 100 hrs x 2 years	$20,000
Data manager @ $35/hr x 20 hrs x 2 years	$1,400
Supplies (e.g. herbicide, spare parts, PPE) @ $800 year x 2 years	$1,600
Vehicle @ $40/day x 10 days x 2 years	$800
TOTAL CONTRACT COST	**$23,800**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
FY 17	3/15/2017	9/30/2017	S	acres	$486	29	$14,100
FY 18	3/15/2018	9/30/2018	S	acres	$486	29	$14,100
						TOTAL	**$28,200**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1.	Estimate obtained from 2-3 independent contractual sources.	
2.	Documented cost figures from similar project work obtained from local agency sources.	P, M, S

3.	Estimate supported by cost guides from independent sources or other federal agencies	E, S
4.	Estimates based upon government wage rates and material cost.	P
5.	No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix I, Vegetation Assessment; APPENDIX IV MAPS

PART E - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Planting of Traditional Gathering Areas	**PART E Spec-#**	BIA_BAR #19
NFPORS TREATMENT CATEGORY*	Heritage Resources	**FISCAL YEAR(S) (list each year):**	2017, 2018, 2019
NFPORS TREATMENT TYPE *	Site Stabilization, Site Treatment	**WUI? Y / N**	N
IMPACTED COMMUNITIES AT RISK	Pyramid Lake Indian Reservation	**IMPACTED T&E SPECIES**	N/A

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

Treatment/Activity Description:

- **General Description**:
  The Tule Fire burned across many areas known to contain plant species of cultural importance to the Pyramid Lake Paiute Tribe. Traditional plant gathering sites burned with moderate to high soil burn severity. Sites with these soil burn severity ratings could take up to 15 to 20 years to recover naturally. Such areas occur predominately within canyons along the eastern flank of the Tule Fire. This treatment involves the collection of seeds from traditionally important plant species and germination in a nursery. Once grown to an appropriate size, seedlings will be planted to accelerate recovery and provide competition against invasive non-native species. The seedling plantings will hasten the time that the area will be fully functional ecologically and reduce the time window for potential establishment of new noxious weeds and when the cultural use of plants may commence. Seedling planting will take place in 2018 and 2019; Additional years may be needed if seed crop from the 2017 seed is not sufficient. Planting sites will need monitoring in years following planting. Seed collection and planting may be performed by hand crews, or by including volunteers from the neighboring communities to engage in tending activities.

- **Location/(Suitable) Sites:** See treatment map in Appendix IV.
  Hardscrabble, Water Hole, Wood, Jigger Bobb, and Poison Canyons in riparian areas along stream banks and their adjacent hillslopes identified as traditional gathering areas within the Tule Fire. Areas with intact fence may provide protection against grazing cattle.

- **Design/Construction Specifications:**

  Year 1: Collect seed from riparian and upland species and send to nursery for cleaning and grow out.
  Year 2: Plant those seedlings that are ready for transplant. Continue collecting seed and grow in nursery.
  Year 3: Monitor species survival and plant any remaining seedlings. Continue collecting seed and grow in nursery. Remove invasive plants if they encroach.
  Year 4: Monitor species survival and plant any remaining seedlings. Remove invasive plants if they encroach.

  Upland plant species under consideration for this treatment include, but are not limited to: *Lomatium dissectum* (biscuitroot), *Perideridia gairderni* (yampah), and *Krascheninnikovia lanata* (winterfat). Riparian species include, but are not limited to *Apocynum cannibinum* (indian hemp), *Artemisia ludoviciana* (white sagerush), *Shepherdia argentea* (silver buffaloberry), *Rosa woodsii (Wood's rose), Cornus sericea* (redosier dogwood), *Phragmites australis* subspecies *americanus* (common reed), *Ribes cereum* (wax currant), *Achillea millefolium* (common yarrow).

  Planting locations will be identified within the above listed canyons on an as-needed basis.

How does the treatment relate to damage or changes caused by the fire?

- **Purpose of Treatment Specifications (relate to damage/change caused by fire)**:
  This treatment is being proposed to mitigate damage sustained by traditional plants from the effects of fire. Moderate to severe fires kill the underground rhizomes that some plants generally reproduce from, resulting in mortality. In moderate to high intensity burns, most seeds do not survive in the soil. The traditional plant gathering and use sites that burned with moderate to high severity are at risk of not returning to a fully functional ecologically until 15-20 years after the wildfire.

Why is the treatment/activity reasonable, within policy, and cost effective?

- **Treatment Reasonableness and Cost Effectiveness:**
  Pyramid Lake Indian Reservation Comprehensive Land Management Plan. The Bureau of Indian Affairs has a

trust responsibility for the protection of Indian Trust land and natural resource assets. This responsibility includes assisting tribes in the protection of traditional resources. The benefits to significant traditional resources outweigh the modest cost of implementing this treatment.

- **Treatment Effectiveness Monitoring Proposed:**
  Monitoring data from transects along with photo points and ocular surveys will determine the effectiveness of the seedling planting over the next five years. Additional seedling planting is justifiable if monitoring concludes that the "criteria for re-vegetation success" is not achieved. Criteria to determine seedling effectiveness can be determined through the BLM publication Measuring and Monitoring Plant Populations (Elzinga, Salzer, and Willoughby 1998). If the criteria are not achieved, a supplemental funding request will be submitted within the five year window allowable under BAR.

Land Use Plan Conformance:

- **Treatment consistent with Agency Land Management Plan (identify which plan):**
  Pyramid Lake Indian Reservation Comprehensive Land Management Plan.

Quantities and costs provided are for informational purposes only. Actual figures will be determined after assessment is completed and then submitted with plan amendment.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST / ITEM**
BAER implementation lead @$40 hour x 40 hours x 4 years	$6,400
TOTAL PERSONNEL SERVICE COST	**$6,400**
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**0**
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
Seed collection including cleaning: $300/each species x 11 species FY17	$3,300
Propagation of seed (i.e. grow out): 1000 plants x 11 species x $0.75/plant FY17	$8,250
Planting: 1000 plants x 11 species x $0.75/plant FY17	$8,250
Planting tools 20 @ $50/each FY17	$1,000
Misc supplies (e.g. monitoring equipment, buckets, etc) FY17	$200
TOTAL MATERIALS AND SUPPLY COST	**$21,000**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	**$**
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Biologist @ $30 hour X 80 hours x 4 years	$9,600
Coordinator @ $23 hour x 120 hours x 4 years	$11,040
Technician (2) @ $15 hour X 120 hours x 4 years	$14,400
Planting crew @ $80/hour X 120 hours x 2 years (FY17 & FY 18)	$19,200
Vehicle x $50/day x 20 days x 4 years	$4,000
TOTAL CONTRACT COST	**$58,240**

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2017	10/01/2016	9/30/2017	F	Species gathered	$3,815	11	$41,960
2018	10/01/2017	9/30/2018	F	Acres	$419	50	$20,960
2019	10/01/2018	9/30/2019	F	Acres	$227	50	$11,360
2020	10/01/2019	9/30/2020	F	Acres	$227	50	$11,360
						TOTAL	**$85,640**

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	M
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, T
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See< Appendix IV, Treatment Map

BURNED AREA EMERGENCY RESPONSE PLAN

2016 VIRGINIA MOUNTAINS COMPLEX

TULE FIRE

APPENDIX I RESOURCE ASSESSMENTS

Poison Canyon_ High Burn Severity_Gravelly Loam Soil

BURNED AREA EMERGENCY RESPONSE

VIRGINIA MOUNTAINS COMPLEX AND JACKPOT FIRE

CULTURAL RESOURCE ASSESSMENT

I. OBJECTIVES

A. Assess risks to significant cultural resources from the effects of post-fire erosion, flooding, looting or other fire related effects.

B. Consult with the Pyramid Lake Paiute Tribe to elicit Tribal concerns regarding significant cultural resources and to meet Federal legal requirements, agency policies, and agreements.

C. Coordinate with Bureau of Land Management (BLM) resource specialists for the purpose of identifying significant cultural resources that are potentially at risk from post fire effects or impacts from other emergency stabilization treatments.

D. Prescribe treatments to mitigate post fire effects to those significant cultural resources that are likely to be at risk.

E. Prescribe treatments to avoid or mitigate adverse effects to significant cultural resources that may be impacted by emergency stabilization treatments being implemented to address other values at risk.

II. ISSUES

- Post-fire risks to high value archaeological sites due to exposure
- Culturally sensitive plants
- Traditional Use Areas

III. OBSERVATIONS

A. Background

This report addresses observed and potential effects to cultural resources within the Virginia Mountains Complex and the Jackpot Fire. There is a moderate diversity of archaeological site types that are known, or expected to exist across the landscape affected by these fires or that have the potential to be affected by post-fire effects. By far, the most common of these site types are lithic scatters, including those with ground stone. Other site types include linear stacked rock features, rock shelters, petroglyphs/pictographs, and historic ranching and mining sites. Other cultural resources include traditional gathering locations and sacred sites.

B. Reconnaissance Methodology and Identification Results

A Burned Area Emergency Response (BAER) team archaeologist was dispatched to the Virginia Mountains Complex on Sunday August 8, 2016 and was assisted in the field by an archaeologist from the BLM, Sierra Front Field Office and a tribal monitor from the Pyramid Lake Paiute Tribe. The field assessment commenced on Wednesday August 10, 2016 and concluded on Saturday August 13, 2016. Sixteen (16) archaeological sites within the five fires of the Virginia Mountains Complex and one site adjacent to the Jackpot Fire were assessed (Table 1).

Table 1. Assessed Sites

Fire	Site Number	Site Type
Jackpot	26WA2001	Lithic Scatter with milling feature and hunting blind
Rock	None	
Seven Lakes	26WA2605	Lithic Scatter
	26WA8148	Lithic and Ground stone Scatter
	26WA5649	Lithic Scatter and Ground stone Scatter
	26WA5633	Historic Ranch and Lithic Scatter
Sage	26WA3030	Fort Sage Drift Fence – Prehistoric Antelope Drive
Anderson	26WA5470	Lithic Scatter
	26WA5469	Lithic Scatter
	26WA5590	Complex Lithic Scatter/Historic temporary campsite
Tule	26WA328	Fishing site with net sinkers, ground and chipped stone
	26WA733	Petroglyphs with lithics and ground stone
	26WA739	Lithic Scatter
	26WA740	Rock Shelter
	26WA3505	Lithic Scatter
	26WA6310	Pictographs
	No Designator	Rock Shelter. May be Site 26WA740
	No Designator	Petroglyphs
	No Designator	Historic Rock Fence

The cultural resources assessment was hampered to an extent due to the level of available documentation for many of these sites. Some of the site records date back to the 1960's when site recordation was not up to today's standards. Additionally, for some of these sites, the only information that exists is the purported geo-spatial locations with no attendant site descriptions.

VIRGINIA MOUNTAINS COMPLEX

Tule Fire

Assessments or attempts at assessment were made on nine sites within or adjacent to the Tule Fire. Of these nine sites, four (26WA328, 733, 739, and 6310) could not be relocated. The remaining four sites were assessed for risks from post-fire effects. It should be noted that the rock shelter that *may* correspond with site WA740 has been excavated at some time in the past. Due to the apparent time that has elapsed since this site was excavated, it is unclear whether it was excavated systematically by a professional archaeologist, or as the result of looting activities. All of these sites with the exception of the historic rock fence, which is located in a canyon, are distributed across the alluvial terrace above Pyramid Lake.

Anderson Fire

Brief assessments were conducted on three sites within or adjacent to the Anderson Fire. A drive by of site 26WA5469 confirmed that it is located well outside of the fire boundary with several intervening ridges located between the site and the fire. An assessment of Site 26WA5590 also indicated that this site was far from the fire boundary. Likewise, site 26WA5470, while not directly assessed is located in a similar setting with both distance and landscape features separating the site from the fire.

Sage Fire

One site, the Fort Sage Drift Fence (26WA3030) was assessed on the Sage Fire. It has been recorded several times, studied in depth, and the subject of a paper published in the Anthropological Papers of the American Museum of Natural History (Pendleton and Thomas, 1983). The site consists of a stacked rock fence with several segments stretching between two low ridges for a distance of over 1800 meters. Several lithic scatters and a midden area are reported to be associated with this feature. One such lithic scatter was observed on the north side of the fence and its middle-most segment. It has been interpreted to have functioned as an antelope drive line with an antiquity in excess of 3,000 years. A light to moderate burn exhibited in this area was indicated by vegetation mortality.

Seven Lakes Fire

Four sites were assessed on the Seven Lakes Fire. Site 26WA2605 is purported to be a large diffuse lithic scatter in excess of two miles in length. An attempt to re-locate this site was unsuccessful. Site 26WA8148 is a large lithic and ground stone scatter that has been recorded at least twice and undergone test excavation. It was observed to be located on a relatively flat setting in an area that sustained low vegetation mortality from the fire. Site 26WA5633 is a multi-component site consisting of historic features and artifacts associated with ranching activities as well as a lithic prehistoric component. It is located on low ground on the north side of a creek and outside of the fire boundary, well away from the steeper areas of the fire. Site 26WA5649 is a lithic and ground stone scatter located on level ground in an area of the fire that sustained low vegetation mortality. It was not assessed directly, but from a distance where an ocular assessment confirmed its setting in relation to the fire.

Rock Fire

There are no documented or known archaeological sites located within the boundary or immediate vicinity of the Rock Fire.

JACKPOT FIRE

One site was identified to be located directly abutting the Jackpot Fire. Site 26WA2001 is recorded as a large, diffuse lithic scatter and includes one bedrock milling feature and a hunting blind. An assessment was conducted on the area of the site closest to the fire, and where post-fire risks would be most likely. An inspection of the ground surface did not result in the identification of a lithic component, however, the bedrock milling feature was re-identified.

TRADITIONAL GATHERING AREAS

Areas for the traditional gathering of cultural plants were observed to have sustained damage, specifically within canyons on the Tule Fire on lands administered by both the BIA and the BLM. Eleven plant species identified as culturally sensitive are known to be present in these areas.

C. Findings

None of the assessed sites within the Seven Lakes Fire, the Sage Fire, the Anderson Fire or the Jackpot Fire were found to be at risk resultant from either flooding and erosion or other post-fire effects. No archaeological sites are documented or known on the Rock Fire. One documented site, 26WA3505, and possibly others, either under-documented or undocumented, may be at risk from a proposed BAER treatment prescribed to address other values at risk (see BIA ES Spec #14). There is a moderate likelihood that some of the eleven species of plants identified as being culturally sensitive, may not recover naturally.

IV. RECOMMENDATIONS

A. Emergency Stabilization

Specification ES-10 Archaeological Survey of Hand Planting Locations (BLM): Approximately 1700 acres are proposed for hand planting to re-establish suitable habitat for Greater sage-grouse, a candidate for listing under the Endangered Species Act. As a ground disturbing activity, this treatment will require compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act, as amended (NHPA).

Specification ES-11 Archaeological Survey of Drill Seeding and/or Chaining Locations (BIA): Approximately 1200 acres are proposed for drill seeding and/or chaining to re-establish native vegetation. As a ground disturbing activity, this treatment will require compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act, as amended (NHPA).

B. Burned Area Rehabilitation

Specification BAR 19 Planting of Traditional Gathering Areas (BIA): The Tule Fire burned across many areas known to contain plant species of cultural importance to the Pyramid Lake Paiute Tribe. Traditional plant gathering sites burned with moderate to high soil burn severity. Sites with these soil burn severity ratings could take up to 15 to 20 years to recover naturally. Such areas occur predominately within canyons along the eastern flank of the Tule Fire. This treatment involves the collection of seeds from traditionally important plant species and germination in a nursery. Once grown to an appropriate size, seedlings will be strategically planted across 50 acres to accelerate recovery and provide competition against invasive non-native species. The seedling plantings will hasten the time that the area will be fully functional ecologically and reduce the time frame for potential establishment of new noxious weeds and for when the cultural use of plants may commence. Seedling planting will take place in 2018 and 2019. Additional years may be needed if seed crop from the 2017 seed is not sufficient. Planting sites will need monitoring in years following planting. Seed collection and planting may be performed by hand crews, or by including volunteers from the neighboring communities to engage in tending activities.

Specification BAR-3 Planting of Traditional Gathering Areas (BLM): The Tule Fire burned across many areas known to contain plant species of cultural importance to local tribes. These areas burned with moderate to high soil burn severity. Areas with these soil burn severity ratings could take up to 15 to 20 years to recover naturally. Such areas occur on BLM managed lands, predominately within canyons along the eastern flank of the Tule Fire. This treatment involves the collection of seeds from important cultural plant species and germination in a nursery. Once grown to an appropriate size, seedlings will be strategically planted across fifty acres to accelerate recovery and provide competition against invasive non-native species. The seedling plantings will hasten the time that the area will be fully functional ecologically and reduce the time window for potential establishment of new noxious weeds and when the cultural use of plants may commence. Seedling planting will take place in 2018 and 2019; Additional years may be needed if seed crop from the 2017 seed is not sufficient. Planting sites will need monitoring in years following planting. Seed collection and planting may be performed by hand crews.

C. Non-Specification Management Recommendations

- Monitor archaeological sites that may be at increased risk from looting.
- Complete survey of suppression impacted areas.
- Re-survey and update records for high value sites that were recorded using earlier standards.

V. CONSULTATIONS

Rachel Crews, Archaeologist, Bureau of Land Management, Sierra Front Field Office
Betty Aleck, Pyramid Lake Tribal Historic Preservation Officer.

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BURNED AREA EMERGENCY RESPONSE PLAN

VIRGINIA MOUNTAINS COMPLEX

VEGETATION RESOURCE ASSESSMENT

I. OBJECTIVES

- Identify noxious weeds
- Identify sensitive vegetation resources (e.g. threatened and endangered plants, culturally sensitive plants)
- Assess recovery potential of native plant communities
- Identify areas of high mortality sagebrush used by greater sage grouse (GRSG)
- Prescribe emergency stabilization/rehabilitation treatments and recommendations to reduce impacts to native plant communities from invasive plants and areas unlikely to recover without assistance
- Identify locations of hazards trees

II. ISSUES

- **Impacts from invasive and noxious weeds**
  Within the Virginia Mountains Complex, some native plant communities of the sage-steppe ecosystem are unlikely to recover without assistance and may transition to a cheatgrass dominated landscape (Chambers et al., 2014, Miller et al., 2015). The sage-steppe ecosystem is especially vulnerable post-fire (Keeley 2006, Brooks and Pyke 2001) from both the impacts of annual invasive grasses (Pyke et al., 2015) and the slow recovery of major shrub constituents like sagebrush and bitterbrush (Baker 2006). Cheatgrass and other noxious weeds will degrade greater sage grouse priority habitat, winter mule deer range, displace plants gathered for traditional use by the Pyramid Lake Paiute Tribe, reduce biodiversity (Chapin et al 2000), and modify fire behavior and fire return interval (Young et al 1987, Melgoza et al., 1990).

- **Rare plants**
  The federally threatened Webbers ivesia *(Ivesia webberi*) grows in shallow shrink-swell clay soils in the Virginia Mountains. Potential habitat exists in the fire footprint.

- **Hazard trees**
  Trees damaged by wildfire pose an immediate and severe hazard to human health and property. Weakened trees or branches could fail without warning and blocks roads, hit infrastructure, or injure or kill the public or workers.

III. OBSERVATIONS

A. Background

The Virginia Mountains Complex burned several thousand acres of sagebrush-steppe habitat. Common species found in the area include: Wyoming big sagebrush, desert peach, rabbitbrush, bitterbrush, bluebunch wheatgrass, Sandberg's bluegrass, needle-and-thread grass, Basin wildrye, squirreltail, four-wing saltbush, Nevada ephedra, mule's ear, arrowleaf balsamroot, and

many other species.
For detailed descriptions of fire progression, behavior, and suppression activities please see the executive summary. A detailed description of fire impacts to wildlife species and cultural resources, see the Wildlife Assessment and the Cultural Assessment, respectively, in the Appendices of this plan.

B. Reconnaissance Methodology and Results

Information used in this assessment was generated from review of relevant literature, recovery and management plans, GIS databases, and discussion with species experts and natural resource managers from the BLM, NDOW, USFWS, Pyramid Lake Paiute Tribe, and BAER team members. Field reconnaissance consisted of on-site inspection of fire impacted habitats on tribal trust lands and known weed infestation occurrence sites. Field reconnaissance was conducted August 8 through August 13, 2016. The BLM botanist and the BLM ES&R Coordinator accompanied field work activities.

Data on GRSG habitat and use areas were used to focus field work and more precisely assess fire impacts to the habitat and were provided by BLM, FWS, and NDOW.

This assessment is not intended to definitively answer the many questions of fire effects to vegetation resources that occurred during the fires. The purpose of this assessment is to determine the need for immediate and emergency actions that may be necessary to prevent further negative effects to vegetation and habitat. Because habitat for GRSG, other species, and cheatgrass invasion extend beyond the fire perimeters, it is important to include information at larger scale and across land ownership boundaries when discussing potential impacts to habitat as a whole and the need for long-term rehabilitation.

C. Findings

Unburned vegetation areas

All fires had patchy burning that left both large and small pockets of unburned vegetation. In the higher elevations this unburned vegetation largely consists of sagebrush, native bunchgrasses, desert peach, and other native shrubs and forbs. At lower elevations, perennial grasses, cheatgrass, and some shrubs were found in the unburned areas, especially on the Seven Lakes Fire and the southwest sides of the Anderson and Rock Fires. These areas of unburned vegetation serve as seed sources to the burned areas. Most of the fire complex burned at a low- to moderate- intensity, where bunchgrasses will remain intact and grow in the spring.

Invasive and noxious weeds

Cheatgrass was observed to be ubiquitous around the burned and unburned areas. The highest densities were observed at lower elevations. Tall whitetop (*Lepidium latifolium*) was observed along roadsides in riparian areas such as Hardscrabble Canyon. Scotch thistle (*Onopordum acanthium*) was observed in lower elevation disturbed areas and roads with populations ranging from a few plants to 15-20 acres at Seven Lakes Fire. Salt cedar (*Tamarix ramossisima*) was observed in riparian areas near the town of Sutcliffe on the Tule Fire. Knapweed species (*Centaurea spp.*) and medusahead rye (*Taeniatherum caput-medusae*) were observed outside the burn area.

Lands unlikely to recover without assistance

The Anderson Fire burned high priority GRSG habitat sagebrush-steppe habitat at a low to moderate burn severity and the shrub component is not anticipated to return to without assistance

(see Wildlife Assessment for more information). Even at low to moderate burn severity, sagebrush typically dies and only recolonizes naturally by seed (Baker 2006). Many perennial grasses and forb species are expected to survive the fire, because of the low to moderate burn over most of the complex area (approximately 14,000 acres). There are many unburned 'islands' that have intact sagebrush within the burned area.

Within the Rock Fire habitat important for the mule deer winter range was degraded from high mortality of the antelope bitterbrush. Antelope bitterbrush is sensitive to fire and will die under low to moderate burn intensity; however several unburned areas remain within the fire perimeter. Cheatgrass is ubiquitous in these areas and will need treatment to encourage native plant recovery. See the Wildlife Assessment for more information.

Areas not recommended for treatment are anticipated to recover to pre-fire conditions.

Culturally sensitive plants

Areas for traditional gathering and use of plants were observed to have sustained damage within the canyons of the Tule Fire on both Pyramid Lake Paiute Tribal land and BLM land. Sites that burned with moderate to high soil burn severity could take up to 15 to 20 years to recover naturally. Plants identified as culturally sensitive are: biscuitroot (*Lomatium dissectum*, yampah *(Perideridia gairderni)*, winterfat (*Krascheninnikovia lanata),* Indian hemp *(Apocynum cannibinum),* white sagebrush *(Artemisia ludoviciana),* silver buffaloberry *(Shepherdia argentea*), Wood's rose *(Rosa woodsii),* redosier dogwood *(Cornus sericea*), common reed *(Phragmites australis* subspecies *americanus*), wax currant *(Ribes cereum*), common yarrow *(Achillea millefolium*). See the Cultural Assessment for more information.

Threatened and Endangered Plants

There are no known federally listed threatened and endangered plants within the fire perimeter. Webber's ivesia (*Ivesia webberi*), a federally threatened plant, is located in the general vicinity, and habitat may exist within the burned area.

Hazard trees

Hazard trees were observed near Sutcliffe and Hardscrabble Canyon Road.

IV. RECOMMENDATIONS

Through a combination of Emergency Stabilization and Burned Area Rehabilitation, we have recommended several specifications to stabilize vegetation on the VMC. We recommend a combination of sagebrush and bitterbrush seedling planting, sagebrush and perennial grass seeding, and a pretreatment of herbicide for cheatgrass. We recommend treatment of known populations of noxious weeds and surveying for new populations in disturbed areas. We also recommend hazard tree removal on Tribal land and the re-vegetation of important cultural use plants. Because of the large amounts of unburned habitat within the fires and the low- to moderate- intensity burn overall, we do not consider it necessary to treat the entire burned area with re-seeding treatments. Many areas will recover naturally from these seed sources, and perennial grasses will survive.

a. Emergency Stabilization (ES)

Specification # 10 (BLM): Sagebrush Seedling Planting – See Wildlife Assessment.

Specification # 12 (BLM): Aerial Seeding. This specification seeks funding to stabilize and rehabilitate lands impacted by the Anderson Fire by re-establishing sagebrush and other upland

species through aerial seeding. Aerial seeding should occur between areas of sagebrush seedling planting (Specification #10) and after aerial herbicide application (Specification #12). Wyoming big sagebrush (*Artemisia tridentata wyomingensis*) seed will be purchased from a local seed warehouse. Western yarrow (*Achillea millefolium*), arrowleaf balsamroot (*Balsamorhiza sagittata*), and fernleaf biscuitroot (*Lomatium dissectum*) will also be included as minor components in the seed mix, as GRSG utilize these plants as well. Substitutions of other native plant species may be needed, based on availability at the time of the treatment. Seed should be aerially flown in early winter after first snowfall over an area of 2,500 acres of the Anderson Fire. We recommend seeding the north and east facing slopes within the identified seeding area. The aerial seeding will jump start recovery and help stabilize and rehabilitate this burned landscape.

Specification # 11 (BLM): Aerial herbicide application. This specification seeks funding for the aerial application of pre-emergent herbicide across 2,500 acres on the Anderson Fire, as the first of three specifications at this site to support the recovery of priority Greater sage grouse habitat. Herbicide treatment will be followed by aerial application of sagebrush seeds, native forbs, and grasses (Specification # 11), then hand planting sagebrush (Specification 10). The herbicide application area matches the aerial seeding area to support the establishment of those native plants. Areas outside the planting and seeding areas are not specified for treatment because either the native plant communities will likely recover or those areas do not support the restoration of identified GRSG habitat as identified through telemetry data. Pre-emergent herbicide application will support recovery of the sage-steppe plant community (Eiswerth et al. 2009) and enhance the planting and seeding efforts by reducing the competitive pressure of established annual invasive cheat grass (Chamber et al., 2014, Bahm 2011).

Specification # 22 and #18 (BLM, BIA): Treatment of noxious weeds. This specification seeks funding for the control of known noxious weed infestations in the Virginia Mountains Complex and populations that may have been introduced during fire management operations. Within the fire footprint, treat known noxious weed populations, and any new populations discovered as part of Specification #23, Inventory noxious weeds. These may include riparian areas, along road systems and disturbed areas where fire access and suppression activities occurred (dozer lines, hand lines, roads safety zones, parking areas and off- road trafficked areas). Integrated pest management techniques (herbicides, mechanical, and/or biological) will be utilized as appropriate to prevent the spread and establishment of weeds within the fire area. This specification addresses populations that can be treated through appropriate spot treatments mechanically, backpack sprayers, and vehicle-mounted broadcast sprayers. For example, high priority species for treatment include: tall whitetop (*Lepidium latifolium*), salt cedar (*Tamarix ramossisima*), Scotch thistle (*Onopordum acanthium*), and knapweed (*Centaurea* sp.), but landscape level infestations such as cheatgrass (*Bromus tectorum)* do not fit under this specification.

Specification # 21 & #12 (BLM, BIA): This specification proposes noxious weed monitoring for the VMC. This specification is to seek funding to identify the establishment and monitor the spread of noxious weeds. The most effective noxious weed strategy after a disturbance is early detection and rapid response. Monitoring by trained botanists should begin in spring 2017 as soon as plant identification is possible. Priority should be given to areas impacted by fire management operations and known weed locations. The data collected for the noxious weed survey should include species, location, area infested and density. Treatments should be prescribed to control noxious weed invasion and spread.

Specification # 23 & #13 (BLM, BIA): Pre-treatment of seeding areas. This specification seeks

funding for the aerial application of pre-emergent herbicide across 850 acres in the Rock Fire, and on 1,200 acres on the Tule Fire. Herbicide treatment will be followed by hand planting bitterbrush on the Rock Fire (Specification 27) and will be followed by seeding on Tule Fire (Specification #25). The areas outlined for herbicide application, and either seeding or planting are necessary as the vegetation communities, specifically the fire-intolerant shrub component necessary to support mule deer and other wildlife, are unlikely to recover post-fire without intervention. Habitat type conversion threatens the resiliency of these landscapes to the point that these lands will be unlikely to recover naturally following the fires. Areas outside the seeding areas are not specified for treatment because the native plant communities will likely recover (e.g. riparian areas, or rabbitbrush and ephedra dominated communities).

Specification # 14 (BIA): Ground-based seeding application. This specification seeks funding to stabilize and rehabilitate lands impacted by the Tule Fire, by re-establishing sagebrush, perennial grasses, and other upland species through ground-based seeding. An area of 1,200 acres spanning the eastern edge of the Tule Fire on Tribal land is identified for treatment. Part of these lowland alluvial flats are identified as high priority habitat for the Greater sage grouse, has appropriate soils and topography to support upland species seed, and was impacted by the fire. Native seed will be purchased from a local seed warehouse: Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), spiny hopsage (*Grayia spinosa)*, Fourwing saltbush (*Atriplex canescens*), needle and thread grass (*Hesperostipa comata*), Squirreltail (*Elymus elymoides*), Indian rice grass (*Acnatherum hymenoides*), basin wildrye (*Leymus cinereus*), and Sandberg's bluegrass (*Poa secuda*). We expect this seed mixture will be successful in warding off non-native annual grasses in combination with the pre-treatment of herbicide to the sites (Specification #24). The Tribe wishes for the seed mixture to remain native species at this time.

Specification # 15 (BIA): Hazard tree assessment/removal. This specification seeks funding to Identify, assess, and fell short-term tree hazards for the safety of the public within one tree length of infrastructure, developed sites, and roads. Tree hazards to be mitigated must have been killed or damaged by the wildfire. Designated areas are within Sutcliffe and along Hardscrabble Canyon Road.

Specification # 26 (BLM): Bitterbrush seeding grow/plant – See Wildlife Assessment

Specification # 16 (BIA): Monitoring of Seeding Application. This specification seeks funding to monitor 1) emergency stabilization vegetation treatments and 2) natural recovery on the Tule Fire. Monitoring will provide managers with data to assess treatment efficacy and to determine if further treatments are merited. The area proposed for treatment is a Wyoming big sagebrush community that burned with high shrub mortality and is unlikely to recover to a functioning plant community without intervention. The purposes of the vegetation treatments are to establish native plants lost in the Tule fire (Specification #19) and remove annual invasive grasses that could inhibit native plant recovery (Specification #18). If monitoring shows that the objectives of emergency vegetation treatments are met, treatments may be considered for an additional area south of the proposed treatment area provided natural recovery is not occurring at that site.

b. Burned Area Rehabilitation (BAR)

Specification # 19 (BIA): Planting of Traditional Gathering Areas – See Cultural Assessment.

Specification # 21 & #12 (BLM, BIA): Inventory of noxious weeds. This specification seeks funding for noxious weed monitoring for the Virginia Mountains Complex. The purpose is to identify the establishment and monitor the spread of noxious weeds. The most effective noxious weed strategy after a disturbance is early detection and rapid response. Monitoring by trained botanists should begin in spring 2017 as soon as plant identification is possible. Priority should be given to areas impacted by fire management operations and known weed locations. The miles estimated for survey was determined though ArcGIS by estimating the areas of suitable locations (see below), and actual total survey area may vary. The data collected for the noxious weed survey should include species, location, area infested and density. Treatments should be prescribed to control noxious weed invasion and spread.

NON-SPECIFICATION RECOMMENDATIONS

1. **Rare plant surveys** Potential habitat for the threatened species Webber's ivesia was burned. Clearance is required prior to any habitat disturbing activity and more thorough surveys are recommended. Document each occurrence detected.
2. **Greenstrip firebreaks** Plant greenstrips with fire resilient plants. This may provide a natural fire break in frequently-burned area areas (e.g. Seven Lakes Fire). Species such as rabbitbrush (*Chrysothamnus viscidiflorus)* and rubber rabbitbrush (*Ericameria nauseosus),* Sandberg's bluegrass (*Poa secunda*) and squirreltail (*Elymus elymoides*) are recommended as per findings by the Winnemucca BLM. Some areas have burned several times in the last twenty years. Fire breaks may help reduce fire extent and protect rehabilitation efforts.
3. **Vegetation recovery monitoring** Monitor lower elevation areas such as flats of the Seven Lakes Fire, west side of the Anderson Fire, west side of the Rock Fire, and parts of the Jackpot Fire for vegetation recovery. Perennial grasses are anticipated to recover well, but shrub components may not. These areas were impacted by fires prior to the Virginia Mountains Complex.
4. **Dozerline rehabilitation** Interior dozerline was observed on Anderson Fire and should be repaired through suppression rehabilitation. The line is located on the west side of the fire, interior on private land and BLM. The dozerline passes through a meadow and spring, which may alter the hydrology of the area in the winter.

V. List of Cooperators

Dean Tonenna, BLM Botanist
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BURNED AREA EMERGENCY RESPONSE PLAN

VIRGINIA MOUNTAINS COMPLEX FIRE

WATERSHED RESOURCE ASSESSMENT

I. OBJECTIVES

- Assess soil and watershed changes caused by the fire, particularly those that pose threats to human life and property, and critical natural and cultural resources. This includes evaluating changes to soil conditions, hydrologic function, and watershed response to precipitation events.
- Identify potential flood and erosion source areas and sediment deposition areas.
- Identify potential threats to life, property, and critical natural and cultural resources in relation to flooding, debris flows, erosion, and sediment deposition.
- Develop treatment recommendations.

II. ISSUES

- Risk to human life and property from high flow events and debris flows within and downstream of the Tule Fire including the Whittey Ranch, the community of Sutcliffe, and the Dunn Fish Hatchery.
- Risks to road infrastructure
- Risk to ingress/egress to Pyramid Lake
- Risks to irrigation systems and water storage infrastructure

III. OBSERVATIONS

A. Background

The purpose of the burned area assessment is to determine if the fire caused emergency watershed conditions and to identify potential values at risk from these conditions. Identification of values at risk occurs through consultation with individuals, state, tribal, and federal agencies as well as through field investigations. Not all values initially identified are determined to be at risk. If emergency watershed conditions are found and values at risk are identified and confirmed, then the magnitude and scope of the emergency is mapped and described, values at risk to be protected are analyzed, and treatment prescriptions are developed to protect these values.

The most significant factor leading to emergency watershed conditions is loss of effective ground cover, which leads to erosion and changes in hydrologic function in the form of decreased infiltration and increased runoff. Such conditions lead to increased flooding, debris flows, sedimentation and deterioration of soil conditions. Values at risk are human life and property and significant cultural and natural resources located within or downstream of the fire that may be subject to damage from flooding, debris flows, and hillslope erosion.

<u>Watershed Response</u>
The primary watershed response from the effects of the Virginia Mountains Complex are expected to include: 1) initial flush of ash with normal precipitation; 2) gully and rill erosion on steep slopes in drainages with moderate soil burn severity with normal precipitation; 3) debris flows initiated by high intensity precipitation with sediment deposition where stream gradients flatten and/or at tributary mouths; and 4) increases in average winter storm runoff. Elevated soil erosion, sedimentation, runoff, and stream flows are expected to decrease rapidly after the first year and return to the natural hydrological watershed function in five to seven years after the fire once vegetation has

sufficiently recovered to restore the surface soil-hydrologic function and processes within the watersheds that burned at moderate and high severity.

B. Reconnaissance Methodology and Results

Burned area evaluations included:

- Identifying fire-caused changes in soil properties and hydrologic function;
- Determining spatial extent and strength of hydrophobic soil conditions;
- Determining post-fire infiltration rates;
- Verifying and modifying the Burned Area Reflectance Classification (BARC) image to create a soil burn severity map, and if appropriate a runoff potential map;
- Identifying sediment source areas and erosion potential;
- Determining current channel and culvert capacities;
- Identifying potential flood zones; and
- Identifying potential threats to human life, property, and critical natural and cultural resources (values at risk).
-

BAER Team watershed specialists conducted field visits to review resource conditions after the fire from August 7 through August 13, 2016. The main objectives of the field visits were to 1) evaluate soil burn severity and watershed response in order to identify potential flood and erosion source areas as well as debris flow hazards; 2) identify and inventory values at risk, 3) identify the physical and biological mechanisms that are creating risks; 4) review channel morphology and riparian conditions; 5) inspect hillslope conditions; and 6) determine needs for emergency stabilization.

Soil Burn Severity

A Burned Area Reflectance Classification (BARC) map was acquired for the Virginia Mountains Complex . Field visits to validate the BARC focused on different hillslope conditions such as slopes, aspects, pre-burn vegetation communities, and vegetation burn severities. In validating/mapping soil burn severity, the watershed team evaluated field-observable parameters such as the amount and condition of surface litter and duff remaining, soil aggregate stability, amount and condition of fine and very fine roots remaining, and surface infiltration rate (water repellency). These specific factors follow the protocol presented in the Field Guide for Mapping Post-Fire Soil Burn Severity (Parson, et al 2010).

AGWA Modeling

Post-fire watershed response was calculated using a variety of different methods in order to average the expected response to match professional judgment and field observations. The Automated Geospatial Watershed Assessment (AGWA) uses a Digital Elevation Model (DEM) to discretize the watershed and then intersects with soil, land-use/cover, and precipitation (uniform or distributed) to derive the requisite model input parameters (Goodrich et al, 2005). AGWA is designed to provide qualitative estimates of runoff and erosion relative to landscape change. It cannot provide reliable quantitative estimates of runoff and erosion without careful calibration. It is also subject to the assumptions and limitations of its component models (Goodrich et al, 2005). Modeling efforts using AGWA were accomplished through assistance by the Agricultural Research Service and the University of Arizona. All model results are included in Appendix V, AGWA Model Outputs.

We chose to select a design storm of duration that allows the entire watershed to be

contributing to the outlet in the AGWA rainfall/runoff modeling. This storm was a 10 year event with a 3 hour duration producing 1.01 inches of precipitation. If a design storm duration is too short, flows generated in the lower part of the watershed will have passed the point of interest before flows from more distant parts of the watershed are seen at the outlet. Rather, we want flows from all parts of the watershed to compound at the outlet to achieve a conservative (high end) estimate of watershed response.

C. Findings

Soil Burn Severity

The Virginia Mountains Complex occurred on Pyramid Lake Paiute Tribe Lands, Bureau of Land Management Lands and private lands totaling 63,036 acres. The fire burned 38,035 BLM acres and 22,450 Pyramid Lake Paiute Tribe acres. The validated Soil Burn Severity map documented 173 acres of high burn severity, 14,005 acres of moderate burn severity, 40,217 acres of low burn severity and 7,042 acres of unburned land within the fire area (Table 1).

Table 1. Acres of Soil Burn Severity (SBS) Classes in the Virginia Mountains Complex

Fire	Acres Burned	Soil Burn Severity class	Area within Fire (acres)	Percent of fire in SBS class
Anderson	15,702	Unburned	1,317	8
		Low	9,037	58
		Moderate	5,322	34
		High	26	0
Sage	4,238	Unburned	832	20
		Low	2,952	69
		Moderate	454	11
		High	0	0
Seven Lakes	3,063	Unburned	370	12
		Low	2,323	76
		Moderate	368	12
		High	1	0
Rock	2,293	Unburned	328	15
		Low	1,843	80
		Moderate	122	5
		High	0	0
Jackpot	1,598	Unburned/very low	unmapped	unknown
		Low	unmapped	unknown
		Moderate	unmapped	unknown
		High	unmapped	unknown
Tule	36,142	Unburned	4,195	12
		Low	24,062	67

		Moderate	7,739	21
		High	147	1

The watersheds of concern within the Virginia Mountains Complex have an overall soil burn severity consisting of 11 percent unburned, 64 percent low, 22 percent moderate, and 3 percent high. Soil burn severity was consistent across the watersheds including those that were modeled using AGWA with low and moderate burn severities being dominant, 87 percent of the fire area (Table 2).

Table 2. Acres of Soil Burn Severity for the Virginia Mountains Complex .

Soil Burn Severity Class	Acres	Percent
Unburned	7,042	11%
Low	40,217	64%
Moderate	14,005	22%
High	173	3%
Total	63,036	

The following table exhibits a more refined scale of soil burn severity as it relates to the watershed within the fire that had identified values at risk. In addition, these watersheds were used for hydrologic modeling to help identify the threat of risk to identified values.

Table 3. Acres of Soil Burn Severity Class by Modeled Watershed in the Virginia Mountains Complex .

Watershed	Watershed Acres Burned	Soil Burn Severity	Area within Fire (acres)	Percent in Burned Area
Hardscrabble 6,112 acres	6,050	Unburned	613	10%
		Low	3,685	61%
		Moderate	1,696	28%
		High	56	1%
Jigger Bobb 5,280 acres	4,386	Unburned	243	6%
		Low	2,400	54%
		Moderate	1,715	39%
		High	28	1%
Poison, Thunderbolt 1,260 acres	1,231	Unburned	30	2%
		Low	803	65%
		Moderate	378	31%
		High	20	2%
Big Country 8,745 acres	954	Unburned	98	10%
		Low	565	59%
		Moderate	288	30%
		High	3	1%

Needle Rock 2,494 acres	2,374	Unburned/very low	468	20%
		Low	1,735	73%
		Moderate	171	7%
		High	0	0%
Cottonwood Creek 9,370 acres	4,012	Unburned/very low	580	14%
		Low	2,064	51%
		Moderate	1,364	34%
		High	4	1%

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Post-fire Watershed Conditions and Probable Responses

Across the Virginia Mountains Complex the following observations were made regarding watershed conditions:

1) The majority of the lands burned were in the Low and Moderate SBS classes

2) Very little fire-induced hydrophobicity (water repellency) was found throughout the fire.

3) Surface roughness (micro-depressions, rock fragments, unburned areas, litter and woody debris) were observed in many areas, which will help catch and detain rainfall which will aid infiltration and mitigate erosion potential increase in runoff potential.

4) On steeper burned slopes, loss of ground vegetation and litter will allow perched sediments and surface debris to more easily dry ravel.

5) The primary watershed responses from the effects of the fires are expected to include an initial flush of ash and turbidity with normal precipitation.

6) Flooding and debris flows may be initiated by higher intensity precipitation events with sediment deposition where stream gradients flatten and/or at tributary mouths.

7) The chance of elevated soil erosion, sedimentation, runoff, and stream flows are expected to decrease significantly after the first growing season as a result of natural vegetative recovery in the areas burned at low to moderate soil burn severity.

8) Return to the natural hydrologic watershed conditions is probable in three to five years after the fire as a result of natural vegetative recovery in the areas burned at low to moderate soil burn severity.

Watershed Response

The watershed team was able to utilize quick, rough draft model outputs from AGWA to focus our field work on the sub-watersheds or stream reaches that were modeled to have the highest response within the burned area. This was accomplished by applying a 3 hour, 10-year recurrence interval storm generating 1.01 inches of precipitation uniformly over the entire burned area. This field work verified and corrected the map of soil burn severity to improve the model outputs for the final report. The final model outputs used storms of different intensity, duration, and recurrence interval. The team chose a 3 hour,

10-year recurrence interval storm distributed approximately over the upper two-thirds of each watershed that drained to or included identified values-at-risk. This storm was chosen for two reasons: First, summer thunderstorms are usually limited to localized events not exceeding about 5 square miles; second, hillslope treatments are usually overwhelmed by storms with a recurrence interval in excess of 10 years. The increase in streamflows may continue for about 2-3 years or until vegetation is re-established with shrubs and grasses. The increase in sediment delivery may also continue for about 2-3 years as well, however, a significant reduction can be expected after the first growing season as a result of natural vegetative recovery in the areas burned at low to moderate severity. The following discussion on individual watershed response is associated with those that contained Values at Risk as identified by the Bureau of Land Management and the Pyramid Lake Paiute Tribe.

Hardscrabble Creek
The Hardscrabble Creek watershed had 6,112 acres burned within the Tule Fire. Approximately 28% of the burned acres exhibited moderate burn severity and 61% low burn severity. According to AGWA results, post-fire peak stream flows were modeled to increase by 364% to Hwy. 445 at the community of Sutcliffe while post-fire sediment yields show a 723% increase to this location (Refer to Appendix V, Supporting Documentation – AGWA Model Outputs).

Poison Canyon
The Poison Canyon watershed, which includes Thunderbolt Creek, had 1,260 acres burned within the Tule Fire. Approximately 31% of the burned acres exhibited moderate burn severity and 65% low burn severity. According to AGWA results, post-fire peak stream flows were modeled to increase by 96% to the property boundary with the Whittey Ranch while post-fire sediment yields show a 247% increase to this location (Refer to Appendix V, Supporting Documentation – AGWA Model Outputs).

Jigger Bobb Creek
The Jigger Bobb Creek watershed had 5,280 acres burned within the Tule Fire. Approximately 39% of the burned acres exhibited moderate burn severity and 54% low burn severity. According to AGWA results, post-fire peak stream flows were modeled to increase by 91% to Surprise Valley Road while post-fire sediment yields show a 151% increase to this location (Refer to Appendix V, Supporting Documentation – AGWA Model Outputs).

Values at Risk
The following discussion on individual watershed response is associated with those that contained Values at Risk as identified by the Bureau of Land Management and Pyramid Lake Paiute Tribe.

VAR-Hardscrabble Pond
The pond on Hardscrabble Creek was identified as a value at risk in this watershed since a tributary stream is in a direct flow path towards the pond. Modeling results show an increase in peak flows from this tributary of 263%. This puts the pond at risk of an influx of post-fire debris and sediment from flood flows which has the potential to impact the structural integrity of the pond which could lead towards failure of the structure. Field observation of the pond and tributary revealed that the berm around the pond has an opening that would allow post-fire flood flows to enter the pond. This VAR is at an extreme level of risk.

VAR- Community of Sutcliffe

The community of Sutcliffe lies downstream of the fire with Hardscrabble Creek flowing into town. The majority of the Hardscrabble Creek watershed above the community of Sutcliffe was burned as part of the Virginia Mountains Complex. Post-fire watershed modeling results for Hardscrabble Creek show a potential percent increase in peak streamflow of 364% and a 723% increase in sediment yield which can impact Hwy 445, roads in Sutcliffe, and several residences on tribal and private land. Several specifications have been identified to help minimize post-fire impacts. This VAR is at an extreme level of risk.

VAR-Dunn Fish Hatchery

The Dunn Fish Hatchery was identified as a VAR and is located on Hardscrabble Creek. The majority of the watershed above the hatchery was burned during the Tule Fire. Post-fire watershed modeling results show a post-fire percent increase in peak flows of 364% and sediment yield of 723% at this location. There are two treatment specifications identified to help decrease the risk to the hatchery. This VAR is at an extreme risk level.

VAR-Road Infrastructure, Recreational Access & Public Safety

Road infrastructure was identified as a VAR in particular the road up Hardscrabble Creek, Hwy 445, and Surprise Valley Road associated with the Tule Fire. Watersheds draining the east side of the Tule Fire flow into Pyramid Lake and include Hardscrabble, Poison, and Jigger Bobb. As previously mentioned, these three watersheds present the greatest risk to these VAR's. Post-fire watershed modeling results show a post-fire percent increase in peak flows of 364% and sediment yield of 723% at these locations, Poison Creek post-fire peak stream flows were modeled to increase by 96% to the property boundary with the Whittey Ranch while post-fire sediment yields show a 247% increase to this location which is adjacent to the Surprise Valley Road and Jigger Bobb post-fire peak stream flows were modeled to increase by 91% to Surprise Valley Road while post-fire sediment yields show a 151% increase to this location.

Access along these roads is primarily used for recreational access, private land/ranch access, and ingress/egress to the area for emergency services. Several culverts were identified for cleaning to prevent plugging and road damage during storm events in this area. Coordination between NDOT, Pyramid Lake Paiute Tribe and other agencies is necessary to implement these measures in a timely and efficient manner. These VAR's are at an extreme and high level of risk.

IV. RECOMMENDATIONS

Based on the results of the above observations:

A. Emergency Stabilization

Specification BLM #1-Reservoir Protection

Although this specification is for the BLM portion of the Tule Fire, it is relevant for downstream effects in Hardscrabble Creek as this is located in the headwaters of the stream. Post-fire watershed modeling results show a percent increase in peak flows of 267% and sediment yield of 303% to this location which puts the irrigation reservoir at risk. The irrigation reservoir has an opening in a berm where flood flows could enter the reservoir from an unnamed tributary stream. The opening in the berm needs to be filled around the reservoir where the tributary stream could access the reservoir during flood flows. Treatment will consist of filling a 40 foot gap with larger rock material to prevent potential inputs of direct flood flows and sediment/debris. The use of a dump truck to haul in the rock material and a front end loader for placement of material will be needed.

Specification BIA #1-Engineering Assessment/Design

The majority of the Hardscrabble Creek watershed above the community of Sutcliffe was burned as part of the Virginia Mountains Complex. Post-fire watershed modeling results

for Hardscrabble Creek show a potential percent increase in peak streamflow of 364% and a 723% increase in sediment yield. The purpose of the specification is to develop the design for long-term treatments that successfully processes post-fire watershed response impacts to the Dunn Fish Hatchery and Sutcliffe community

Specification BIA #2-Channel Clearing
Increase the channel capacity of 400 feet of Hardscrabble Creek above the culvert at Hwy 445. Use an excavator to shape the 400 feet of channel to approximate the dimension of the upstream segments that are deeper. Make the constructed channel of a uniform gradient from the upstream excavation limit to the invert (low point) of the culvert. Incorporate some sinuosity into the design and armor the bends with rip-rap. If head cutting should result from the increased velocity in the newly-shaped channel, stabilize with rip-rap. Coordination needs: The final channel design and permitting requirements need to be coordinated with appropriate Nevada Department of Transportation (NDOT) personnel.

Specification BIA #3 – Culvert Cleaning
At culverts, clean out all deposited material so that entire culvert openings can convey flow. If necessary, the immediately-adjacent upstream and downstream channels (the culvert "approach" and "exit" channel sections) may need to be modified to a shape and gradient that maintains stream velocity through the culvert to maintain/improve the sediment transport capability. The approach and exit sections will also be cleared of live and dead vegetative material that may block free-flow culverts. Removed material should be placed out of the floodplain on higher ground to prevent any transport of material back into channels.

Specification BIA #4 – Road Drainage Improvement
The purpose of this treatment is to create additional streamflow capacity at two culverted road crossings on the Hardscrabble Creek Road. In the event of a flood that exceeds the capacity of the culverts, an excavated dip in the roadbed directly over/near the culvert will add additional capacity to control flows. The objective is to keep the flow centered in the channel rather than allowing the overtopping flows to run uncontrolled down the roadway.

Specification BIA #5 – Storm Patrol and Cleaning
There are many places at risk of inundation, debris deposition, flood damage and other post-fire related impacts from elevated flows carrying sediment and debris. There are several stream crossing along Hardscrabble Road and along Surprise Valley Road where these roads could be damaged limiting access into Hardscrabble Creek and ingress/egress to Pyramid Lake. After rainfall events these areas will be assessed for any potential damage to the roads and infrastructure. If the culverts are plugged or damaged then the areas could be cleaned out immediately to avoid further damage during the next rainfall event. Additionally, other values at risk (buildings, well heads, diversion structures, etc.) in the floodplain area will be assessed during storm patrol.

The patrols are used to identify those road problems such as plugged culverts and washed out roads and to clear, clean, and/or block those roads that are or have received damage. The storm patrollers shall have access to equipment that can be used when a drainage culvert is plugged or soon to be plugged and to repair any road receiving severe surface erosion.

Work should be performed in the morning and early afternoon. Leave drainages when chance of rain is moderate or higher. Store equipment and materials out of flood plains and where chance of loss is low.

Specification BIA #6 – Early Alert System

The community of Sutcliffe is downstream of the burn area and is at risk of increased post-fire stream flow flooding and debris torrents. Early alert systems (EAS) for precipitation and stream flow can provide residents with some advanced warning of conditions that could result in these elevated flows. After the Virginia Mountains Complex many agencies and communities wished to install early alert systems to address the risk to life and property downstream of the burn area, especially in watersheds burned at moderate soil burn severity. To ensure that the systems are coordinated and appropriate warnings are given at the earliest possible time, the agencies have devised a process diagrammed below.

This specification includes the installation and maintenance of 2 stream stage gauges and 3 stand-alone precipitation gauges by the U. S. Geological Survey and 1 siren to be installed and maintained by the Pyramid Lake Paiute Tribe. Maintenance will occur for 3 years. Data from the gauges will be available to the public on the U.S. Geological Survey's website and are provided to the National Weather Service for use in tracking storm events. It will also be available to whomever the Pyramid Lake Paiute Tribe designates for emergency notification.

Specification BIA #7 – Hazard Warning Signs for Resource Protection/Safety
This treatment is for the installation of burned area warning and flood hazard warning signs. These signs will warn the public of dangers on roads that have changed as a result of the fires. Burned area signs consist of a warning to the public and identifying the possible dangers associated with a burned area and to stay on existing roads. Flood hazard signs warn the public that they are entering an area prone to flooding during rain events. The signs shall contain language specifying issues to be aware of when entering a burn area such as rolling rocks, and flash floods and to stay on existing roads.

Specification BIA #8 – Structure Point Protection
The purpose of this treatment is to reduce / mitigate the risk to structures. This proposed treatment is to protect the Dunn Fish Hatchery facilities and a private residence just downstream from potential post-fire flooding, sedimentation, and debris flows. Protection will consist of constructing continuous flood barriers made of 10-foot concrete highway barriers (K-rails) and sandbags.

B. Management Recommendation – (Non Specification)

Culverts Under Nevada Highway 445
Recommend NDOT evaluate and improve drainage of culverts under Hwy 445 based on results from the AGWA model for Hardscrabble, Poison, Jigger Bobb Creeks (See Appendix V, AGWA Results and Watershed Treatment Map)

Private Land Protection
Recommend NRCS evaluate Whittey Ranch and Sutcliffe for potential protection treatments from post-fire flood and debris flows based on results from the AGWA model for Hardscrabble and Poison Creeks (See Appendix V, AGWA Results and Watershed Treatment Map)

Long-term Solution for Hardscrabble Creek/Community of Sutcliffe
Engineering assessment/design for potential of rerouting of Hardscrabble Creek to the south and east to avoid community of Sutcliffe and provide a more permanent solution designed to provide improved fish access from Pyramid Lake.

V. CONSULTATIONS

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VI. REFERENCES

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BURNED AREA EMERGENCY RESPONSE PLAN

Virginia Mountains Complex

WILDLIFE RESOURCE ASSESSMENT

I. OBJECTIVES

- Assess the effects of fire and emergency stabilization/rehabilitation measures to Federally Listed Threatened and Endangered Species and Designated Critical Habitats on Bureau of Land Management (BLM) and Pyramid Lake Paiute Tribe lands.
- Conduct Section 7 Emergency Consultation with the U.S. Fish and Wildlife Service.
- Assess fire impacts to greater sage-grouse utilizing areas within and adjacent to the fire perimeters.
- Prescribe emergency stabilization/rehabilitation treatments and recommendations to benefit federally listed species and greater sage-grouse.
- Assess fire impacts to habitats utilized by important and culturally significant ungulate game species, and prescribed treatments where appropriate.

II. ISSUES

A. T&E Habitat Stabilization/Recovery-

While several federally listed threatened or endangered species have been documented on lands in the vicinity of the VMC Fires, none occur within the fire perimeter on either BLM or Tribal lands. Though only listed as a Candidate Species by the USFWS, large scale initiatives are in place to conserve and protect greater sage-grouse (*Centrocercus urophasianus*), GRSG, throughout the American west. Due to the conservation emphasis placed on this species, and the presence of leks, nest sites, and brood rearing areas within the fire, impacts to GRSG are also addressed as part of the this BAER Plan. Potential indirect impacts to Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*)and Cui-ui (*Chasmistes cujus)* through post fire run-off events are addressed.

B. Culturally and Recreationally Significant Species

Though beyond the scope of emergency stabilization funding and the emergency consultation process, culturally and recreationally significant species are addressed in this assessment. These include mule deer, pronghorn antelope, and upland game birds. These species benefit from treatments proposed to stabilize lands unlikely to recover on their own, such as herbicide application, seedling planting, and aerial seeding.

III. OBSERVATIONS

The purpose of this Burned Area Emergency Response (BAER) Wildlife Assessment is to document the effects of the fire and proposed stabilization treatments, and potential post fire flooding and sediment delivery to all federally listed threatened and endangered species and designated critical habitats within the fire area. This will also include the candidate species, greater sage-grouse. Secondarily, fire effects to culturally significant and game species are also described. This assessment includes fire and downstream effects to species that occur on BLM lands and on lands held in trust by the U.S. Government, Bureau of Indian Affairs, for the Pyramid Lake Paiute Tribe.

This assessment also includes information on the Emergency Section 7 Consultation for this incident. Emergency Consultation was initiated with the U.S. Fish and Wildlife Service, Reno Ecological Services Field Office on August 8, 2016 (Cons # 08ENVD00-2016-SLI-0436). Contact with the appropriate FWS office was initiated at the beginning of the BAER process to verify T & E species lists, and assess impacts to these species.

A. Background

For detailed descriptions of fire progression, behavior, and suppression activities please see the Executive Summary Section of the BAER Plan. A detailed description of the vegetation communities and fire impacts to those resources, is found in the Vegetation Assessment.

B. Reconnaissance Methodology and Results

Information used in this assessment was generated from review of relevant literature, recovery and management plans, GIS databases, and discussion with species experts and natural resource managers from the PLPT, BLM, NDOW, USFWS and BAER team members. Field reconnaissance consisted of on-site inspections of fire impacted habitats on tribal trust lands, known occurrence sites, and areas downstream of fire perimeters that could potentially be impacted by sediment and debris flows. Field reconnaissance was conducted August 7 through August 8, 2016. During field work I was accompanied by biologists from BLM, the PLPT, and NDOW, as they have a tremendous amount of local knowledge applicable to this process.

Identification of known listed species occurrences and critical habitat is crucial to accurately assessing fire affects. The PLPT, BLM, and FWS maintain extensive GIS databases on focal species occurrence locations and critical habitat layers for areas included within the fire perimeter. These data were used to focus field work and more precisely assess fire impacts to these species.

This assessment is not intended to definitively answer the many questions of effect to specific species that arise during an incident such as the VMC Fires. The purpose of this assessment is to determine the need for immediate, emergency actions that may be necessary to prevent further negative effects to listed species. Because the species discussed in this assessment have ranges that extend beyond the fire perimeters, it is important to include information at larger scale and across land ownership boundaries when discussing potential impacts to species as a whole and the need for long-term rehabilitation.

C. Findings

Analysis of GIS databases, species occurrence maps, and consultation with species experts indicates that greater sage-grouse was the only federally listed species (Candidate) documented on PLPT and BLM lands within the fire perimeter. Listed species occurrences on PLPT and BLM outside the fire perimeter are not included in this assessment, as the consultation is only focused on BAER emergency stabilization treatments.

1. Virginia Mountains Complex Species List

A species list was generated on August 8, 2016. The U.S. Fish and Wildlife Service (USFWS) maintains the current Proposed/Listed Threatened-Endangered/Candidate species list and publishes the information in the Federal Register. Under the direction of the FWS Reno Field Office, an official species list was generated using the Information, Planning and Conservation System (IPAC) online interface on August 8, 2016. Below is the comprehensive list of threatened and endangered species evaluated on PLPT and BLM lands within the VMC.

Common Name	Scientific Name	Listing Status	Biological Assessment Status
Greater sage-grouse	*Centrocercus urophasianus*	Candidate	Addressed in B.A.
Lahontan Cutthroat Trout	*Oncorhynchus clarkii henshawi*	Threatened	Addressed in B.A
Cui-ui	*Chasmistes cujus*	Endangered	Addressed in B.A

The following species were identified, on the IPAC species lists provided by the USFWS Reno Field Office, as federally listed species potentially existing within, adjacent to, or downstream from the fire areas. Through post fire reconnaissance, review of GIS data layers, and consultation with local experts, it was determined that these species were not affected by the fire assessed in this report (no habitat within or adjacent to the fire areas and/or inventories prior to the fires determined absence), or expected to be affected by potential post-fire flooding or run-off.

Common Name	Scientific Name	Listing Status	Biological Assessment Status
Carson wandering skipper	*Pseudocopaeodes eunus obscurus*	Endangered	**No effect**; no occurrence data, downstream effects or designated critical habitat within the fire perimeter.
North American Wolverine	*Gulo guloluscus*	Proposed Threatened	**No effect**; no occurrence data, downstream effects or designated critical habitat on ACBCI or BLM land or within the fire perimeter.

The determinations of no effect to species in the table above were based on data provided by BLM, USFWFWS, PLPT, and species experts during the BAER wildlife assessment. If additional data becomes available that indicates the potential for additional affects to these species, the agency responsible for the lands those species occur on should assess effects, document concerns, and resume Section 7 consultation. The biologists may need to document species presence or absence by season and develop accurate habitat maps for each species for future use.

2. Biological Assessment for Federally Listed Species

Direct effects refer to mortality or disturbance that result in flushing, displacement, or harassment of the animal. Indirect effects refer to delayed effects, such as modification of habitat and effects to prey species.

Greater sage-grouse: The greater sage-grouse is a historically and culturally significant species in Nevada (State of Nevada 2014). Once a wide ranging species across the state, numbers have declined in recent decades due to development, increased fire frequency, and invasive species encroachment. Wide scale conservation efforts are underway across 11 western states to prevent further declines of this species. For more information on the life history, habitat use, and population status of this species see: BLM's Record of Decision and the Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment (2015), Report on Greater Sage Grouse Conservation Measures (2011), and USGS Summary of Science (2013).

A variety of conservation planning efforts have identified essential habitat needed for this species to meet its life history requirements. Within the perimeter of the VMC fires Priority, General, and Other Habitat designations exist. I used these data layers along with, telemetry data and lek site locations provided by NDOW/USGS to focus assessment of fire impacts to this species.

Direct Fire Effects: Mortality as a direct result of the fire may have occurred, as the fire was driven by high winds and moved quickly across the landscape. Those individuals within its path could have been consumed by flames or succumb to smoke. However, a high use brood rearing and summer use area near Spanish Flat did not burn. This area supports large numbers of birds and likely served as a refuge for those fleeing the fire.

Indirect Fire Effects: With an intact, functioning sage steppe ecosystem, fire would have created a mosaic of different age classed sagebrush and increased diversity of plant species. Unfortunately, much of the areas within the VMC fire perimeters were heavily invaded by cheatgrass. This species is quick to colonized disturbed areas and leads to

an increased fire return interval that sagebrush and other native brush species are not adapted to. More frequent fires select for non-native annual grasses and lead to type conversion of these habitats from sage steppe to annual grasslands. The resulting loss of sagebrush and other brush species leads to a loss of nesting cover and forage that GRSG need to complete their life history cycle. Without breaking and/or reversing this cycle many areas of their historic range will become unsuitable for their use. In addition to loss of nesting cover and forage, the lack of sagebrush will likely expose adults and nests to increased predation.

Within the fire perimeters, cheatgrass invasion was much higher at lower elevations and on dryer sites (south and west aspects), while higher, less dry sites have experienced less invasion and habitat is higher quality. This more intact habitat is experiencing higher use based on the telemetry data provided by USGS.

While springs and the vegetation they support were less impacted by the fires due to higher fuel moistures, there could be significant post fire effects if cattle and feral horses are not excluded from these areas. Both of these animals seek out seeps and springs to drink from and wallow in. This is extremely damaging to both the hydrology and vegetation at these site. The lack of resources available post fire could attract cattle and wild horses to springs as they will be one of the few lush spots left in the area. Efforts should be made to maintain existing exclosures, and develop new ones for unfenced sites.

Impacts of BAER Emergency Stabilization Treatments: Currently, no negative impacts are expected from BAER emergency stabilization treatments that are being prescribed. Habitat related treatments, described below will benefit GRSG by stabilizing habitats through weed control and reseeding/replanting efforts. Infrastructure improvements, culvert work, point protection, and sediment flow abatement are all taking place near the town of Sutcliffe outside of GRSG use areas. Impacts should be re-evaluated if new treatments are proposed in the future. All proposed treatments will benefit GRSG and the habitat they depend on in both the short and near terms.

Lahontan Cutthroat Trout and Cui-ui: Both of these listed fish do not occur within the fire perimeter. They are isolated within Pyramid Lake, with tributaries upslope rarely if ever connecting to the lake. This has been exacerbated by a drop in lake level and natural and man-made fish barriers that would prevent fish from moving upstream in the rare event that the creeks were connected to the lake.

There is the potential for ash and sediment to flush from upslope watersheds into the lake decreasing water quality. The impact of this would be negligible, as watershed models do not show heavy movement of materials, any materials to come down slope would be partially captured in riparian zones, there are significant green pockets at the mouths of creeks to filter sediment, and the large size of the lake would dissipate the inputs quickly and provide plenty of refuge away from inputs. Upslope seeding, culvert clean out, and other infrastructure improvements will decrease sediment and ash inputs into the lake and result in a net benefit to these species.

Based on field reconnaissance, literature reviews, and discussions with biologists and regulatory specialists, BAER Emergency Stabilization treatments will have **"no effect"** on Lahontan cutthroat trout or Cui-ui.

The Dunn Hatchery that is producing juvenile Lahontan cutthroat trout was not impacted by the fire, though retardant was dropped on the hatchery building and water tank. All fish were housed inside the building rather than outside tanks so the retardant had no impact. Tribal staff should work with suppression resources to remove retardant from the water tank and outside tanks to avoid contamination of the hatchery water supply. Measures are being put in place to protect the hatchery building from sediment and debris flows that could potential move down Hardscrabble Canyon. These measures are detailed in

Specification # 9 and the Watershed Assessment.

3. **Culturally Significant and Game Species**

The VMC fires encompass critical winter range for mule deer, and supports large numbers of pronghorn and upland game birds. The impacts of the fire on these species is similar to those on GRSG. The loss of brush cover, mainly sagebrush, bitterbrush, and rabbitbrush, results in a loss of cover and forage used by these species throughout the year. Due to the frequent fire return interval, exacerbated by cheatgrass, many areas within the fire perimeters will be unlikely to recover naturally. Rehabilitation efforts are needed to reverse this trend. The Rock Fire was identified in particular as a site, with proper ground preparation (herbicide treatment), that could significantly benefit from reseeding/replanting. Focal areas, with appropriate slopes, aspects and soil conditions were identified for treatments. Increasing the density and percent cover of brush in areas heavily impacted by these fire will significantly benefit the above mentioned species and help rehabilitate these lands that would be unlikely to recover naturally.

IV. RECOMMENDATIONS

Based on the results of the above observations:

A. Emergency Stabilization

Specification # 10: Sagebrush Seedling Planting. Under this treatment specification, funding is sought to grow sage brush seedlings and plant them following herbicide treatment (Spec #12) in focal areas of the Anderson Fire. These areas were delineated using GRSG telemetry data, NRCS Rangeland soil suitability layers, and slope and aspect estimates. Seedling plantings have been shown to be highly effective in this area by local land management agencies. Once established these plants will increase brush cover, a habitat element on the decline in GRSG fire impacted areas. This treatment is consistent with BAER and BLM policies for emergency stabilization and rehabilitation treatments.

Specification # 26: Bitterbrush Seedling Planting. Under this treatment specification, funding is sought to grow bitterbrush seedlings and plant them following herbicide treatments (Spec # 22) in focal areas of the Rock Fire. Areas were delineated using mule deer winter range layers, NRCS Rangeland Soil Suitability data, and slope and aspect estimates. Seedling plantings have been shown to be highly effective in this area by local land management agencies. Once established these plants will increase brush cover, a habitat element on the decline in fire impacted areas. This treatment is consistent with BAER and BLM policies for emergency stabilization and rehabilitation treatments.

B. Management Recommendation – Rehabilitation – (Non Specification)

1. BAER Team involvement in the Emergency Section 7 Consultations was concluded on August 16, 2016. The determinations documented in this assessment should be reassessed, and section 7 consultation reinitiated as needed, if additional emergency stabilization measures, or vegetation management activities are proposed after August 16, 2016. If non-emergency vegetation management activities are proposed for long-term rehabilitation and restoration of the fire area, another biological assessment should be prepared.

2. To allow natural recovery to occur and seedlings/seeds to establish within burned areas, cattle should be removed for at least 2 years and vegetation management objectives, as

outlined by BLM are met.

3. Those springs that are not protected from cattle and feral horses should be fenced off to prevent concentration of these animals and damage to these sites.

4. Through partnerships with the Nevada Department of Wildlife, expand seed drilling and aerial application of bitterbrush and big mountain sagebrush on the western edge of the Tule Fire. Focal areas should be on north aspects and bowls with deeper soils. NDOW may be able to bring both financial and labor resources into this partnership, which leverage BAER funds further, resulting in increased acres rehabilitated and benefits to wildlife.

5. Assess, and repair if necessary, big game and small game guzzlers identified by BLM and NDOW that were fire damaged. These structures provide critical water resources to a multitude of wildlife species.

6. The collaborative research efforts conducted by USGS in partnership with BLM and NDOW should continue. These fires present a unique opportunity to assess the response of GRSG to fire impacts through descriptions of movement patterns, nesting success, habitat use, and predation rates. The years of pre fire data can be compared with post fire data to paint a picture of fire impacts to the landscape and GRSG.

7. Monitor water quality at the mouth of Hardscrabble, Poison Canyon/Thunderbolt Canyon, and Jigger Bobb Canyon to assess changes in water chemistry, nutrient loading, sediment loading, etc. within Pyramid Lake.

8. Monitor LCT and Cui-ui around the mouths of the above creeks to document changes in behavior, survival, spawning condition, etc as they relate to water quality conditions.

9. Research/monitoring of ungulate species should be conducted to better understand their response to the fire and habitat recovery. Radio telemetry studies could be initiated to describe mule deer and pronghorn habitat use in response to the fire and suppression activities. Track plates, remote cameras, and direct observation can also be used to assess abundance and distribution of ungulate species. Information gained from these types of studies can be used in an adaptive management framework to better manage herds.

10. The VMC fires provides a unique opportunity for biologists and the scientific community to determine species and habitat responses to wildfire. Given the high level of interest regarding the effects of the fires to the many species impacted, it seems prudent for biologist to collaborate on a list of questions to address identified concerns. The limited focus of the DOI BAER Team to address immediate treatments to focal species (T&E, culturally significant, game species) occurring on DOI lands allowed only a cursory assessment of fire effects to the many other important species that contribute to the biodiversity of the area. As assessment and study continues, if additional new information becomes available, agency biologists may re-assess the potential need for rehabilitation treatments, with subsequent requests for burned area rehabilitation funding.

The BLM and PLPT should use the information provided within this, and the other BAER disciplines' assessments, in requests for funding from other sources.

V. CONSULTATIONS

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Sarah Kulpa, Botanist, USFWS Reno Field Office

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Sage-grouse National Technical Team. 2011. A report on national greater sage-grouse conservation measures. 74 pp.

State of Nevada. 2014. 2014 Nevada greater sage-grouse conservation plan. State of Nevada. 152 pp.

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BURNED AREA EMERGENCY RESPONSE PLAN

2016 VIRGINIA MOUNTAINS COMPLEX

TULE FIRE

APPENDIX II ENVIRONMENTAL COMPLIANCE

Head cut Poison Creek

APPENDIX II – ENVIRONMENTAL COMPLIANCE

FEDERAL ENVIRONMENTAL COMPLIANCE RESPONSIBILITIES

All projects proposed in the 2016 Virginia Mountains Complex Burned Area Emergency Response (BAER) Plan that are prescribed, funded, or implemented on tribal lands are subject to compliance with the *National Environmental Policy Act* (NEPA) in accordance with the guidelines provided by the *Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508)*. This Appendix documents the BAER Team considerations of NEPA compliance requirements for prescribed emergency stabilization and monitoring actions described in this plan for areas affected by the Virginia Mountains Complex – Tule Fire on the Pyramid Lake Indian Reservation.

This plan identifies specific emergency stabilization and monitoring actions and recommendations designed to mitigate damages to resources as a result of the Tule fire and associated fire suppression activities. The Bureau of Indian Affairs (BIA) must complete separate NEPA analyses and compliance for fire response activities not addressed in this plan.

This plan has been developed by the Department of Interior BAER Team, with assistance from the Pyramid Lake Paiute Tribe Agencies of the Bureau of Indian Affairs and tribal staff from the Pyramid Lake Indian Reservation.

RELATED PLANS

The 2016 Virginia Mountains Complex BAER Plan was reviewed for consistency with relevant plans and policies of Tribal lands impacted by the Tule fire. Below are brief descriptions of plans referenced in the development of the Virginia Mountains Complex Fire BAER Plan.

Pyramid Lake Indian Reservation Comprehensive Resource Management Plan, 2005

The Comprehensive Resource Management Plan provides guidance and direction on resource management activities on the Pyramid lake Indian Reservation. The document is a working document that provides the framework for planning; any implementations will be strategized on a case-by-case basis. The document also has the flexibility to change and grow. One companion document to this plan is the Pyramid Lake Paiute Tribe Water Quality Control Plan, 2015, which is described below.

Pyramid Lake Paiute Tribe Water Quality Control Plan, September 16, 2015

The Pyramid Lake Paiute Tribe (PLPT) received USEPA Treatment as a State (TAS) authority to establish Water Quality Standards (WQS) for the Reservation on January 30, 2007. The PLPT has developed the regulatory components of its water quality management program through the passage of an ordinance defining how WQS will be implemented. This document provides guidance and direction on monitoring and assessment of water quality to determine if WQS are being attained on the Pyramid Lake Indian Reservation.

CUMULATIVE IMPACT ANALYSIS

The emergency stabilization and monitoring treatments for the Tule fire, as proposed in this plan, do not result in an intensity of impact (i.e., major ground disturbance, etc) that would cumulatively constitute a significant impact on the quality of the environment. The treatments are consistent with the above agency and tribal management plans and associated environmental compliance documents, and categorical exclusions presented below.

No direct or indirect unavoidable adverse impacts to the biological or physical environment would result from the implementation of the Virginia Mountains Complex Fire Burned Area Emergency Response Plan.

APPLICABLE AND RELEVANT CATEGORICAL EXCLUSIONS

The individual actions proposed in this plan are Categorically Excluded from further environmental analysis as provided for in the Department of Interior Manual Part 516. All applicable and relevant Agency Categorical Exclusions are listed below. Categorical Exclusion decisions were made with consideration given to the results of required emergency consultations completed by the BAER Team and documented below.

Applicable Bureau of Indian Affairs Categorical Exclusions

Part 516 DM 10.5 A Operation, Maintenance, and Replacement of Existing Facilities.
Examples are normal renovation of buildings, road maintenance and limited rehabilitation of irrigation structures

Part 516 DM 10.5 H (6) Forestry.
Approval of emergency forest and range rehabilitation plans when limited to environmental stabilization on less than 10,000 acres and not including approval of salvage sales of damaged timber.

Part 516 DM 10.5 L (4) Roads and Transportation.
Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur.

Part 516 DM 10.5 L (5) Roads and Transportation.
Emergency repairs under 23 U.S.C 125.

Part 516 DM 10.5 M (1) Other.
Data gathering activities such as inventories, soil and range surveys, timber cruising, geological, geophysical, archeological, paleontological and cadastral surveys.

Part 516 DM 10.5 M (2) Other.
Establishment of non-disturbance environmental quality monitoring programs and field monitoring stations including testing services.

Applicable Department of the Interior Categorical Exclusions

Listing of Departmental categorical exclusions.

43 CFR Subtitle A § 46.210 (L); Post-fire rehabilitation activities not to exceed 4,200 acres (such as tree planting, fence replacement, habitat restoration, heritage site restoration, repair of roads and trails, and repair of damage to minor facilities such as campgrounds) to repair or improve lands unlikely to recover to a management approved condition from wildland fire damage, or to repair or replace minor facilities damaged by fire.

STATEMENT OF COMPLIANCE FOR THE 2016 VIRGINIA MOUNTAINS COMPLEX FIRE BAER PLAN

This section documents consideration given to the requirements of specific environmental laws in the development of the Virginia Mountains Complex Fire BAER Plan. Specific consultations initiated or completed during development and implementation of this plan are also documented. The following

executive orders and legislative acts have been reviewed as they apply to the Virginia Mountains Complex Fire BAER Plan.

National Historic Preservation Act (NHPA) - Certain emergency stabilization treatments may have the potential to affect significant cultural resources and thereby require that the agencies comply with the implementing regulations of the National Historic Protection Act, as amended (NHPA) and as promulgated under 36 CFR Part 800. To assist the BIA Western Nevada Agency in meeting their obligations under the NHPA, the BAER team archeologist contacted the Pyramid Lake Tribal Historic Preservation Office (THPO). He informed them that the team was preparing a plan that addresses issues that were identified concerning potential post-fire risks to human life, property and important cultural and natural resources. In that contact it was expressed that there are proposed treatments that may trigger compliance with Section 106 of the NHPA and that they would subsequently be contacted by the BIA archeologist responsible for initiating the Section 106 consultation process.

Executive Order 11988, Floodplain Management - No proposed treatments would occupy or modify floodplains and all proposed treatments are in compliance with this order.

Executive Order 11990, Protection of Wetlands - No proposed treatments would result in long-term impacts to or loss of wetlands and all proposed treatments are in compliance with this order.

Executive Order 12372, Intergovernmental Review - Coordination and consultation is ongoing with affected Tribes, Federal, and local agencies. A copy of the BAER plan will be disseminated to all affected parties.

Executive Order 12892, Federal actions to address Environmental Justice in Minority and Low-Income Populations - All Federal actions must address and identify, as appropriate, disproportionately high and adverse human health or low-income populations, and Indian Tribes in the United States, The BAER Team has determined that the actions proposed in this plan will result in no adverse human health or environmental effects for minority or low-income populations and Indian Tribes.

Endangered Species Act (ESA) – Section 7 Consultation: The BAER Team Biologist requested an official species list for the USFWS on August 8, 2016 to initiate ESA Section 7 emergency consultation for the Virginia Mountains Complex proposed BAER treatments on the Pyramid Lake Paiute Tribe lands. Following field reconnaissance, he met with Chad Mellison, USFWS Fisheries Biologist, and Marcy Haworth, Fish and Wildlife Biologist (Skipper Specialist), to discuss potential impacts of ES treatments to T&E species. Neither expressed concerns with proposed treatments because these species occur outside of the fire perimeters. The Tribe will reinitiate emergency consultation during BAER implementation as warranted by changes to proposed treatments as required by the ESA. Based on the findings of the biological assessment conducted in compliance with the ESA for this incident, we anticipate a “no effect” determination for Carson wandering skipper and North American Wolverine and a “may effect but not likely to adversely affect” determination for the Lahontan cutthroat trout and Cui-ui. Though not required under Section 7 of the ESA, we also considered impacts of the fire and emergency stabilization treatments to the greater sage-grouse.

Clean Water Act - All proposed treatments are in compliance with this Act and long-term impacts are considered beneficial to water quality. **BIA Specification #2-Channel Clearing on the Hardscrabble Creek will require a Clean Water Act Section 401 permit. BIA Specification #3-Culvert Cleaning in the Hardscrabble Creek will require a Clean Water Act Section 401 blanket permit.**

Clean Air Act - Federal Ambient Air Quality Primary and Secondary Standards are provided by the National Ambient Air Quality Standards, as established by the U.S. Environmental Protection agency (EPA) (Clean Air Act, 42 U.S.C. 7470, et seq., as amended). The BAER Team has determined that treatments prescribed for the Tule Fire may have short-term minor impacts to air quality due to equipment emissions and/or increases in particulates during ground-based activities, but they would not differ significantly from routine land use practices for the area. As such, all proposed treatments are in compliance with this Act.

CONSULTATIONS

BAER Team members attended an agency in-briefing in Nixon, NV on August 8, 2016 to obtain information on issues of concern for the Pyramid Lake Paiute Tribe. Most attendees were resource staff from the Pyramid Lake Paiute Tribe. The Western Nevada Agency was represented by Robert Eben (Superintendent, Western Nevada Agency) and Gerry Emm (Deputy Superintendent, Western Nevada Agency). Additional attendees included various employees from the Bureau of Indian Affairs.

Internal scoping continued daily by the BAER Team at each evening briefing as new issues found in the field were recorded into the record of issues and concerns. Issues and concerns were brought up by agency and tribal employees throughout the BAER process.

Others consulted:

- Donna Noel, Natural Resource Director, Pyramid Lake Paiute Tribe, Nixon, NV
- Kameron Morgan, Water Quality Standards Specialist, Pyramid Lake Paiute Tribe, Nixon, NV
- Mervin Wright, Environmental Department Manager, Pyramid Lake Paiute Tribe, Nixon, NV
- Gerry Emm, Deputy Superintendent, BIA-Western Nevada Agency, Carson City, NV
- Adrian Greyshield, Assistant Fire Management Officer, BIA-Western Nevada Agency, Carson City, NV
- Ken Griggs, BAER Team Biologist
- Montina Threefingers, Natural Resource Specialist, BIA-Western Nevada Agency, Carson City, NV
- Dan Hall, BAER Team Archaeologist

SUMMARY OF COMPLIANCE DOCUMENTATION RELEVANT TO THE TULE FIRE BURNED AREA EMERGENCY RESPONSE PLAN

The following tables summarize the existing NEPA or NHPA compliance in place for the BAER treatments proposed for the Tule Fire for the Pyramid Lake Indian Reservation.

Pyramid Lake Indian Reservation Compliance Summary for 2016 Virginia Mountains Complex Fire BAER Plan-EMERGENCY STABILIZATION (ES)			
Treatment or Action	**NEPA documentation (EIS, EA, or Cat Ex)**	**Reference to Assessment**	**Relevant Notes**
BIA Spec #1-Engineering/Design	DOI Cat Ex: 43 CFR Subtitle A § 46.210 (L)	Watershed	N/A
BIA Spec #2-Channel Clearing	BIA Cat Ex: Part 516 DM 10.5 H (6)	Watershed	**Requires 401 Permit through the PLPT**
BIA Spec #3-Culvert Cleaning	BIA Cat Ex: Part 516 DM 10.5 A	Watershed	**Requires Blanket 401 Permit through the PLPT. If work is done within the NDOT right-of-way, a permit is required from NDOT.**
BIA Spec #4-Road Drainage Improvement	BIA Cat Ex: Part 516 DM 10.5 L (5)	Watershed	N/A
BIA Spec #5-Storm Patrol	BIA Cat Ex: Part 516 DM 10.5 H (6)	Watershed	N/A
BIA Spec #6-Early Alert System	BIA Cat Ex: Part 516 DM 10.5 M (2)	Watershed	N/A
BIA Spec #7-Hazard Warning Signs	BIA Cat Ex: Part 516 DM 10.5 L (4)	Watershed	N/A
BIA Spec #8-Point Protection Structures	DOI Cat Ex: 43 CFR Subtitle A § 46.210 (L)	Watershed	**Will require cultural survey before implementation**.
BIA Spec #9-Assessment for Hazmat Potential	BIA Cat Ex: Part 516 DM 10.5 M (1)	N/A	N/A
BIA Spec #10-Repair/Replace Damaged Fence	BIA Cat Ex: Part 516 DM 10.5 L (4)	N/A	N/A
BIA Spec #11-Archaeological Survey of Drill Seedling and/or Chaining	BIA Cat Ex: Part 516 DM 10.5 M (1)	Cultural	N/A
BIA Spec #12-Inventory Noxious Weeds	DOI Cat Ex: 43 CFR Subtitle A § 46.210 (L)	Vegetation	N/A
BIA Spec #13-Pretreatment of Seeded Areas	DOI Cat Ex: 43 CFR Subtitle A § 46.210 (L)	Vegetation	**NEPA compliant analysis required before herbicides can be used**.
BIA Spec #14-Ground Based Seeding Application	DOI Cat Ex: 43 CFR Subtitle A § 46.210 (L)	Vegetation	**Will require cultural survey before implementation.**
BIA Spec #15-Hazard Tree Assessment/Removal	DOI Cat Ex: 43 CFR Subtitle A § 46.210 (L)	Vegetation	N/A
BIA Spec #16-	DOI Cat Ex:	Vegetation	N/A

Monitoring Vegetation Treatments	43 CFR Subtitle A § 46.210 (L)		
BIA Spec #17-Project Administration	DOI Cat Ex: 43 CFR Subtitle A § 46.210 (L)	N/A	N/A

Pyramid Lake Indian Reservation Compliance Summary for 2016 Virginia Mountains Complex Fire BAER Plan-BURNED AREA REHAB (BAR)			
Treatment or Action	**NEPA documentation (EIS, EA, or Cat Ex)**	**Reference to Assessment**	**Relevant Notes**
BIA Spec #18-Treatment of Noxious Weeds	DOI Cat Ex: 43 CFR Subtitle A § 46.210 (L)	Vegetation	**NEPA compliant analysis required before herbicides can be used**.
BIA Spec #19-Planting of Traditional Gathering Areas	DOI Cat Ex: 43 CFR Subtitle A § 46.210 (L)	Cultural	N/A

DOI EXCEPTIONS TO CATEGORICAL EXCLUSIONS

The CEQ Regulations at 40 CFR 1508.4 require agencies to consider whether fairly routine actions involve extraordinary circumstances that, per NEPA, trigger an agency to prepare additional assessment and consideration. If it is determined that any of the exceptions listed in the table below apply to a proposed action, that action may not be categorically excluded, and an EA or an EIS must be prepared. The list below is a Department of the Interior list that applies to all DOI agencies (516 DM 2, Appendix 2); agencies often have additional items on their own list of Departmental exceptions, appendix 2). All treatments that are proposed as a Categorical Exclusion for the Pyramid Lake Indian Reservation have been compared against the list of Extraordinary Circumstances listed below and were found not to trigger any exceptions.

EXCEPTION CHECKLIST FOR BIA CATEGORICAL EXCLUSIONS

Project: Virginia Mountains Complex Fire Burned Area Emergency Response Plan Date: 8/18/2016

Nature of Proposed Action: Implement prescribed treatments and monitoring as described in the Tule Fire Burned Area Emergency Response Plan

Part 516 DM 10.5 Categorical Exclusions:

A. Operation, Maintenance, and Replacement of Existing Facilities. Examples are normal renovation of buildings, road maintenance and limited rehabilitation of irrigation structures

H (6) Forestry.
Approval of emergency forest and range rehabilitation plans when limited to environmental stabilization on less than 10,000 acres and not including approval of salvage sales of damaged timber.

L (4) Roads and Transportation.
Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur.

L (5) Roads and Transportation.
Emergency repairs under 23 U.S.C 125.

M (1) Other.
Data gathering activities such as inventories, soil and range surveys, timber cruising, geological, geophysical, archeological, paleontological and cadastral surveys.

M (2) Other.
Establishment of non-disturbance environmental quality monitoring programs and field monitoring stations including testing services.

43 CFR Subtitle A § 46.210 Department of the Interior Categorical Exclusions

Listing of Departmental categorical exclusions.

(L) Post-fire rehabilitation activities not to exceed 4,200 acres (such as tree planting, fence replacement, habitat restoration, heritage site restoration, repair of roads and trails, and repair of damage to minor facilities such as campgrounds) to repair or improve lands unlikely to recover to a management approved condition from wildland fire damage, or to repair or replace minor facilities damaged by fire.

Evaluation of Exception to use of Categorical Exclusion

1.	This action would have significant adverse effects on public health or safety.	No ☒	Yes ☐
2.	This action would have an adverse effect on unique geographical features, such as wetland, wild or scenic rivers, refuges, floodplains, rivers placed on nationwide river inventory, or prime or unique farmlands.	No ☒	Yes ☐
3.	The action will have highly controversial environmental effects.	No ☒	Yes ☐
4.	The action will have highly uncertain environmental effects or involve unique or unknown environmental risks.	No ☒	Yes ☐
5.	This action will establish a precedent for future actions.	No ☒	Yes ☐
6.	This action is related to other actions with individually insignificant, but cumulatively significant environmental effects.	No ☒	Yes ☐
7.	This action will affect properties listed or eligible for listing in the National Register of Historic Places.	No ☒	Yes ☐
8.	This action will affect a species listed, or proposed to be listed as endangered or threatened.	No ☒	Yes ☐
9.	This action threatens to violate federal, state, local, or tribal law or requirements imposed for protection of the environment.	No ☒	Yes ☐
10.	This action will have a disproportionately high and adverse effect on low income or minority populations.	No ☒	Yes ☐
11.	This action will limit access to, and ceremonial use of Indian sacred sites on federal lands by Indian religious practitioners, or significantly adversely affect the physical integrity of such sacred sites.	No ☒	Yes ☐
12.	This action will contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area, or may promote the introduction growth, or expansion of the range of such species.	No ☒	Yes ☐

A "yes" to any of the above exceptions will require that an EA be prepared.

NEPA Action - - - **CE X** EA _____

Preparer's Name and Title: Jack Oelfke, Environmental Specialist, Interagency BAER Team

Regional Archeologist Concurrence with Item 7 _____

Concur: _____ Date: _____
Superintendent, Western Nevada Agency

CONCLUSION

I have reviewed the treatments in the 2016 Tule Fire Burned Area Emergency Response Plan in accordance with the criteria above. All proposed treatments qualify as Categorical Exclusions within the Bureau of Indian Affairs list of approved Categorical Exclusions. **Most treatments are approved for initiation; those treatments noted in the table above of the Compliance Summary require additional surveys or permits before they can be implemented.** Burned Area Emergency Response team technical specialists have completed necessary coordination and consultation to insure compliance with the National Historic Preservation Act, Endangered Species Act, and other Federal, State and local environment review requirements. **Additional compliance with Clean Water Act Section 401 permits must be completed for those actions noted in the Compliance Summary table above**.

Prepared by: Jack Oelfke, Virginia Mountains Complex Fire, Environmental Specialist, Interagency BAER Team, August 18, 2016

Approved: _____

Superintendent, Western Nevada Agency Date

BURNED AREA EMERGENCY RESPONSE PLAN

2016 VIRGINIA MOUNTAINS COMPLEX

TULE FIRE

APPENDIX III PHOTO DOCUMENTATION

Hardscrabble Creek Above Fish Hatchery

Cultural_ Issues / Concerns
Virginia Mountains Complex

Fort Sage Prehistoric Drift Fence

Historic Rock Wall

Site with High Vegetation Mortality

Site with Low Vegetation Mortality

Vegetation_ Issues / Concerns
Virginia Mountains Complex

Patchy Low Burn Severity of Mule's Ear Plant Located on the Anderson Fire

Mosaic of Unburned to Moderate Vegetation Mortality and Low Soil Burn Severity on Anderson Fire

High Shrub and Moderate Juniper Mortality on the Tule Fire

Moderate Soil Burn Severity and High Shrub Mortality adjacent to Pyramid Lake

Watershed_ Issues / Concerns
Virginia Mountains Complex

Dunn Hatchery at Risk from Flood and Debris Flows from Hardscrabble Creek

High Soil Burn Severity in Poison Canyon

Residence at Risk Along Hardscrabble Creek

Riparian Exclosure on Jigger Bobb Creek

BURNED AREA EMERGENCY RESPONSE PLAN

2016 VIRGINIA MOUNTAINS COMPLEX

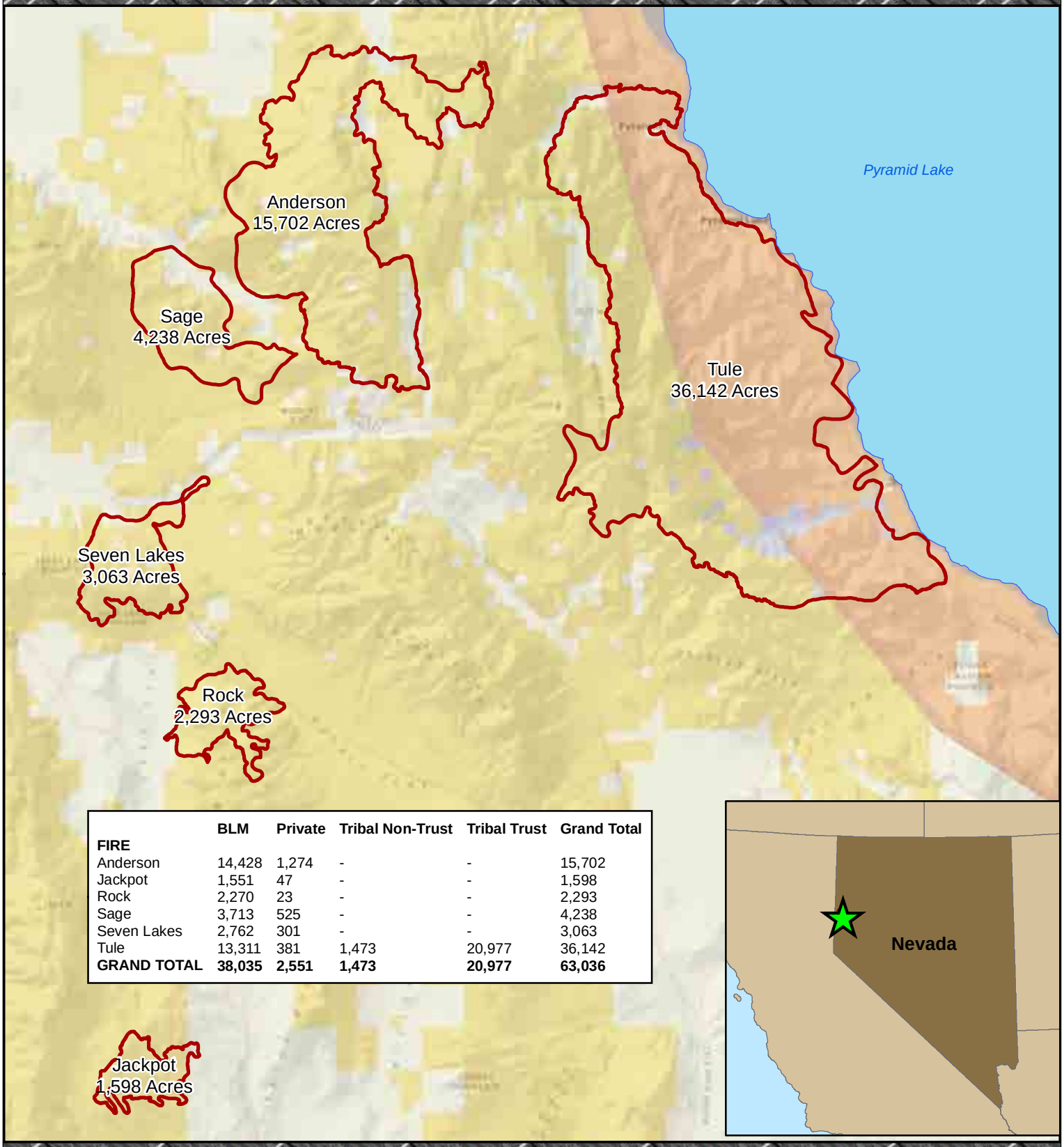
TULE FIRE

APPENDIX IV MAPS

. OWERSHIP
. FIRE PERIMETERS
. SOIL BURN SEVERITY
. BIG CANYON WATERSHED RESPONSE
. COTTONWOOD WATERSHED RESPONSE
. CULVERT CLEANING TREATMENT
. FENCE REPAIR
. GRAZING ALLOTMENTS
. HARDSCRABBLE WATERSHED RESPONSE
. HERD MANAGEMENT AREAS
. JIGGER BOBB WATERSHED RESPONSE
. AGWA MODELED WATERSHEDS
. NEEDLE WATERSHED RESPONSE
. POISON WATERSHED REPONSE
SAGEBRUSH AND BITTERBRUSH MORTALITY
. HYDROLOGY TREATMENTS FOR SUTCLIFFE
. TULE FIRE OWNERSHIP
. VEGETATION ECOLOGICAL SYSTEMS
. HAZARD WARNING / CLOSURE SIGNS
. TULE – VEGETATION TREATMENTS
. HARDSCRABBLE POND TREATMENT
. WEED INFESTATION LOCATIONS
. WILDLIFE HABITAT
.

FIre Damage to End Panels and Gate

Virginia Mountains Complex
Ownership (including Jackpot Fire)



FIRE	BLM	Private	Tribal Non-Trust	Tribal Trust	Grand Total
Anderson	14,428	1,274	-	-	15,702
Jackpot	1,551	47	-	-	1,598
Rock	2,270	23	-	-	2,293
Sage	3,713	525	-	-	4,238
Seven Lakes	2,762	301	-	-	3,063
Tule	13,311	381	1,473	20,977	36,142
GRAND TOTAL	**38,035**	**2,551**	**1,473**	**20,977**	**63,036**

1:200,000

0 1.5 3 6

Miles

N

August 2016

Fire Perimeter

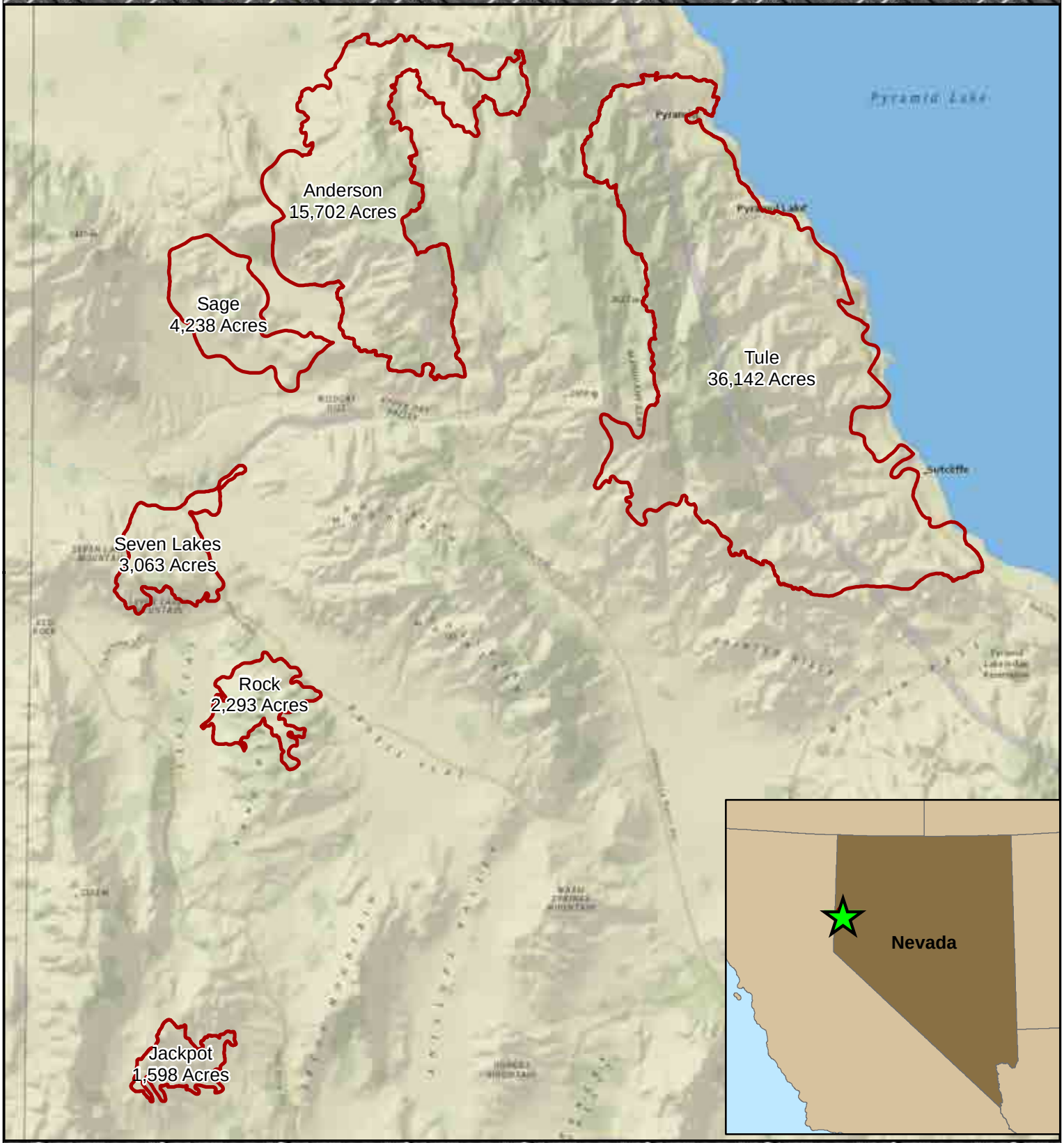
Bureau of Land Management

Private

Tribal Non-Trust

Tribal Trust

Virginia Mountains Complex
Fire Perimeters (including Jackpot Fire)



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0 1.5 3 6

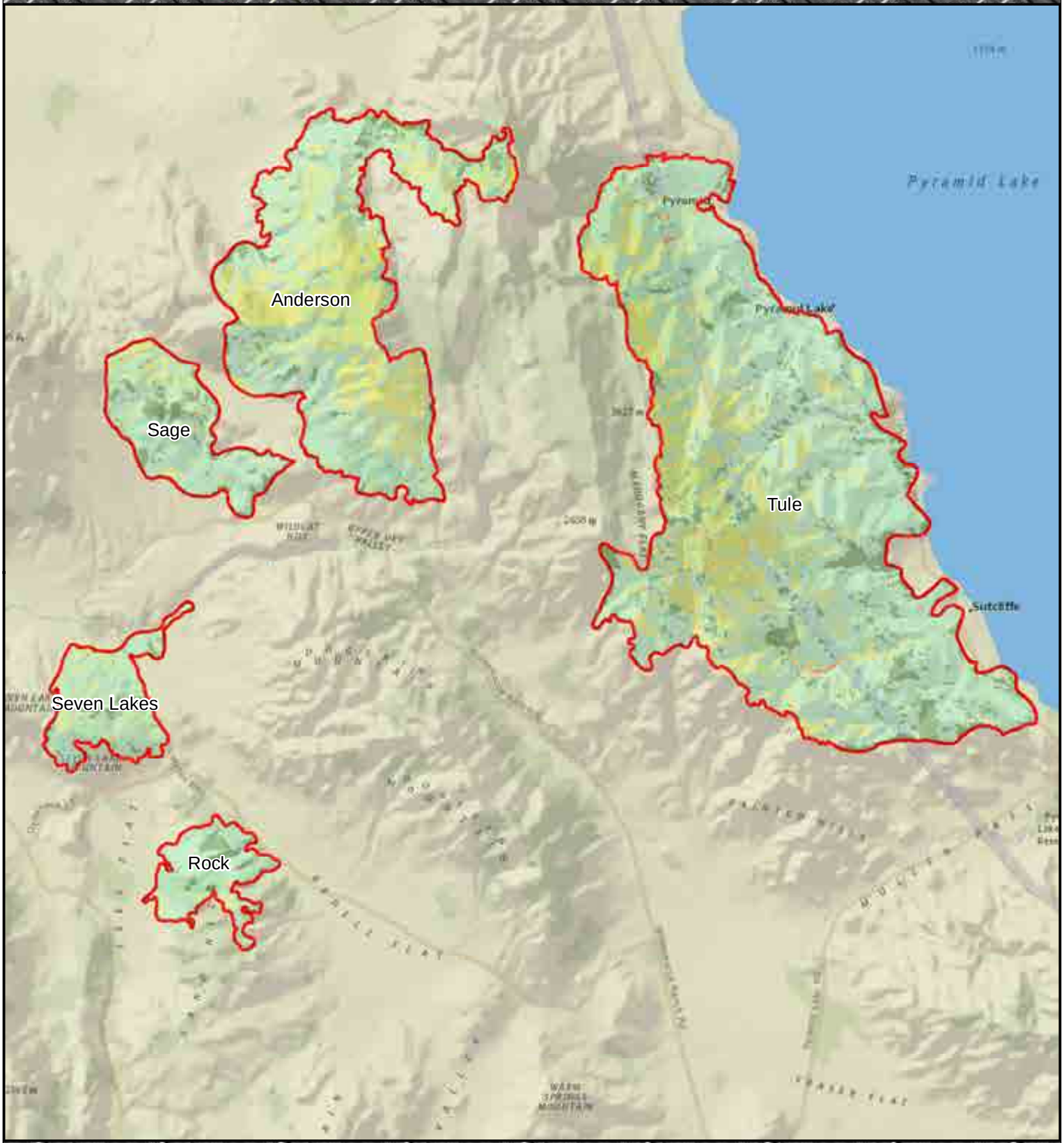
Miles

N

August 2016

Fire Perimeter

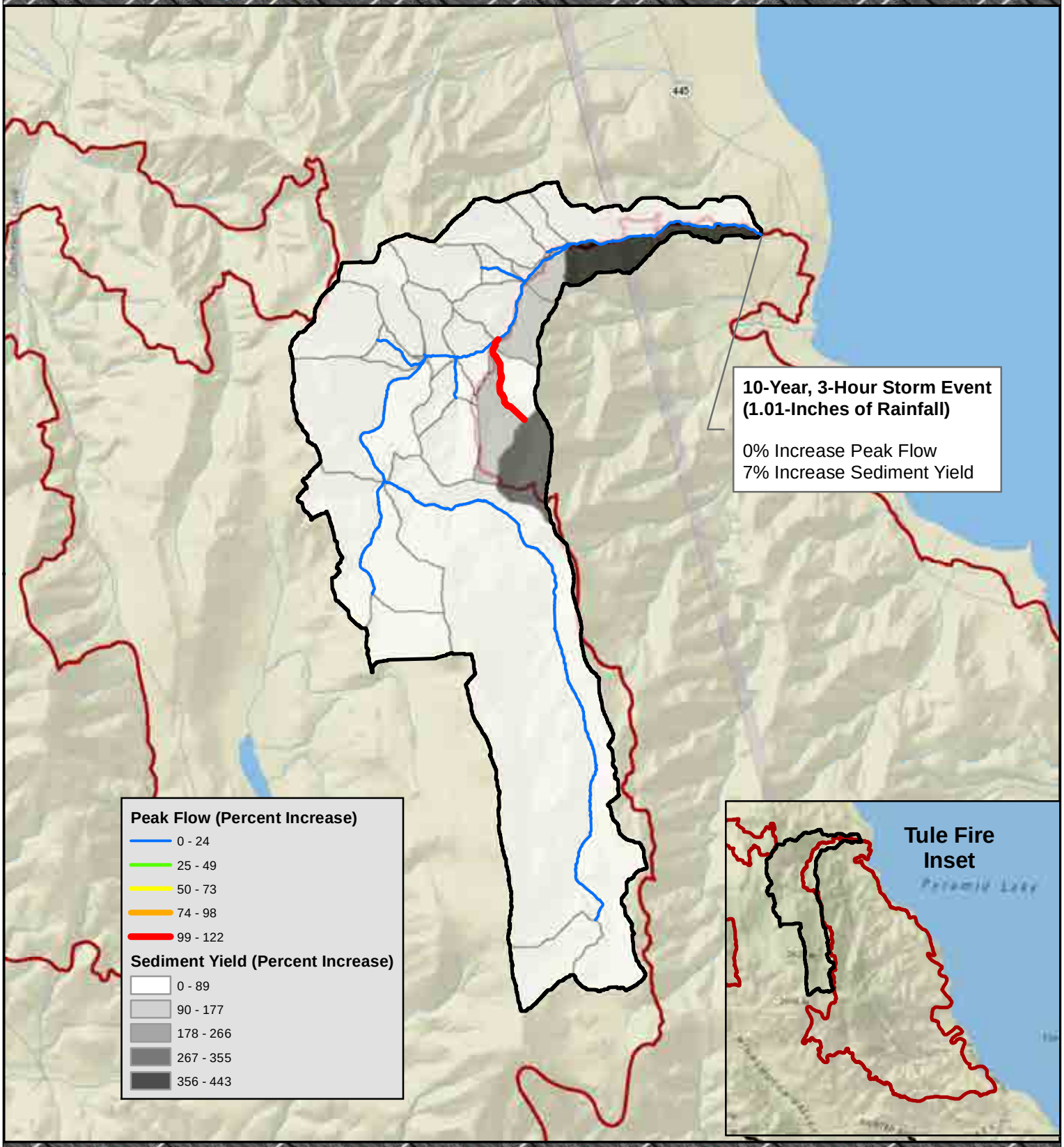
Virginia Mountains Complex
Soil Burn Severity



1:175,000
0 1 2 4
Miles
N

Unburned | Low | Moderate | High | Fire Perimeter

Virginia Mountains Complex
Big Canyon Watershed Response



1:80,000

0 0.4 0.8 1.6

Miles

N

August 2016

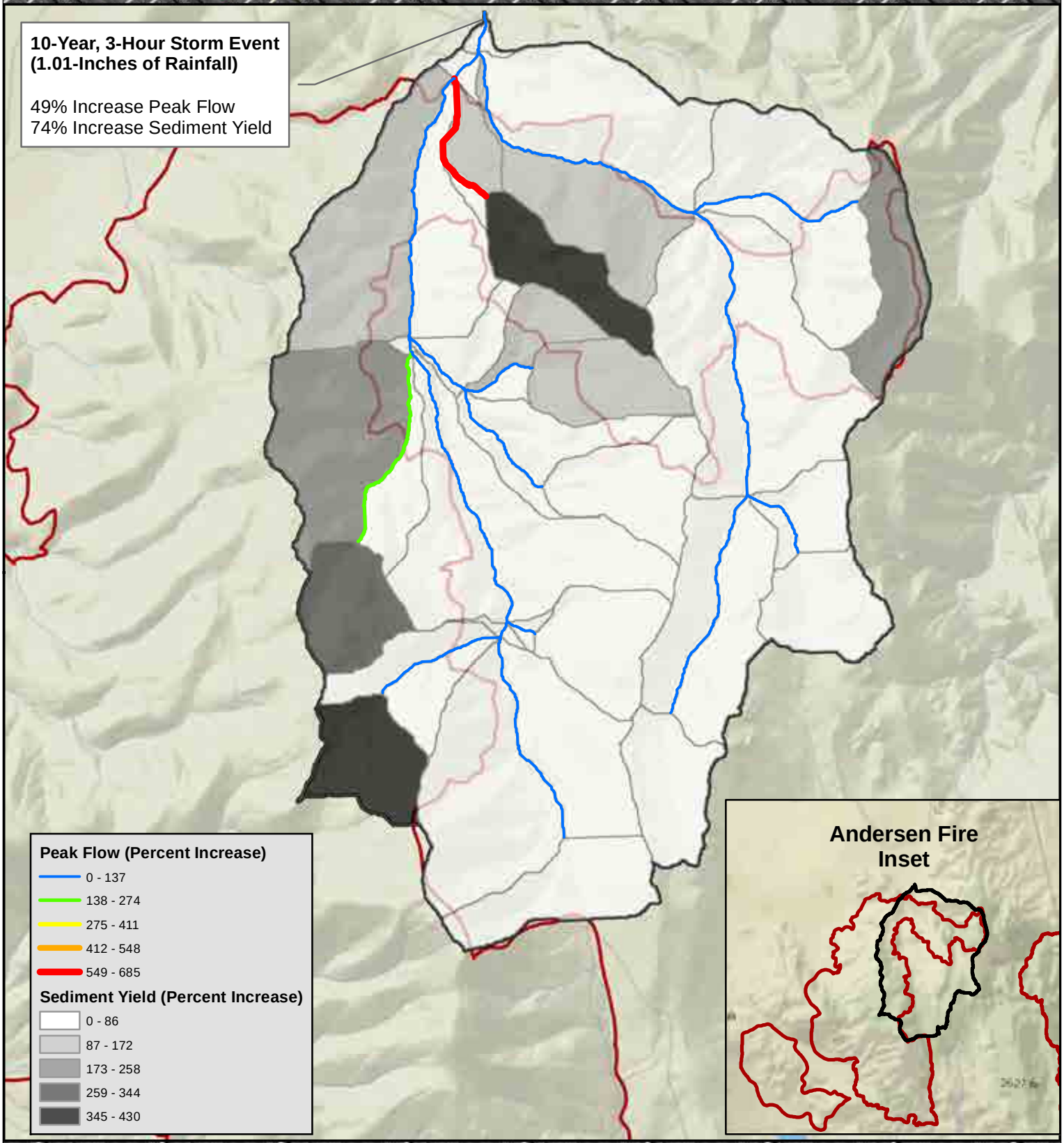
Big Canyon Watershed - 8,745 Acres

Fire Perimeter

Virginia Mountains Complex
Cottonwood Watershed Response

10-Year, 3-Hour Storm Event (1.01-Inches of Rainfall)

49% Increase Peak Flow
74% Increase Sediment Yield



1:50,000

0 0.25 0.5 1
Miles

N

August 2016

Cottonwood Watershed - 9,370 Acres
Fire Perimeter

Virginia Mountains Complex
Culvert Cleaning Treatment - Tule Fire

1:100,000

0 0.75 1.5 3

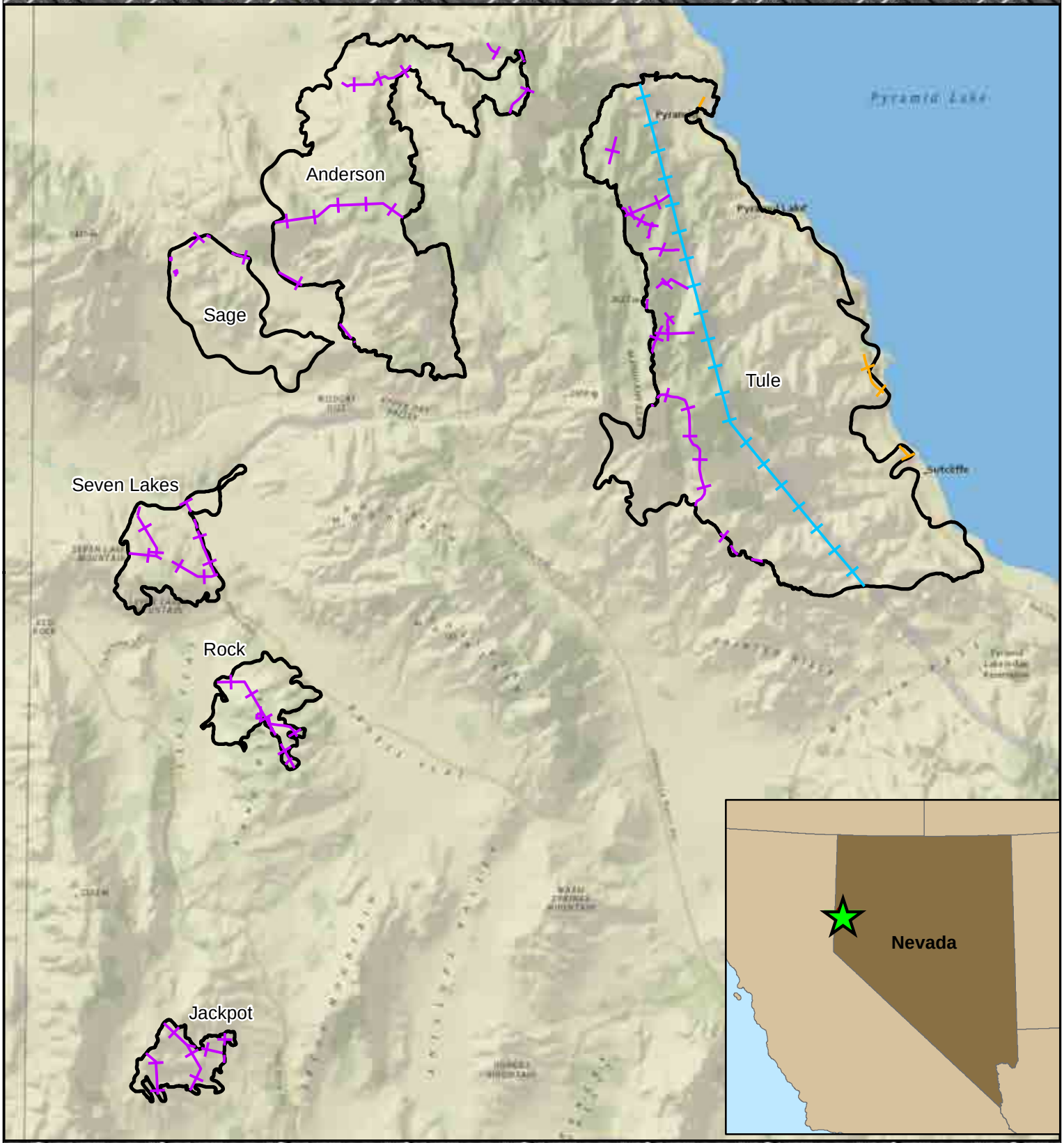
Miles

N

#4 Culvert

Fire Perimeter

Virginia Mountains Complex
Fence Repair



1:200,000

0 1.5 3 6

Miles

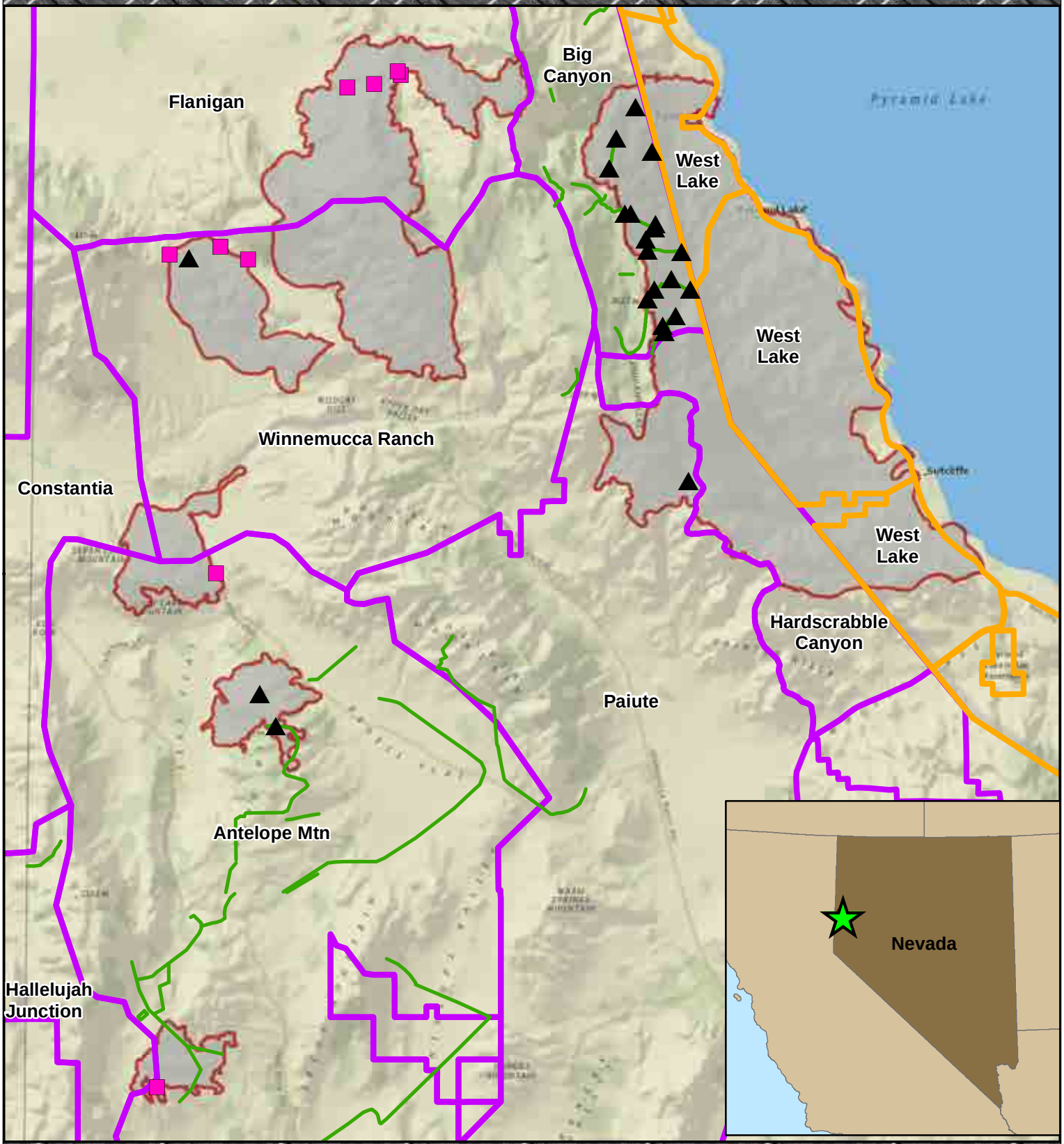
N

August 2016

Fire Perimeter
Fence Repair # 14
Fence Repair # 15
Fence Repair # 16

Virginia Mountains Complex

Grazing Allotments and Rangeland Improvement Projects



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0 1.5 3 6

Miles

N

August 2016

Fire Perimeter

Pipeline

Tribal Allotment

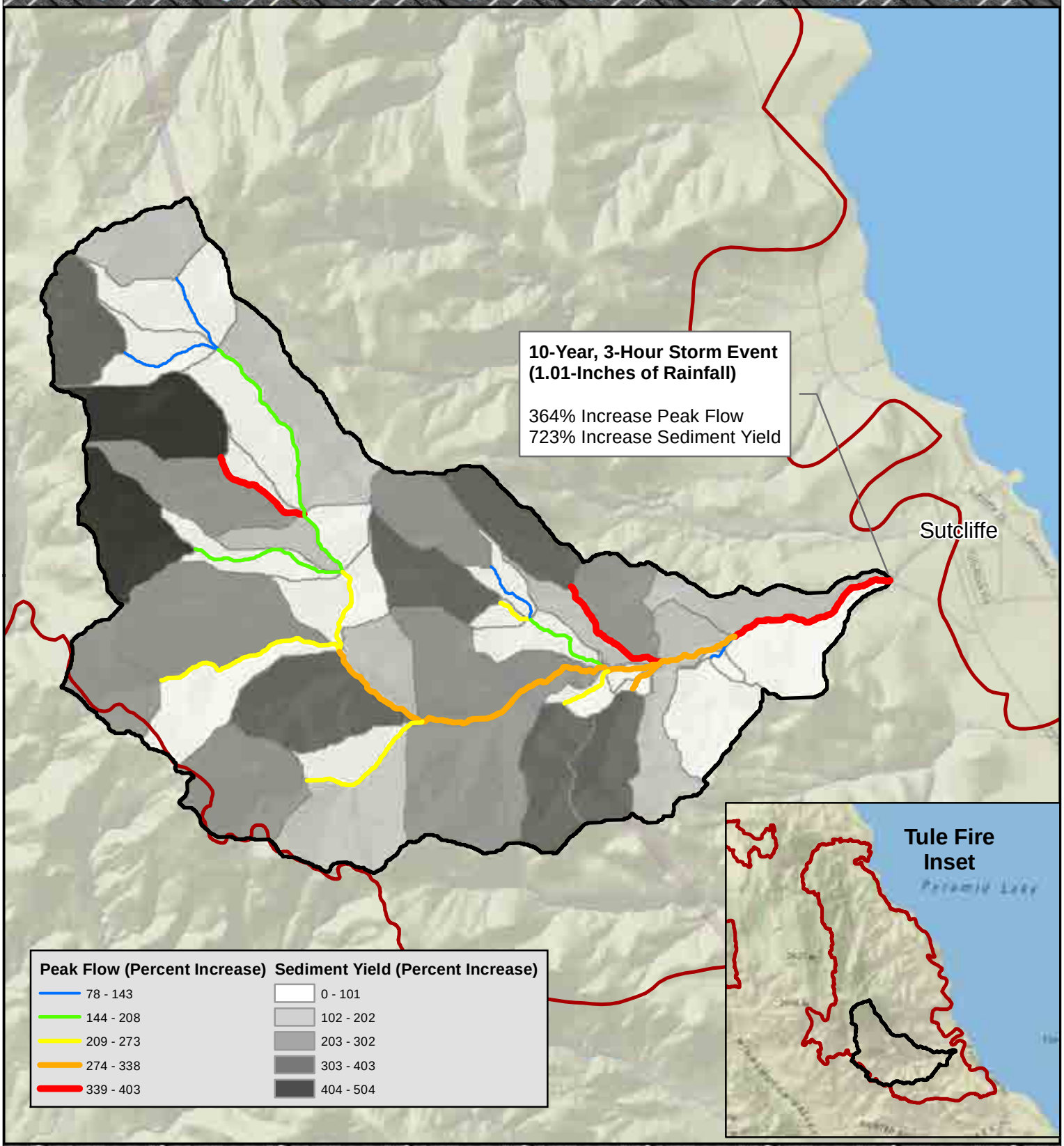
BLM Allotment

RIPS Project Type

Water

Fence

Virginia Mountains Complex
Hardscabble Watershed Response



1:50,000

0 0.25 0.5 1

Miles

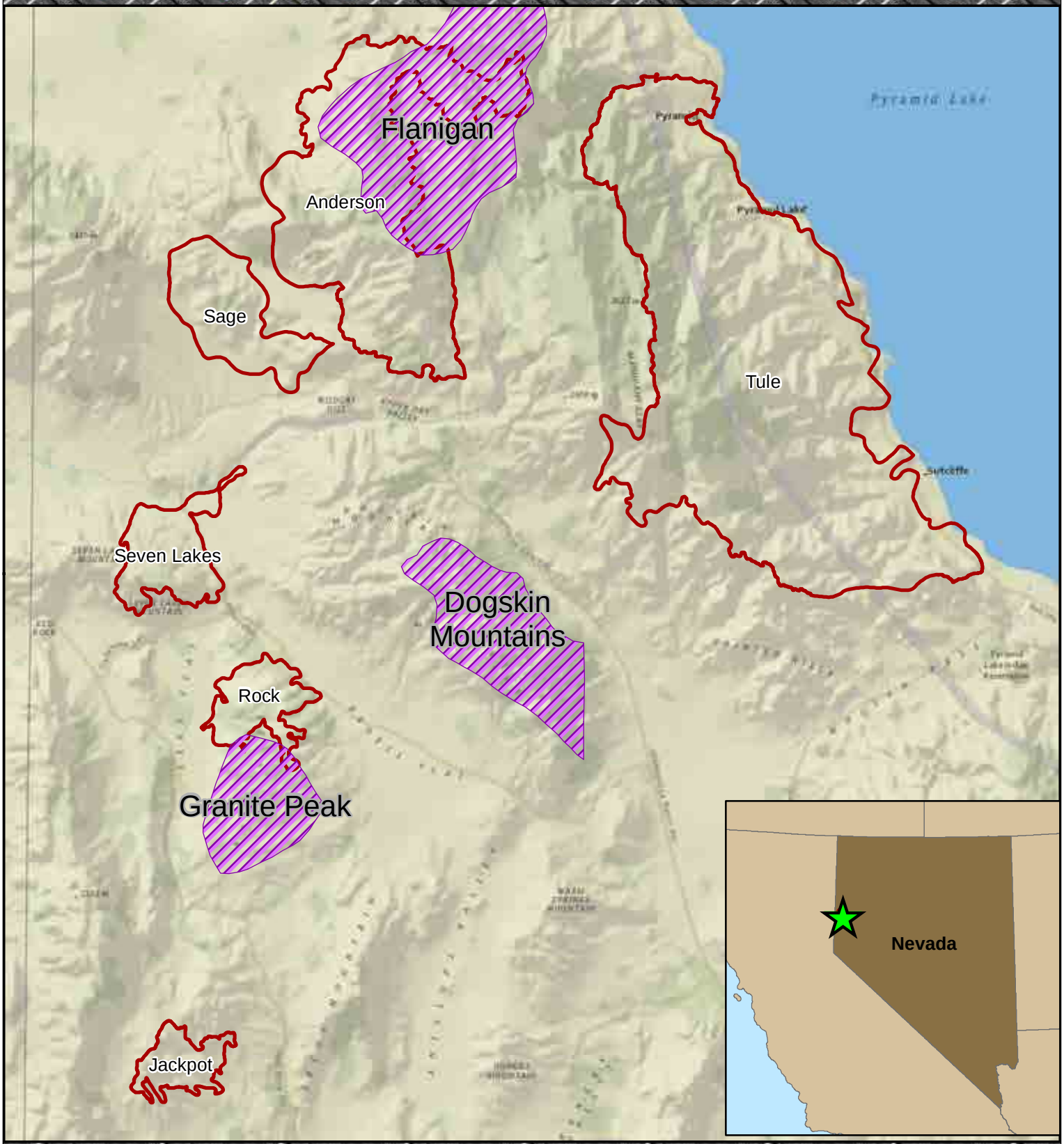
N

August 2016

Hardscabble Watershed - 6,112 Acres

Fire Perimeter

Virginia Mountains Complex
Herd Management Areas



1:200,000

0 1.5 3 6

Miles

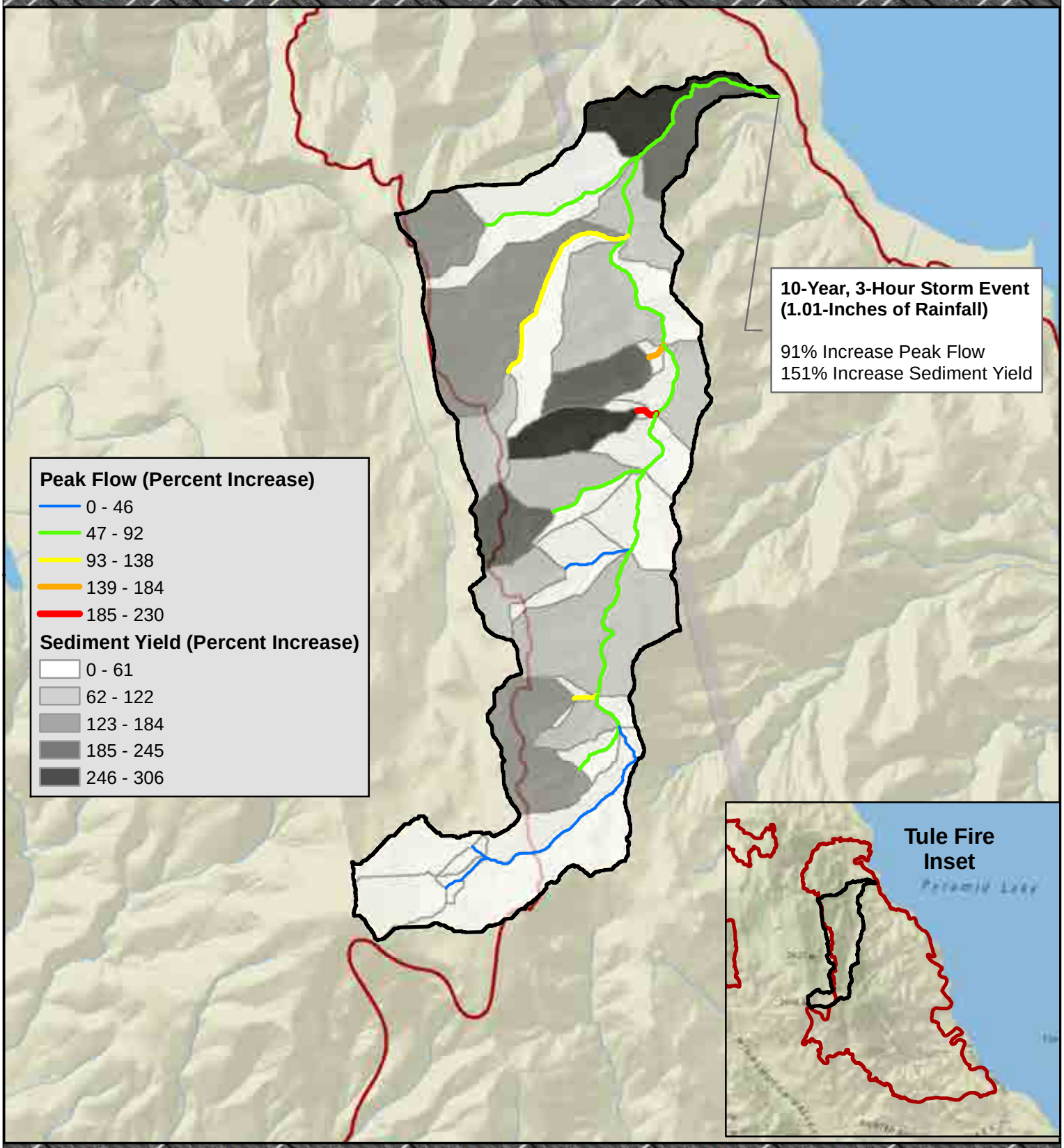
N

August 2016

Herd Management Area

Fire Perimeter

Virginia Mountains Complex
Jigger Bobb Watershed Response



1:60,000

0 0.3 0.6 1.2

Miles

N

August 2016

Jigger Bobb Watershed - 5,280 Acres

Fire Perimeter

Virginia Mountains Complex
Modeled Watersheds

1:120,000

0 0.75 1.5 3

Miles

N

August 2016

Fire Perimeter

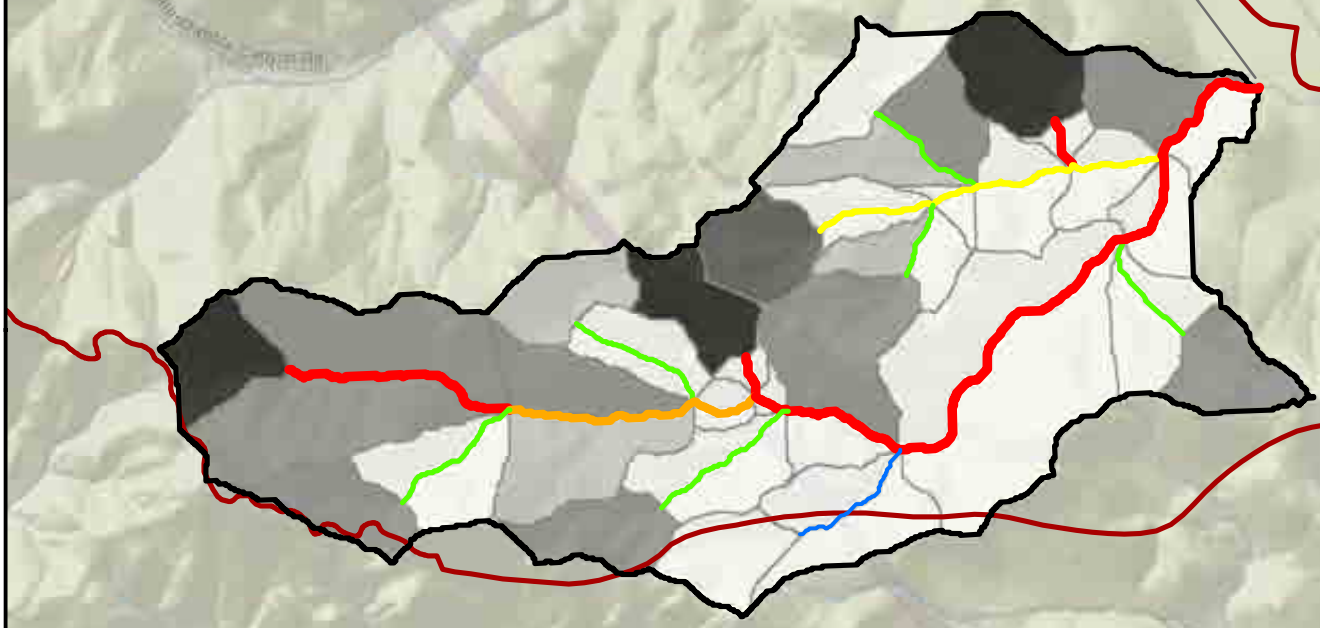
Modeled Watersheds

Virginia Mountains Complex
Needle Rock Watershed Response

10-Year, 3-Hour Storm Event (1.01-Inches of Rainfall)

159% Increase Peak Flow
209% Increase Sediment Yield

Sutcliffe



Peak Flow (Percent Increase)	Sediment Yield (Percent Increase)
5 - 40	0 - 49
41 - 74	50 - 99
75 - 109	100 - 148
110 - 143	149 - 197
144 - 178	198 - 247

1:40,000

0 0.2 0.4 0.8

Miles

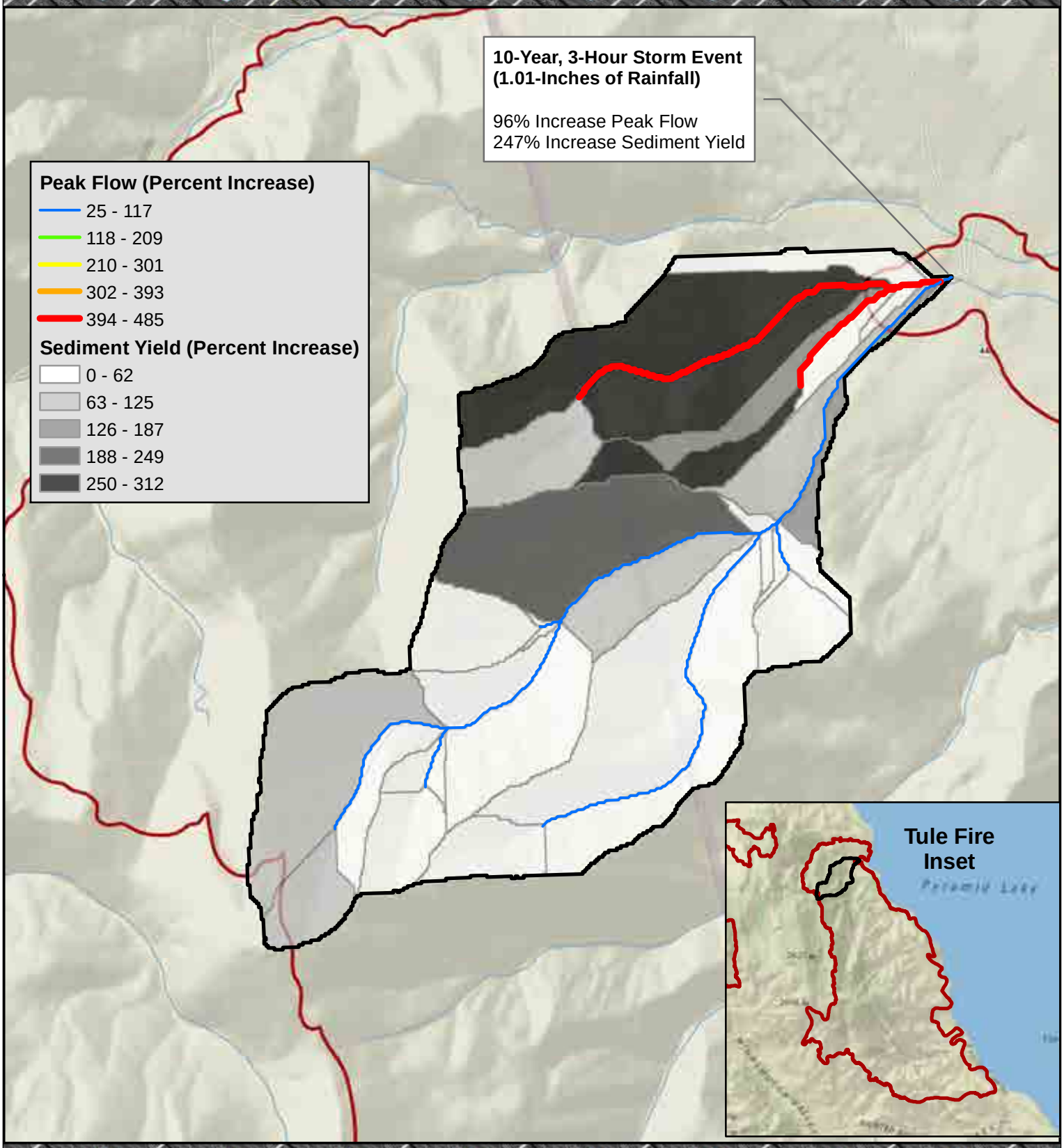
N

August 2016

Needle Rock Watershed - 2,494 Acres

Fire Perimeter

Virginia Mountains Complex
Poison Canyon Watershed Response



1:24,000

0 0.125 0.25 0.5

Miles

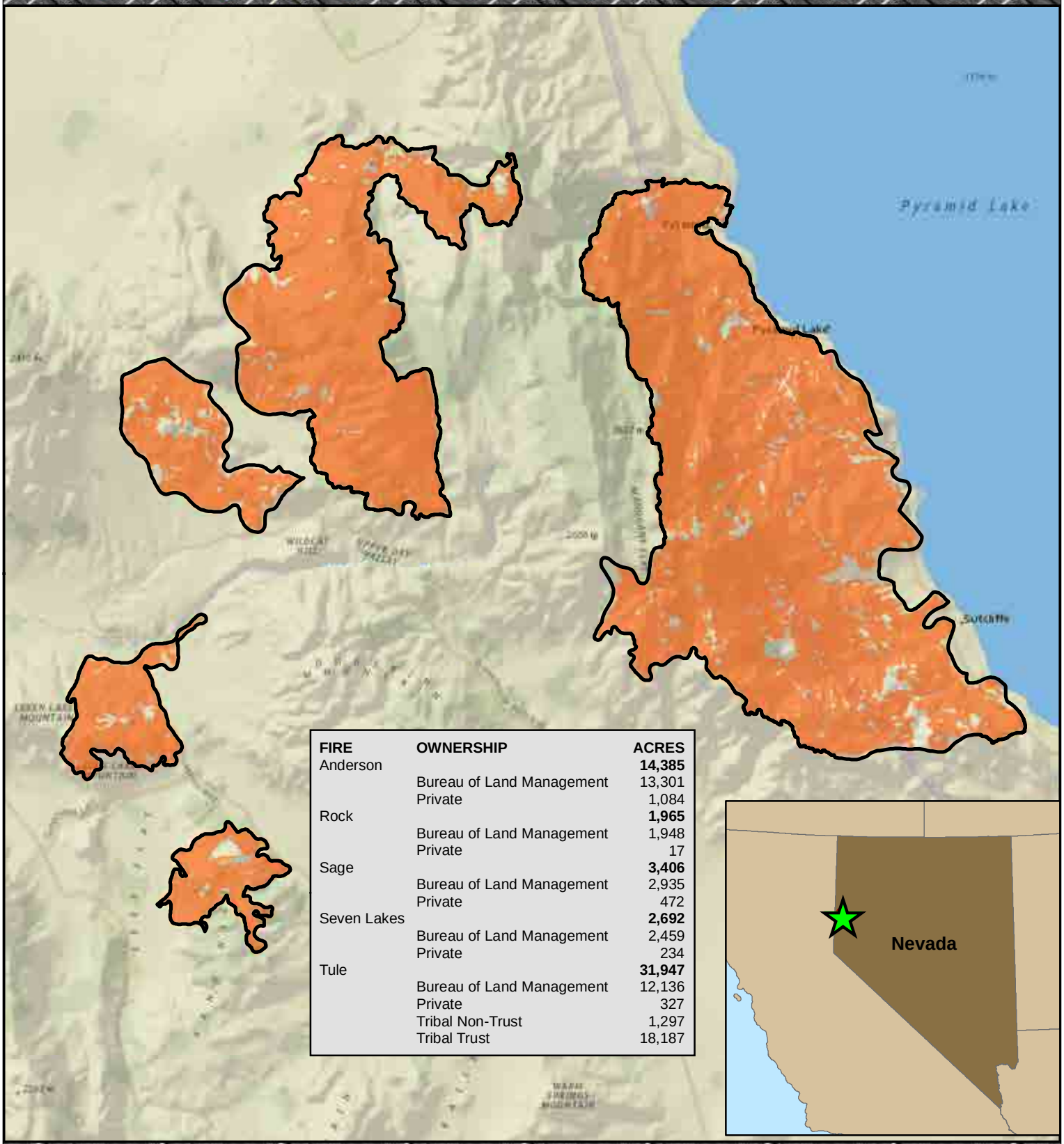
N

August 2016

Poison Canyon Watershed - 1,261 Acres

Fire Perimeter

Virginia Mountains Complex
Sagebrush and Bitterbrush Mortality



FIRE	OWNERSHIP	ACRES
Anderson		**14,385**
	Bureau of Land Management	13,301
	Private	1,084
Rock		**1,965**
	Bureau of Land Management	1,948
	Private	17
Sage		**3,406**
	Bureau of Land Management	2,935
	Private	472
Seven Lakes		**2,692**
	Bureau of Land Management	2,459
	Private	234
Tule		**31,947**
	Bureau of Land Management	12,136
	Private	327
	Tribal Non-Trust	1,297
	Tribal Trust	18,187

1:180,000

0 1.25 2.5 5

Miles

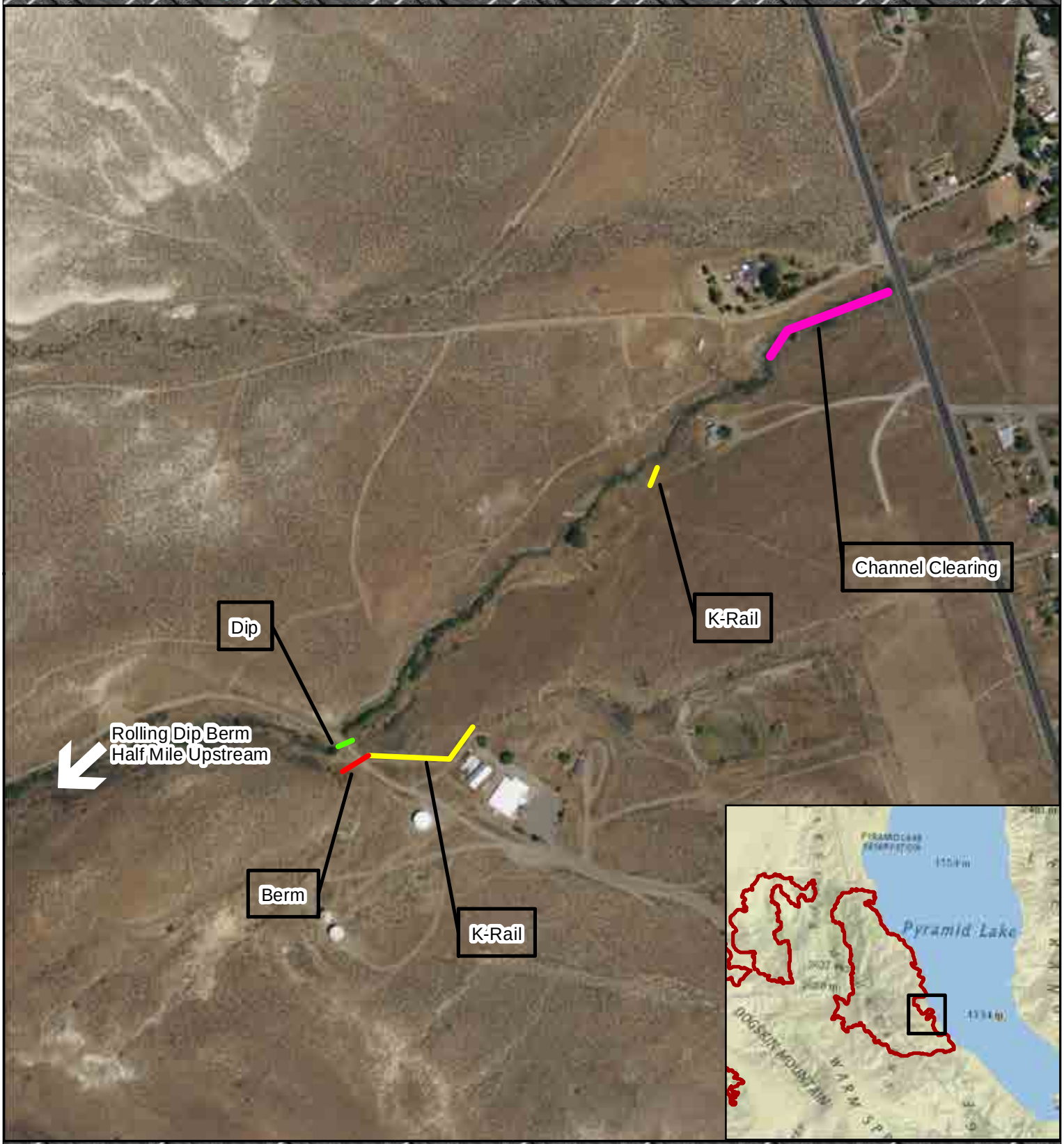
N

August 2016

Fire Perimeter

Shrub Mortality

Virginia Mountains Complex
Hydrology Treatments for Sutcliffe



1:5,000

0 0.0375 0.075 0.15

Miles

N

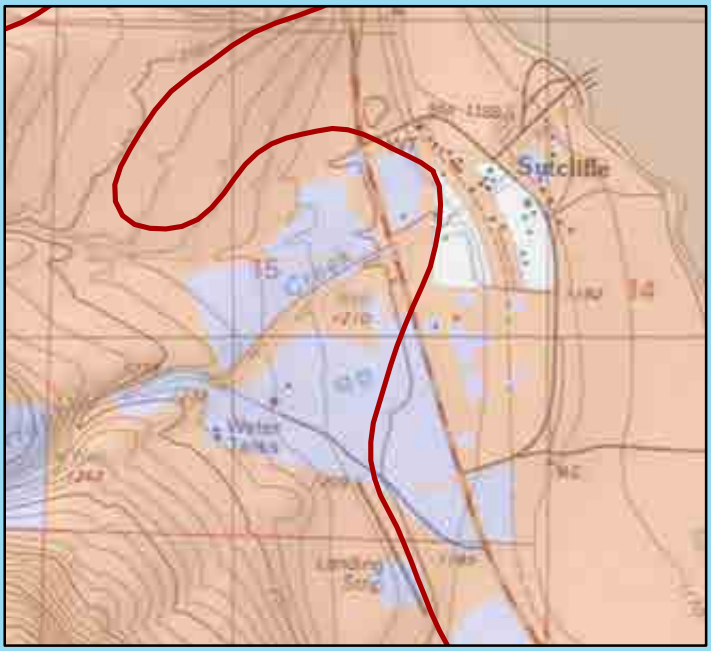
#3 Channel Clearing

#5 Berm

#5 Dip

#9 K-Rail

Virginia Mountains Complex
Tule Fire Ownership



Sutcliffe Inset

Pyramid Lake

See Inset

1:100,000

0 0.75 1.5 3

Miles

N

August 2016

Fire Perimeter

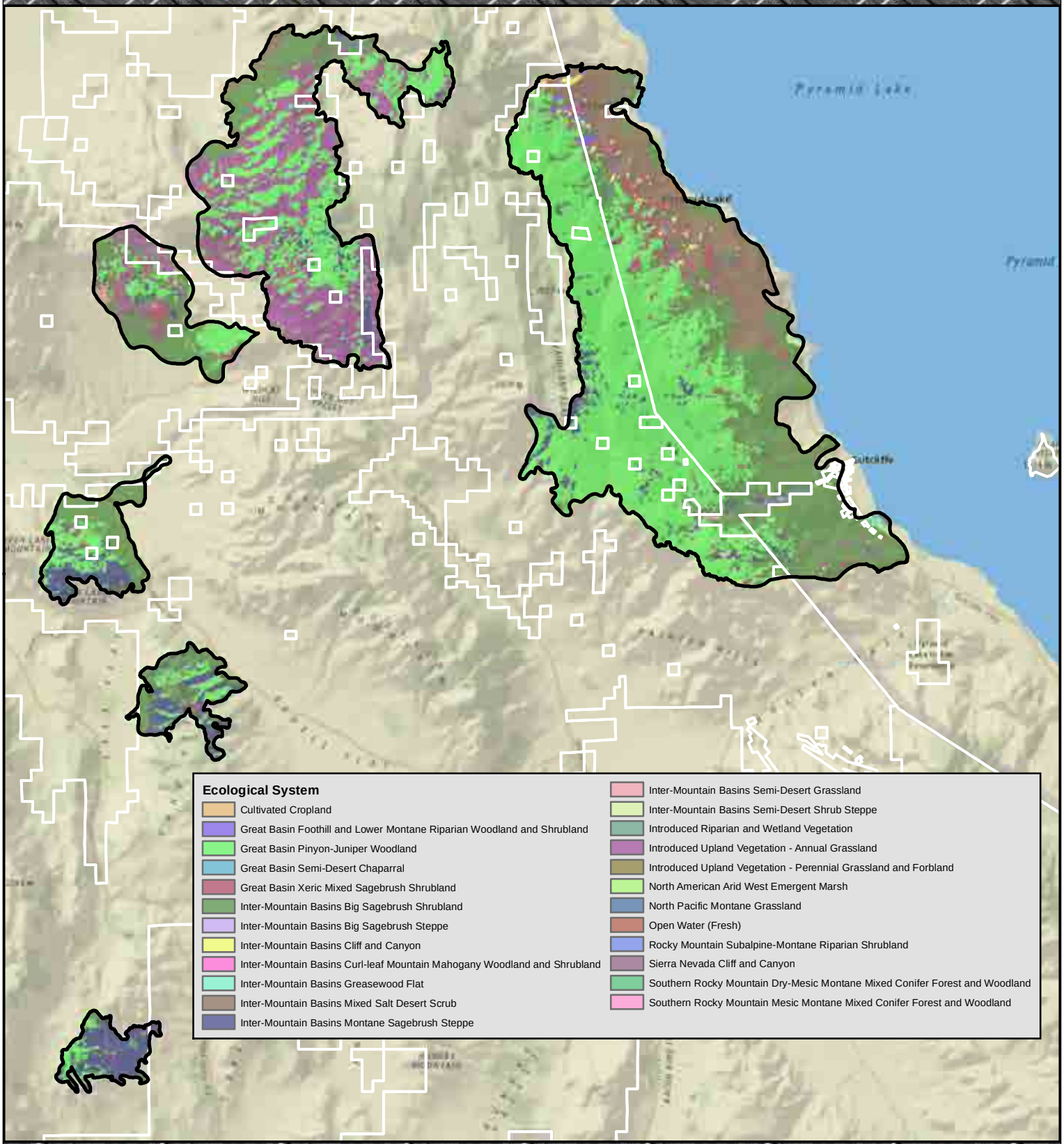
Bureau of Land Management

Private

Tribal Non-Trus

Tribal Trust

Virginia Mountains Complex
Vegetation Ecological Systems



Ecological System

- Cultivated Cropland
- Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland
- Great Basin Pinyon-Juniper Woodland
- Great Basin Semi-Desert Chaparral
- Great Basin Xeric Mixed Sagebrush Shrubland
- Inter-Mountain Basins Big Sagebrush Shrubland
- Inter-Mountain Basins Big Sagebrush Steppe
- Inter-Mountain Basins Cliff and Canyon
- Inter-Mountain Basins Curl-leaf Mountain Mahogany Woodland and Shrubland
- Inter-Mountain Basins Greasewood Flat
- Inter-Mountain Basins Mixed Salt Desert Scrub
- Inter-Mountain Basins Montane Sagebrush Steppe
- Inter-Mountain Basins Semi-Desert Grassland
- Inter-Mountain Basins Semi-Desert Shrub Steppe
- Introduced Riparian and Wetland Vegetation
- Introduced Upland Vegetation - Annual Grassland
- Introduced Upland Vegetation - Perennial Grassland and Forbland
- North American Arid West Emergent Marsh
- North Pacific Montane Grassland
- Open Water (Fresh)
- Rocky Mountain Subalpine-Montane Riparian Shrubland
- Sierra Nevada Cliff and Canyon
- Southern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest and Woodland
- Southern Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodland

1:200,000

0 1.5 3 6

Miles

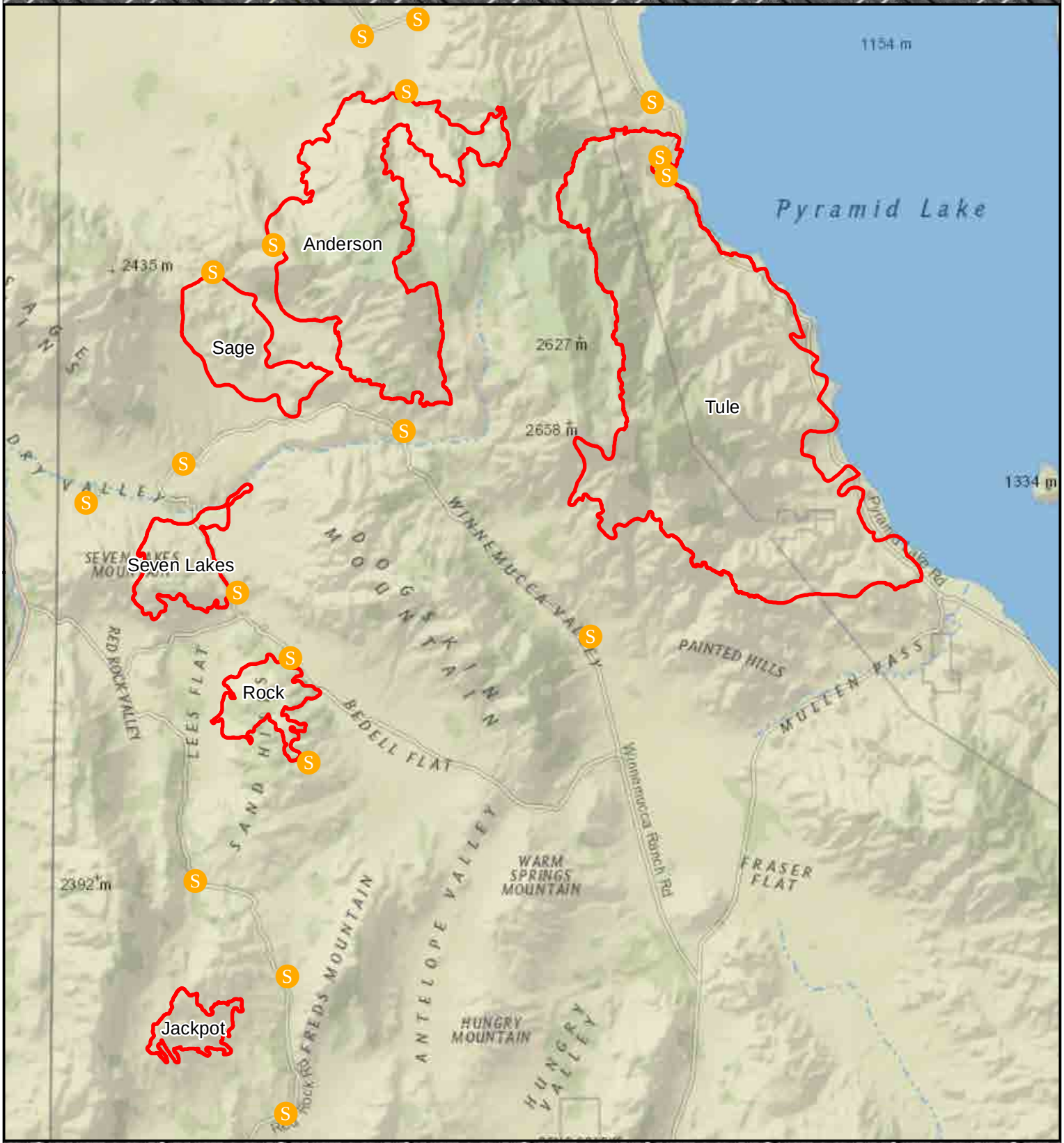
N

August 2016

Fire Perimeter

Ownership

Virginia Mountains Complex
Hazard Warning Signs



1:220,000

0 1.5 3 6

Miles

N

S General signs for resource protection & safety #8

Fire Perimeter

Virginia Mountains Complex
Tule - Vegetation Treatments

1:92,700

0 0.5 1 2

Miles

N

#19 Planting of Traditional Use Areas

#24 Pretreatment of Seeded Areas/Ground Based Seeding Application

#25

Fire Perimeter

Virginia Mountains Complex
Hardscrabble Pond Hydrology Treatment

1:1,000

0 0.0075 0.015 0.03

Miles

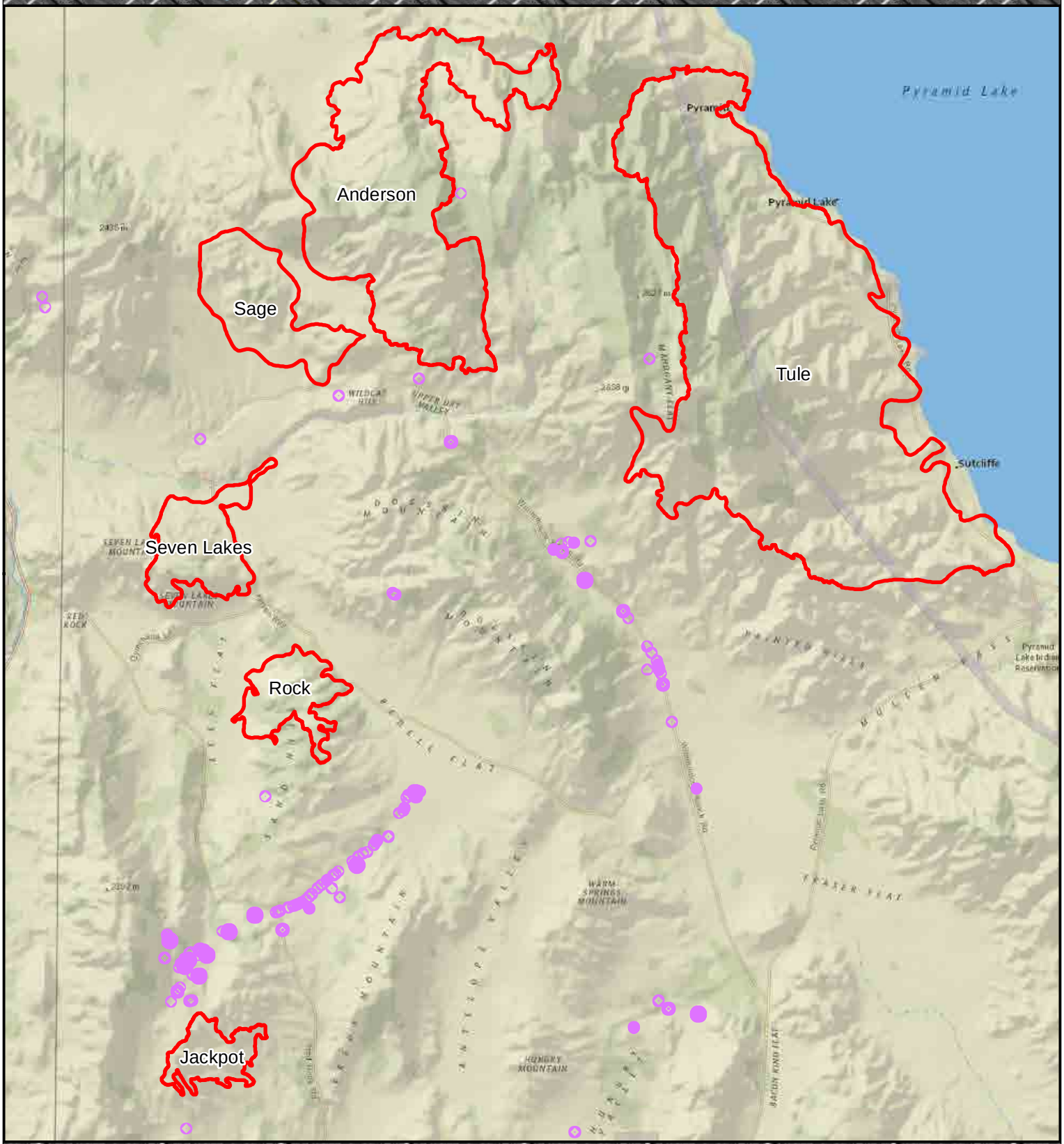
N

#5

Deflector Berm

Stream

Virginia Mountains Complex
Inventory/Treatment of Noxious Weeds



1:200,000

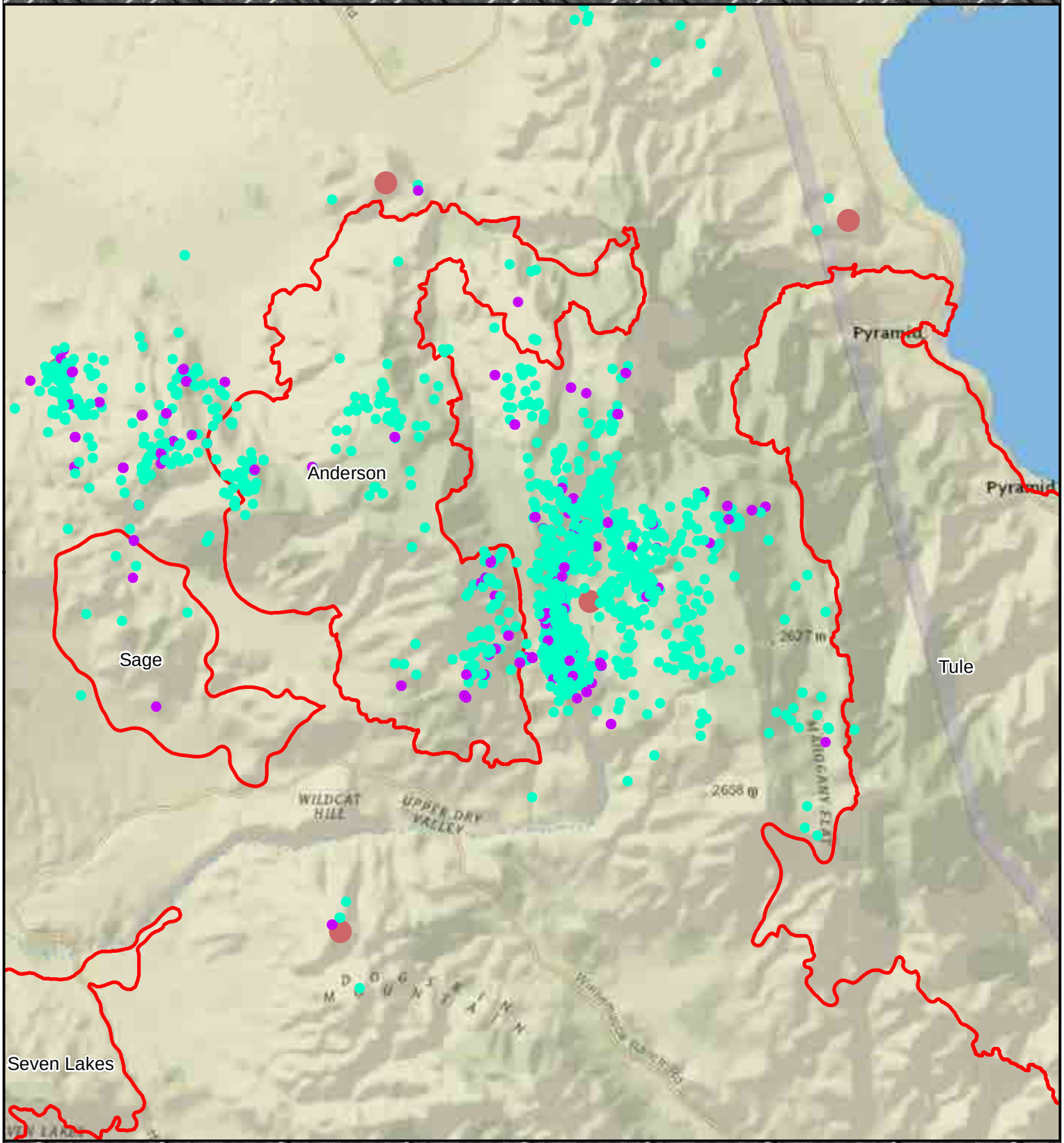
0 1.5 3 6 Miles

N

#22 #23 Weed Infestation Location

Fire Perimeter

Virginia Mountains Complex
Wildlife Habitat



1:122,000

0 0.5 1 2

Miles

N

- Nesting Site
- Breeding & Brood Rearing
- Fire Perimeter
- Sage-grouse Lek

BURNED AREA EMERGENCY RESPONSE PLAN

2016 VIRGINIA MOUNTAINS COMPLEX

TULE FIRE

APPENDIX V SUPPORTING DOCUMENTATION

1. **Delegation of Authority**
2. **BAER Team Roster**
3. **Pyramid Lake Paiute In briefing_VAR**
4. **BLM In Briefing_VAR**
5. **Issues and Concern Chart**
6. **Job Hazard Analysis**
7. **BLM_Funding Request Memo**
8. **Hardscrabble Point Protection Meeting**
9. **Part D Table: Total BIA_BLM**
10. **Cost Risk Analysis**

Boundary Fence South of Big Canyon

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Western Nevada Agency
311 East Washington Street
Carson City, Nevada 89701-4065

Superintendent
775.887.3500

TAKE PRIDE IN AMERICA

AUG - 8 2016

MEMORANDUM

To: Team Leader, Burned Area Emergency Response (BAER) Team

From: Superintendent, Western Nevada Agency

Subject: Virginia Mountain Complex (Tule) BAER Team Delegation of Authority

You are hereby delegated authority and responsibility to assess post fire effects and produce a Burned Area Emergency Response (BAER) Plan outlining measures and standards necessary to mitigate fire damage resulting from the Tule Fire. All BAER activities will be conducted within the framework of provisions contained within Part 620: Department of Interior Manual Chapter 3; Bureau of Indian Affairs policy and sound resource management practices. A National Environmental Policy Act (NEPA) document will be prepared as part of the BAER Pan.

Your primary responsibility is to organize and direct your assigned resources to establish cost effective measures to protect the resources of the Pyramid Lake Paiute Reservation from further damage and start the process of recovery. You are to work in cooperation with the Pyramid Lake Paiute Tribe.

As a team leader, you are accountable to me and to the Western Regional Director, Bryan Bowker. If I am not immediately available, Gerry Emm, Deputy Superintendent, is delegated to represent me.

VMC BAER Team

POSITION	NAME/ORGANIZATION (Unit Identifier) ADDRESS (GACC)	CELL EMAIL
Team Leader BAEL	**TJ Clifford**/ BLM 3948 Development Ave., Boise, ID 83705	(208) 866-3204 tclifford@blm.gov
Deputy BAEL	**Gavin Lovell**/BLM 280 Highway 191 North, Rock Springs, WY 82901-3448	(307) 389-3425 g75lovel@blm.gov
BAER Coordinator BAEL	**Darryl Martinez**/ BIA 1001 Indian School Rd., Albuquerque, NM 85001)	(505)331-3514 darryl.martinez@bia.gov
Wildlife BABI	**Ken Griggs/**USFWS 4009 Hill Road, Tulelake, CA 96134	(541)892-6654 kenneth_griggs@fws.gov
Geo. Info Specialist GISS	**Trisha Johnson**/Confederated Tribes of Warm Springs P.O. Box C Warm Springs OR 97761 (NW)	(541) 279-8084 trisha.johnson@ctwsbnr.org
Geo. Info Specialist GISS(t)	**Kenneth Elsner**/ USFWS 755 Parfet St., Lakewood CO, 80215	(720) 338-9650 kenneth_elsner@fws.gov
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Archeologist/Cultural BACS	**Dan Hall**/BIA 2800 Cottage Way, Sacramento, CA 95825	(530) 613-0404 harold.hall@bia.gov
Hydrologist BAHY	**David Mattern/** BLM 100 Sun Avenue, NE Pan American Building, Suite 330 Albuquerque, NM 87109	(505) 901-3857 dmattern@blm.gov
Hydrologist BAHY	**Rich Pyzik/ USFS** 303 Hwy 31, Paisley, OR 97636	(541) 219-1871 rpyzik@fs.fed.us
Vegetation BABO	**Garrett Dickman/**NPS PO Box 700, Yosemite National Park, El Portal, CA 95318	(406) 599-8210 garrett_dickman@nps.gov
Vegetation BABO	**Johanna Blanchard/** BLM 777 NW Garden Valley Blvd., Roseburg, OR 97471	(440) 413-0731 jlblanchard@blm.gov

Environmental Prot. BAEN	**Jack Oelfke**/ NPS 810 State Route 20, Sedro Woolley, WA 98284	(360) 391-8138 jack_oelfke@nps.gov
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BAER _ Paiute Tribe / BIM
Tribal office

VMC Fire

Date: 8/08/16

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BAER _ BLM - Carson City

VMC Fire

Date: 8/08/16

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BAER_VMC Fires_
BLM Carson City

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2016 VMC FIRES

ISSUE #	Issues/Concerns	Potential Adverse Impact	Specific Issue and/or Location	BLM	BIA	Fund ES	Fund BAR	RESULT SPEC #	RESULT Responsible Party	RESULT NON-SPEC	RESULT NO ISSUE	PRE-RISK Likelihood	PRE-RISK Consequence	PRE-RISK Risk	NOTES	TREATED RISK	COSTS
1	FLOODING		Sutcliffe	X		X		#1 - Reservoir Protection	Rich			Probable	Major	Extreme	protection of community	Low	$5,790
					X	X		#5 - Road drainage improvement	Rich			Probable	Major	Extreme		Low	$13,150
					X	X		#6 - Storm patrol	Rich			Probable	Major	Extreme		Low	$85,490
					X	X		#7 - Early Alert System	Rich			Probable	Major	Extreme		Low	$285,360
				X	X	X		#8 - General signs for resource protection, safety	Gavin			Probable	Major	Extreme		Low	$6,690
					X	X		#9 - Point protection structures	Rich			Probable	Major	Extreme		Medium	$26,110
		IMPOUNDMENT FOR AGRICULTURE	Hardscrabble	X		X		#1 - Reservoir Protection	Rich			Probable	Major	Extreme	Repair valve - long standing issue	Low	$5,790
					X	X		#5 - Road drainage improvement	Rich			Probable	Major	Extreme		Low	$13,150
					X	X		#6 - Storm patrol	Rich			Probable	Major	Extreme		Low	$85,490
					X	X		#7 - Early Alert System	Rich			Probable	Major	Extreme		Low	$285,360
				X	X	X		#8 - General signs for resource protection, safety	Gavin			Probable	Major	Extreme		Low	$6,690
					X	X		#9 - Point protection structures	Rich			Probable	Major	Extreme		Medium	$26,110
			Fish Hatchery at Dunn		X	X		#5 - Road drainage improvement	Rich			Possible	Major	Extreme		Low	$13,150
					X	X		#6 - Storm patrol	Rich			Possible	Major	Extreme		Low	$85,490
					X	X		#7 - Early Alert System	Rich			Possible	Major	Extreme		Low	$285,360
				X	X	X		#8 - General signs for resource protection, safety	Gavin			Possible	Major	Extreme		Low	$6,690
					X	X		#9 - Point protection structures	Rich			Possible	Major	Extreme		Medium	$26,110
			Old fisheries building		X	X		#3 - Channel Clearing	Rich			Possible	Minor	Low		Low	$15,280
					X	X		#2 - Engineering/Design	Rich			Possible	Minor	Low		Low	$15,000
			Old water system at Dunn		X	X		#9 - Point protection structures	Rich			Likely	Minor	Medium	Beware of previous pipe systems next to road	Low	$26,110
					X	X		#4 - Culvert Cleaning	Rich			Likely	Minor	Medium		Low	$12,300
			Culvert by dam - dry retention pond up Hardscrabble.	X					Rich						Address through other watershed protection measures - see Watershed report		
			Whittey's Ranch			X				X		Probable	Major	Extreme	NRCS Assist		
			Rancho Haven	X							X	Unlikely	Minor	Medium	AGWA modeing being completed, potential for flooding is low		
			Cottonwood Cyn	X							X	Unlikely	Minor	Medium	AGWA modeing being completed, potential for flooding is low		
			Big Canyon		X						X	Unlikely	Minor	Medium	AGWA modeing being completed, potential for flooding is low		
2	INFRASTRUCTURE	STATE ROAD	Access To Pyramid Lake	X	X	X		#8 - General signs for resource protection, safety	Gavin			Probable	Moderate	High		Medium	$6,690
		RAILROAD TRACK	Cement Culverts	X	X				Rich	#5 - Road drainage improvement		Possible	Minor	Low		Low	
		ROADS	Ingress/Egress To Susanville		X					Recommendation to NDOT or Tribe					Refer to #8 and #6 - Pyramid Lake		
			Recreational Access to Fishing Areas		X					Recommendation to NDOT or Tribe					Refer to #8 and #6 - Pyramid Lake		
			Winnemucca Valley	X							X				Assessed for Risk.		
			Culvert locations		X	X		#5 - Road drainage improvement	Rich			Probable	Moderate	High		Low	$13,150
					X	X		#4 - Culvert Cleaning	Rich			Probable	Moderate	High		Low	$12,300
			Water Quality Sampling sites		X					Address the situation as necessary		Possible	Minor	Low	Access points are unimproved or unmaintained roads.		

2016 VMC FIRES

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			Fisheries Water Well		X					Suppression rehab					Retardant damage that needs to be cleaned up/removed		
			Sutcliffe Drinking Water Storage tower		X					Suppression rehab					Retardant damage that needs to be cleaned up/removed		
		WATER QUALITY	Fisheries Water Tower retardant		X				Ryan	Suppression rehab - clean retardant					Retardant damage that needs to be cleaned up/removed		
		PIPELINE	Sage Fire	X							X				Runoff is not expected to cause erosion		
			Well Water		X						X				Reviewed - not an issue		
			sewage		X						X				Reviewed - not an issue		
		SPRINGS AND DAMS	Headcuts		X										Addressed under Flooding Issue		
			Hard Scrabble		X										Addressed under Flooding Issue		
		DUNN HATCHERY	Culvert by hatchery		X	X		#2 - Engineering/Design	Rich			Probable	Moderate	High	Long-term solution to be coordinated with all agencies.	Low	$15,000
					X	X		#9 - Point protection structures	Rich			Probable	Moderate	High	Short-term - solution to be addressed immediately	Medium	$26,110
		CELL PHONE TOWER	Crown Castle		X						X				Not a post-fire issue		
3	WATER QUALITY	PYRAMID LAKE	Sediment Flow		X					Addressed in Hydro analysis					Docmented through local fisheries bio - not expected to be affected by overland flows.		
		SPRINGS			X	X			Ryan			Probable	Moderate	High	Wild Horse removal	Low	
		STREAMS	Mobilization of retardant into pyramid lake		X					Suppression-related					Retardant damage that needs to be cleaned up/removed		
		RESERVOIR			X					Addressed in Hydro analysis					Docmented through local fisheries bio - not expected to be affected by overland flows.		
4	WILDLIFE	SAGE GROUSE	Habitat	X			X	#10 Seedling grow/plant (Anderson)	Ken			Probable	Moderate	High	Nesting cover significantly impacted; needs stablization and rehab	Medium	$282,474
										Recommendations to be included in assessment		Probable	Moderate	High		Medium	
				X		X		#11 - Aerial seeding (Anderson)	Johanna			Probable	Moderate	High		Medium	$86,149
				X		X		#12 - Aerial herbicide application (Anderson)	Garrett			Probable	Moderate	High		Medium	$62,150
		MULE DEER /PRONGHORN	Winter Range	X	X			#26 Bitterbrish seedling grow/plant(Rock)	Ken	Recommendations to be included		Probable	Minor	Medium	Mule deer will benefit from planting	Medium	$76,001
		CALIFORNIA BIGHORN	Winter Range	X					Ken		X				Benefit from ES/BAR treatments		
		LAHOTAN CUTTHROAT CUI UI			X			See water	Ken	Research, water quality monitoring					upstream watershed treatments will benefit water quality and LCT & Cui-ui		
		GOLDEN EAGLES	Nesting	X							X				Habitat is not affected; temporary loss of prey base.		

2016 VMC FIRES

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		SPRING SNAIL									X				Not identified in the fire perimeter		
		PELICAN			X						X				Colony is on island in lake; habitat is not affected		
		FISHERIES	Dunn, Lake Ops, Nets Hatcheries		X						X				Docmented through local fisheries bio - not expected to be affected by overland flows.		
		CHUCKAR			X										Upland revegetation and natural recovery expected to benefit the bird; temporary loss of cover		
		GUZZLERS	Seven Lakes; Rock fires	X			X		Ken	Inventory and fix as appropriate					Minimal damage - coordinate with NDOW to repair. See wildlife report		
			(Sandhills on the North end of the rock fire)	X			X		Ken	Inventory and fix as appropriate					Minimal damage - coordinate with NDOW to repair. See wildlife report		
5	HAZARDOUS MATERIALS		Two Trailers, illegal dumps		X	X		#13 - assessment for hazmat potential on BIA/Tribal lands	Jack						Assess and spec for hazmat and let Tribe determine course of action. Include $ for evaluation.		$4,652
			TH Ranch		X					Private Land					Nothing on Tribe/BLM to address		
6	FENCES	LIVESTOCK GRAZING	Boundary Fence	X	X	X		#14 - Repair/replace damaged fence Pyramid lake - ES	Ryan			Likely	Moderate	High	Human health and safety - boundary and tribal fence by highway	Low	$7,071
			All fences	X			X	#16 - Assess fences for damage	Ryan			Likely	Moderate	High		Low	$359,481
			Other fences	X	X		X	#16 - Repair/replace damaged fence - BAR	Ryan			Likely	Moderate	High		Low	$359,481
		RIPARIAN PROTECTION	Jigger bobb		X	X		Wild horse removal	Ryan			Likely	Moderate	High		Low	$600,000
			Hardscrabble riparian	X	X	X	X	Wild horse removal	Ryan			Likely	Moderate	High		Low	$600,000
			Spring protection	X	X	X		Wild horse removal	Ryan			Likely	Moderate	High		Low	$600,000
7	RANGE IMPROVEMENTS	GRAZING	HMA_Flanigan	X		X		Wild horse removal	Gavin			Likely	Moderate	Extreme		Low	$600,000
			Range Allottments	X	X	X		#27 Livestock grazing rest	Ryan			Likely	Moderate	Medium		Low	$0
8	ABANDONED MINES (AML)		Uranium @ Seven Lakes Fire	X						Work with AML as Human Health/Safety issues arise					Risk has not increased post-fire		
9	CULTURAL RESOURCES	PLANTS	Sensitive	X	X	X			Dan	X	X				No known habitat burned		
		ARCHEOLOGICAL SITES	Exposure because of vegetation burned off		X	X		#19 - Archaeological Survey of Drill Seeding and/or Chaining Locations	Dan			Likely	Moderate	High			$48,000
				X		X		#21 - Archaeological Survey of Hand Planting Locations	Dan			Likely	Moderate	High			$13,480
		TRADITIONAL USE AREA	Hunting Grounds		X		X	#18 - Traditional Gathering Site Restoration	Dan			Likely	Moderate	Medium			$171,280
			Medicinal Plant gathering		X		X	#18 - Traditional Gathering Site Restoration	Dan			Likely	Moderate	Medium			$171,280
			Choke Cherries (Jigger Bobb)		X		X	#18 - Traditional Gathering Site Restoration	Dan			Likely	Moderate	Medium			$171,280
10	FORESTRY	FOREST STANDS	Aspen	X	X						X						
		RIPARIAN SPECIES	Cottonwood	X	X						X						
		HAZARD TREES	Hardscrabble/Setcliffe		X	X		#25 - Hazard tree assessment/removal	Garrett			Probable	Minor	Medium		Low	$5,580

2016 VMC FIRES

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11	RECREATION SITES	TRAVEL MANAGEMENT	Loss of vegetation to keep people out	X	X	X		#8 - General signs for resource protection, safety	Gavin			Probable	Minor	Medium	Multiple uses - wood cutting, recreational OHV, hunting	Low	$6,690
			Access points washed out		X						X	None			lakeshore		
			Patrol	X		X		#28 - Increase LEO presence - recreation, protection for Natural resource	Dan			Probable	Minor	Medium	Apply to agreement with local law enforcement	Low	$5,000
			Risk from OHV use	X	X	X		#8 - General signs for resource protection, safety	Gavin			Probable	Minor	Medium	Highest level of use is Jackpot - can sign	Low	$6,690
		PYRAMID LAKE	Boat ramp, rv parking area, 10 addition sites from monument site to the north		X						X				Assessed		
			Public Safety issues		X	X		#8 - General signs for resource protection, safety	Gavin			Probable	Minor	Medium		Low	$6,690
					X	X		#7 - Early Alert System	Rich			Probable	Major	Extreme		Low	$285,360
					X	X		#25 - Hazard tree assessment/removal	Garrett			Probable	Minor	Medium		Low	$5,580
12	LANDS UNLIKELY TO RECOVER NATURALLY	INVASIVE PLANTS AND NOXIOUS WEEDS	Noxious weeds: e.g. Medusahead, knapweed, thistles	X	X		X	#22 - Treatment of noxious weeds	Garrett			Probable	Major	Extreme		Medium	$68,650
				X	X	X		#21 - Inventory noxious weeds	Garrett			Probable	Major	Extreme		Medium	$13,480
			Cheatgrass	X	X	X		#23 - Pretreatment of seeded areas	Garrett	Addressed through cultural clearances - part of methods for other treatments		Probable	Major	Extreme	Jack will verify for DNA	Medium	$54,525
					X	X		#24 - Ground based seeding application	Johanna			Probable	Major	Extreme		Medium	$86,895
				X			X	#26 - Bitterbrish seedling grow/plant(Rock)	Johanna			Probable	Major	Extreme	Bitterbrush, etc.	Medium	$76,001
			Halogeton		X					Same as noxious weeds							
13	WATER RESOURCES	SPRINGS	Livestock overuse	X		X		#27 Livestock grazing rest	Ryan	Follow current rest policy		Likely	Moderate	High		Low	$0

DOI National Interagency BAER Team	1. WORK PROJECT/ACTIVITY **Virginia Mountains Complex BAER**	2. LOCATION: **Sparks, Nevada**	3. UNIT **DOI-BLM- Carson Nevada District Pyramid Paiute Tribe**
RISK ASSESSMENT / JOB HAZARD ANALYSIS (JHA)	4. NAME OF ANALYST **TJ Clifford**	5. JOB TITLE **DOI BAER Team Leader**	6. DATE PREPARED **8/5/16**

7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE
General Air Reconnaissance	Low level flights (<500 feet); helicopter or fixed wing, extreme temperatures affecting density altitude	**Is this flight really necessary**? Is there another way to do the job? Follow instructions from helitack and the pilot. Ask questions if you do not understand the instructions. Do not fly in hazardous situations. Ask questions of pilots and others to determine what hazardous situations exist. Minimize time in the air. Follow agency guidelines to include flight following and communications. Wear required personal protective equipment (PPE). Early morning flights will be scheduled to avoid extreme midday temperatures which may affect flight safety associated with density altitude.
General Ground Reconnaissance	Footing on steep, rough, uneven terrain; falling trees; heavy vehicle traffic on narrow, winding roads; dehydration/fatigue; burned out holes.	Wear eight-inch-high leather boots with lug soles. Stay in communication with BAER Team members and always remember LCES. Drive defensively with headlights on. Be aware of suppression efforts within the area you are working in. Be careful not to slip, trip or fall, especially on wet ash. Be aware of road conditions. **Conduct tailgate safety sessions with your colleagues**. Utilize "Six Minutes for Safety" (http://www.nifc.gov/sixminutes/dsp_sixminutes.php).
Office	Tight quarters	Keep work space clean and **take frequent breaks**. Clean up your own messes.
General Field Work and Monitoring - only 1 Radio Frequency	General personal safety	**Work in pairs. Keep fresh batteries in your radio, and carry an extra battery pack**. All personnel within the fire perimeter need a ***working*** radio and cell phone. If folks separate in the field, each individual **WILL** have a radio. Wear required PPE. Carry reserved energy food or Meals-Ready-to-Eat (MRE's) and extra water. Be prepared to spend the night if necessary.
	If driving to a remote area alone, Check in / Check out	Let someone know specifically where you will be. Make sure your radio works before you leave. Get it fixed or replaced if necessary. Be sure someone knows when you have returned. Sign in/ Sign out

Fire is 100% Contained - No Fire personel on Fire - no checkin necessary

	Fatigue	Provide 2:1 work/rest ratios and ensure eight hours off between shifts. Manage for cumulative physical, cognitive or emotional fatigue.
	Sun / hyperthermia	Carry sunglasses. Use sunscreen to prevent sunburn. Consider deferring field work when temperatures exceed 100 degrees F.
* - ISSUE Already this assignment	Dehydration	Drink enough water supplemented with electrolyte-based drinks to keep hydrated and prevent heat exhaustion or heat stroke (at least six-eight quarts of water per day in extreme temperatures). Pace yourself when climbing steep, open slopes.
	Stream channel surveys	Use extra caution in stream bottoms to prevent falling. Fire-caused stream temperature increases might have already caused rock-slickness to increase.
Field Surveys, Monitoring	Steep slopes and remote worksites	Wear lugged soled shoes with eight-inch tops, with good ankle support. Carry a radio, and leave your itinerary with someone.
Mapping/Inventory Within Fire Perimeter	Working within fire perimeter.	Wear PPE (hard hat, leather boots, NOMEX, fire shelter, goggles, and gloves) at all times. Recognize that the fire is not controlled. Know your ten standard fire orders and 18 "watch out" situations.
	Stump and root holes	Keep your eyes on your path of travel. If your attention is diverted, stop and complete the task before proceeding. Excessive amounts of white ash may indicate the presence of a stump or root hole.
	Snags and hazard trees	Size up your surroundings. Avoid work in areas where hazards exist. Be aware of anticipated conditions. Avoid the common BAER habit of spending all of your time looking down, not noticing hazards in the air. Use spot lookouts, and establish safety zones. If the wind is blowing (trees swaying), stop working.
	Slippery and unstable footings	Be careful in areas of wet ash, retardant drops, loose rocks and unstable slopes.
	Rattlesnakes	Be aware at all times of the potential for encounters with rattlesnakes. Withdraw from the area. If bitten medivac may be required.
	Personal health and safety	Take care of cuts, bruises and blisters immediately. Report any accidents to the Team Leader and complete an accident report. Take no risks that jeopardize your personal safety or the safety of others.
Storm Events	Lightning	Check weather report, and stay off ridge tops and open slopes during lightning storms. If stuck in the open, keep radio and metallic objects away from you, squat down with only your feet on the ground, using an insulated pad if possible. Keep as much of your body off the ground as possible.
	Fog, smoke; poor visibility, disorientation	Drive with lights on low beam. If fog and/or smoke are so dense as to affect safe driving, cease operations before getting into a situation where safety is compromised.
*	Rain	Don't walk on logs; avoid small stems that are parallel to the slope; insure footing. If roads are muddy, stay off roads.
	Wind	Check weather reports; monitor wind events. If trees are swaying, move to a safe area with no trees or snags, or get out of the wind path.

Burned Over Environment	Falling rocks	Don't work directly above or below another person; be wary of rocks.
	Heavy brush	Wear long-sleeved shirt, goggles and gloves
	Insect bites / stings	Wear long-sleeved shirt and hat; use repellent at your discretion. Bees and yellowjackets are a problem in fires. Carry anti-histamine and sting kits for bee stings. If you know you are allergic, carry proper medication and instruct coworkers in administration. **Tell your Team Leader about your allergies**.
Communication/Coordination with Team Leaders and Suppression Personnel	Loss of repeaters or dead spots	Follow Communications Plan. Notify incident personnel on specific zone when working in field. Cell coverage is good
Defensive Driving UTV scheduling - contact Ryan Elliot	Vehicle accidents and associated injuries; general driving conditions, and vegetation buildup under vehicle and possible vehicle fire	Always wear safety belts and make sure everyone else does! Keep windows clean and remove garbage from the cab of the truck. DRIVE WITH THE LIGHTS ON! Remote roads can be narrow. Drive defensively, giving yourself enough time and space to react to other drivers or wildlife on the road. If possible, remove hazards from the roadbed rather than try to drive over or around them. Stay on roadway and out of heavily vegetated areas to avoid dead vegetative material buildup under vehicle which could cause a fire. Each vehicle should carry a shovel and fire extinguisher in case of fire. Check and clean out undercarriage of vehicle after each field visit to avoid possible vehicle fire. Limit driving time to ten hours or less. Stop and take a break if you feel sleepy while driving, or let someone else drive. (See attachments for local road hazard information) ***Don't drive if you feel sick or are taking medication that affects your ability to handle a vehicle.*** ***Any ATV/UTV use will need appropriate training and PPE*** / headsets/chinstraps
	Mechanical malfunction; narrow, rough roads, heavy use impacts	Conduct daily preventive maintenance checks. Each vehicle is to have a first aid kit and required equipment. Check spare tire to ensure proper inflation in case of flat tire. Drive as far to the right as safely possible. Ensure stopping distance is ½ the sight distance on blind curves. Confirm road status, traffic patterns and the presence of heavy equipment before use. Drive defensively. Watch out for public / contractor use of roads.

Helicopter Operations:		IS THIS FLIGHT REALLY NECESSARY?
1. Approach departure	Rotor and engine exhaust location on different helicopter types pose danger of serious injury	Approach operating helicopter only when instructed to do so by pilot, manager or helitack personnel. All personnel must receive a briefing on the specific type/model of helicopter before working around that helicopter. Each type/model may have different procedures for approach and departure. Standard procedure is as follows: 1) Approach from the front or front side of helicopter, in a slight crouch and in clear view of the pilot. 2) Never go near the rear of the helicopter unless instructed to do so (for models without a tail rotor hazard). 3) Allow helitack personnel to carry long objects, or carry them horizontally, low to the ground if authorized to do so. 4) Approach/depart helicopters to/from the downhill side (never uphill).
2. Loading/Unloading	Some aircraft components are fragile and easily broken. Improperly entering or exiting helicopter could adversely shift the position or orientation of the helicopter.	Follow directions of air operations personnel. Open/close doors only when and as instructed. Do not straddle the skid or step immediately adjacent to skid. Use only designated handholds to enter or exit--DO NOT PUT ANY WEIGHT ON THE DOOR. Enter and exit the aircraft in a carefully controlled manner to avoid shifting the aircraft position. Remain seated and belted in until directed otherwise. Secure the seatbelt back inside the helicopter upon exiting.
3. Personal Protective Equipment	Potential for flash fire and potential for serious head trauma in the event of an accident.	For all helicopter flights, PPE must include: Nomex or fire-resistant cotton shirt and trousers, leather or Nomex gloves, leather boots, *Aviator Flight Helmet*, a two-inch overlap of all PPE. *NOTE: Firefighters being transported to a managed helispot may substitute a hardhat with chinstrap and earplugs for the aviator flight helmet.
Mines	Potential exists to encounter open pit mines	Check with local district personnel and map mine hazard areas. Be on the alert for open pit mine areas in all locations. Watch out for hazardous materials.
Fatigue 2:1 Time CTR/ Redcaps	Potential to affect judgment, work and relationships	Comply with work/rest ratio (two hours of work/ one hour of rest) Comply with days off - 1/14 or 2/21, or time off sooner if deemed necessary by the Team Leader. Recognize that fatigue affects cognitive (decision making) ability; physical ability (balance, stamina, etc). Emotional responses --guard against reacting to fellow workers and others. Ensure that adequate accommodations are available.
Hazardous Materials	Potential exists to encounter hazardous materials.	Avoid burned buildings on anything that may contain hazardous materials. Be wary around any of the private land, or land bordering private land.

Employee Security	Potential for disgruntled publics and exposure to non-secure situations and off road vehicles.	Disengage from a situation where an irate person appears to be in an escalating angry mode. Watch out for unfamiliar objects that may be lethal. Watch out for illegal drug or hazmat sites. **Travel in pairs**.
Working Relationships	Inappropriate behavior, anger, disorganized effort, poor communications	Always demonstrate mutual respect for others. Guard against reacting to others' emotional anguish; be supportive and understanding. Recognize that fatigue affects cognitive (decision making) ability; physical ability (balance, stamina, etc). Emotional responses --guard against reacting to fellow workers and others
Monitoring of 30-mile Fire Hazard Abatement Plan	Putting employees at risk	Daily report by way of conference call addressing compliance with the 30-Mile Abatement Plan.
10. LINE OFFICER SIGNATURE /s/	11. TITLE	12. DATE

SIGNATURE	DATE	SIGNATURE	DATE
	8-8-16		8/8/2016
	8/8/16		8-8-16
	8/8/16		8/8/16
	8/8/2016		08.08.2016
			8-08-2016
Trisha Johnson	8/8/16		8-8-2016
	8/8/16		8 8-2016
	8/8/16		8-8-16
	8/9/16		

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Nevada State Office
P.O. Box 12000 (1340 Financial Blvd.)
Reno, Nevada 89520-0006
http://www.blm.gov/nv/st/en.html

In Reply Refer to:
4700/1742 (NVC000/NV930)

To: Linda Smith, Budget Lead, WO-880

From: John Ruhs, Nevada State Director

Subject: Request for Emergency Funding to address immediate issues on the Virginia Mountains Complex Fire (KJL8)

The Virginia Mountains Complex Fire burned four Herd Management Areas, creating an emergency situation for the estimated 450 to 600 wild horses that inhabit these areas, requiring an immediate emergency gather. The HMA's include Dogskin, Flanigan, Fort Sage, and Granite Peak. The horses are left with no forage, some require medical attention, and others may have to be euthanized.

Immediate Funding of $600,000 is needed to fund the gather and preparation (vaccination, branding, etc.) of the animals at Horse facilities. The gather is planned for next week. The BLM has already begun coordination with the Bureau of Indian Affairs and the Pyramid Lake Paiute Tribe. The BAER Team has also discussed the preliminary concerns to natural resources with the Nevada Cattleman's Association and the Pyramid Lake Paiute Cattleman's Association. These natural resources include Priority and General Sage grouse habitat, important riparian areas, unburned islands, and culturally important plants.

Hunting seasons have begun in and around four of the six fires assessed. There is a high risk to burned habitat as a result of OHV use off existing routes and into the burned area. The issue was emphasized at the in-brief and again at a cooperators meeting that included both grazing associations, the Nevada Department of Forestry, and the Nevada Department of Wildlife. The treatment proposed for immediate deployment includes the installation of signs that reiterate the need to "Stay on Trails" emphasizing the importance of recovery. The treatment also includes an increase to law enforcement and patrols in the area with the goal of education the public's use of the burned landscape.

The Hardscrabble watershed drains to the community of Sutcliffe, NV. The upper watershed contains a reservoir that is at risk of damage due to tributary contribution with an expected 300% increase too streamflow during high intensity rainfall. The proposed treatment will protect the reservoir's integrity by diverting the potential flooding from this tributary.

The costs associated with these four treatments are as follows and requested immediately:

Wild horse gather	$600,000
Reservoir protection	$6,000
Sign installation	$4,000
Increased patrols	$5,000

The following project code has been established for this incident:
LLNVC00000 LF2200000.JS0000 LFESKJL80000. Funding for other Emergency Stabilization & Rehabilitation (ESR) actions associated with this fire will be requested through the normal ESR planning process.

cc:
Dave Repass, W0-220
Alan Shepherd, Nevada Wild Horse and Burro Lead, NV-934
Mark Coca, Nevada State ESR Lead, NV-934
Mary Laub, State Budget Officer, NV-955
Fire and Aviation, FA400

8/15/16 meeting at Headsprdsble CK/SWD-RE

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PART D. TREATMENT COSTS BY REGION AND FIRE

PART D. SPECIFICATION COSTS BY AGENCY

EMERGENCY STABILIZATION			
SPEC #	**BLM**	**BIA**	**Total Cost**
#1 - Reservoir Protection	$5,790		$5,790
#2 - Engineering/Design		$15,000	$15,000
#3 - Channel Clearing		$15,280	$15,280
#4 - Culvert Cleaning		$12,300	$12,300
#5 - Road drainage improvement		$13,150	$13,150
#6 - Storm patrol		$85,490	$85,490
#7 - Early Alert System		$285,360	$285,360
#8 - Hazard Warning Signs: General signs for resource protection, safety	$3,989	$2,701	$6,690
#9 - Point protection structures		$26,110	$26,110
#10 Seedling grow/plant (Anderson)	$282,474		$282,474
#11 - Aerial herbicide application (Anderson)	$62,150		$62,150
#12 - Aerial seeding (Anderson)	$86,149		$86,149
#13 - Assessment for hazmat potential on BIA/Tribal lands		$4,652	$4,652
#14 - Repair/replace Damaged Pyramid Lake Highway Fence - ES (BIA)		$7,071	$7,071
#15 - Assess & Repair/replace Boundary Fence - ES (BLM)	$486,460		$486,460
#19 - Archaeological Survey of Drill Seeding and/or Chaining Locations		$48,000	$48,000
#20 - Archaeological Survey of Hand Planting Locations	$68,000		$68,000
#21 - Inventory noxious weeds	$8,660	$4,820	$13,480
#23 - Pretreatment of seeded areas	$22,725	$31,800	$54,525
#24 - Ground based seeding application		$86,895	$86,895
#25 - Hazard tree assessment/removal		$5,580	$5,580
#27 - Livestock grazing rest	$0		$0
#28 - Increase LEO presence - recreation, protection for Natural resource	$5,000		$5,000
#29 -Monitoring of Traditional Gathering Site Restoration Establishment		$16,220	$16,220
#30 – Project Administration		$32,725	$32,735
EMERGENCY STABILIZATION TOTAL	**$1,031,397**	**$693,154**	**$1,724,561**
BURNED AREA REHABILITATION			
#16 - Repair/replace damaged fence - BAR (Allotment/Pasture) (BLM)	$359,481		$359,481
#17 - Facilities Damaged - Repair of Watering Systems (RIPs) (BAR)	$257,155		$257,155
#18 - Planting of Traditional Gathering Areas	$85,640	$85,640	$171,280
#22 - Treatment of noxious weeds	$40,450	$28,200	$68,650
#26 - Bitterbrush seedling grow/plant(Rock)	$76,001		$76,001
BURNED AREA REHABILITATION TOTAL	**$818,727**	**$113,840**	**$932,567**
GRAND TOTAL	**$1,850,124**	**$806,994**	**$2,657,128**

2016 VMC FIRES

ISSUE #	Issues/ Concerns	Potential Adverse Impact	Specific Issue and/or Location	BLM	BIA	Fund ES	Fund BAR	RESULT SPEC #	PRE-RISK Likelihood	PRE-RISK Consequence	PRE-RISK Risk	NOTES Footnote #	TREATED RISK	COSTS
1	FLOODING		Sutcliffe	X		X		#1 - Reservoir Protection	Probable	Major	Extreme	protection of community	Low	$5,790
					X	X		#5 - Road drainage improvement	Probable	Major	Extreme		Low	$13,150
					X	X		#6 - Storm patrol	Probable	Major	Extreme		Low	$85,490
					X	X		#7 - Early Alert System	Probable	Major	Extreme		Low	$285,360
				X	X	X		#8 - General signs for resource protection, safety	Probable	Major	Extreme		Low	$6,690
					X	X		#9 - Point protection structures	Probable	Major	Extreme		Medium	$26,110
		IMPOUNDMENT FOR AGRICULTURE	Hardscrabble	X		X		#1 - Reservoir Protection	Probable	Major	Extreme	Repair valve - long standing issue	Low	$5,790
					X	X		#5 - Road drainage improvement	Probable	Major	Extreme		Low	$13,150
					X	X		#6 - Storm patrol	Probable	Major	Extreme		Low	$85,490
					X	X		#7 - Early Alert System	Probable	Major	Extreme		Low	$285,360
				X	X	X		#8 - General signs for resource protection, safety	Probable	Major	Extreme		Low	$6,690
					X	X		#9 - Point protection structures	Probable	Major	Extreme		Medium	$26,110
			Fish Hatchery at Dunn		X	X		#5 - Road drainage improvement	Possible	Major	Extreme		Low	$13,150
					X	X		#6 - Storm patrol	Possible	Major	Extreme		Low	$85,490
					X	X		#7 - Early Alert System	Possible	Major	Extreme		Low	$285,360
				X	X	X		#8 - General signs for resource protection, safety	Possible	Major	Extreme		Low	$6,690
					X	X		#9 - Point protection structures	Possible	Major	Extreme		Medium	$26,110
			Old fisheries building		X	X		#3 - Channel Clearing	Possible	Minor	Low		Low	$15,280
					X	X		#2 - Engineering/Design	Possible	Minor	Low		Low	$15,000
			Old water system at Dunn		X	X		#9 - Point protection structures	Likely	Minor	Medium	Beware of previous pipe systems next to road	Low	$26,110
					X	X		#4 - Culvert Cleaning	Likely	Minor	Medium		Low	$12,300
			Culvert by dam - dry retention pond up Hardscrabble.	X								Address through other watershed protection measures - see Watershed report		
			Whittey's Ranch			X			Probable	Major	Extreme	NRCS Assist		
			Rancho Haven	X					Unlikely	Minor	Medium	AGWA modeing being completed, potential for flooding is low		
			Cottonwood Cyn	X					Unlikely	Minor	Medium	AGWA modeing being completed, potential for flooding is low		
			Big Canyon		X				Unlikely	Minor	Medium	AGWA modeing being completed, potential for flooding is low		

2016 VMC FIRES

ISSUE #	Issues/ Concerns	Potential Adverse Impact	Specific Issue and/or Location	BLM	BIA	Fund ES	Fund BAR	RESULT SPEC #	PRE-RISK Likelihood	PRE-RISK Consequence	PRE-RISK Risk	NOTES Footnote #	TREATED RISK	COSTS
2	INFRASTRUCTURE	STATE ROAD	Access To Pyramid Lake	X	X	X		#8 - General signs for resource protection, safety	Probable	Moderate	High		Medium	$6,690
		RAILROAD TRACK	Cement Culverts	X	X				Possible	Minor	Low		Low	
		ROADS	Ingress/Egress To Susanville		X							Refer to #8 and #6 - Pyramid Lake		
			Recreational Access to Fishing Areas		X							Refer to #8 and #6 - Pyramid Lake		
			Winnemucca Valley	X								Assessed for Risk.		
			Culvert locations		X	X		#5 - Road drainage improvement	Probable	Moderate	High		Low	$13,150
					X	X		#4 - Culvert Cleaning	Probable	Moderate	High		Low	$12,300
			Water Quality Sampling sites		X				Possible	Minor	Low	Access points are unimproved or unmaintained roads.		
			Fisheries Water Well		X							Retardant damage that needs to be cleaned up/removed		
			Sutcliffe Drinking Water Storage tower		X							Retardant damage that needs to be cleaned up/removed		
		WATER QUALITY	Fisheries Water Tower retardant		X							Retardant damage that needs to be cleaned up/removed		
		PIPELINE	Sage Fire	X								Runoff is not expected to cause erosion		
			Well Water		X							Reviewed - not an issue		
			sewage		X							Reviewed - not an issue		
		SPRINGS AND DAMS	Headcuts		X							Addressed under Flooding Issue		
			Hard Scrabble		X							Addressed under Flooding Issue		
		DUNN HATCHERY	Culvert by hatchery		X	X		#2 - Engineering/Design	Probable	Moderate	High	Long-term solution to be coordinated with all agencies.	Low	$15,000
					X	X		#9 - Point protection structures	Probable	Moderate	High	Short-term - solution to be addressed immediately	Medium	$26,110
		CELL PHONE TOWER	Crown Castle		X							Not a post-fire issue		

2016 VMC FIRES

ISSUE #	Issues/ Concerns	Potential Adverse Impact	Specific Issue and/or Location	BLM	BIA	Fund ES	Fund BAR	RESULT SPEC #	PRE-RISK Likelihood	PRE-RISK Consequence	PRE-RISK Risk	NOTES Footnote #	TREATED RISK	COSTS
3	WATER QUALITY	PYRAMID LAKE	Sediment Flow		X							Docmented through local fisheries bio - not expected to be affected by overland flows.		
		SPRINGS			X	X			Probable	Moderate	High	Wild Horse removal	Low	
		STREAMS	Mobilization of retardant into pyramid lake		X							Retardant damage that needs to be cleaned up/removed		
		RESERVOIR			X							Docmented through local fisheries bio - not expected to be affected by overland flows.		
4	WILDLIFE	SAGE GROUSE	Habitat	X			X	#10 Seedling grow/plant (Anderson)	Probable	Moderate	High	Nesting cover significantly impacted; needs stablization and rehab	Medium	$282,474
									Probable	Moderate	High		Medium	
				X		X		#11 - Aerial seeding (Anderson)	Probable	Moderate	High		Medium	$86,149
				X		X		#12 - Aerial herbicide application (Anderson)	Probable	Moderate	High		Medium	$62,150
		MULE DEER /PRONGHORN	Winter Range	X	X			#26 Bitterbrish seedling grow/plant(Rock)	Probable	Minor	Medium	Mule deer will benefit from planting	Medium	$76,001
		CALIFORNIA BIGHORN	Winter Range	X								Benefit from ES/BAR treatments		
		LAHOTAN CUTTHROAT CUI UI			X			See water				upstream watershed treatments will benefit water quality and LCT & Cui-ui		
		GOLDEN EAGLES	Nesting	X								Habitat is not affected; temporary loss of prey base.		
		SPRING SNAIL										Not identified in the fire perimeter		
		PELICAN			X							Colony is on island in lake; habitat is not affected		
		FISHERIES	Dunn, Lake Ops, Nets Hatcheries		X							Docmented through local fisheries bio - not expected to be affected by overland flows.		

2016 VMC FIRES

ISSUE #	Issues/ Concerns	Potential Adverse Impact	Specific Issue and/or Location	BLM	BIA	Fund ES	Fund BAR	RESULT SPEC #	PRE-RISK Likelihood	PRE-RISK Consequence	PRE-RISK Risk	NOTES Footnote #	TREATED RISK	COSTS
		CHUCKAR			X							Upland revegetation and natural recovery expected to benefit the bird; temporary loss of cover		
		GUZZLERS	Seven Lakes; Rock fires	X			X					Minimal damage - coordinate with NDOW to repair. See wildlife report		
			(Sandhills on the North end of the rock fire)	X			X					Minimal damage - coordinate with NDOW to repair. See wildlife report		
5	HAZARDOUS MATERIALS		Two Trailers, illegal dumps		X	X		#13 - assessment for hazmat potential on BIA/Tribal lands				Assess and spec for hazmat and let Tribe determine course of action. Include $ for evaluation.		$4,652
			TH Ranch		X							Nothing on Tribe/BLM to address		
6	FENCES	LIVESTOCK GRAZING	Boundary Fence	X	X	X		#14 - Repair/replace damaged fence Pyramid lake - ES	Likely	Moderate	High	Human health and safety - boundary and tribal fence by highway	Low	$7,071
			All fences	X			X	#16 - Assess fences for damage	Likely	Moderate	High		Low	$359,481
			Other fences	X	X		X	#16 - Repair/replace damaged fence - BAR	Likely	Moderate	High		Low	$359,481
		RIPARIAN PROTECTION	Jigger bobb		X	X		Wild horse removal	Likely	Moderate	High		Low	$600,000
			Hardscrabble riparian	X	X	X	X	Wild horse removal	Likely	Moderate	High		Low	$600,000
			Spring protection	X	X	X		Wild horse removal	Likely	Moderate	High		Low	$600,000
7	RANGE IMPROVEMENTS	GRAZING	HMA_Flanigan	X		X		Wild horse removal	Likely	Moderate	Extreme		Low	$600,000
			Range Allottments	X	X	X		#27 Livestock grazing rest	Likely	Moderate	Medium		Low	$0
8	ABANDONED MINES (AML)		Uranium @ Seven Lakes Fire	X								Risk has not increased post-fire		
9	CULTURAL RESOURCES	PLANTS	Sensitive	X	X	X						No known habitat burned		
		ARCHEOLOGICAL SITES	Exposure because of vegetation burned off		X	X		#19 - Archaeological Survey of Drill Seeding and/or Chaining Locations	Likely	Moderate	High			$48,000
				X		X		#21 - Archaeological Survey of Hand Planting Locations	Likely	Moderate	High			$13,480
		TRADITIONAL USE AREA	Hunting Grounds		X		X	#18 - Traditional Gathering Site Restoration	Likely	Moderate	Medium			$171,280
			Medicinal Plant gathering		X		X	#18 - Traditional Gathering Site Restoration	Likely	Moderate	Medium			$171,280
			Choke Cherries (Jigger Bobb)		X		X	#18 - Traditional Gathering Site Restoration	Likely	Moderate	Medium			$171,280

2016 VMC FIRES

ISSUE #	Issues/ Concerns	Potential Adverse Impact	Specific Issue and/or Location	BLM	BIA	Fund ES	Fund BAR	RESULT SPEC #	PRE-RISK Likelihood	PRE-RISK Consequence	PRE-RISK Risk	NOTES Footnote #	TREATED RISK	COSTS
10	FORESTRY	FOREST STANDS	Aspen	X	X									
		RIPARIAN SPECIES	Cottonwood	X	X									
		HAZARD TREES	Hardscrabble/Setcliffe		X	X		#25 - Hazard tree assessment/removal	Probable	Minor	Medium		Low	$5,580
11	RECREATION SITES	TRAVEL MANAGEMENT	Loss of vegetation to keep people out	X	X	X		#8 - General signs for resource protection, safety	Probable	Minor	Medium	Multiple uses - wood cutting, recreational OHV, hunting	Low	$6,690
			Access points washed out		X				None			lakeshore		
			Patrol	X		X		#28 - Increase LEO presence - recreation, protection for Natural resource	Probable	Minor	Medium	Apply to agreement with local law enforcement	Low	$5,000
			Risk from OHV use	X	X	X		#8 - General signs for resource protection, safety	Probable	Minor	Medium	Highest level of use is Jackpot - can sign	Low	$6,690
		PYRAMID LAKE	Boat ramp, rv parking area, 10 addition sites from monument site to the north		X							Assessed		
			Public Safety issues		X	X		#8 - General signs for resource protection, safety	Probable	Minor	Medium		Low	$6,690
					X	X		#7 - Early Alert System	Probable	Major	Extreme		Low	$285,360
					X	X		#25 - Hazard tree assessment/removal	Probable	Minor	Medium		Low	$5,580
12	LANDS UNLIKELY TO RECOVER NATURALLY	INVASIVE PLANTS AND NOXIOUS WEEDS	Noxious weeds: e.g. Medusahead, knapweed, thistles	X	X		X	#22 - Treatment of noxious weeds	Probable	Major	Extreme		Medium	$68,650
				X	X	X		#21 - Inventory noxious weeds	Probable	Major	Extreme		Medium	$13,480
			Cheatgrass	X	X	X		#23 - Pretreatment of seeded areas	Probable	Major	Extreme	Jack will verify for DNA	Medium	$54,525
					X	X		#24 - Ground based seeding application	Probable	Major	Extreme		Medium	$86,895
				X			X	#26 - Bitterbrish seedling grow/plant(Rock)	Probable	Major	Extreme	Bitterbrush, etc.	Medium	$76,001
			Halogeton		X									
13	WATER RESOURCES	SPRINGS	Livestock overuse	X		X		#27 Livestock grazing rest	Likely	Moderate	High		Low	$0


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