Programmatic Environmental Assessment for The State of New Mexico Watershed Resiliency and Post-Wildfire Treatment Projects

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FEMA

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
CAA	Clean Air Act
CATEX	Categorical Exclusion
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DHS	Department of Homeland Security
DHSEM	Department of Homeland Security and Emergency Management
EA	Environmental Assessment
EIS	Environmental Impact Statement
EJ	Environmental Justice
EJSCREEN	Environmental Justice Screening and Mapping
EO	Executive Order
EMNRD	Energy, Minerals, and Natural Resources Department
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
EWP	Emergency Watershed Protection
FEMA	Federal Emergency Management Agency
FFRMS	Federal Flood Risk Management Standard
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FS	Forest Service
FSA	Farm Service Agency
HASP	Health and Safety Plan
HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
HUC	Hydrologic Unit Codes
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NM	New Mexico

NMAC	New Mexico Administrative Code
NMDA	New Mexico Department of Agriculture
NMDGF	New Mexico Department of Game and Fish
NMDOT	New Mexico Department of Transportation
NMED	New Mexico Environment Department
NMISC	New Mexico Interstate Stream Commission
NMRipMap	New Mexico Riparian Habitat Map
NMSA	New Mexico Statues Annotated
NMSU	New Mexico State University
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
OFA	Other Federal Agencies
OSE	Office of the State Engineer
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement
PALS	Post-Assisted Log Structures
PEA	Programmatic Environmental Assessment
PM 2.5	Particulate Matter 2.5 microns in diameter
PM 10	Particulate Matter 10 microns in diameter
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
SDWA	Safe Drinking Water Act
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SOI	Secretary of Interior
SOW	Scope of Work
SRIA	Sandy Recovery and Improvement Act
SSA	Sole Source Aquifer
SWCD	Soil and Water Conservation District
SWCC	Surface Water Conservation Commission
SWQB	Surface Water Quality Bureau
THPO	Tribal Historic Preservation Office
UFR	Unified Federal Review
US	United States
USACE	United States Army Corps of Engineers

USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WAP	Wetland Action Plan
WOTUS	Waters of the United States
WQC	Water Quality Certification
WSRA	Wild and Scenic Rivers Act

EXECUTIVE SUMMARY

In accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations implementing NEPA, and the Department of Homeland Security NEPA directives, the Federal Emergency Management Agency (FEMA) has prepared this Programmatic Environmental Assessment (PEA) to assess the potential effects to the human environment based on actions proposed by FEMA to address watershed resiliency and post-wildfire treatments. The proposed action evaluated in this PEA may be undertaken by FEMA's grant recipients or subrecipients in the State of New Mexico (NM).

The purpose of the proposed action is to reduce the potential for loss of life, property, infrastructure, and watershed functioning resulting from the primary and secondary effects of wildfire. The ecosystem services provided through watershed functioning aid in reducing the adverse effects from wildfire and monsoon season cycles, common in the Southwest United States. The primary adverse effects of wildfire include serious damage to property, threat to human life, and in the case of uncharacteristic wildfire, adverse effects on ecosystems. The secondary effects of wildfire can occur during monsoon rains and include flooding, erosion, and debris flows. The need for the proposed action is linked to the chronic and evolving threats faced by watersheds due to prolonged periods of drought, repetitive or uncharacteristic wildfire, post-wildfire monsoon flooding, and anthropomorphic stressors such a warming atmosphere, demands on water flow, and increased development in fire-prone areas. The primary and secondary effects of wildfire and monsoon can have significant and long-lasting effects on communities, infrastructure, and regional economies in NM.

FEMA evaluated two project alternatives in the PEA; a No Action Alternative, evaluated as a baseline, and a Proposed Action Alternative evaluated as a range of potential actions that promote watershed functioning and post-wildfire treatments, thereby mitigating the primary and secondary effects of wildfire. The range of potential actions collectively identified as the Proposed Action Alternative broadly includes: vegetative thinning, hazardous tree removal, and noxious weed abatement; restoration and reforestation of fire-adapted vegetation types; restoration of riparian areas; post-wildfire hillslope stabilization treatments; post-wildfire channel treatments; post-wildfire road, culvert, and trail flow diversion treatments; post-wildfire ash, sediment, and debris removal and infrastructure repairs; structure demolition, relocation, or alteration; and hydraulic capacity improvements and protection of water infrastructure. The spatial and temporal scope for this PEA includes a total project footprint not to exceed 500 acres per project and are initiated within a five year period. The Proposed Action Alternative has short-term, mostly minor effects but in some cases up to moderate effects to resources, primarily relating to the temporary construction actions associated with post-wildfire treatments. Moderate adverse effects are measurable locally or regionally and would be limited with best management practices and conformance with applicable permits. FEMA expects the Proposed Action Alternative to have a beneficial long-term effect on watershed functioning based on a potential for increased resiliency in mitigating the primary and secondary effects of wildfire. The PEA was made available for

agency and public review and comment for a period of 30 days following publication of the public notice. The PEA was also available on FEMA's website for download at https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository.

RESUMEN EJECUTIVO (SPANISH LANGUAGE EXECUTIVE SUMMARY)

De conformidad con la Ley Nacional de Políticas Ambientales (NEPA, por sus siglas en inglés), los reglamentos del Consejo de Calidad Ambiental que implementan la NEPA y las directivas sobre la NEPA del Departamento de Seguridad Nacional, la Agencia Federal para el Manejo de Emergencias (FEMA, por sus siglas en inglés) ha preparado la presente Evaluación Ambiental Programática (PEA, por sus siglas en inglés) con el fin de evaluar los posibles efectos para el entorno humano en función de las acciones propuestas por FEMA para abordar la resiliencia de las cuencas hidrográficas y los tratamientos después de los incendios forestales. La acción propuesta evaluada en esta PEA puede ser llevada a cabo por los receptores o subreceptores de subvenciones de FEMA en el estado de New Mexico (NM).

La finalidad de la acción propuesta es reducir la posibilidad de pérdida de vidas, bienes, infraestructura y funcionamiento de cuencas hidrográficas como resultado de los efectos principales y secundarios de los incendios forestales. Los servicios de ecosistema proporcionados a través del funcionamiento de las cuencas hidrográficas contribuyen a reducir los efectos adversos de los ciclos de incendios forestales y temporadas de monzones, que son comunes en el sudoeste de los Estados Unidos. Los principales efectos adversos de los incendios forestales incluyen daños graves a la propiedad, amenazas a la vida humana y, en el caso de incendios forestales inusuales, las consecuencias adversas para los ecosistemas. Los efectos secundarios de los incendios forestales pueden ocurrir durante las lluvias monzónicas e incluyen inundaciones, erosión y flujos de escombros. La necesidad de la acción propuesta está vinculada con las amenazas crónicas y cambiantes que enfrentan las cuencas hidrográficas debido a períodos prolongados de sequía, incendios forestales repetitivos o inusuales, inundaciones monzónicas después de incendios forestales y factores de estrés antropomórficos, como el calentamiento de la atmósfera, la demanda sobre el flujo de agua y el mayor desarrollo en áreas propensas a incendios. Los efectos principales y secundarios de los incendios forestales y los monzones pueden tener consecuencias significativas y duraderas en las comunidades, la infraestructura y las economías regionales en NM.

FEMA evaluó dos alternativas de proyectos en la PEA; una Alternativa de No Acción, evaluada como base de referencia, y una Alternativa de Acción Propuesta evaluada como un rango de acciones potenciales que favorecen el funcionamiento de las cuencas hidrográficas y los tratamientos después de los incendios forestales, con lo que se mitigan los efectos principales y secundarios de los incendios forestales. El rango de acciones potenciales identificadas en forma colectiva como la Alternativa de Acción Propuesta incluye de manera general lo siguiente: reducción de vegetación, recogido de árboles peligrosos y eliminación de malezas nocivas;

restauración y reforestación de tipos de vegetación adaptada al fuego; restauración de áreas ribereñas; tratamientos de estabilización de laderas después de los incendios forestales; tratamientos de canales después de los incendios forestales; tratamientos de desviación del flujo de caminos, alcantarillas y senderos después de los incendios forestales; recogido de cenizas, sedimentos y escombros después de los incendios forestales y reparaciones de infraestructura; demolición, relocalización o alteración de estructuras; y mejoras en la capacidad hidráulica y protección de la infraestructura hídrica. El alcance espacial y temporal de esta PEA comprende una huella total de proyecto que no exceda los 500 acres por proyecto y se inicie dentro de un período de cinco años. La Alternativa de Acción Propuesta tiene efectos a corto plazo, en su mayoría menores, pero en algunos casos hasta efectos moderados en los recursos, principalmente en relación con las acciones de construcción provisionales asociadas con los tratamientos después de incendios forestales. Los efectos adversos moderados se pueden medir a nivel local o regional, y se limitarían aplicando las mejores prácticas de manejo y con el cumplimiento de los permisos aplicables. FEMA espera que la Alternativa de Acción Propuesta tenga un efecto beneficioso a largo plazo en el funcionamiento de las cuencas hidrográficas basado en el potencial de una mayor resiliencia en la mitigación de los efectos principales y secundarios de los incendios forestales. La PEA estuvo disponible para análisis y comentarios de agencias y del público durante un período de 30 días después de la divulgación del aviso público. La PEA también estuvo disponible en la página web de FEMA para su descarga, a través de https://www.fema.gov/es/emergency-managers/practitioners/environmental-historic/nepa-repository.

1.0 INTRODUCTION

The Federal Emergency Management Agency (FEMA) is required during decision making to evaluate and consider the environmental consequences of its Federal actions, in accordance with The National Environmental Policy Act of 1969 (NEPA);[1] the Council on Environmental Quality (CEQ) regulations implementing NEPA;[2] the Department of Homeland Security (DHS) Directive 023-01, Revision 01[3] and DHS Instruction 023-01-001-01, Revision 01;[4] and FEMA Directive 108-1[5] and FEMA Instruction 108-1-1.[6] The purpose of this Programmatic Environmental Assessment (PEA) is to provide the basis for decisions to approve a broad range of actions related to watershed resiliency and post-wildfire treatments in the State of New Mexico (NM), that can be applied to subsequent tiered reviews.

In response to Presidentially-declared disasters in NM in 2022, actions evaluated in this PEA may also be funded or implemented by other federal agencies (OFAs) and non-federal entities. Other Federal agencies may wish to use this PEA as part of their NEPA process to evaluate similar action on Federal land in NM. FEMA has prepared this PEA in an effort to create efficiencies in Federal environmental and historic preservation compliance reviews, in accordance with Unified Federal Review (UFR) as outlined in The Sandy Recovery Improvement Act (SRIA) of 2013.[7] Per SRIA, the UFR process ensures "compliance with environmental and historic requirements under Federal law relating to disaster recovery projects, in order to expedite the recovery process, consistent with applicable law." and further mandates the creation of "mechanisms to expeditiously address delays that may occur during the recovery from a major disaster and be updated, as appropriate, consistent with applicable law."[7]

Regulations per 40 Code of Federal Regulations (CFR) Part 1500 -1508 encourage the development of program-level NEPA documents and tiering to eliminate repetitive discussions and to focus on the issues specific to the proposed action. This PEA is compliant with CEQ issued guidance for Effective Use of Programmatic NEPA Reviews in 2014.[8] This PEA also includes a discussion of the Federal decision-making process, agency coordination, and public participation in determining whether to revise the PEA, withdraw the PEA, prepare a Finding of No Significant Impact (FONSI), or initiate an Environmental Impact Statement (EIS).

[1] NEPA, 1969
[2] 40 CFR 1500-1508
[3] DHS, 2014
[4] DHS, 2014
[5] FEMA, 2016
[6] FEMA, 2018
[7] SRIA, 2013
[8] CEQ, 2014

1.1. Background

Functioning watersheds provide important benefits called, “ecosystem services” that support protection from floodwaters, filter overland water supply, provide habitat for wildlife, and provide recreational opportunities. The ecosystem services provided by optimal watershed functioning also aid in reducing the adverse effects from wildfire and monsoon season cycles, common in the Southwest United States (US). The loss or impairment of watershed functioning results in less protection for communities in NM that experience the repetitive effects from wildfire followed by monsoon season flooding, erosion, landslides, and debris flows. The loss or impairment of watershed functioning is also adversely impacted by anthropogenic pressures such as a warming atmosphere, demands on water flow, and increased development in fire-prone areas. To combat these pressures on watersheds, a combination of nature-based and bio-engineering solutions are emerging as important components of disaster response and recovery in NM.

Watershed resiliency and post-wildfire treatment projects can reduce the risk of loss of life, property, and infrastructure, particularly in communities that have experienced the primary effects of wildfire and secondary effects of monsoon flooding. Federal funding for watershed resiliency and post-wildfire treatment projects is available through FEMA. The State of NM and OFAs may also provide funding for similar watershed resiliency and post-wildfire treatment projects. This PEA facilitates compliance with NEPA for a range of proposed actions that promote watershed resiliency and post-wildfire actions in NM, regardless of funding source.

FEMA makes Federal assistance available to state, local, tribal, and territorial governments, and certain private nonprofit entities under the Public Assistance and Hazard Mitigation Assistance (HMA) Programs. These non-Federal entities are the recipients and subrecipients of FEMA’s grant programs. FEMA’s grant programs foster the protection of health, safety, and welfare of citizens, assist communities in recovering from damages caused by disasters and reduce future losses resulting from natural disasters. Public Assistance grants are used to repair or restore disaster-damaged facilities or make other site improvements and may include mitigation measures along with repair in accordance with Section 406 of the Stafford Act. HMA encompasses several pre-disaster grant programs that support action that reduces or eliminates long-term risk to people and property from future disasters. FEMA’s HMA grant programs are the Hazard Mitigation Grant Program (HMGP), HMGP Post Fire, Pre-Disaster Mitigation, Flood Management Assistance, and the Building Resilient Infrastructure and Communities grant programs.

1.2. Programmatic Environmental Assessment Allowances

Scope of the Programmatic Environmental Assessment

This PEA includes an evaluation of a range of proposed actions that promote watershed resiliency and post-wildfire recovery. The actions evaluated in this PEA may be implemented statewide in NM by FEMA grant recipients and subrecipients. The spatial and temporal scope for this PEA includes a total project footprint not to exceed 500 acres per project and are initiated within a five-year period. For the purposes of FEMA environmental compliance review, project initiation begins when the Office of Environmental Compliance and Historic Preservation has received the project for review. This PEA will continue to provide a relevant framework for tiering subsequent evaluated actions and federal decision-making for a period of five years from the date of a FONSI, if following the public comment period, a FONSI is found to be the appropriate finding for this PEA. Approved projects tiered from this PEA that have not concluded within the five year period may proceed until project closeout. New information relevant to the Proposed Action Alternative or its effects is likely to emerge from ongoing wildfire research, post-wildfire watershed recovery studies, resiliency actions, and climate science relating to the effects of drought. The relevancy of this PEA as a tool for federal decision-making will be evaluated prior to the conclusion of the five year document lifespan. If FEMA determines that new information or supplemental documentation is required, the PEA will be revised and made available for public comment, per the NEPA process.

Project funding priority may be given to watersheds that have experienced wildfire within the last 10 years (2013 to 2022) due to their vulnerability to secondary wildfire effects such as increased likelihood of debris flows. Maps depicting the collective fire perimeters for the years 2013 to 2022 and fire perimeter area per year are included in Appendix A (maps A-1 and A-2).

Other Federal agencies may wish to use this PEA as part of their NEPA process to evaluate similar action on Federal land in NM. According to a 2020 congressional report on Federal land ownership, 31.7% of New Mexico's approximately 77.7 million acres is owned by five Federal agencies, the Bureau of Land Management, the Bureau of Reclamation, the Department of Defense, the United States Fish and Wildlife Service (USFWS), the Forest Service (FS), and the National Park Service (NPS).[9] A map of federal, state, and tribal lands in NM is provided in Appendix A (map A-3).

[9] Congressional Research Service, 2020

Other NEPA Reviews, Studies, and Programmatic Agreements

FEMA considered NEPA reviews completed by OFAs for actions similar to those proposed in this PEA. Analyses conducted outside the context of NEPA, related to relevant post-wildfire treatment actions, was also considered in this PEA. Specifically, FEMA is incorporating the following documents into this PEA by reference, in accordance with 40 CFR Section 1508.28.

- United States Department of Agriculture (USDA), FS. Final Environmental Impact Statement for the Carson National Forest Land Management Plan, New Mexico. September 2021.[10]
- FS. Final Environmental Impact Statement for the Cibola National Forest Land Management Plan, New Mexico. September 2021.[11]
- FS. Final Environmental Impact Statement for the Santa Fe National Forest Land Management Plan, New Mexico. September 2021.[12]
- FS. Final Environmental Assessment for Northern New Mexico Riparian, Aquatic, and Wetland Restoration Project, December 2020.[13]
- EMNRD Forestry Division. 2020 New Mexico Forest Action Plan. September 2020.[14]
- FS, New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Forestry Division, et. al. Post-Fire Treatments: A Primer for New Mexico Communities, Version 1.2. 2015[15]

In addition, FEMA Region 6 has executed programmatic documents that support compliance with the Endangered Species Act (ESA) and completion of the National Historic Preservation Act (NHPA) process and function congruently with this PEA. The Programmatic Agreement (PA) and ESA Matrix are included in Appendix B.

FEMA has developed a Prototype Programmatic Agreement[16] in coordination with the Advisory Council on Historic Preservation (ACHP), to create a framework for FEMA in developing agreements to improve and expedite the completion of the 54 USC § 306108, ("Section 106") process for disaster recovery activities. The ACHP's Chairman designated the FEMA Prototype Programmatic Agreement on December 17, 2013, in accordance with 36 CFR Part 800.14(b)(4).

[10] FS, 2021
[11] FS, 2021
[12] FS, 2021
[13] FS, 2020
[14] EMNRD, 2020
[15] Afterwildfirenm.org, 2015
[16] FEMA, 2013

FEMA regions routinely negotiate renewals of such agreements prior to expiration. FEMA's PA with the State of NM is applicable only to State Historic Preservation Officer (SHPO) coordination. Section 106 coordination with Federally recognized Tribes will be done in accordance with 36 CFR Part 800 unless a PA is executed with a Tribe that has responsibility for a cultural resource. The following PA and ESA Matrix are utilized to evaluate watershed resiliency and post-wildfire treatment projects and to streamline future FEMA project reviews.

- The Programmatic Agreement Among the Federal Emergency Management Agency, the New Mexico State Historic Preservation Officer, and the New Mexico Department of Homeland Security and Emergency Management (DHSEM), executed on May 23, 2016, amended on June 22, 2022, and is due to expire on May 23, 2023.

- Endangered Species Act Consultation Matrix for New Mexico implemented by FEMA and the U.S. Fish and Wildlife Service New Mexico Ecological Services Field Office on July 27, 2022.

Subsequent Proposal-Specific NEPA Review

FEMA

The analysis presented in this PEA does not address individual, site-specific effects of a proposed scope of work (SOW). Compliance with federal, tribal, state, and local laws, regulations, Executive Orders, etc. is required for each potential project and will be evaluated on a project-specific basis by FEMA. If a future project is consistent with the scope and effects described in this PEA, then FEMA will prepare a Record of Environmental of Consideration (REC). The REC will refer to this PEA in its analysis, address site-specific conditions, evaluate effects relating to other project elements, list any mitigation measures, and document compliance with applicable environmental and historic preservation laws.

FEMA will prepare an Environmental Assessment (EA) tiered from this PEA if a future project is consistent with the scope described in this PEA, but creates effects not described herein; creates effects greater in magnitude, extent, or duration than described herein; or requires mitigation measures to minimize effects that have not been described in this PEA. The terms "tiered or tiering" refer to an approach where Federal agencies first consider the broad, general effects of proposed program, plan, policy, or large scope project, and then conduct subsequent, narrower, decision focused reviews.[8] Section 10 of this PEA, Thresholds for Preparing a Tiered EA, provides a resource-specific summary of the thresholds and triggers that FEMA will use to tier from this PEA.

Any EA tiered from this PEA will contain an appropriate level of analysis, and/or consultation, to determine the significance of effects that exceed those described in this PEA. Public involvement for projects requiring a tiered EA will include the publication of a public notice,

followed by a 30-day comment period. Once the comment period has ended, FEMA will determine whether to issue a FONSI or, if identified impacts are significant, prepare an EIS for the specific action.

Other Federal Agencies

Other Federal agencies are responsible for preparing a record of their environmental documentation and decision making, as governed by their unique agency authorities, regulations, policies, and procedures. This PEA may provide useful analysis to OFAs seeking to document the effects of similar action undertaken by their agencies. The 2014 CEQ memorandum, Effective Use of Programmatic NEPA Reviews, provides appropriate context for the allowances this PEA gives to OFAs. The memo states, "Using programmatic NEPA reviews allows an agency to subsequently tier to this analysis, and analyze narrower, site- or proposal-specific issues. This avoids repetitive broad level analyses in subsequent tiered NEPA reviews and provides a more comprehensive picture of the consequences of multiple proposed actions. An agency relying on a programmatic NEPA review must consider whether the depth of analysis needed for a tiered decision requires adding to, or building on, the analysis provided in the programmatic NEPA review."[8] The CEQ memorandum also includes a table that describes how programmatic and tiered analyses differ in their focus and scope. Appendix C includes the CEQ table as Table C-1 for reference.

2.0 PURPOSE AND NEED

The purpose of the Proposed Action is to improve watershed functioning and implement post-wildfire treatments to reduce the risk of loss of life, protect infrastructure, and increase resiliency to future wildfires in NM. The need for the proposed action is linked to the chronic and evolving threats faced by watersheds due to prolonged periods of drought, repetitive or uncharacteristic wildfire, post-wildfire monsoon flooding, erosion and debris flows, and anthropomorphic stressors such a warming atmosphere, demands on water flow, and increased development in fire-prone areas.[10-15] The effects of wildfire and monsoon cycles can have significant and long-lasting effects on communities, infrastructure, and regional economies in NM. The range of action presented in this PEA promotes resiliency of watersheds to mitigate the primary effects of wildfire and secondary effects experienced during monsoon rains, such as flooding, erosion, and debris flows.

3.0 ACTION ALTERNATIVES

NEPA guidance requires that federal agencies explore and objectively evaluate reasonable alternatives for their proposed actions. NEPA guidance also requires an evaluation of a No Action Alternative, as a benchmark to evaluate other actions. The identified Proposed Action Alternative in this PEA presents a range of actions that meet the stated purpose and need. FEMA's grant subrecipients may determine that a specific project proposal may require one or

more of the actions collectively evaluated as the Proposed Action Alternative. For this PEA, "FEMA" will mean FEMA Region 6, in the State of New Mexico.

3.1. Alternative 1: No Action Alternative

The No Action Alternative is a procedural NEPA requirement under 40 CFR 1502 and serves as viable and reasonable baseline alternative for comparison with the other alternatives. For this PEA, the No Action Alternative is the continuation of FEMA programs and policies, as is consistent with the CEQ's definition of the No Action Alternative.[17] In accordance with the November 2014 Federal Register Notice, FEMA and DHS have categorically excluded actions from higher levels of NEPA review.[4] Under the No Action Alternative, FEMA would not rely on this PEA and would continue to rely on the allowances provided in the FEMA and DHS categorical exclusions (CATEX) categories. FEMA reviewers would interpret whether individual watershed resiliency and post-wildfire treatment projects apply within FEMA's regulatory limits of actions, or if those actions exceed CATEX authority, and are therefore, subject to higher levels of NEPA review, such as an EA. Some project SOWs may fall within CATEX authority, while others may exceed FEMA's regulatory CATEX authority.

A lack of a streamlined approach to the environmental and historic preservation regulatory review process is not aligned with the goals of SRIA and may have the unintended consequence of increasing the risk of noncompliance for subrecipients who move ahead with time-critical projects in advance of monsoon rains, and prior to the completion of the NEPA review process, potentially jeopardizing subrecipient funding.

3.2. Alternative 2: Proposed Action Alternative

3.2.1 Watershed Resiliency Actions

FEMA has identified the Proposed Action Alternative as the preferred alternative. Under the Proposed Action Alternative, FEMA proposes the use of Federal assistance to fund projects that increase watershed resiliency to fire and reduce the risk of loss of life, property, and infrastructure caused by the effects of wildfire and monsoon cycles in NM. The identified actions collectively evaluated as the Proposed Action Alternative in this PEA include, but are not limited to:

1. Vegetative thinning, hazardous tree removal, and noxious weed abatement
2. Restoration and reforestation of fire-adapted vegetation types
3. Restoration of riparian areas
4. Post-wildfire hillslope stabilization treatments
5. Post-wildfire channel treatments

[17] CEQ, 1981

6. Post-wildfire road, culvert, and trail flow diversion treatments
7. Post-wildfire ash, sediment, and debris removal and water infrastructure repairs
8. Structure demolition, relocation, or alteration
9. Hydraulic capacity improvements and protection of water infrastructure

The listed watershed resiliency and post-wildfire treatment actions are not an exhaustive list of all possible actions, but rather a compilation of vetted actions that reflect effective pre and post-wildfire mitigation techniques, and the best available information, incorporated by reference into this PEA.[10-15] Other similar, but unconsidered actions or treatments not explicitly described in this PEA, may be considered by FEMA's recipients and subrecipients if those actions demonstrate firm alignment with the stated purpose, need, and scope of this PEA.

The following summary is meant to provide a general description of the assessed actions that may be used alone or in combination, to appropriately address the watershed resiliency or post-wildfire needs at an individual project site. The selection of project-specific watershed resiliency actions or post-wildfire treatments will be based on recipient or subrecipient subject matter expert guidance and regulatory and/or permit allowances.

1. Vegetative Thinning, Hazardous Tree Removal, and Noxious Weed Abatement

Mitigation efforts to lessen the severity of wildfire impacts may begin prior to high fire danger periods. The reduction in vegetative fuel and protection against rapid spread of noxious weeds are effective mitigation actions that can be utilized to reduce the risk of loss of life, property, and critical infrastructure.[10-14] The timely and effective treatment of noxious weeds is a critical supplement to vegetative thinning as noxious weeds have the capacity to impair ecosystem integrity and function, outcompete native species, and alter the natural fire regime.[10-14] Further, by thinning overstocked stands to mimic historical structure, more soil water is available to the remaining trees, allowing them to better withstand drought and insect attack.[10-14] Trees need water to produce the resin exuded to bark-boring beetles.[10-14] Lower stand densities may also retard the spread of the invasive dwarf mistletoe.[10-14] Vegetative thinning, hazard tree removal, noxious weed abatement actions and in some cases salvage treatments such as mechanical removal or application of herbicide would be prioritized in areas at-risk for uncharacteristic wildfires to restore fire-adapted ecosystems, reduce fire hazard, protect infrastructure, and to provide fuelwood collection where appropriate, and in balance with ecosystem needs. Vegetative thinning may also be used to supplement wood fuel supplies for communities who rely on firewood to heat homes.

2. Restoration and Reforestation of Fire-Adapted Vegetation Types

Restoration and reforestation of fire-adapted vegetation types is critical to watershed resiliency in fire-prone areas. Areas with a high potential for reforestation are prime for utilizing the three most prevalent fire-adapted vegetation types in NM: Ponderosa pines (*Pinus ponderosa*), dry mixed conifer, mixed conifer-Aspen, and Pinyon-Junipers (*Pinus and Juniperus sp.*).[10-14] Introduction or restoration of these four vegetation types can have beneficial effects in areas at-risk for exceptional or extreme drought and prevalence of parasitic insects or other invasive species. Other identified vegetation types may also be appropriate for restoration and reforestation actions based on watershed assessment.

3. Restoration of Riparian Areas

Riparian areas are associated with freshwater that flows throughout the year during most years (perennial waters), intermittent streams, and springs, wetlands, and other waterbodies.[10-14] The loss of riparian areas in NM has occurred in areas that have experienced high severity wildfires. Riparian vegetation loss can occur in post-wildfire areas due to an increase in monsoon peak stream flows resulting in channel incision, accelerated sediment loading, and bank erosion. The loss of native canopy in riparian areas can lead to elevated water temperature, adversely effecting cold water aquatic habitat and other aspects of water quality such as dissolved oxygen.[10-14] Restoration of native canopy vegetation and ground cover in upland and riparian areas slows the flow of water over the landscape and adds root strength to the soil. Indirectly, restoration of native canopy and groundcover maintains water storage capacity while reducing erosion and sedimentation in riparian areas.

3.2.2 Post-Wildfire Treatment Actions

After a wildfire, federal, state, local, and tribal stakeholders may assess the fire effects in their jurisdictions and communities and prioritize areas for post-wildfire treatments. Severely burned watersheds with a high potential for debris flows and risk to critical infrastructure, such as homes, flood control structures and reservoirs, and evacuation routes, may be prioritized for post-wildfire treatment actions. A combination of several post-wildfire treatments may be employed based on the terrain, burn severity, probability of debris flow, and proximity to homes or critical flood control and reservoir infrastructure. Appropriate treatment(s) may be selected based on their ability to: increase surface cover; improve soil moisture retention; provide surface roughness to slow runoff; trap sediment; increase water infiltration rates; reduce slow lengths, slow runoff velocity; and provide seed beds.[15] This PEA includes six broad categories of post-wildfire treatments which may be used alone or in combination, depending on the assessed need of the burned area and efficacy of the treatment method in a given terrain.

4. Post-Wildfire Hillslope Treatments: Cover Applications and Barrier Applications

Cover applications are materials applied to burned areas using ground or aerial application to reduce erosion and improve soil moisture retention and include dry mulch, wet mulch (hydromulch), slash spreading, seeding, and soil scarification.[15] Cover materials may consist of straw, woodchips, fibers (wood shreds, paper, cotton, flax), seed mixes (native, non-native, or sterile grass or cereal grain seeds), or felled trees and brush. Cover applications may be utilized in combination. Mulch materials may be applied dry or with water, suspension, and adhesion agents. Cover applications may also be combined the loosening of hydrophobic topsoil, called soil scarification, to increase surface roughness. Photos of hillslope cover applications are included in Appendix C (C-2).

Barrier applications are materials applied to burned areas to reduce erosion, sedimentation, debris flows, and slow runoff, and include erosion control mats, fiber roll and silt fencing. Erosion and debris barrier materials include prefabricated fiber rolls made from rice straw and wrapped in biodegradable netting, known as wattles.[15] In some cases, on-site woody debris can be rolled into netting. Other erosion barriers include permeable fabric silt fencing and synthetic or natural fiber erosion control mat and engineered barriers to capture debris flows before entering waterways. Erosion control mats are intended to provide soil stability, reduce soil temperature, and improve soil moisture retention at special interest sites until vegetation can establish. Special interest sites can include sites with cultural or ecological significance. Photos of hillslope erosion barrier applications area included in Appendix C (C-2).

5. Post-Wildfire Channel Treatments

Post-wildfire treatments for ephemeral channels may occur to maintain grade, reduce bank incision, trap, or slow sediment, and/or attenuate peak monsoon and debris flows. Post-wildfire treatments for channels will vary due to their individual capacity, construction, and regulatory allowances. Examples of channel treatments include post-assisted log structures (PALS), one-rock dams, Zuni bowls, media lunas, in-channel tree felling, jetty jacks, flexible ring net barriers, grade stabilizers, bank armoring (riprap), flow deflectors and debris basins.

PALS are low-tech restoration structures that mimic and promote accumulation of large woody debris in channels, typically constructed using locally available materials. PALS can promote overbank flow in areas where natural floodplains exist and where overbank flow does not threaten infrastructure.[18] One-rock dams are a low grade control structure built with a single layer of rock on the bed of the channel.[18] One-rock dams can stabilize the channel bed by slowing the flow of water, increasing roughness, recruiting vegetation, capturing sediment, and gradually raising the bed level over time. Zuni bowls are rock-lined steps built into gully heads

[18] NRCS, 2020

where there are abrupt vertical drops. The structures convert a single cascade at an eroding headcut into a series of smaller step falls.[18] Zuni bowls take their name from the Native American Pueblo people from the Zuni River Valley. Media lunas are built with rocks and manage sheet flow and reduce erosion. Media lunas can be constructed to reduce erosion at the head of rills and gullies by creating a stable transition from sheet flow to channel flow at the collection point.[18] Media lunas can also be constructed to create a depositional area on relatively flat ground by dispersing erosive channelized flow and reestablishing sheet flow where it once occurred.[18] In-channel tree felling is the felling of trees in a herringbone pattern with treetops pointed upstream to trap floating debris and sediment.[15] Partially bucking the trees and placing them more closely can increase their effectiveness in stabilizing gullies. Flexible ring net barriers are structures made from linked steel rings that form a network to protect channels or non-channel areas from falling rocks and landslides. Grade stabilizers are structures made of rocks, logs, or plant material installed in ephemeral channels at grade to reduce downcutting in the channel.[15] Bank armoring is the reinforcement of a stream bank with protective covering such as rocks, vegetation, or engineering materials such as boulders, riprap, and gabion baskets. Bank armoring may be appropriate in spot locations to protect infrastructure. Channel deflectors are engineered structures such as j-hooks, rock barbs, and single or double-wing deflectors designed to direct flow away from unstable banks or high-value structures such as a road.[15] Debris basins are engineered basins used to store large amounts of runoff and sediment in an ephemeral stream channel in areas where high-value resources area imminently threatened.[15] Photos of channel treatments area included in Appendix C (C-2).

6. Post-Wildfire Road, Culvert, and Trail Flow Diversion Treatments

Post-wildfire treatments for roads and trails are primarily utilized to retain structure and prevent or reduce the plugging of roadway culverts and bridge scour. Examples of post-wildfire road and trail treatments include: outsloping, installing rolling dips, also known as water bars, overflow structures, low-water stream crossings, culvert modifications, debris rack and deflectors, riser pipes, trail stabilizations and unauthorized road decommissioning.

Outsloping is an alteration of a road profile, accomplished with an excavator, dozer, and grader to reduce erosion and road surface flow that would otherwise cause a rill, gully, and rut erosion.[15] Rolling dips are used to effectively drain water from the road surface and prevent stream diversion, and can sometimes be armored. Overflow structures, is a general term for structures such as an armored rolling dips, berm, and down drains, known as overside drains, or permanent imbricated rock-level spreader, built as rock-armored overflow to direct flows back into a channel and prevent channel diversion onto roads. Low-water stream crossings that temporarily replace roadway culverts during extreme runoff events. The roadway culverts are replaced with natural fords, vented for pipes, and low water bridges.[15] Roadway culvert modification involves increasing the size of a culvert to allow for increased runoff and debris. Debris rack and deflectors are structures placed in a culvert to collect debris before it reaches a culvert entrance. Riser pipes function to sieve debris and allow the passage of water.

Trail stabilization is designed to provide drainage and stability to reduce trail damage and erosion. Trail stabilization methods include rubber belt and rock rolling dips and, rock spillways.[15] The decommissioning of unauthorized roads includes the mechanical tilling and recontouring of unauthorized roads in areas with high burn severity. Unauthorized road decommissioning can also include activities such as blocking the road entrance, scattering boughs on the roadbed, scarifying, seeding, and water barring, to removing fills and culverts, reestablishing drainage-ways, pulling back shoulders, mechanical tilling, and recontouring the slopes for full road removal. Photos of the treatments are included in Appendix C (C-2).

7. Post-Wildfire Ash, Sediment, or Debris Removal and Water Infrastructure Repair

Following a wildfire or storm, ash, sediment, debris, may need to be removed from watershed drainages, roads, culverts, acequias, flood control, and other drainage infrastructure. Removal of ash, sediment, or debris is not intended for perennial stream channels or natural floodplains where infrastructure is not directly impacted. This action is appropriate in spot locations to protect infrastructure, for example removal of sediment from a box culvert, vicinity upstream and downstream of the culvert, catchment basin, or for post-flood cleanout of acequias. Repair of roads, culverts, acequias, flood control, and other drainage infrastructure may be required following debris removal activities to restore the infrastructure to pre-disaster conditions. FEMA's emergency protective measures, approved categories of work, and CATEXs may allow for removal and repair actions. This PEA facilitates compliance with NEPA where the SOW for projects tiered from this PEA exceed the limits of existing DHS FEMA CATEXs.

8. Structure Demolition, Relocation, or Alteration

The demolition, relocation, or alteration of a structure is another example of wildfire mitigation action that can be utilized to reduce the risk of loss of life, property, or critical infrastructure. Demolition of structures, including livestock fencing may be required as part of post-wildfire actions to protect watersheds from livestock encroachment. Demolition, relocation, or alteration of housing, including slabs or critical infrastructure may also be prudent post-wildfire mitigation actions, particularly in areas with a high probability of post-wildfire debris flows. Demolition, relocation, or alteration actions may also be necessary in communities where disproportionate vulnerabilities based on a loss of watershed functioning exceeds capacity to prepare for or recover from future watershed and monsoon cycles.

9. Hydraulic Capacity Improvements and Protection of Water Infrastructure

Water exported from severely burned watersheds may contain elevated levels of contaminants and other undesirable materials that are difficult to remove.[19] For example, excess nutrients can fuel algal blooms and suspended sediment can clog water filters.[19] Dissolved organic matter can cause off colorations and tastes and serve as a substrate for unwanted microbial growth; thus increasing treatment costs and chemical demand for chlorine and ferric iron, required to disinfect water and remove dissolved organic matter.[19] Actions that improve hydraulic capacity and protect water infrastructure include: hardening existing infrastructure upgrading filtration systems, constructing diversion and capture systems, and settling tanks, or utilizing temporary on-site systems capable of treating excess accumulated water.

Ground Disturbance Potential for the Proposed Action Alternative

Ground disturbance for the actions collectively identified as the Proposed Action Alternative would vary in acreage, based on the assessed need of the area and permit limits. Additional features such as equipment/construction staging areas may be included as part of potential projects and contribute to the total project footprint. The Proposed Action Alternative includes the potential for one or more of the following ground disturbance and construction activities:

- Demolition, relocation, or alteration of an existing structure
- Site clearing, tree and vegetation cutting, clearing, and removal
- Loosening of hydrophobic topsoil by mechanical means or hand tools
- Initial and post treatment grading
- Excavation in upland, embankment, and streambed areas
- Dewatering and temporary stream diversion
- Temporary stream crossings
- Installation of erosion and sediment control measures
- Use of staging areas for equipment, equipment fuel, and post-wildfire treatment materials.
- Temporary site access routes
- Use of heavy equipment, such as industrial woodchippers, backhoes, augers, front-end loaders, compactors, trenchers, and trucks
- Use of hand-operated mechanized equipment such as chain saws, hydro axes or jack hammers
- Use of worker vehicles to and from the project site
- Traffic disruptions, lane closures, possible detours for projects in sites adjacent to roadways

[19] Chow, et al., 2021

4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The CEQ has issued a final rule to amend certain provisions of its regulations for implementing NEPA, addressing the definition of "effects."[20] Per 40 CFR. § 1508.1(g), impacts or effects means changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and include the following:

1. Direct effects, which are caused by the action and occur at the same time and place.

2. Indirect effects, which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, and related effects on air and water and other natural systems, including ecosystems.

3. Cumulative effects, which are effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Per 40 CFR § 1508.1(g), effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effects will be beneficial.[20]

This PEA presents an evaluation of various resource areas informing an overall finding of significant impacts or a FONSI. Consequently, resource areas for which effects are not expected or are expected to be negligible were eliminated from further analysis form this PEA. When possible, quantitative information is provided to establish potential effects, otherwise the potential qualitative effects are evaluated based on the criteria listed in Table 4.0.1.

[20] 87 FR 23453 (2022)

Table 4.0.1: Effect Significance and Evaluation Criteria for the Affected Environment

Effect Scale	Criteria
No Effect	The resource area would not be affected and there would be no effect.
Negligible	Changes would either be non-detectable or, if detected, would have effects that would have adverse or beneficial effects be slight and local. Effects would be well below regulatory standards, as applicable.
Minor	Adverse or beneficial changes to the resource would be measurable, but the changes would be small and localized. Adverse effects would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Adverse or beneficial changes to the resource would be measurable and have either localized or regional scale effects. Adverse effects would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.
Major	Adverse or beneficial changes to the resource would be readily measurable and would have substantial consequences on regional levels. Adverse effects would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce effects, though long-term changes to the resource would be expected.

Table 4.0.2 provides further context for the duration of effects specifically evaluated in this PEA.

Table 4.0.2: Effect Duration for the Affected Environment

Effect Duration Terminology	Definition
Temporary	Direct effects and recovery occurring only during the construction period.
Short-Term	Direct effects and recovery occurring during a limited, predictable amount of time up to three years.
Long-Term	Indirect effects and recovery occurring over time period longer than three years but into the reasonably foreseeable future.

Resource areas or specific regulations relating to resource areas were eliminated from further analysis in this PEA if no effects were anticipated from the No Action or Proposed Action Alternative. Table 4.0.3 presents the resource areas or regulation eliminated from further evaluation and a brief discussion of the rationale.

Table 4.0.3: No Effect Anticipated

Resource Area or Regulation Eliminated	Rationale
Coastal Resources	FEMA does not anticipate effects to coastal resources from actions evaluated in this PEA. New Mexico is not a coastal state. Therefore, the assessment of effects related to The Coastal Zone Management Act of 1972 and The Coastal Barrier Resources Act of 1982 are not evaluated in this PEA.
The Magnuson–Stevens Fishery Conservation and Management Act	FEMA does not anticipate effects to essential fish habitat from actions evaluated in this PEA. Essential Fish Habitat is not present in New Mexico.[21]
Marine Mammal Protection Act	FEMA does not anticipate effects to marine mammals from actions evaluated in this PEA. New Mexico is not a coastal state.
The Rivers and Harbors Act, Section 10	FEMA does not anticipate effects to waters that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce.

Resources areas were eliminated from further analysis if anticipated effects were considered either non-detectable or, if detected, would have negligible effects. Table 4.0.4 presents the resource areas or regulation eliminated from further evaluation based on anticipated negligible effect and a brief discussion of the rationale.

Table 4.0.4: Negligible Effect Anticipated

Resource Area Eliminated	Rationale
Aesthetics	FEMA anticipates negligible effects to aesthetics from actions evaluated in this PEA. The priority project areas are those that have already experienced wildfire. Should a project affect viewsheds of significance or otherwise protected FEMA would further evaluate the potential effects.
Land Use	FEMA anticipates negligible effects to land use or planning actions evaluated in this PEA. If needed, any changes to land use designations would be addressed at the local level to ensure compatibility with state, tribal, and local land use plans, programs, and policies.

[21] NOAA Fisheries Essential Fish Habitat Mapper

Resource Area Eliminated	Rationale
Noise	FEMA anticipates negligible effects to noise from actions evaluated in this PEA. Anticipated generation of construction noise and vibration would occur intermittently and be localized. However, construction noise is discussed in Section 4.4 Protected Species and Habitat, as it related to short-term effects on protected species.
Community Services and Public Utilities	FEMA anticipates negligible effects to community services such as police, fire protection, and public utilities from actions evaluated in this PEA. Public utilities include electric and natural gas power generation, transmission, and distribution facilities such as substations, power lines, water and wastewater storage facilities, treatment plants, and delivery infrastructure and communication transmission systems. The actions evaluated in this PEA are not anticipated to place an undue demand on community services or public utilities. However, effects with a potential link to the NM Office of the State Engineer/Interstate Stream Commission are discussed in Section 4.3, Water Resources.

Resource areas further evaluated in this PEA include air quality; geological and soil resources; water resources; protected species and habitat; cultural resources; transportation infrastructure and traffic; hazardous substances; human health and safety; and environmental justice and climate effects. The following sections include a definition of each resource area evaluated, the applicable statutes and/or regulations that relate to an evaluation of the resource under NEPA, the existing conditions related to that resource area in NM, and the potential effects of the No Action Alternative and the Proposed Action Alternative on the evaluated resource area.

4.1. Air Quality

4.1.1 Definition of the Resource

Air quality is the degree to which air is suitable or clean enough for humans, animals, or plants to remain healthy. Air quality in a geographic area is determined by the concentration of criteria air pollutants emitted into the atmosphere, the topography of the area, and the prevailing weather and climate conditions.

4.1.2 Applicable Statutes and Regulations

The Clean Air Act (CAA) is the primary statute applicable to the evaluation of air quality considered in this PEA. The effects of the Proposed Action Alternative are evaluated with respect to the CAA. A discussion of applicable state air quality regulations is also included as part of this PEA.

Air quality is evaluated in accordance with the CAA and National Ambient Air Quality Standards (NAAQS) set by the Unites States Environmental Protection Agency (EPA). Of note, smoke from prescribed fires and wildfires as "exceptional events".[22] Per EPA's 2016 Exceptional Events Rule, smoke caused by prescribed fires and wildfires is exempt from the NAAQS. The EPA designates areas within the US as attainment, nonattainment, maintenance, or unclassifiable with respect to the six criteria air pollutants considered to be harmful to human health and the environment. The criteria air pollutants are carbon monoxide, lead, nitrogen dioxide, ground-level ozone, sulfur dioxide, and particle pollution known as particulate matter; specifically, particulate matter with diameters of less than 10 microns (PM10) and particulate matter with diameters of less than 2.5 microns (PM 2.5). In addition, volatile organic compounds, nitrogen oxides, and other greenhouse gasses are related to air quality as they are considered precursors to ozone formation.

Areas designated as nonattainment indicate that the air quality within that area exceed a NAAQS for one or more of the six criteria air pollutants. Areas designated as maintenance indicate that the air quality within that area was previously designated as nonattainment for a criteria air pollutant(s) but has been re-designed to attainment status under an approved State Implementation Plan (SIP). Per the CAA, areas designated as nonattainment or maintenance for any of the six NAAQS, must adopt an EPA-approved SIP to achieve the NAAQS for the exceeding criteria air pollutant(s).

According to EPA's General Conformity Rule at 40 CFR Part 51, Subpart W, any proposed Federal action that has the potential to cause a NAAQS violation(s) in a designated nonattainment or maintenance area must undergo a conformity analysis.[23] The criteria air pollutant concentration thresholds triggering NAAQS violations, known as de minimis levels, are established under the General Conformity Rule are published in 40 CFR Part 93, Subpart B.[24]

The CAA gives special air quality and visibility protection to national parks larger than 6,000 acres and national wilderness areas larger than 5,000 acres. These areas are called Class I airshed. Class I airsheds are managed by the NPS, USFWS, FS, and several Native American Tribes to reduce particulate matter in designated national parks, wilderness areas, and select tribal that lead to regional haze. In 1999, the EPA announced the Regional Haze Rule, in an effort to improve visibility in Class I airsheds including 156 national parks and wilderness areas. New Mexico is part of a regional planning organization, called the Western Regional Air Partnership that has issued recommendations for improving the air quality in 16 Class I airsheds on the Colorado Plateau.

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[22] EPA 2016 Exceptional Events Rule
[23] 40 CFR Part 51, Subpart W
[24] 40 CFR Part 93, Subpart B

State-Specific Regulation of Air Quality

State law allows the New Mexico Environment Department (NMED) to operate under a variety of state statutes, rules, and Federal regulations to ensure compliance with state regulations and permits pertaining to air quality. In addition to Federal laws, the NM statutes with respect to air quality, are the Environmental Improvement Act and the Air Quality Control Act. The rules that govern NMED, with respect to air quality, are compiled in the New Mexico Administrative Code (NMAC) Title 20, Chapter 2.[25]

4.1.3 Existing Conditions

New Mexico includes two EPA-designated air quality areas, the El Paso-Las Cruces, TX-NM Area and Anthony, New Mexico, in Dona Ana County. [26] Except for these two designated air quality areas, the remainder of New Mexico is considered in attainment for all NAAQS.

The EPA defines the El Paso-Las Cruces, TX-NM Area as "The area bounded on the New Mexico-Texas state line on the east, the New Mexico-Mexico International line on the south, latitude N31°49'0" on the north, and longitude W106°36'36" on the west." This area is designated by the EPA as marginal nonattainment for the 2015 8-hour Ozone NAAQS. The de minimis threshold for this NAAQS is 100 tons per year.[27]

The EPA defines Anthony, NM Area as "The area bounded by Anthony Quadrangle, Anthony, New Mexico – Texas. SE/4 La Mesa 15' Quadrangle, N3200 – W10630/7.5, Township 26S, Range 3E, Sections 35 and 36 as limited by the New Mexico – Texas State line on the south." This area is designated by the EPA as a moderate nonattainment area for the 1987 PM10 NAAQS. The de minimis threshold for this NAAQS is 100 tons per year.

New Mexico has nine Class I airsheds managed under EPA's Regional Haze Program. The NPS manages two Class I airsheds, in Bandelier National Monument and Carlsbad Caverns National Park.[28] The USFWS manages two Class I airsheds, in Bosque del Apache Wilderness Area and Salt Creek Wilderness Area.[27] The FS manages five Class I airsheds, in Gila Wilderness Area, Pecos Wilderness Area, San Pedro Parks Wilderness Area, Wheeler Peak Wilderness Area, and White Mountain Wilderness Area.

4.1.4 Environmental Consequences

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[25] 20.2.1-20.2.350 NMAC
[26] EPA Green Book website
[27] 40 CFR 93.153(b)(1)
[28] EPA Regional Haze Program website

4.1.4.1 No Action Alternative

FEMA anticipates negligible to minor adverse effects to air quality based on the No Action Alternative. The No Action Alternative would result in FEMA continuing to rely on FEMA and DHS CATEX categories to interpret individual watershed resiliency and post-wildfire treatment projects, with respect to the CAA. The lack of a streamlined approach is not aligned with the goals of SRIA, and may lead to an uneven approval of projects, unnecessary elevation of projects to a higher level of NEPA review, and an uneven application of best management practices (BMPs). The lack of streamlining may also increase the risk of noncompliance for subrecipients who move ahead with time-sensitive projects in advance of monsoon rains, prior to the completion of the NEPA review process, potentially jeopardizing subrecipient funding.

4.1.4.2 Proposed Action Alternative

This PEA presents a range of watershed resiliency and post-wildfire treatment actions that reduce the risk of loss of life and property caused by the effects of wildfire and monsoon cycles. The Proposed Action is not anticipated to trigger new NAAQS violations or cause severe nonattainment in the two identified areas of nonattainment in NM.

In the short-term, the Proposed Action Alternative has the potential to cause negligible to minor adverse effects to air quality during site preparation and construction actions that require construction equipment and worker vehicle trips. Short-term increases in aviation emissions, through the aerial deposition of large areas of hillslope cover material (hydromulch), vehicle emissions, stationary source emissions associated with supplemental power generation, and particulate matter are associated with some actions evaluated in this PEA, summarized in Section 3.2. The short-term effects to air quality are not anticipated to approach the 100 tons per year de minimis thresholds for the two nonattainment areas in NM (El Paso-Las Cruces, TX-NM Area and Anthony, NM Area) for ozone, and PM10, respectively. In the long-term, FEMA does not anticipate effects to air quality from actions evaluated in this PEA.

The subrecipients will use BMPs and incorporate all permit conditions applicable to minimizing effects to air quality. Examples of BMPs for air quality include limiting vehicle idling, utilizing fugitive dust suppression techniques such as those outlined in the NMAC for fugitive dust control.[29] Permit and project conditions are summarized in Section 7. Thresholds and conditions for project-specific tiering from this PEA are summarized in Section 9.

4.2. Geological and Soil Resources

4.2.1 Definition of the Resource

[29] 20.2.23 NMAC

Geological resources are defined as the topography, geology, and geological hazards of a given area. Soil resources are the superficial unconsolidated and usually weathered part of the earth's crust, consisting of weathered bedrock fragments and decomposed organic matter from plants, bacteria, fungi, and other living things. The value of soil as a geologic resource lies in its potential to support plant growth and agriculture.

4.2.2 Applicable Statutes and Regulations

The Farmland Protection Policy Act (FPPA) is the primary Federal statute applicable to the evaluation of soil resources considered in this PEA. The effects of the Proposed Action Alternative are evaluated with respect to the regulatory provisions of the FPPA. A discussion of applicable state regulations relating to the protection and conservation of soil resources is also included as part the regulatory framework for this PEA.

Prime farmlands, farmlands of statewide importance, and unique farmlands are protected from conversion to non-agricultural uses under the FPPA. Prime farmland is characterized as land with the best physical and chemical characteristics for the production of food, feed, forage, fiber and oilseed crops. Farmland of statewide importance is land that is available for farming, but could currently be cropland, pastureland, rangeland, forestland, or other land. Unique farmland as land that is used for the production of certain high-value crops, such as citrus, tree nuts, olives, and fruits. Urban, built-up land, or water areas are not considered prime farmland. The FPPA requires Federal agencies to examine potentially adverse effects to protected farmland resources before approving any action that irreversibly convert these resources to non-agricultural uses. The analysis of effects to protected farmlands is completed in consultation with the USDA, Natural Resources Conservation Service (NRCS). The NRCS uses a land evaluation and site assessment system to determine if an action has the potential to irreversibly convert protected farmland to non-agricultural uses. The Farmland Conversion Impact Rating Form (Form AD-1006) is used to complete the analysis, as described in 7 CFR 658.

State-Specific Regulation of Geological and Soil Resources

The State of New Mexico's Soil and Water Conservation District Act (the Act) relates to the conservation of soil resources.[30] The purpose of the Soil and Water Conservation District Act is to:

1. Control and prevent soil erosion
2. Prevent floodwater and sediment damage
3. Further the conservation, development, beneficial application, and proper disposal of water

[30] NMSA Chapter 73, Article 20

4. Promote the use of impounded water for recreation, propagation of fish and wildlife, irrigation and for urban and industrial needs, and
5. By the application of these measures, conserve and develop the natural resources of the state, provide for flood control, preserve wildlife, protect the tax base, and promote the health, safety and general welfare of the people of NM.

A total of 47 Soil and Water Conservation Districts (SWCDs), spanning six geographic regions are organized and perpetuated under the Soil and Water Conservation District Act. A map of the New Mexico SWCDs is provided in Appendix A (map A-4). The SWCDs are independent subdivisions of NM state government. The governing body of each of the SWCDs is comprised of five elected board of supervisors, all of whom must be residents of their SWCD, and four of whom must also be landowners within their SWCD. The general and specific powers of the SWCDs are set out in the New Mexico Statutes Annotated (NMSA) (73-20-44 and 73-20-45), and generally reflect a range of actions that meets the purpose of the Act.

The SWCDs work together with the New Mexico Soil and Water Conservation Commission (SWCC), under the New Mexico Department of Agriculture (NMDA), Agricultural Programs and Resources Division. The 12-member SWCC is comprised of six district supervisors, appointed by the governor to represent the six SWCD regions. The six district supervisors are first elected through the New Mexico Association of Conservation Districts. In addition to the six district supervisors, one at-large person interested and active in the conservation or development of natural resources in NM is appointed by the governor, and five ex officio members serve without voting authority, representing:

1. The governor or her/his designee.
2. The associate director of cooperative extension service of New Mexico State University (NMSU) or her/his designee.
3. The associate director of the agriculture experiment station of NMSU or her/his designee.
4. The state conservationist of NRCS or her/his designee.
5. The president of New Mexico Association of Conservation Districts or her/his designee.

The SWCC serves as the state entity providing guidance and policy direction to the local SWCDs. The SWCC advises the NMDA concerning any matter that has a significant impact on or otherwise substantially affects soil and water conservation; and promulgates rules to carry out the provisions of the Act.

4.2.3 Existing Conditions

The NRCS maintains the Soil Data Access database, a listing of prime farmland, farmland of statewide importance, and unique farmland.[31] The NRCS and the State of New Mexico have

[31] NRCS Soil Data Access database

identified 33 specified geographic areas containing one or more mapped soil units of prime farmland or farmland of statewide importance. Appendix C (Table C-3) includes a summary of the identified geographic areas in NM and their designated status.

New Mexico is located within six physiographic provinces, the Basin and Range, the Colorado Plateau, the Mogollon-Datil Volcanic Field, the Rio Grande Rift, the Southern High Plains, and Southern Rocky Mountains.[32] The geology New Mexico includes bedrock materials, mineral deposits, soils, paleontological resources, and unique geological features. The principal geologic hazards include mudslides, and seismic activity, such as earthquakes. The 162 Quaternary faults located in New Mexico occur throughout the western two-thirds of the state, and are primarily concentrated in the Rio Grande rift, a narrow belt of basins that bisect New Mexico and Colorado.[33]

The existing conditions for soil resources in NM are primarily defined by the ongoing drought conditions of the Southwest US. The National Oceanic and Atmospheric Administration (NOAA) began the U.S. Drought Monitor in 2000. According, to the US Drought Monitor, the majority of the land mass of NM is characterized by severe, extreme, and exceptional drought conditions.[33] Since 2000, the longest duration of drought in New Mexico lasted 329 weeks beginning in May 2001 and ending in August 2007. To date, the most intense period of drought occurred the week of January 19, 2021, where exceptional affected 54.27% of New Mexico land.[33] A map depicting the current drought conditions in NM and figure depicting the history of drought conditions in NM from 2000 to present day is included in Appendix A (maps A-5 and A-6).

Soils stressed by wildfire and long-term drought conditions can become hydrophobic. Hydrophobic soils are soils that repel water, thus reducing the amount of water infiltration.[34] Surface soils become hydrophobic after intense heating, such as with wildfire.[34] Hydrophobic soils are formed when a waxy substance, derived from plant material, burns during a fire and penetrates the surface soil as a gas. As the gas cools it solidifies, forming a waxy coating around surface soil particles, thus decreasing the water infiltration capacity of the soils.[34] Four factors commonly influence the formation of this layer, including a thick layer of plant litter present prior to the fire; high-intensity surface and crown fires; prolonged periods of intense heat; and coarse textured soils or soils that have large pore space in between soil particles.[34] However, even without the formation of hydrophobic soils, wildfire can significantly alter the hydrologic response of a watershed to the extent that even modest rainstorms can produce dangerous flash floods and debris flows.

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[32] New Mexico Bureau of Geology and Mineral Resources website
[33] Drought.gov website
[34] NRCS, 2000

The United States Geologic Service (USGS) conducts emergency assessments of post-fire debris flow hazards in the Southwest US. The assessments rely on empirical models to estimate the probability and volume of debris flows for selected basins in response to a design storm with a peak 15-minute rainfall intensity of 24 millimeters per hour.[35] The empirical models also combine historical debris flow occurrence and magnitude data, rainfall storm conditions, terrain, and soils information, and burn–severity data from recently burned areas.[35] The models do not predict downstream effects, potential debris-flow runout paths, and the areal extent of debris-flow or flood inundation.[35]According to the USGS, post-wildfire debris flow hazard assessments, NM includes recently burned basins with a high likelihood of debris flows.[35]

4.2.4 Environmental Consequences

4.2.4.1 No Action Alternative

FEMA anticipates minor to moderate adverse effects to geological and soil resources based on the No Action Alternative. The No Action Alternative would result in FEMA continuing to rely on FEMA and DHS CATEX categories to interpret individual watershed resiliency and post-wildfire treatment projects. The lack of a streamlined approach is not aligned with the goals of SRIA, and may lead to an uneven approval of projects, unnecessary elevation of projects to a higher level of NEPA review, and an uneven application of BMPs, particularly relevant to areas that have experienced wildfires. The No Action Alternative has the potential to delay expedited flooding and erosion prevention actions, thereby increasing the risk of further damage to geologic resources in areas affected by wildfire. The lack of streamlining may also increase the risk of noncompliance for subrecipients who move ahead with time-sensitive projects in advance of monsoon rains, prior to the completion of the NEPA review process, potentially jeopardizing subrecipient funding.

4.2.4.2 Proposed Action Alternative

This PEA presents a range of watershed resiliency and post-wildfire treatment actions that reduce the risk of loss of life and property caused by the effects of wildfire and monsoon cycles. FEMA does not anticipate the conversion of farmland to non-agricultural uses through actions evaluated in this PEA. Therefore, no effects are anticipated with respect to the FPPA. In the short-term, the Proposed Action has the potential to cause minor to moderate adverse effects to soil resources during site preparation and construction actions associated with post-wildfire treatments. In the long-term, the Proposed Action has the potential for minor to moderate

[35] USGS Landslides Hazard Program database

beneficial effects to geological and soil resources realized through a range of erosion mitigation actions that may decrease the likelihood of future debris flows.

Subrecipients will analyze the project site's topographic and geologic site characteristics, susceptibility to soil collapsibility, mudslides, structural instability, excessive erodibility, or steep slopes. The subrecipients will use BMPs and incorporate all permit conditions applicable to minimizing effects to soils and erosion. Permit and project conditions are summarized in Section 7. Thresholds and conditions for project-specific tiering from this PEA are summarized in Section 9.

4.3. Water Resources

4.3.1 Definition of the Resource

Water resources include surface water, groundwater, wetlands, floodplains, seeps, springs, aquifers, and wetland features specific to the Southwest US, called cienegas that occur within a watershed. A watershed is a land area from which precipitation runs off or infiltrates to a stream, river, lake, or underground aquifer. Watersheds in the US are delineated by the USGS using a nationwide system based on surface hydrologic features. This system divides the US into 21 regions, using hierarchical hydrologic unit codes (HUC). The 21 regional watersheds are assigned a 2-digit HUC. The 221 subregions are assigned a 4-digit HUC. The 378 basins are assigned a 6-digit HUC. The 2,264 subbasins, also called cataloging units, are assigned an 8-digit HUC. The cataloging units are further defined in approximately 20,000 10-digit HUCs, and approximately 100,000 12-digit HUCs.[36]

4.3.2 Applicable Statutes and Regulations

The Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), the Wild and Scenic Rivers Act (WSRA), and Executive Orders (EOs) 11988 Floodplain Management, EO 11990, and EO 14030 Climate-Related Financial Risk are the Federal regulatory drivers applicable to the evaluation of water quality considered in this PEA. The effects of the Proposed Action Alternative are evaluated with respect to these statues and EOs. The primary focus of this PEA with respect to water resources is the effects of wildfire on watersheds and water quality, and the actions proposed to protect the resource. Water resources in NM are governed by multiple, often overlapping federal, state, and tribal regulatory boundaries. A discussion of water resources within the context of state-specific regulation and governance is also included in this section.

[36] USGS website

The Clean Water Act

The CWA regulates discharge of pollutants into water with sections falling under the jurisdiction of the United States Army Corps of Engineers (USACE) and the EPA. Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into waters of the United States (WOTUS), including wetlands. The USACE issues two types of 404 permits, General and Individual Permits. General Permits are issued on a state, regional, and nationwide basis and cover a variety of activities that would result in minimal individual and cumulative adverse effects. These permits fit into specific categories established by the USACE. Individual Permits are associated to projects that would result in more than minimal individual and culminative effects to WOTUS. The USACE Albuquerque District Regulatory Division is the CWA Section 404 permitting authority in NM and has emergency procedures and regional general permits to authorize actions associated to emergencies as defined in USACE regulations.

Certain activities are exempt from 404 permit requirements under Section 404(f)(1) of the CWA.[37] Exemptions include, but are not limited to, established farming activities such as minor drainage, including the maintenance of drainage ditches, construction and maintenance of irrigation ditches, and maintenance of structures such as dams, dikes, and levees.[37] In 2020, the EPA and USACE issued a joint memorandum concerning the exemption for the construction or maintenance of irrigation ditches and maintenance of drainage ditches under Section 404(f)(1). The memorandum describes authorized maintenance activities for both irrigation and drainage ditches including the removal of material and vegetation from an existing ditch by dredging or recontouring in accordance with the historical design and purpose of the ditch. However, the ditch must not be deepened such that it would drain additional areas compared to the original design. Certain activities conducted by acequia associations may be included in the exemptions provided under Section 404(f)(1) of the CWA. Other future projects tiered from this PEA may also include scope elements that are included in the regulatory exemptions. For reference, the USACE EPA memorandum is included in Appendix C (C-4).

Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES), the permit program requiring coverage for any point source discharge of a pollutant to WOTUS. The CWA broadly defines “point source,” and the NPDES covers any pipe, outfall, or other discernible conveyance of pollutants to navigable waters, including vessels or other floating crafts. A NPDES permit defines limits on what can be discharged, establishes monitoring and reporting requirements, and includes other provisions to ensure water quality protection, effectively translating the general requirements of the CWA into actionable provisions. The goal of Section 402 is to limit wastewater and stormwater discharges associated with a project or activity. EPA has the authority to issue Section 402 permits in NM.

[37] 33 CFR Part 323, Section 323.4

Section 401 of the CWA ensures that Federal agencies' permitting, and licensing actions will be consistent with the water quality goals and programs of states and tribes by ensuring states and tribes may review and consider the effects of those permits and licenses before they are issued. Examples of permits and licenses subject to Section 401 include NPDES permits under Section 402 of the CWA and CWA Section 404 permits.

The Safe Drinking Water Act

The SDWA was established to protect the quality of drinking water in the US. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources. The SDWA authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with primary, health-related standards. Under Section 1424(e) of the SDWA, the Sole Source Aquifer (SSA) program was authorized. The SSA program enables EPA to designate an aquifer as a sole source of drinking water and establish a review area. EPA then reviews proposed projects that will both be located within the review area and receive Federal funding. The review area includes the area overlying the SSA. SSAs can include the source areas of streams that flow into the SSA's recharge zone. Projects receiving Federal financial assistance within the project review area of a designated SSA which has the potential to contaminate the aquifer are subject to EPA review. These areas have no alternative drinking water source(s) that can physically, legally, and economically supply all those who depend on the aquifer for drinking water.

The Wild and Scenic Rivers Act

The WSRA preserves certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The WSRA safeguards the special character of these rivers, while also recognizing the potential for their appropriate use and development. Rivers are designated by Congress or, if certain requirements are met, the Secretary of Interior (SOI). Rivers can be classified as wild, scenic, or recreational, with the goal of protecting and enhancing the values that caused the river to be designated.

Executive Order 11988: Floodplain Management

The EO 11988 requires all Federal agencies to avoid to the extent possible the long and short-term adverse effects associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development whenever there is a practicable alternative. The EO affects actions including the acquisition, management, and disposal of Federal facilities and land; Federally undertaken, financed, or assisted construction and improvements; and Federal programs and activities affecting land use. Prior to any Federal action, the agency must conduct an 8-step process to determine whether the Proposed Action will occur in the floodplain; identify and evaluate practicable alternatives "to avoid adverse effects and incompatible development in the floodplains;" identify the effects of the Proposed Action; develop measures to minimize potential harm to people, property, and floodplains; and provide an opportunity for

public review and comment. FEMA's regulations on conducting the 8-step decision-making process are contained in 44 CFR Part 9.[38]

Executive Order 11990: Protection of Wetlands

The EO 11990 requires Federal agencies to minimize the destruction, loss, or degradation of wetlands, including WOTUS, and to preserve and enhance the natural and beneficial values of wetlands. Before implementing an action that is located in a wetland, EO 11990 requires Federal agencies to demonstrate that there are no practical alternatives, and the Proposed Action includes all practical measures to minimize harm to the wetlands. The Federal agency must also provide an opportunity for early public review by those who may be affected and include findings in its environmental or other appropriate decision documents.

Executive Order 14030: Climate-Related Financial Risk

The EO 14030 reinstated EO 13690 (revoked in 2017) and establishes the Federal Flood Risk Management Standard (FFRMS). The EO requires agencies to prepare for and protect federally funded buildings and projects from flood risks. The FFRMS was established to encourage federal agencies to consider and manage current and future flood risks in order to build a more resilient nation.

State-Specific Regulation of Water Resources

As administered by the New Mexico Environment Department (NMED) Surface Water Quality Bureau (SWQB), operates under a variety of state statutes, rules, and Federal regulations to ensure compliance with state regulations and permits, pertaining to water resources. The SWQB protects NM's watersheds through managing non-point source pollution. Non-point source pollutants consist of substances such as nutrients, including phosphorus and nitrogen, pathogens, sediments, oil and grease, salt, and pesticides that can be carried by diffuse stormwater. The SWQB also administers the NM Wetlands Program, that facilitates the development of comprehensive plans for wetlands restoration and protection in NM watersheds, through Wetland Action Plans (WAPs).[39] WAPs are a guide for the planning and implementation of projects and activities essential to the understanding, conservation, protection, restoration, and management of wetlands in a planning area. The WAPs can be designed to focus on wetlands in a specific watershed, region, or can be designed to target a wetland in NM. A WAP can also be an addition to a watershed-based plan so that all surface water resources are considered within the watershed. A map of the active WAPs in NM is included in Appendix A (map A-7). As depicted on map A-7, the Upper Gallinas Watershed WAP area and the eastern portion of the Upper Pecos WAP area have been heavily impacted by the 2022 Hermits Peak wildfire.

[38] 44 CFR Part 9
[39] NMED website

As previously stated, the EPA is the CWA Section 402 permitting authority in NM and the USACE is the CWA Section 404 permitting authority. The SWQB bureau chief has authority delegated by the Secretary of Environment to issue Section 401 certifications (typically with conditions) of water quality to ensure that activities or projects permitted under Section 402 and 404 are protective or water quality. The SWQB assists the EPA in implementing the Section 402 NPDES permit program by reviewing federal permits and conducting federal compliance evaluation inspections on behalf of the EPA.

The Office of the State Engineer (OSE) is charged with administering the state's water resources. The State Engineer has authority over the supervision, measurement, appropriation, and distribution of all surface and groundwater in New Mexico, including streams and rivers that cross state boundaries, under NMSA Chapter 72, known as NM's Water Law. [40] Section 72-9-1 of the NMSA gives the State Engineer authority to regulate reservoirs, canals, pipelines, or other works, such as acequias, and the water rights of the owners thereof. Under the NM Water Law, all ground and surface waters belong to the public and are subject to appropriation under the Doctrine of Prior Appropriation, a constitutional provision that says earlier water appropriations, known as senior water users, have priority over later water appropriations, known as junior water users.

The New Mexico Department of Game and Fish (NMDGF), in collaboration with the FS, New Mexico University, and other partners, has developed a map resource to support the conservation and management of New Mexico's riparian habitats. The New Mexico Riparian Habitat Map (NMRipMap) provides a comprehensive, fine-scale spatial view of the composition, cover, and structure of riparian and wetland vegetation along New Mexico's perennial streams and rivers. A map depicting the five regional watersheds in NM (2-digit HUC level), and mapped riparian corridors, sourced from the NMRipMap, is included in Appendix A (map A-8).

Watershed Districts

The NM Watershed District Act allows for the creation of Watershed Districts for the purpose of conservation of water or of water usage.[30] Water usage includes water-based recreation, flood prevention, flood control, erosion prevention and control of erosion, and floodwater and sediment damages. The land area in watershed districts must be contiguous and lie within a well-defined watershed area (10-digit HUC) or sub-watershed areas (12-digit HUC). The districts may include lands lying in one or more 47 SWCDs, discussed in Section 4.2, and may include lands lying partly within and partly outside a SWCD. There are currently eight active watershed

[40] NMSA Chapter 72 - Water Law

districts formed in NM and include lands withing eight SWCDs. The watershed districts and their associated SWCD partners are listed here.

1. The La Union Watershed District relates to the Dona Ana SWCD.
2. The Underwood Watershed District relates to the Caballo and Sierra SWCDs.
3. The McClead Watershed District also relates to the Caballo and Sierra SWCDs.
4. The Hackberry Watershed District relates to the Carlsbad SWCD.
5. The Cottonwood Walnut Watershed District relates to the Central Valley and Peñasco SWCDs.
6. The Upper Gila Valley Arroyos Watershed District relates to the Grant SWCD.
7. The Upper Rio Grande Watershed District relates to the East Rio Arriba SWCD.
8. The Española Rio Chama Watershed District also relates to the East Rio Arriba SWCD.

Water Planning Districts

New Mexico has 16 water planning regions, each with its own Water Plan that inform the legislatively-mandated, State Water Plan.[41] The New Mexico Interstate Stream Commission (NMISC) implements NM's regional water planning process by applying a consistent technical approach to estimate both current and future water supplies and demand in each of the 16 water planning regions. Appendix A includes a map of the 16 water planning regions (map A-9).

Acequias

Acequias can be defined in both a physical and political context. As a physical structure, an acequia is typically man-made earthen channel that conveys water to individual tracts of land. As a political organization, acequias are associations that function to allocate and distribute irrigation water to the individual irrigators who are its members, known by their Spanish name, parciantes. Individual acequia associations are, by state law, political subdivisions of the State of NM.[42] Many of the state's acequia associations have been in existence since the Spanish colonization period of the 17th and 18th centuries. It is estimated that NM has approximately 800 acequia associations. Most are located in the North Central portion of the state in Mora, Rio Arriba, Santa Fe, San Miguel, and Taos counties. The mapped acequias in NM are depicted on map A-10 in Appendix A.

Acequia associations have the power of eminent domain and are authorized to borrow money and enter into contracts for maintenance and improvements.[42] The NM Legislature appropriates funds to assist individual acequias or community ditches with specific types of projects, including capital projects. An 11-member Acequia Commission was established to:

[41] NM OSE website
[42] NMSA Chapter 73, Article 2

1. Provide advice and assist the governor, legislature, OSE, and NMISC, and USACE in establishing acequia and community ditch rehabilitation priorities and other acequia and community ditch matters.

2. Serve as a facilitator for communication between acequia and community ditch associations and state and federal agencies.

3. Review and comment on any plan or legislation affecting acequias or community ditches to the governor, the legislature, the secretary of agriculture and the NMISC.

The NMISC staff review plans, specifications, and ditch eligibility; execute contracts and agreements; and inspect the completed projects.[42] The OSE includes a Native American Tribal Liaison to deal with matters related to adjudication of Tribal and Pueblo water rights, negotiations regarding these rights, and assistance to individual Tribes and Pueblos. The OSE Tribal Liaison's role is to advocate equal protection of all water users, emphasizing conservation and the development of feasible alternative water supplies.[42]

4.3.3 Existing Conditions

In NM, the demand on water resources predicates management, conservation, and preservation actions within NM's five regional watersheds: the Upper Colorado, the Lower Colorado, the Rio Grande, the Arkansas-White-Red, and the Texas-Gulf watersheds.[43] New Mexico's existing water resources include wetlands, cienegas, seeps, springs, floodplains, streams, rivers, and above and below ground reservoirs. New Mexico includes one SSA, the Espanola Basin Aquifer System SSA, located in north central NM.[44] In total, 124.3 miles of river in NM is designated as wild, scenic, or recreational in NM.[45] The Jemez River includes 11 miles of designated river segment. The Pecos River includes 20.5 miles of designated river segment. The Rio Chama includes 24.6 miles of designated river segment. The Rio Grande includes 55.7 miles of designated river segments. Appendix A, map A-11 depicts the wetlands, floodplains, SSA, and protected river segments in NM, and the fire perimeters from 2013 to 2022.

Water Quality and Wildfire

Wildfires can affect the physical, chemical, and biological quality of drinking water resources. After a fire, increased runoff provides the pathway for the transport of chemical-laden sediment to surface water, which may have substantial adverse water quality effects. The following four water quality conditions are identified by SWQB as the primary water quality concerns after a

[43] USGS National Map
[44] EPA SSA Map
[45] Rivers.gov

wildfire.[46] However, not all of the noted water quality conditions are anticipated for every fire-impacted area.

1. The introduction of debris and sediment, including black ash, from burned vegetation.[46] In the immediate period after the fire this runoff can result in fish kills by depleting the streams of dissolved oxygen through decomposition of the influx of introduced material and by physically injuring the gills of fish. Aquatic organisms can also experience a smothering effect from the introduced ash. Furthermore, increased sediment loading can drastically impact lake and reservoir holding capacities as well as the functionality of the outlet works by filling the system with sediment and debris.

2. The increase of nitrate and other plant nutrients.[46] Burning vegetation releases nutrients contained within plants including nitrate, ammonia, and phosphate. At high concentrations ammonia can be toxic to fish and other aquatic organisms. Elevated nutrient concentrations, especially nitrate, can be a concern if downstream uses include a public drinking water supply. Increases in dissolved nitrogen and phosphorous concentrations also may lead to algal blooms resulting in fluctuations and depletion of dissolved oxygen. Anaerobic conditions (i.e., lack of oxygen) can stress or even kill aquatic organisms and can alter a wide range of chemical equilibria, which may mobilize other pollutants.

3. The introduction of radionuclides and heavy metals from ash, soils, and geologic sources within the burned area.[46] Gross alpha activity increases in stormwater runoff are correlated with the amount of suspended sediment carried in stormwater. Post-wildfire flash floods contain levels of suspended sediment and subsequently can have levels of gross alpha activity. For example, following the Cerro Grande Fire in 2000, the concentrations of several metals (e.g., copper, aluminum, barium, manganese, and zinc) increased and in some cases exceeded state water quality criteria. As the forest and soils recovered, these concentrations decreased and by 2010 these waters no longer exceeded state water quality criteria.

4.The introduction of fire retardant chemicals into waterbodies that can reach levels toxic to aquatic organisms.[46] Fire retardants typically contain large amounts of nitrogen as ammonia, and they can cause water quality problems when fire-suppressing drops are made close to streams.

Adverse water quality conditions have resulted in water advisories for public water systems impacted by wildfires in NM. In 2022, NM DHSEM issued an advisory for public water systems located in San Miguel and Mora Counties impacted by the Hermits Peak and Calf Canyon Fire

[46] SWQB website

Complex.[47] The advisory was issued as a result of power outages and direct effects to drinking water operations caused by the Hermits Peak and Calf Canyon Fire Complex. In the advisory, NMED recommended all customers of the identified public water systems in San Miguel and Mora Counties seek an alternate source of drinking water to ensure the protection of public health. The advisory indicated that extreme heat and power outages allowed drinking water to remain in pipes, potentially resulting in contamination from E. coli and other bacteria. The advisory further indicated that water from these systems would be used for other activities, such as washing clothes and dishes, showering, and general nondrinking uses. However, the advisory stipulated that when bathing infants and young children, a sponge bath should be considered to reduce potential ingestion of the water. Additionally, immunocompromised, or immunosuppressed people, and/or those with open cuts, wounds, or sores were advised not use the water to bathe until notified by NMED that the water was safe to use again.

4.3.4 Environmental Consequences

4.3.4.1 No Action Alternative

FEMA anticipates minor to major adverse effects to water resources based on the No Action Alternative, as there is a potential for drinking water supplies to be affected by wildfire. The No Action Alternative would result in FEMA continuing to rely on FEMA and DHS CATEX categories to interpret individual watershed resiliency and post-wildfire treatment projects. The lack of streamlined approach is not aligned with the goals of SRIA, may lead to an uneven approval of projects, unnecessary elevation of projects to a higher level of NEPA review, and an uneven application of BMPs, particularly relevant to areas that have experienced wildfires. The No Action Alternative has the potential to delay expedited flooding and erosion prevention actions, thereby increasing the risk of further damage to water resources in areas affected by wildfire. The lack of streamlining may also increase the risk of noncompliance for subrecipients who move ahead with time-sensitive projects in advance of monsoon rains, prior to the completion of the NEPA review process, potentially jeopardizing subrecipient funding.

4.3.4.2 Proposed Action Alternative

This PEA presents a range of watershed resiliency and post-wildfire treatment actions that reduce the risk of loss of life and property caused by the effects of wildfire and monsoon cycles. FEMA anticipates some projects identified under this PEA will be located in a floodplain. FEMA will consult the Flood Insurance Rate Maps (FIRMs). FIRMs depict calculated locations of the 1 percent (100-year) and the 0.2 percent (500-year) floodplains, special flood hazard areas (also known as the 100-year floodplain), and base flood elevation levels. FEMA will use project-

[47] NM DHSEM, 2022

specific FIRMs to determine if a project tiered from this PEA is located in a floodplain. FEMA will follow its regulations on conducting the 8-step decision-making process per 44 CFR Part 9.

FEMA anticipates some projects identified under this PEA will be located in wetlands. FEMA will use the USFWS National Wetlands Inventory (NWI), and the NMRipMap to determine if a project tiered from this PEA is located in a wetland. The NWI is the only national-level wetland inventory. USFWS and USACE use different criteria to identify wetlands, and there is no national inventory of wetland acreage based on the USACE definition [33 CFR 328.3(c)(4)]. The USACE may require delineation of wetlands to issue a jurisdictional determination or permits. Applications for projects impacting wetlands in NM are made directly to USACE, pursuant to Section 404 of the CWA.

Adverse effects with respect to the CWA are not anticipated through actions evaluated in this PEA. A 404 and/or NPDES permit may be required by USACE or EPA for some actions evaluated in this PEA. Adverse effects with respect to drinking water are not anticipated through actions evaluated in this PEA. The range of action proposed in this PEA does involve storage or transport of toxic, or pathogenic materials such as solvents, road salt, manure, petroleum products or sewage in quantities that would adversely impact a SSA, if inadvertently released. Further, the installation of injection wells is not proposed as an action in this PEA.

In the short-term, the Proposed Action Alternative has the potential to cause minor to moderate adverse effects to water resources, including wetlands and floodplains during site preparation and construction of post-wildfire treatments due to the potential for increased turbidity at project sites, particularly in areas that have experienced wildfire. In the long-term, the Proposed Action has the potential for minor to moderate beneficial effects to water resources based on a potential to restore watershed functioning, reduce erosion, mitigate the effects of future monsoon storms and therefore protect drinking water sources. Additionally, the Proposed Action Alternative may result in minor beneficial effects to designated wild, scenic, or recreational river segments in NM based on actions that divert post-wildfire debris flows.

The subrecipients will use BMPs and incorporate all permit conditions applicable to minimizing effects to water resources. Permit and project conditions are summarized in Section 7. Thresholds and conditions for project-specific tiering from this PEA are summarized in Section 9.

4.4. Protected Species and Habitats

4.4.1 Definition of the Resource

Protected species and habitat refer to the protection of threatened or endangered flora (plants) and fauna (mammals, birds, reptiles, amphibians, fish, and invertebrates), including their habitat and the overall ecosystems within which they are found.

4.4.2 Applicable Statutes and Regulations

The Endangered Species Act, the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA), and Executive Order 13112 are the Federal regulatory divers applicable to the evaluation of protected species and habitat considered in this PEA. The effects of the Proposed Action Alternative are evaluated with respect to these statues and EO. A discussion of applicable state regulations is also included as part of this PEA.

The Endangered Species Act

The ESA provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead Federal agencies for implementing the ESA are the USFWS and NOAA NMFS, when appropriate. The ESA requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The ESA also prohibits any action that causes a "taking" of any listed species of endangered fish or wildlife. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.[48]

The Migratory Bird Treaty Act

The MBTA provides a program for the conservation of migratory birds that fly through the US. The lead Federal agency for implementing the MBTA is USFWS. The law requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any migratory birds or result in the destruction or adverse modification of designated critical habitat of such species. The law makes it illegal for anyone to "take," possess, import, export, transport, sell, purchase, barter or offer for sale, purchase, or barter, any migratory bird, or their parts, feathers, nests, or eggs.

The USFWS and its partners manage migratory birds based on a variety of factors including bird populations and conservation status, important habitats needed for various life stages, bio-geo-political boundaries, and status as game or non-game species. Over 90% of bird species are designated as non-game species. Migratory birds that can legally be harvested (hunted) are managed based on four administrative routes, the Atlantic, Mississippi, Central and Pacific Flyways. Most of NM is within the Central Flyway, the western boundary of NM is the Pacific Flyway.[49]

[48] 16 U.S.C. Section 1532(19)

[49] USFWS Flyway Map

The Bald and Golden Eagle Protection Act

The BGEPA, prohibits anyone without a permit issued by the SOI, from "taking" bald and golden eagles, including their parts, nests, or eggs. Like the MBTA, the law makes it illegal for anyone to "take," possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any bald or golden eagle, or their parts, feathers, nests, or eggs.

Executive Order 13112: Safeguarding the Nation from the Effects of Invasive Species

The EO 13112 as amended, requires Federal agencies to use relevant agency programs and authorities to prevent the introduction, establishment, and spread of invasive species, including strengthening associated regulatory frameworks, and providing for the restoration of native species, ecosystems, and other assets impacted by invasive species. Invasive species are any non-indigenous species or viable biological material, including seeds, eggs, and spores, that are transported into an ecosystem and cause economic or environmental harm or harm to human health when they colonize a new area.

States and other jurisdictions also have laws, regulations, or other requirements designed to accomplish similar purposes to EO 13112. Some states have adopted their own quarantines, which could require a permit to transport certain types of materials out of a quarantine zone, an inspection of products that could harbor invasive species prior to their being moved out of the quarantine zone, or a ban on moving potentially infested material from a quarantined area to a non-quarantined area.

State-Specific Regulation of Rare and Protected Species and Habitat

Under the New Mexico Wildlife Conservation Act, the NMDGF is directed to develop recovery plans for species listed by the State of New Mexico as threatened or endangered.[50] The plans are available for download at the NMDGF website. The New Mexico Conservation Information System also includes web-based conservation tools for rate, listed, and sensitive species and habitat in NM.[51]

The Noxious Weeds Management Act directs NMDA to develop a noxious weed list for the state, identify methods of control, and educate the public about noxious weeds.[52] NMDA coordinates weed management among local, state, and federal land managers, as well as private landowners. Cooperative Weed Management Areas are partnerships of government agencies, tribes, various groups, and individuals that manage noxious weeds and/or invasive plants. The 18 CWMAs in NM provide technical assistance, equipment, and educational opportunities related to noxious weed identification and management.

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[50] NMSA Chapter 17, Article 2, Part 3
[51] New Mexico Conservation Information System
[52] NMSA Chapter 76, Article 7D

The NMDA noxious weed list is classified into three divisions: Class A, Class B, and Class C weeds.[53] Class A weeds species are currently not present in NM or have limited distribution. Preventing new infestations of Class A weed species, and eradicating existing limited infestations is the highest priority for the noxious weed program in NM. Class B weed species are limited to portions of NM. In areas that are not infested, Class B weed species should be treated as Class A weeds.[53] Class C weed species are widespread in NM. Management decisions for Class C weed species should be determined at the local level based on feasibility of control and level of infestation.[53] A list of the noxious weeds by class is provided in Appendix C.

4.4.3 Existing Conditions

The range of climates and terrain in NM allows for a wide array of ecosystems, from deserts, to prairies, riparian areas, and forests, supporting a diversity of protected species and habitats. The following table includes a Federally-listed species in NM, and an indication of whether critical habitat is established for those species.

Table 4.4.0 Threatened and Endangered Species in the State of New Mexico

Species Common Name *(Scientific name)*	**Federal Status**	**Final Critical Habitat Designated?**
Mammals		
Black-footed Ferret *(Mustela nigripes)*	Endangered	No
Canada Lynx *(Lynx canadensis)*	Threatened	Yes
Gray Wolf *(Canis lupus)*	Proposed Endangered	No
Jaguar *(Panthera onca)*	Endangered	Yes
Mexican Long-nosed Bat *(Leptonycteris nivalis)*	Endangered	No
New Mexico Meadow Jumping Mouse *(Zapus hudsonius luteus)*	Endangered	Yes
Penasco Least Chipmunk *(Tamias minimus atristriatus)*	Proposed Endangered	Yes
Birds		
Mexican Spotted Owl (Strix occidentalis lucida)	Threatened	Yes
Piping Plover *(Charadrius melodus)*	Threatened	Yes
Southwestern Willow Flycatcher *(Empidonax traillii extimus)*	Endangered	Yes
Yellow-billed Cuckoo *(Coccyzus americanus)*	Threatened	Yes
Reptiles		
Narrow-headed Gartersnake *(Thamnophis rufipunctatus)*	Threatened	Yes
New Mexican Ridge-nosed Rattlesnake *(Crotalus willardi obscurus)*	Threatened	Yes

[53] NMDA website

Species Common Name *(Scientific name)*	**Federal Status**	**Final Critical Habitat Designated?**
Northern Mexican Gartersnake *(Thamnophis eques megalops)*	Threatened	Yes
Amphibians		
Chiricahua Leopard Frog *(Rana chiricahuensis)*	Threatened	Yes
Jemez Mountains Salamander *(Plethodon neomexicanus)*	Endangered	Yes
Fishes		
Arkansas River Shiner *(Notropis girardi)*	Threatened	Yes
Beautiful Shiner *(Cyprinella formosa)*	Threatened	Yes
Chihuahua Chub *(Gila nigrescens)*	Threatened	Yes
Colorado Pikeminnow (also known as squawfish) *(Ptychocheilus lucius)*	Endangered	Yes
Gila Chub *(Gila intermedia)*	Endangered	Yes
Two subspecies of the Sonoran topminnow: Gila Topminnow *(Poeciliopsis occidentalis)* Yaqui Topminnow *(Poeciliopsis occidentalis sonoriensis)*	Endangered	No
Gila Trout *(Oncorhynchus gilae)*	Threatened	No
Loach Minnow *(Tiaroga cobitis)*	Endangered	Yes
Pecos Bluntnose Shiner *(Notropis simus pecosensis)*	Threatened	Yes
Pecos Gambusia *(Gambusia nobilis)*	Endangered	No
Peppered Chub *(Macrhybopsis tetranema)*	Endangered	Yes
Razorback Sucker *(Xyrauchen texanus)*	Endangered	Yes
Rio Grande Cutthroat Trout *(Oncorhynchus clarkii virginalis)*	Candidate	No
Rio Grande Silvery Minnow *(Hybognathus amarus)*	Endangered	Yes
Spikedace *(Meda fulgida)*	Endangered	Yes
Yaqui Catfish *(Ictalurus pricei)*	Threatened	Yes
Yaqui Chub *(Gila purpurea)*	Endangered	Yes
Zuni Bluehead Sucker *(Catostomus discobolus yarrowi)*	Endangered	Yes
Clams		
Texas Hornshell *(Popenaias popeii)*	Endangered	Yes
Snails		
Alamosa Springsnail *(Tryonia alamosae)*	Endangered	No
Chupadera Springsnail *(Pyrgulopsis chupaderae)*	Endangered	Yes
Koster's Springsnail *(Juturnia kosteri)*	Endangered	Yes
Pecos Assiminea Snail *(Assiminea pecos)*	Endangered	Yes
Roswell Springsnail *(Pyrgulopsis roswellensis)*	Endangered	Yes
Socorro Springsnail *(Pyrgulopsis neomexicana)*	Endangered	No
Insects		
Monarch Butterfly *(Danaus plexippus)*	Candidate	No
Crustaceans		
Noel's Amphipod *(Gammarus desperatus)*	Endangered	Yes
Socorro Isopod *(Thermosphaeroma thermophilus)*	Endangered	No

Species Common Name *(Scientific name)*	**Federal Status**	**Final Critical Habitat Designated?**
Flowering Plants		
Cochise Pincushion Cactus *(Coryphantha robbinsorum)*	Threatened	No
Gypsum Wild-buckwheat *(Eriogonum gypsophilum)*	Threatened	Yes
Holy Ghost Ipomopsis *(Ipomopsis sancti-spiritus)*	Endangered	No
Huachuca Water-umbel *(Lilaeopsis schaffneriana var. recurve)*	Endangered	Yes
Knowlton's Cactus *(Pediocactus knowltonii)*	Endangered	No
Kuenzler Hedgehog Cactus *(Echinocereus fendleri var. kuenzleri)*	Threatened	No
Lee Pincushion Cactus *(Coryphantha sneedii var. leei)*	Threatened	No
Mancos Milk-vetch *(Astragalus humillimus)*	Endangered	No
Mesa Verde Cactus *(Sclerocactus mesae-verdae)*	Threatened	No
Pecos Sunflower (also known as puzzle or paradox sunflower) *(Helianthus paradoxus)*	Threatened	Yes
Sacramento Mountains Thistle *(Cirsium vinaceum)*	Threatened	No
Sacramento Prickly Poppy *(Argemone pleiacantha ssp. Pinnatisecta)*	Endangered	No
Sneed Pincushion Cactus *(Coryphantha sneedii var. sneedii)*	Endangered	No
Todsen's Pennyroyal *(Hedeoma todsenii)*	Endangered	Yes
Wright's Marsh Thistle *(Cirsium wrightii)*	Proposed Threatened	Yes
Zuni Fleabane *(Erigeron rhizomatus)*	Threatened	No
Fern and Allies		
American Hart's-tongue Fern *(Asplenium scolopendrium var. americanum)*	Threatened	No

Source: USFWS IPaC output for the State of New Mexico on July 26, 2022

4.4.1 Environmental Consequences

4.4.1.1 No Action Alternative

FEMA anticipates minor to moderate adverse effects to protected species and habitat based on the No Action Alternative. The No Action Alternative would result in FEMA continuing to rely on FEMA and DHS CATEX categories to interpret individual watershed resiliency and post-wildfire treatment projects. The lack of a streamlined approach is not aligned with the goals of SRIA, and may lead to an uneven approval of projects, unnecessary elevation of projects to a higher level of NEPA review, and an uneven application of BMPs, particularly relevant to areas that have experienced wildfires. The No Action Alternative has the potential to delay expedited restoration actions, thereby slowing species long-term recovery in areas affected by wildfire. The lack of streamlining may also increase the risk of noncompliance for subrecipients who move

ahead with time-sensitive projects in advance of monsoon rains, prior to the completion of the NEPA review process, potentially jeopardizing subrecipient funding.

4.4.1.2 Proposed Action Alternative

This PEA presents a range of watershed resiliency and post-wildfire treatment actions that reduce the loss of watershed functioning and habitat caused by the effects of wildfire and monsoon cycles. FEMA anticipates some projects identified under this PEA will be located in areas where threatened or endangered species exist, or where critical habitat for those species is present. As discussed in Section 1.2, FEMA and the USFWS New Mexico Ecological Services Field Office have implemented an ESA Matrix to assist in the evaluation of effects to protected species and habitat, based on the collective range of actions evaluated as the Proposed Action Alternative in this PEA. The ESA Matrix will be used in the evaluation of effects on protected species and critical habit for potential future projects, tiered from this PEA. The ESA Matrix includes the following information for the threatened or endangered species in NM:

- Species name
- Protected status category
- Presence or absence of critical habitat for the species
- Counties with species occurrence
- Range or habitat requirements
- When coordination with USFSW recommended or required
- Avoidance & minimization measures

FEMA will use the ESA Matrix, and the Information for Planning and Consultation (IPaC) Consultation Package Builder to make a determination for each project tiered from this PEA as to whether the action will have an effect on threatened or endangered species or critical habitat for those species, and where appropriate seek USFWS concurrence on the determination. The categories of potential effect determination include: 1) no effect on threatened or endangered species or critical habitat for those species; 2) may affect, but not likely to adversely affect threatened or endangered species or critical habitat for those species; 3) may affect, likely to adversely affect threatened or endangered species or critical habitat for those species.

In the short-term, the Proposed Action Alternative has the greatest potential to affect, but not adversely affect threatened or endangered species or critical habitat for those species during site preparation and construction actions associated with post-wildfire treatments. Potential disturbances may include ground-disturbing activity and noise associated with construction equipment. In the long-term, the Proposed Action Alternative has the potential for minor to moderate beneficial effects to protected species and habitat based on a potential to reduce erosion, remove noxious weeds, restore riparian habitat, and improve water quality. Additionally, the Proposed Action Alternative has the potential to re-establish habitat for protected species, migratory birds and Bald and Golden eagles in areas that have experienced wildfire.

The subrecipients will use BMPs and incorporate all permit conditions applicable to minimizing effects to protected species and habitat. Proposed action discourages spread of invasive species by implementing BMPs according to state and federal guidance. Subrecipients must minimize the introduction or spread of invasive species, including decontamination procedures on vehicles and equipment, and using weed-free products. Permit and project conditions are summarized in Section 7. Thresholds and conditions for project-specific tiering from this PEA are summarized in Section 9.

4.5. Cultural Resources

4.5.1 Definition of the Resource

Cultural resource means a location of human activity, occupation, or use. The term includes archaeological, historic, or architectural sites, structures, or places, as well as locations of traditional cultural or religious importance to specified social and/or cultural groups. Not all cultural resources exhibit evidence of alteration by humans, thus while all archaeological resources are cultural resources, not all cultural resources are archaeological in nature. Within the broad range of cultural resources are those that have recognized significance and are determined eligible for the National Register of Historic Places (NRHP). Cultural resources that are eligible for inclusion in the NRHP are considered historic properties.

4.5.2 Applicable Statutes and Regulations

Section 106 of the **National Historic Preservation Act**, as amended, and implemented by 36 CFR Part 800, is the statute applicable to the evaluation of cultural resources considered in this PEA.

Section 106 requires FEMA, as the funding agency, to determine if historic properties are within the Area of Potential Effect (APE) and consider the effects that the project work activities and FEMA funding (the "undertaking") may have on historic properties, if present.[54]

Historic properties are any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. NRHP eligibility criteria is listed at 36 CFR Part 60. The APE is the geographic area or areas within which an undertaking may directly or indirectly affect historic properties, if any such properties exist. The APE may also include a site's viewshed within a historic district or landscape, or visible between a project site and a historic structure or district. An "effect", with respect to the NHPA, is anything funded by a federal agency that may change the documented historic significance of historic properties.

[54] 36 CFR Part 800

Section 106 consultation as detailed in 36 CFR Part 800 must take place prior to the approval of the expenditure of federal funds on an undertaking. FEMA consults with the SHPO, Tribal Historic Preservation Offices (THPOs), the public, and other consulting parties throughout the Section 106 process.

4.5.3 Existing Conditions

There are 31 Tribes in NM that have Tribal lands or Ancestral lands, including 19 Pueblos, three Apache Tribes, the Navajo Nation, and Ancestral lands for the Comanche Nation, Hopi Tribe, Kiowa Tribe, Pawnee Nation, Ute Tribe and Wichita and Affiliated Tribes.[55] The three Apache Tribes include the Fort Sill Apache Tribe, the Jicarilla Apache Nation, and the Mescalero Apache Tribe. The nineteen Pueblos are comprised of the Pueblos of Acoma, Cochiti, Isleta, Jemez, Laguna, Nambe, Ohkay Owingeh, Picuris, Pojoaque, Sandia, San Felipe, San Ildefonso, Santa Ana, Santa Clara, Santo Domingo, Taos, Tesuque, Zuni, and Zia. In addition, acequias in NM are cultural resources. Many acequias in NM are eligible for listing in the NRHP and a few acequias are listed in the NRHP.

Projects tiered from this PEA have the potential to occur in or near stream banks and floodplains; these are often archeologically and culturally sensitive areas, with a high likelihood of archaeological resources present in undisturbed soil. Watersheds have the potential to include cultural resources such as acequias, traditional cultural land grant settlements, traditional cultural properties, Native American settlements, and cultural resources associated with past military, trade, agricultural, and navigation activities. The primary and secondary impacts of wildfire can affect the integrity of structures, sites, historic buildings, districts, and areas through carbon contamination of archaeological deposits, erosion, destructive debris flows, and ground disturbances from fire-killed tree fall.

As discussed in Section 1.2, FEMA, the NM SHPO, and NM DHSEM have negotiated a PA to efficiently implement the Section 106 process for FEMA's undertakings in NM, in accordance with 36 CFR Part 800.14. The PA stipulates roles and responsibilities, exempts certain undertakings from Section 106 review, establishes protocols for consultation, facilitates identification and evaluation of historic properties, and defines programmatic allowances that streamline the assessment and resolution of adverse effects. FEMA's PA with the State of NM is applicable only to SHPO coordination; FEMA has not executed PAs with any of the Federally recognized Tribes in NM. Section 106 coordination with the Federally recognized Tribes in NM will be conducted in accordance with 36 CFR Part 800, unless a PA is executed with a Tribe that has responsibility for a cultural resource. The PA is included in Appendix B.

[55] New Mexico Tourism Department website

4.5.4 Environmental Consequences

4.5.4.1 No Action Alternative

FEMA anticipates negligible to major adverse effects to cultural resources based on the No Action Alternative. The No Action Alternative would result in FEMA continuing to rely on existing FEMA and DHS CATEX categories to interpret individual watershed resiliency and post-wildfire treatment projects in NM. The lack of a streamlined approach is aligned with the goals of SRIA and may perpetuate the vulnerability to effects of the wildfire and monsoon season cycles and further erosion of watersheds during subsequent storms. Depending on project location, ongoing erosion and debris flows may cause damage to historic structures or lead to the permanent loss of archeological resources.

4.5.4.2 Proposed Action Alternative

This PEA presents a range of watershed resiliency and post-wildfire treatment actions that reduce the loss of watershed functioning, property, and habitat caused by the effects of wildfire and monsoon cycles. FEMA anticipates some project sites identified under this PEA may be located in areas where cultural resources are present.

FEMA's SOI-qualified historic preservation staff will determine if a project tiered from this PEA has the potential to affect cultural resources. FEMA will identify if a culturally significant site/historic property exists within the APE, and if any historic properties may be affected by an undertaking. If cultural resources are present, mitigation and/or more extensive data collection measures (i.e., archaeological survey, historic structures documentation, photographic surveys etc.) may be warranted to determine the site boundaries and assess the NHRP eligibility.

If a project tiered from this PEA meets the programmatic allowances outlined in the PA, FEMA will determine if the project is within compliance and the Section 106 review process for SHPO will be complete. If a project tiered from this PEA does not fall within a programmatic allowance outlined in the PA, then FEMA will follow the standard Section 106 review process and initiate consultation with the SHPO and appropriate consulting parties. These consultations will be included in the individual project reviews and will include measures appropriate to the sites to minimize adverse effects.

If a project tiered from this PEA does not include activities identified through coordination by Tribes as activities of concern, then the Section 106 review process will be complete for Tribes. If the project does include activities identified through coordination by Tribes as activities of concern, FEMA will follow the Section 106 review consultation process outlined in 36 CFR § 800.3.

The Section 106 process is complete upon the concurrence from the SHPO, Tribes, and the public on FEMA's Finding of Effect. FEMA concludes that a consulting party has "concurred" when either:

A) A formal written response is received stating concurrence, or

B) No comments are received within the statutory NHPA review periods.

The review periods are 15 days for SHPO comments and 30 days for public comment, as defined in the NM PA. The review period for Tribes is 30 days, as defined in 36 CFR Part 800.

In the short-term the Proposed Action Alternative has the potential to cause negligible to moderate effects to cultural resources as projects tiered from this PEA may include ground disturbing and construction activities associated with post-wildfire treatments. These activities have the potential to disturb previously undisturbed soils and therefore have the potential to disturb cultural resources. Watershed resiliency and post-wildfire treatment actions may also be visible from an identified cultural resource and may affect the aesthetic character or viewshed of a site or other historic properties such as acequias, historic landscapes, ranching structures, etc. However, the visual aesthetics character may also be affected by wildfire at potential project sites. In the long-term the Proposed Action Alternative has the potential for minor to moderate beneficial impacts to cultural resources based on a potential to reduce erosion, thus preserving undisturbed soils.

4.6. Transportation Infrastructure and Traffic

4.6.1 Definition of the Resource

Transportation is the movement of people and goods from one location to another. It is accomplished by a variety of modes, such as road, rail, air, water, and in some cases pipeline, and there are different systems within those modes. The focus of this PEA is surface transportation and roadway traffic. Traffic is related to the congestion and the system being able to handle traffic flow during peak volumes.

4.6.2 Applicable Statutes and Regulations

There are no Federal statutes applicable to the evaluation of transportation infrastructure or traffic considered in this PEA. The New Mexico Department of Transportation (NMDOT) is responsible for the design, construction, and maintenance of their state highway systems, as well as the portion of the Federal highways and interstates within their boundaries. The FS manages the National Forest Road System consisting of more than 380,000 miles of roads nationwide.[56]

[56] FS Road Management website

The National Forest Road System provides access for resource protection, commercial activities, or public uses such as timber harvesting, recreational activities and outfitting, mining, and grazing.[56] Other Federal roads include Forest Highways, Forest Development Roads, Park Roads, Parkways, Indian Reservation Roads, Public Lands Highways (including National Wildlife Refuge Roads) and Public Lands Development Roads. In addition, some Federal roads are also open to public travel including Bureau of Reclamation roads, US Army Corps of Engineers roads, Department of Energy roads, Department of Defense roads (Military Installation roads), Surface Deployment and Distribution Command roads (Defense Access roads), and Bureau of Land Management roads (Land Management roads).

4.6.3 Existing Conditions

Projects tiered from this PEA may be located in urban, suburban, rural, or remote areas of NM. The routes that serve access potential project sites may vary widely. Urban areas in NM are generally characterized by a system of roads, including major interstates (I-10 and I-40 east-west, and I-25 north-south). There are 412 state roads in NM that traverse the 33 counties of the state. There are 25 scenic byways in NM, designated under the Federal Highway Administration.[57]

The NMDOT manages the non-Federal transportation resources of NM out of six district offices. Long-range transportation planning in New Mexico is accomplished in cooperation with seven regional transportation planning organizations with responsibility to address transportation needs in rural New Mexico, and five metropolitan transportation planning organizations with responsibility to address transportation needs in urban NM.[57]

The NMDOT has developed six Revegetation Zones and associated seed lists for selecting appropriate vegetation when restoring disturbed land under NMDOT's jurisdiction. These zones and seed lists are based on the major land resource areas of NM, as defined by the NRCS. Appendix A, map A-12 presents the NMDOT Revegetation Zones; the most recent seed lists available for each of the zones are included in Appendix C.

The NMDOT, in coordination with the Federal Highway Administration and USACE, developed the wetland mitigation banking program, known as Advanced Permittee-Responsible Mitigation.[58] This allows the NMDOT to restore, create, and enhance wetlands in advance of known construction effects for NMDOT projects. In accordance with New Mexico's Wildlife Corridors Act, the NMDOT and NMDGF have created a priority project list of wildlife collision hotspots and important wildlife corridors to increase motorist safety and increase safe passage

[57] New Mexico 2040 Transportation Plan
[58] NMDOT website

for wildlife across NM roadways. The NMDOT has installed artificial structures (bat boxes) at bridges with known bat colonies to minimize the impact to bat populations in NM who may use bridges as roosting habitat.[58] NMDOT's stormwater management program provides technical assistance for Stormwater Pollution Prevention Plans and obtaining NPDES, and Municipal Separate Storm Sew System permits.

4.6.4 Environmental Consequences

4.6.4.1 No Action Alternative

FEMA anticipates minor to moderate adverse effects to transportation infrastructure and roadway traffic based on the No Action Alternative. The No Action Alternative would result in FEMA continuing to rely on FEMA and DHS CATEX categories to interpret individual watershed resiliency and post-wildfire treatment projects. The lack of a streamlined approach is not aligned with the goals of SRIA, and may lead to an uneven approval of projects, unnecessary elevation of projects to a higher level of NEPA review. The No Action Alternative has the potential to delay expedited infrastructure erosion prevention actions, such as temporary road closures, thereby increasing the risk of transportation infrastructure damage. The lack of a streamlined approach may also increase the risk of noncompliance for subrecipients who move ahead with time-sensitive projects in advance of monsoon rains, prior to the completion of the NEPA review process, potentially jeopardizing subrecipient funding.

4.6.4.2 Proposed Action Alternative

This PEA presents a range of watershed resiliency and post-wildfire treatment actions that reduce the risk of loss of life and property caused by the effects of wildfire and monsoon cycles. In the short-term, the Proposed Action Alternative has the potential to cause minor adverse effects to transportation infrastructure and traffic during site preparation and construction actions evaluated in this PEA, particularly where temporary road closures are needed to implement the post-wildfire treatments noted in Section 3.2. In the long-term, the Proposed Action Alternative has the potential for minor to moderate beneficial effects to transportation infrastructure resources realized through a range of erosion mitigation actions summarized in Section 3.2.

The subrecipients will use BMPs and incorporate all permit conditions applicable to minimizing effects to transportation infrastructure and traffic. Permit and project conditions are summarized in Section 7. Thresholds and conditions for project-specific tiering from this PEA are summarized in Section 9.

4.7. Hazardous Substances

4.7.1 Definition of the Resource

Hazardous substances are defined as any solid, liquid, contained gaseous or semisolid waste, or any combination of wastes that pose a substantial present or potential hazard to human health and the environment. Hazardous materials includes both hazardous wastes and hazardous substances. Improper management and disposal of hazardous substances and hazardous waste can lead to contamination of water and soils, and adversely affect human health.

4.7.2 Applicable Statutes and Regulations

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) are the primary Federal statutes applicable to the evaluation of hazardous substances considered in this PEA. The effects of the Proposed Action Alternative are evaluated with respect to CERCLA and RCRA.

RCRA established the EPA as the regulatory authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also established a framework for the management of non-hazardous solid wastes, including the regulation of underground tanks storing petroleum and other hazardous substances. RCRA regulations are contained in 40 CFR, Parts 239 through 282.
40 CFR Section 261.2 defines the term solid waste as “any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities,” with a few exceptions. 40 CFR Section 261.3 defines whether material that is deemed to be “solid waste” is hazardous waste. In general, hazardous waste is identified as a waste specifically listed as hazardous or determined to exhibit the characteristics of a hazardous waste: ignitibility, corrosivity, reactivity, or toxicity.

CERCLA establishes prohibitions and requirements concerning closed and abandoned hazardous waste sites. CERCLA also provides for liability of persons responsible for releases of hazardous waste at these sites and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERLCA authorizes two kinds of response actions, 1) short-term removal, where actions address releases or threatened releases requiring prompt response, and 2) long-term remedial response actions, that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening. Long-term actions are conducted at sites listed on EPA's National Priorities List (NPL) sites, commonly referred to as “Superfund sites”.

4.7.3 Existing Conditions

Appendix A includes a map of the Superfund NPL sites and the relative proximity of the population to those sites (map A-13). The EPA maintains a map and list service identifying hazardous waste cleaning up locations, including NPL sites, on their Cleanups in My Community webpage.[59] Project sites that have been impacted by wildfire and may also contain hazardous compounds in soil from burned debris. Potential project tiered from this PEA shall avoid the CERCLA NPL sites or other sites with remedial actions occurring, if possible. Construction actions on NPL sites or other remedial action sites might interfere with remediation efforts, potentially exposing construction workers or the public to contamination or exacerbate or cause migration of hazardous materials or plumes onsite. However, coordination with the EPA and appropriate entities shall take place if site avoidance is not possible to ensure that no effects to remedial sites are expected to occur.

4.7.4 Environmental Consequences

4.7.4.1 No Action Alternative

FEMA anticipates negligible to minor adverse effects with respect to hazardous substances based on the No Action Alternative. The No Action Alternative would result in FEMA continuing to rely on FEMA and DHS CATEX categories to interpret individual watershed resiliency and post-wildfire treatment projects. The lack of a streamlined approach is not aligned with the goals of SRIA and may exacerbate existing vulnerabilities in areas that have experienced wildfire through unnecessary delays in review.

4.7.4.2 Proposed Action Alternative

This PEA presents a range of watershed resiliency and post-wildfire treatment actions that reduce the risk of loss of life and property caused by the effects of wildfire and monsoon cycles. In the short-term, the Proposed Action Alternative has the potential to cause minor adverse effects with respect to hazardous substances during site preparation and construction actions evaluated in this PEA. Subrecipients will include site selection considerations to avoid Superfund NPL sites where possible. Certain post-wildfire treatment actions, detailed in Section 3.2, will require equipment that utilizes hazardous materials such as petroleum fuels and oil. Certain post-wildfire treatment actions, detailed in Section 3.2, will require the use of seed adhesion agents or chemicals to suppress invasive species such as noxious weeds or bark-boring beetles. FEMA anticipates that any hazardous substances used in connection with actions evaluated in this PEA will be limited to regulatory reportable quantities. FEMA anticipates that the handling and application of any hazardous substances will adhere to regulatory and

[59] EPA Cleanups in My Community website

manufacture guidelines. In the long-term, FEMA does not anticipate effects to hazardous substances from actions evaluated in this PEA.

Subrecipients, including their designated contractors, are responsible for properly maintaining construction vehicles and equipment, along with any hazardous and toxic materials used in their operation, in compliance with applicable local, state, and federal laws and regulations. The subrecipient's contractor is also responsible for the appropriate disposal of all hazardous waste generated during construction actions, in compliance with applicable local, state, and federal laws and regulations. All hazardous and regulated materials or substances shall be handled according to safety data sheet instructions. Implementation of environmental protection measures, including BMPs and standard operating procedures (e.g., spill kits), for preventing and responding to potential contamination will result in less than significant effects. Permit and project conditions are summarized in Section 7. Thresholds and conditions for project-specific tiering from this PEA are summarized in Section 9.

4.8. Human Health and Safety

4.8.1 Definition of the Resource

Health and safety include occupational hazards to workers as well as the exposure of the public to conditions creating the risk of immediate injury or long-term health hazards.

4.8.2 Applicable Statutes and Regulations

The Occupational Safety and Health Act and EO 13045 are the are the primary Federal regulatory drivers related to the evaluation of human health and safety considered in this PEA for actions relating to post-wildfire treatment and watershed restoration. The effects of the Proposed Action Alternative are evaluated with respect to this statute and EO. Congress passed the **Occupational and Safety Health Act** to ensure worker and workplace safety. The Act also created the National Institute for Occupational Safety and Health as the research institution for the Occupational Safety and Health Administration (OSHA). OSHA is a division of the United States Department of Labor that oversees the administration of the Act and enforces worker health and safety standards.

Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks requires that each Federal agency: "(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." Section 2-203 of the EO defines environmental health risks and safety risks as, "risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest

(such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to)."

4.8.3 Existing Conditions

According to the 2020 Census, children under 18 made up 22.4% of NM's population of 2.1 million people.[60] Children in NM are likely to be present in areas that experience the primary and secondary effects of wildfire. Risks to human health and safety are elevated in areas with a high probability of hazardous debris flows. Post-wildfire debris flows are hazardous because they can occur with little warning, can exert great impulsive loads on objects in their paths, and endanger human life.

Conditions that may adversely impact occupational health and safety at future project site relate to the daily air quality index, daily fire danger ratings, the operation of construction equipment, and handling of hazardous materials encountered a project site, such as equipment fuel or ash containing unknown substances, Inclement weather such as conditions that have the potential to induce heat stroke, hypothermia, or cause physical harm such as lightning or flash floods may exist. Also, the potential for accidents such as slips, trips, falls strains, and injury from hand tools impact worker health and safety.

A project-specific Health and Safety Plan (HASP) is often a requirement of the contracting process. A HASP includes a listing of potential hazards that may be encountered at a project site, the mitigation measures to avoid the identified hazards, and emergency response services, procedures, and evacuation procedures to ensure a safe working environment. A HASP should address the risks and proper procedures for encountering hazardous materials, emergency response procedures, and preparedness for extreme weather. Additionally, for projects involving the removal of ash or burned debris, the HASP should address required training and personal protective equipment that will be required for those handling burned material.

4.8.4 Environmental Consequences

4.8.4.1 No Action Alternative

FEMA does not anticipate disproportionate health and safety risks to workers or children based on the No Action Alternative. However, the lack of a streamlined approach to review of watershed resiliency and post-wildfire recovery may lead to minor to moderate adverse effects to resources that relate to human health and the environment, such as water resources. The lack of a streamlined approach may also have the unintended consequence of increasing the risk of

[60] 2020 Census

noncompliance for subrecipients who move ahead with time-critical projects in advance of monsoon rains, and prior to the completion of the NEPA review process, potentially jeopardizing subrecipient funding. Therefore, FEMA anticipates minor adverse effects to human health and safety based on the No Action Alternative.

4.8.4.2 Proposed Action Alternative

This PEA presents a range of watershed resiliency and post-wildfire treatment actions that reduce the risk of loss of life and property caused by the effects of wildfire and monsoon cycles. FEMA does not anticipate disproportionate health risk to workers or children through actions evaluated in this PEA. In the short-term, the Proposed Action has the potential to cause minor adverse effects to workers during site preparation and construction actions, based on the inherent risks associated with an active construction site. The short-term adverse effects are anticipated to be mitigated through the adherence of workers to a site-specific HASP. In the long-term, the Proposed Action has the potential for minor to moderate beneficial effects to human health and safety realized through a range of actions meant to reduce the potential for loss of life, protect infrastructure and lessen the severity of post-wildfire debris flows.

The subrecipients must incorporate all health and safety conditions applicable to minimizing effects to health and safety in site-specific HASP. Project conditions are summarized in Section 7. Thresholds and conditions for project-specific tiering from this PEA are summarized in Section 9.

4.9. Environmental Justice and Climate Effects

4.9.1 Definition of the Resource

According to the EPA, environmental justice (EJ) is fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.[61]

4.9.2 Applicable Statutes and Regulations

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and Executive Order 14008: Tackling the Climate Crisis at Home and Abroad are the Federal regulatory divers applicable to the evaluation of environmental justice and climate considerations considered in this PEA. The effects of the Proposed Action Alternative are evaluated with respect to these EOs.

[61] EPA EJ website

The EO 12989 directs each Federal agency to incorporate achieving EJ into its mission by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations." DHS Directive 023-04, subsection 1-101 establishes policy related to integrating environmental justice into FEMA programs, policy, and activities. FEMA also follows EPA's guidelines to assess disproportionately high and adverse human health or environmental effects.[62]

The EO 14008 directs Federal agencies to make achieving environmental justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related, and economic challenges experienced by disadvantaged communities. The EO also established the Justice40 Initiative, a whole-of-government effort of which FEMA is a part of, to ensure that Federal agencies work with states and local communities to deliver at least 40 percent of the overall benefits from covered Federal programs and investments to disadvantaged communities.

4.9.3 Existing Conditions

In NM, low income population, people of color, linguistically isolated, and potentially sensitive populations, such as those over 65 years old, may be impacted by EJ concerns. Many of those communities are located with areas that have experienced cycles of wildfire and monsoon storms. Appendix A includes several maps (A-14 to A-17) depicting populations at risk for EJ concerns, along with fire perimeters from 2013 to 2022 in order to visually demonstrate EJ communities and proximity to wildfire.

At risk populations living in areas that have experienced wildfire may also face an inequity of protection from the secondary effects of wildfire such as debris flows, a lack of access to timely warning information, lack of transportation to evacuate, and incomes that limit their ability to afford temporary lodging, relocation, or housing improvements needed after wildfires and flooding. These at risk communities may also disproportionally bear the accompanying negative and prolonged economic challenges associated with wildfire and monsoon cycles and may not have the resources to permanently relocate to other areas. Overall, factors such as proximity to fire perimeters, low-income, and minority status may perpetuate a disproportionate vulnerability to loss of life or property from wildfire and monsoon cycles and reduce the capacity of communities to prepare for future wildfire monsoon cycles.

[62] DHS, September 19, 2016

4.9.4 Environmental Consequences

4.9.4.1 No Action Alternative

FEMA does not anticipate disproportionately high or adverse human health or environmental effects populations at risk for EJ concerns, based on the No Action Alternative. However, as detailed in previous sections of this PEA, the lack of a streamlined approach to review of watershed resiliency and post-wildfire recovery may lead to minor to moderate adverse effects to resources that relate to human health and the environment, such water resources. The lack of a streamlined approach may also have the unintended consequence of increasing the risk of noncompliance for subrecipients in EJ communities who move ahead with time-critical projects in advance of monsoon rains, and prior to the completion of the NEPA review process, potentially jeopardizing subrecipient funding. Therefore, FEMA anticipates minor to moderate adverse effects to minority and low-income populations for project locations cited within EJ communities, based on the No Action Alternative. The No Action Alternative has the potential to delay expedited flooding and erosion prevention actions, thereby increasing the risk of further damage in areas affected by wildfire.

4.9.4.2 Proposed Action Alternative

This PEA presents a range of watershed resiliency and post-wildfire treatment actions that reduce the risk of loss of life and property caused by the effects of wildfire and monsoon cycles. FEMA does not anticipate disproportionately high or adverse human health or environmental effects to minority or low-income populations through actions evaluated in this PEA.

Subsequent environmental reviews for watershed resiliency and post fire-treatment projects tiered from this PEA will include an assessment for site-specific considerations related to environmental justice. FEMA uses the best available data, including Census Block Group and EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN) Version 2.0 to identify populations at risk for potential environmental justice concerns. Where there is a potential for disproportionately high or adverse effects based on the Proposed Action, FEMA consults with EPA and incorporates recommendations for mitigating those effects. Overall, FEMA anticipates minor to moderate beneficial effects to communities impacted by EJ concerns, based on actions that improve watershed resiliency and address disproportionate vulnerabilities from the primary and secondary effects of wildfire.

5.0 CUMULATIVE EFFECTS AND OTHER CONSIDERATIONS

The CEQ defines cumulative effects as the effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

This cumulative effect analysis is prepared at a level of detail that is reasonable and appropriate to support an informed decision by FEMA, and takes into consideration past, present, and reasonably foreseeable future actions that relate to post-wildfire treatments and watershed resiliency projects that reduce the risk of loss of life and property caused by the effects of wildfire and monsoon cycles in NM. Consideration of past, present, and reasonably foreseeable future actions is limited to projects undertaken in the State of New Mexico, with the potential to occur over the next five years. The following projects occur on a watershed or state-wide scale and require similar scope as is evaluated in this PEA.

NRCS Emergency Watershed Protection Program

The NRCS Emergency Watershed Protection (EWP) Program is a federal emergency recovery program that offers technical and financial assistance to help eligible sponsors respond to imminent threats to life and property caused by floods, fires, windstorms and other natural disasters that impair a watershed.[63] The NRCS EWP Program does not require a disaster declaration by federal or state government officials to fund protection of infrastructure and land from additional flooding and soil erosion. Eligible sponsors such as cities, counties, towns, conservation districts, or any federally-recognized Native American tribe or tribal organization, can apply for EWP funding for the following activities:

- Removal of debris from stream channels, road culverts and bridges
- Reshape and protect eroded streambanks
- Correct damaged or destroyed drainage facilities
- Establish vegetative cover on critically eroding lands
- Repair levees and structures
- Repair certain conservation practices, and
- Purchase floodplain easements

[63] NRCS EWP website

Activities not eligible for EWP funding include:

- Addressing the same structural issue or practice (i.e., levy breach) three times in 10 years
- Existing operation and maintenance
- Repair, rebuild, or maintain any transportation facilities, utilities, or similar facilities
- Restoring projects installed by another federal agency
- Repair of nonstructural management practices (i.e., conservation tillage)
- Repair erosion to beaches, dunes, and shorelines, including those along the Great Lakes
- Any recovery measure also eligible for the Emergency Conservation Program offered thru the USDA Farm Service Agency (FSA)

Doña Ana County, Rincon Arroyo Watershed, Protection and Flood Prevention Program

Under the EWP Program, the NRCS has awarded the Doña Ana County and its Flood Commission the first Planning/NEPA phase of a Watershed Protection and Flood Prevention Operations Program for the Rincon Arroyo Watershed.[64] Partners to the project include the Caballo SWCD, Elephant Butte Irrigation District, the NM Water Resources Research Institute, and the Bureau of Land Management. This phase aims to create a watershed plan to address the root cause of flooding, vegetation loss in the uplands that scour soils and transport sediment, which in turn clogs downstream riparian areas and over 19 miles of agricultural infrastructure and overwhelms downstream flood control infrastructure.

FSA Emergency Conservation Program

The FSA Emergency Conservation Program provides emergency funding and technical assistance to farmers and ranchers to rehabilitate farmland and conservation structures damaged by natural disasters and implement emergency water conservation measures in periods of severe drought.[65] To rehabilitate farmland, the FSA provides ECP funding to eligible participants to implement emergency conservation practices, such as:

- Removing debris from farmland (cleanup of wind- or water deposited debris, such as woody material, sand, rock and trash on cropland or pastureland)
- Grading, shaping or leveling land (filling gullies, releveling irrigated farmland, and incorporating sand and silt)
- Restoring fences (livestock cross fences, boundary fences, cattle gates, or wildlife exclusion fence on agricultural land)
- Restoring conservation structures (waterways, terraces, diversion ditches and permanently installed ditching system), and

[64] NM Water Resources Research Institute website
[65] USDA FSA factsheet

- Providing emergency water during periods of severe drought (grazing and confined livestock and existing irrigation systems for orchards and vineyards)

New Mexico's Forest and Watershed Restoration Act

The Forest and Watershed Restoration Act allocates $2 million dollars annually to the EMNRD, Forestry Division for the purpose of restoring forests and watersheds in the state of New Mexico. The Act also establishes a Forest and Watershed Advisory Board to evaluate and recommend projects to be funded through the Forest Land Protection Revolving Fund.[66] Funds may be used for vegetation restoration treatments, project planning, economic development programs to advance the use of small-diameter trees and woody biomass, and workforce development for wood utilization projects. Priority is given to project that can demonstrate the following:

- Leverages other funding sources
- Located in an area with a wood supply that can be used for biomass energy production, where small diameter trees may be put to commercial use, or where traditional forest products may be used
- Clustered around priority areas that can supply a useful amount of wood products for industry
- Creates incentives to increase investment by other entities

Section 4 of this PEA includes an evaluation of potential effects to air quality; geological and soil resources; water resources; protected species and habitat; cultural resources; transportation infrastructure and traffic; hazardous substances; human health and safety; and environmental justice and climate effects resulting from the Proposed Action Alternative. The other past, present, and reasonably foreseeable future projects discussed in this section also have the potential to cumulatively effect the same locations and individual resources evaluated in this PEA.

FEMA anticipates project completed using federal funding such as the NRCS EWP Program or the FSA Emergency Conservation Program, will undergo a similar review under NEPA. FEMA anticipates the NEPA review of similar projects may result in consultations with appropriate local, state, and federal agencies and result in similar avoidance and minimization efforts to reduce effects to individual resources as are discussed in this PEA. State funding may also be used in conjunction with federal funding to realize post-wildfire treatment and watershed resiliency goals. FEMA anticipates the potential for some unavoidable effects to the resource areas evaluated in this PEA to occur from the Proposed Action Alternative in combination with other past, present, and reasonably foreseeable future actions. FEMA anticipates any unavoidable effects to the evaluated resources described herein, from the cumulative action aimed at reducing

[66] EMNRD website

the risk of loss of life and property caused by the effects of wildfire and monsoon cycles will be limited and will not cumulatively affect the resource or rise to the level of significant adverse impact.

Federal Highway Administration Emergency Relief for Federally Owned Roads (ERFO)

The ERFO Program was established to assist federal agencies with the repair or reconstruction of tribal transportation facilities, federal lands transportation facilities, and other federally owned roads that are open to public travel, which are found to have suffered serious damage by a natural disaster over a wide area or by a catastrophic failure.[67] The intent of the ERFO program is to pay the unusually heavy expenses for the repair and reconstruction of eligible facilities. The ERFO program is not intended to cover all repair costs but rather supplement Federal Land Management Agency repair programs. Repairs are classified as either emergency or permanent repairs.

Overall, FEMA-funded projects may incrementally contribute to cumulative effects depending on the baseline conditions of the affected resource or other past present or reasonably foreseeable actions within NM where the project will occur. However, it is unlikely that the individual selected projects will have significant contribution to cumulative effects on human health or the environment at a programmatic level. Adverse cumulative effects to individual resources are expected to be negligible.

Irreversible and Irretrievable Commitments of Resources

This PEA includes other considerations such as the identification and qualitative analysis of irreversible and irretrievable commitments of resources that will be involved if the Proposed Action Alternative is implemented. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects this use can have on future generations. Irreversible effects primarily result from the use of a specific resource, such as energy or the destruction of a specific resource such as minerals, that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the Proposed Action Alternative, such as the extinction of a special-status species or the disturbance of a cultural resource.

FEMA anticipates projects tiered from this PEA will include the consumption or conversion of resources that will not subsequently be able to be retrieved, such as fuel consumed by heavy equipment and worker vehicles and may include the consumption of resources such as asphalt, concrete, or metal to be used in select post-wildfire treatment actions identified in Section 3.2.2.

[67] FHA ERFO website

Additionally, land within watersheds may be restored to increase normal watershed functioning and protect critical drinking water infrastructure, which will remove that land for potential other uses including residential or commercial development.

Unavoidable Adverse Environmental Effects

NEPA requires a description of any potentially significant impacts resulting from implementation of a proposed action, including those that can be mitigated to a less than significant level. Projects evaluated under this PEA will avoid, minimize, and mitigate for individual project effects, including agency consultation, to reduce an individual project's contribution to cumulative effects to less than significant levels. As detailed in the following summary of potential effects, no significant impacts are anticipated as a result of the No Action Alternative or the Proposed Action Alternative.

6.0 SUMMARY OF POTENTIAL EFFECTS

Table 4.0.2 and Table 4.0.3 present resource areas for which effects are not expected and negligible effects, respectively. Resource areas and regulations presented in Tables 4.0.2 and 4.0.3 were not evaluated in this PEA. Table 6.0.0 presents a summary of potential effects to resource areas evaluated under this PEA resulting from the No Action Alternative and Proposed Action Alternative.

Table 6.0.0: Summary of Potential Effects

Resource Area	No Action Alternative Effects	Proposed Action Alternative Effects
Air Quality	Negligible to minor adverse	Short-term negligible to minor adverse No long-term effects
Geological and Soil Resources	Minor to moderate adverse	Short-term minor to moderate adverse Long-term minor to moderate beneficial
Water Resources	Minor to major adverse	Short-term minor to moderate adverse Long-term minor to moderate beneficial
Protected Species and Habitat	Minor to moderate adverse	Short-term not likely to adversely affect Long-term minor to moderate beneficial
Cultural Resources	Negligible to major adverse	Short-term negligible to moderate adverse Long-term minor to moderate beneficial
Transportation Infrastructure and Traffic	Negligible to minor adverse	Short-term minor adverse Long-term minor to moderate beneficial

Resource Area	No Action Alternative Effects	Proposed Action Alternative Effects
Hazardous Substances	Negligible to minor adverse	Short-term minor adverse No long-term effects
Human Health and Safety	Minor adverse	Short-term minor adverse Long-term minor to moderate beneficial
Environmental Justice and Climate Effects	Minor to moderate adverse	No disproportionately high or adverse effects to EJ communities Overall, minor to moderate beneficial

7.0 PERMITS AND PROJECT CONDITIONS

The subrecipients are responsible for obtaining all applicable Federal, state, and local permits and other authorizations and adhering to permit conditions for project implementation prior to construction. Subrecipients are responsible for providing copies of permits to the recipients and FEMA prior to project closeout and should do so upon obtaining them. Any substantive change to the approved SOW will require reevaluation by FEMA for compliance with NEPA, other laws, and EOs. The subrecipients must not exceed the thresholds described in Section 9 of this PEA during project implementation without first notifying FEMA in advance.

The subrecipients must also adhere to project-specific conditions as documented on the REC during project implementation and observe the below conservation recommendations. FEMA expects the following conditions are applicable to all project scopes of work covered by this PEA. Failure to comply with grant conditions may jeopardize Federal funds:

1. The subrecipients are responsible for completing state and local environmental and land use reviews in accordance with federal, state, and local regulations.
2. The subrecipients may be required to obtain an air permit based on the size and duration of construction projects or operation of supplemental power generation. BMPs applicable to minimizing effects to air quality shall be incorporated, including limiting vehicle idling, utilizing fugitive dust suppression techniques, such as those outlined in the NMAC for fugitive dust control.
3. The actions covered by this PEA may require authorization from USACE prior to conducting work. The subrecipients are responsible for obtaining all necessary federal permits and complying with all conditions of the permit including but not limited to notification and signature requirements to insure validation of permits.
4. The subrecipients may be required to obtain NPDES permits prior to construction, if applicable to the project.

5. Subrecipients must comply with any requirements and avoidance measures pursuant to Section 7 of the ESA. If protected species are observed during construction, activities that could result in harm or disturbance must stop immediately and the subrecipient must notify the recipient and FEMA. USFWS may require FEMA to conduct additional consultation. Subrecipients must minimize the introduction or spread of invasive species, including decontamination procedures on vehicles and equipment, and using weed-free products.

6. The subrecipients must follow the conditions resulting from consultation with the SHPO and Tribal Nations. If unexpected archaeological resources are encountered during construction, the subrecipient must stop work and notify the recipient and FEMA. FEMA will determine what additional consultation with the SHPO, and the Tribal Nations are required, and what additional conditions or avoidance measures may apply.

7. The subrecipient must follow the conditions and requirements of the NMDOT or federal agency with respect to appropriate seed selection revegetation zones and temporary road closures permits and requirements, where project sites intersect with NMDOT jurisdiction.

8. The subrecipients must follow all permit conditions and manufacture guidelines applicable to the handling and application of any hazardous substances used in connection with actions evaluated in this PEA.

9. The subrecipients must incorporate all health and safety conditions applicable to minimizing effects to health and safety in site-specific HASP.

8.0 AGENCY COORDINATION AND PUBLIC INVOLVEMENT

FEMA invited federal, state, local and federally recognized Tribal governments with interest, jurisdiction, or authority in the State of New Mexico, to participate in the development of this PEA. A copy of FEMA's invitation letter and the email responses received from interested parties are included in Appendix D.

This PEA will be made available for agency and public review and comment for a period of 30 days, concluding on September 29, 2022. The public Notice of Availability for review of the PEA was distributed electronically by FEMA and published in the Albuquerque Journal and Santa Fe New Mexican, on August 29, 2022. The PEA and English and Spanish versions of the public Notice of Availability was posted to FEMA's NEPA Repository at: https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository

In addition, a media advisory that included the weblink to the PEA and public Notice of Availability, in English and Spanish, was posted on the following platforms:

- The FEMA website for the New Mexico Wildfires and Straight-line Winds DR-4652-NM, under the Reports and Notices page at: https://www.fema.gov/disaster/4652

- The FEMA Region 6 Twitter feed at: https://twitter.com/FEMARegion6
- The FEMA Region 6 Facebook page at: https://www.facebook.com/femaregion6/

This PEA reflects the evaluation and assessment of the Federal government, the decision maker for the Federal actions; however, FEMA will take into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. The public is invited to submit comments on the PEA via email or by mail. Comments on the PEA may be emailed to FEMA-R6-EHP@fema.dhs.gov noted with the subject line, "New Mexico PEA 2022", or mailed to FEMA Region 6, 800 North Loop 288, Denton, Texas 76209 Attn: Environmental Planning and Historic Preservation - REO.

If no substantive comments are received following the 30-day public comment period, the PEA will be adopted as a Final PEA, and FEMA will issue a FONSI. If FEMA receives substantive comments during the 30-day public comment period, the comments will be evaluated and FEMA will address them either as part of the FONSI documentation, or in a Final PEA. Alternatively, FEMA may withdraw the PEA or initiate a Programmatic EIS if significant effects are identified.

9.0 LIST OF PREPARERS

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10.0 THRESHOLDS FOR PREPARING A TIERED EA

Potential future Proposed Action tiered from this PEA will require a FEMA review using the framework set out in this PEA to determine whether the Proposed Action and its associated effects are covered under the PEA, or whether additional NEPA analysis is needed. If the FEMA review concludes that additional NEPA analysis is necessary, it is required to be prepared before any irreversible and irretrievable commitments of resources occurs as a result of Proposed Action.

Resource Area	Action Covered by this PEA to be Documented in a REC	Threshold for Preparing a Tiered Environmental Assessment
Air Quality	A Proposed Action tiered from this PEA results in negligible or short-term and minor adverse effects to air quality that will not result in a change in attainment status for any NAAQS. Significant adverse effects to air quality are not identified based on the Proposed Action. or A Proposed Action tiered from this PEA, and located in a designated nonattainment area of NM, results in negligible or short-term and minor adverse effects to air quality, below the de minimis levels for the respective NAAQS. Significant adverse effects to air quality are not identified based on the Proposed Action.	A Proposed Action tiered from this PEA includes emissions calculations indicating that the Proposed Action has the potential to change an area's air quality status from attainment to nonattainment for any NAAQS. or A Proposed Action tiered from this PEA, and located in a designated nonattainment area of NM, is anticipated to result in an exceedance(s) of de minimis level(s) for the respective NAAQS.
Geological and Soil Resources	A Proposed Action tiered from this PEA results in minor to moderate short-term effects to geological and soil resources that are addressed through regulatory permit conditions and/or resource agency consultations. Significant adverse effects to geological and soil resources are not identified based on the Proposed Action.	A Proposed Action tiered from this PEA exceeds the soil disturbance threshold of 500 acres, thus triggering a project-specific evaluation of potential environmental consequences. or A Proposed Action tiered from this PEA results in effects to geological and soil resources that exceed minor to moderate short-term effects and cannot be mitigated to a minor or moderate impact through regulatory permit conditions and/or resource agency consultations.

Resource Area	Action Covered by this PEA to be Documented in a REC	Threshold for Preparing a Tiered Environmental Assessment
Water Resources	A Proposed Action tiered from this PEA results in minor to moderate effects that are mitigated by regulatory permit conditions and resource agency consultations to reduce the effects below the level of significance. and A Proposed Action tiered from this PEA does not require a CWA 404 Individual Permit from USACE. The Proposed Action is in compliance with all permit conditions, notification and reporting requirements for applicable nationwide permits, regional general permits, emergency authorizations, programmatic general permits or other USACE-issued general permit. or The subrecipient has received a written waiver from USACE for projects that exceed permit thresholds.	A Proposed Action tiered from this PEA would cause or contribute to existing exceedances of water quality standards resulting in violation of state water quality criteria. or A Proposed Action tiered from the PEA requires a CWA 404 Individual Permit from USACE.

Resource Area	Action Covered by this PEA to be Documented in a REC	Threshold for Preparing a Tiered Environmental Assessment
Protected Species and Habitat	A Proposed Action tiered from this PEA would have no effect on threatened or endangered species or critical habitat for those species. or A Proposed Action tiered from this PEA results effects that are mitigated via resource agency consultations. FEMA makes a "May affect, Not Likely to Adversely Affect" determination and USFWS concurs. and A Proposed Action tiered from this PEA includes any USFWS mitigation measures to reduce the level of effects to species and habitats protected by MBTA and BGEPA below the level of significance. and A Proposed Action tiered from this PEA discourages the spread of invasive species by implementing regulations and BMPs according to NM guidance.	A Proposed Action tiered from the PEA exceeds a "May affect, Not Likely to Adversely Affect" determination to a species listed as federally threatened or endangered. or A Proposed Action tiered from the PEA results in the loss or adverse modification of designated critical habitat for a listed species. or A Proposed Action tiered from the PEA is determined to likely result in the "take" of birds protected under the MBTA or BGEPA.
Cultural Resources	The effects of a Proposed Action tiered from this PEA can be resolved through the Programmatic Agreement cited in Section 1.2, or through standard consultation.	FEMA makes an "Adverse Effect" determination with concurrence from SHPO/THPO that cannot be resolved using measures outlined in state programmatic agreements or negotiated through a standard project-specific Memorandum of Agreement. or Projects that that result in an "Adverse Effect" determination on a National Historic Landmark.

Resource Area	Action Covered by this PEA to be Documented in a REC	Threshold for Preparing a Tiered Environmental Assessment
Transportation Infrastructure and Traffic	A Proposed Action tiered from this PEA results in minor, short-term effects to transportation infrastructure and/or traffic, that are addressed through regulatory permit conditions and/or resource agency consultations. Significant adverse effects to transportation infrastructure and/or traffic are not identified based on the Proposed Action.	A Proposed Action tiered from this PEA results in effects to transportation infrastructure and/or traffic that exceed minor short-term effects, and those effects cannot be mitigated to a minor or moderate impact through regulatory permit conditions and/or resource agency consultations. or A Proposed Action tiered from this PEA conflicts with a NMDOT permit(s) or condition(s).
Hazardous Substances	A Proposed Action tiered from this PEA results in negligible or short-term and minor adverse effects based on the use of hazardous substances. Significant adverse effects with respect to hazardous substances are not identified based on the Proposed Action.	A Proposed Action tiered from this PEA results in effects to hazardous substances that exceed minor short-term effects, and those effects cannot be mitigated to a minor or moderate impact through regulatory permit conditions and/or resource agency consultations.
Human Health and Safety	A Proposed Action tiered from this PEA will not result in disproportionate adverse health or safety effects to workers or children. Significant adverse effects to human health and safety are not identified based on the Proposed Action.	A Proposed Action tiered from this PEA would cause an unmitigated risk to worker health or safety or child health or safety, specifically attributable to products or substances that a child is likely to come in contact with or ingest.
Environmental Justice and Climate Effects	A Proposed Action tiered from this PEA will not result in disproportionately high and adverse environmental or health effects to populations impacted by environmental justice concerns.	The Proposed Action tiered from this PEA would cause an unmitigated adverse and disproportionately high impact to populations impacted by environmental justice concerns.

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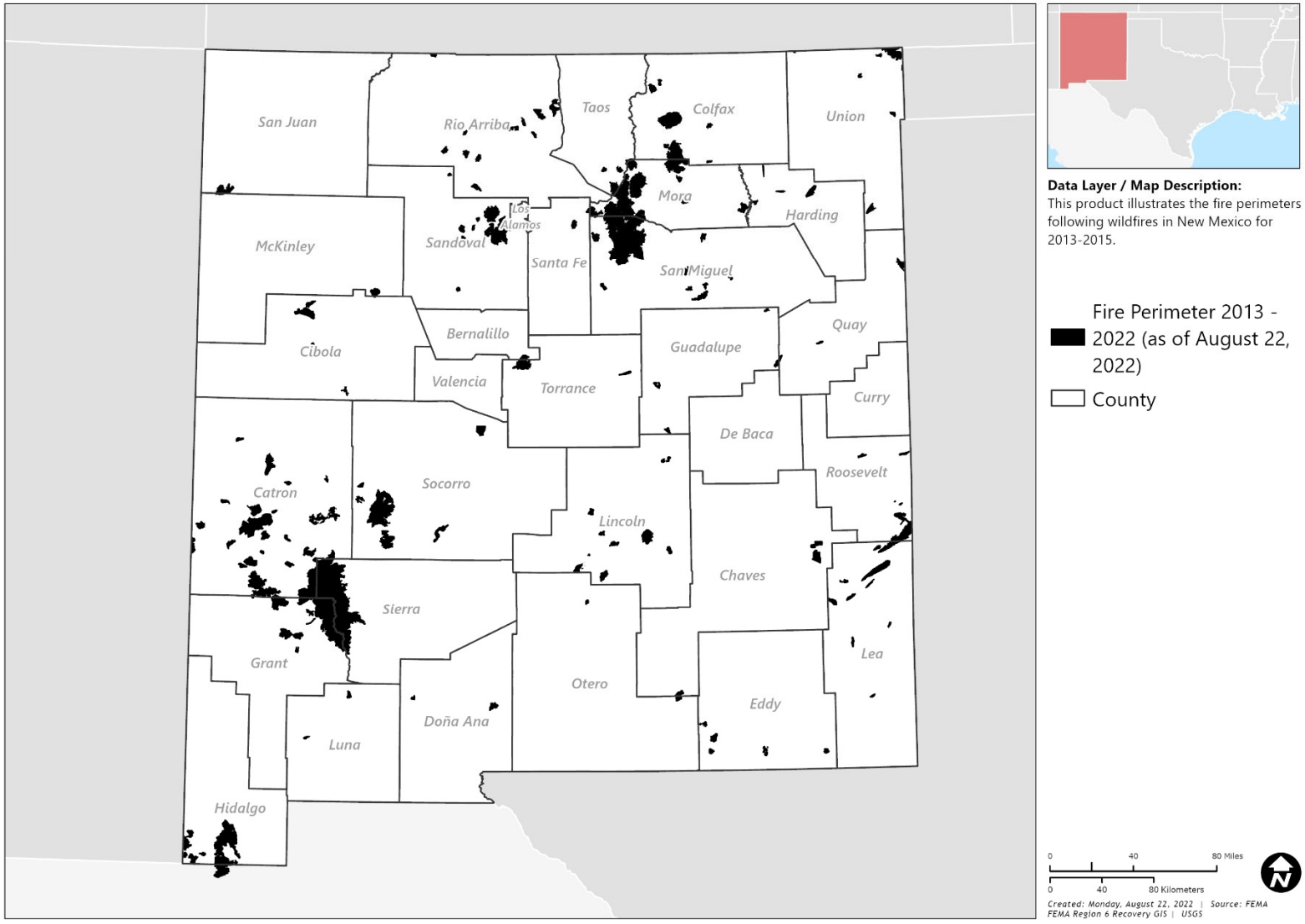
APPENDIX A: MAPS

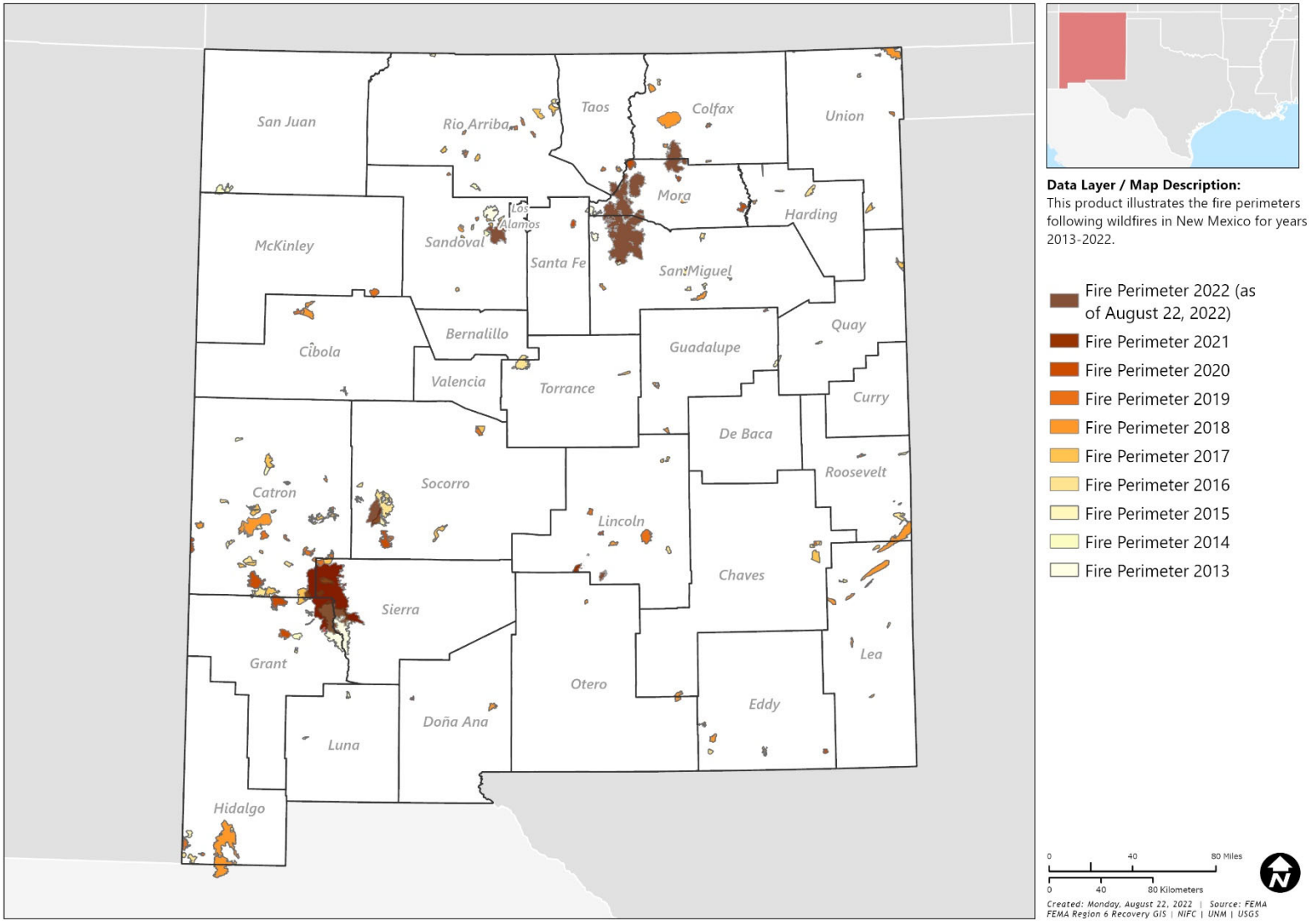
APPENDIX A INDEX

A-1

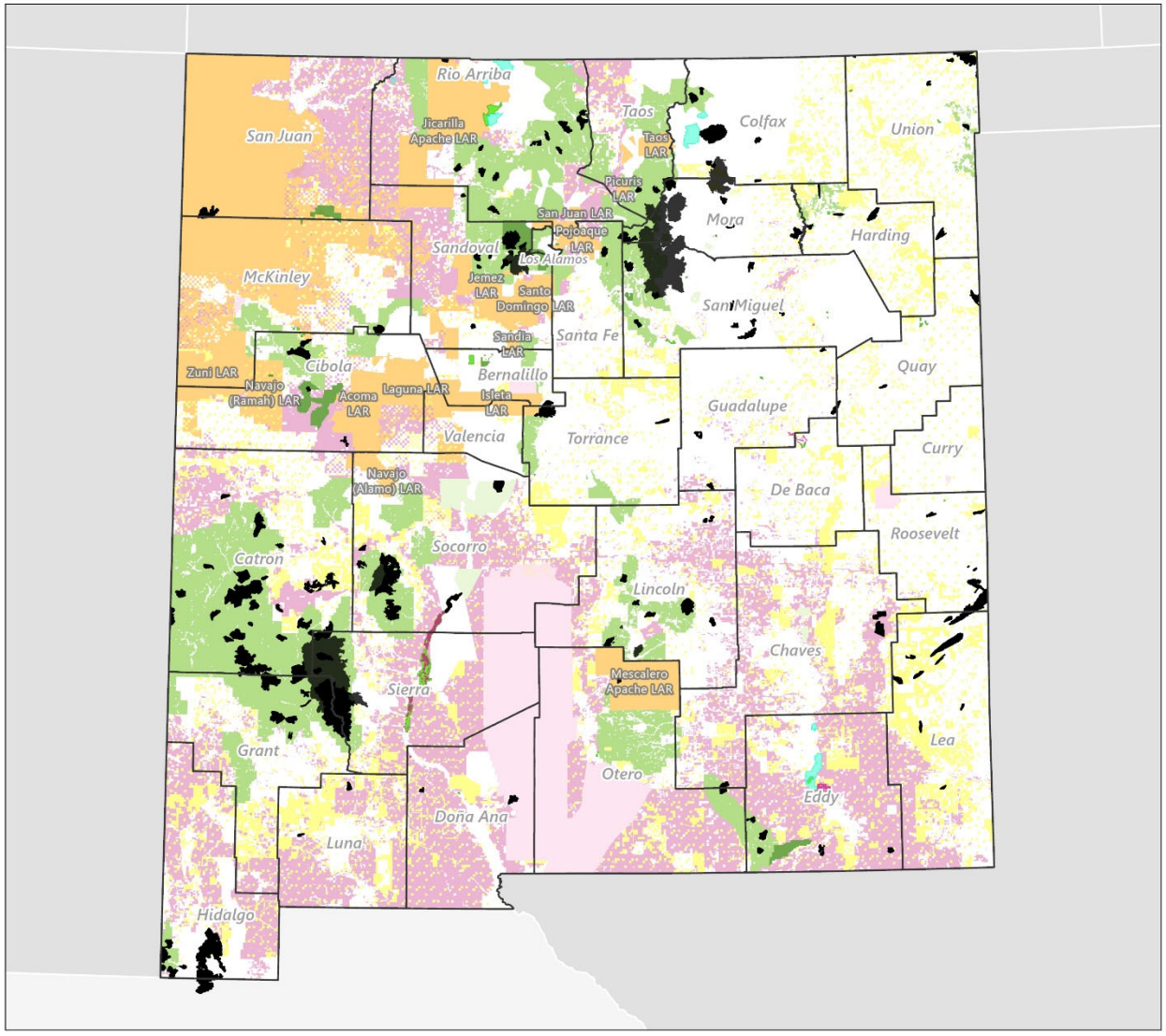
Fire Perimeters in New Mexico for Years 2013 to 2022

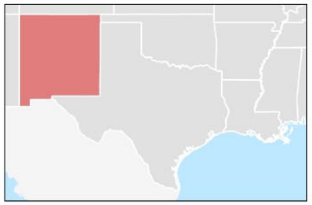


A-2
Fire Perimeters in New Mexico by Year (2013 to 2022)



A-3
Federal, Tribal and State Owned Lands in New Mexico





Data Layer / Map Description:
This product illustrates the lands owned by a federal government entity in New Mexico. Tribal Land Representation areas are also displayed on this product. Esri compiled and published this layer in May 2022.

- Fire Perimeter 2013 - 2022
- County
- NM State Lands
- NM Local and State Parks
- NM State Fish and Game
- Tribal Land Area Representation (LAR)

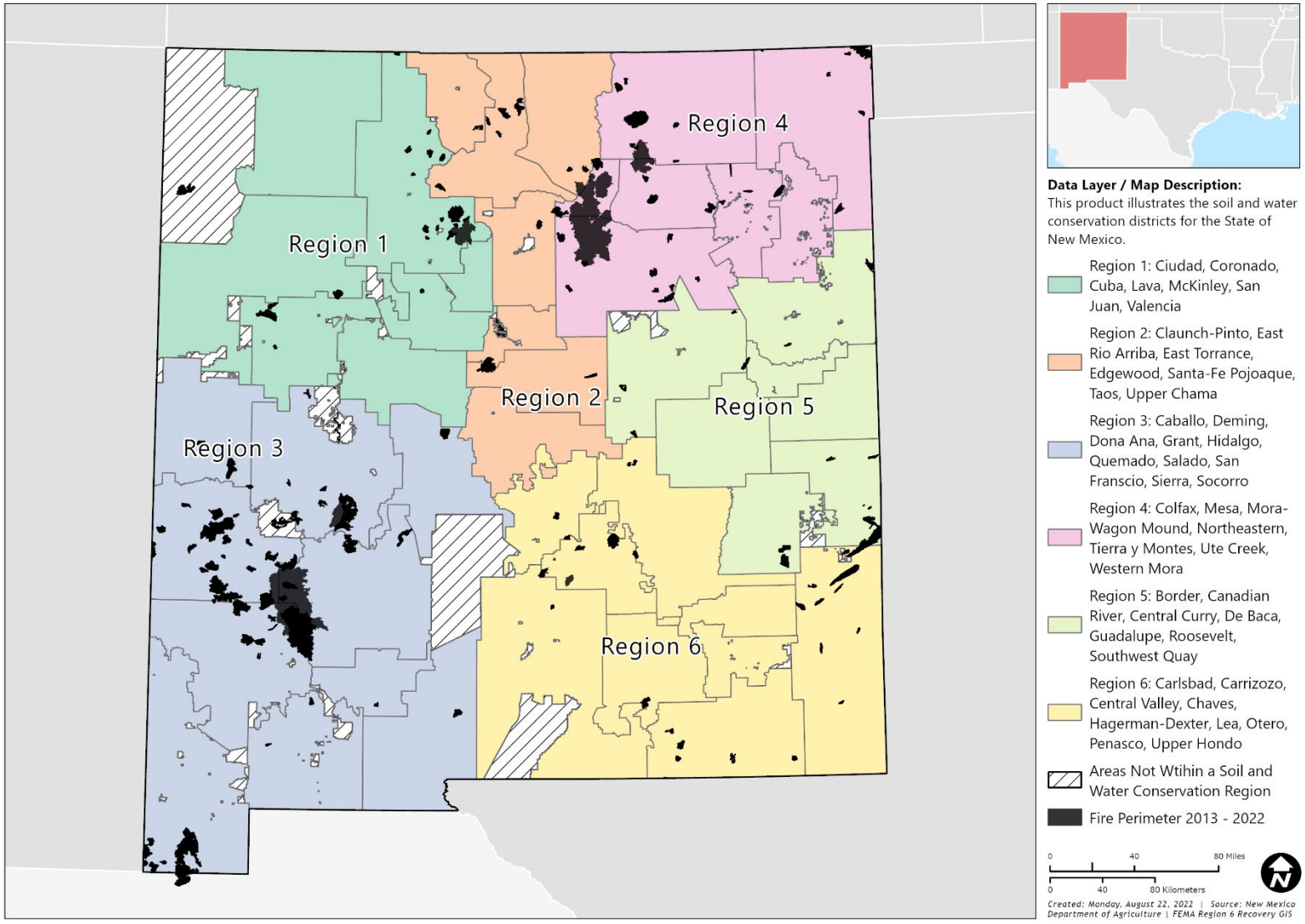
Federal Lands

- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Fish and Wildlife Service
- Forest Service
- National Park Service

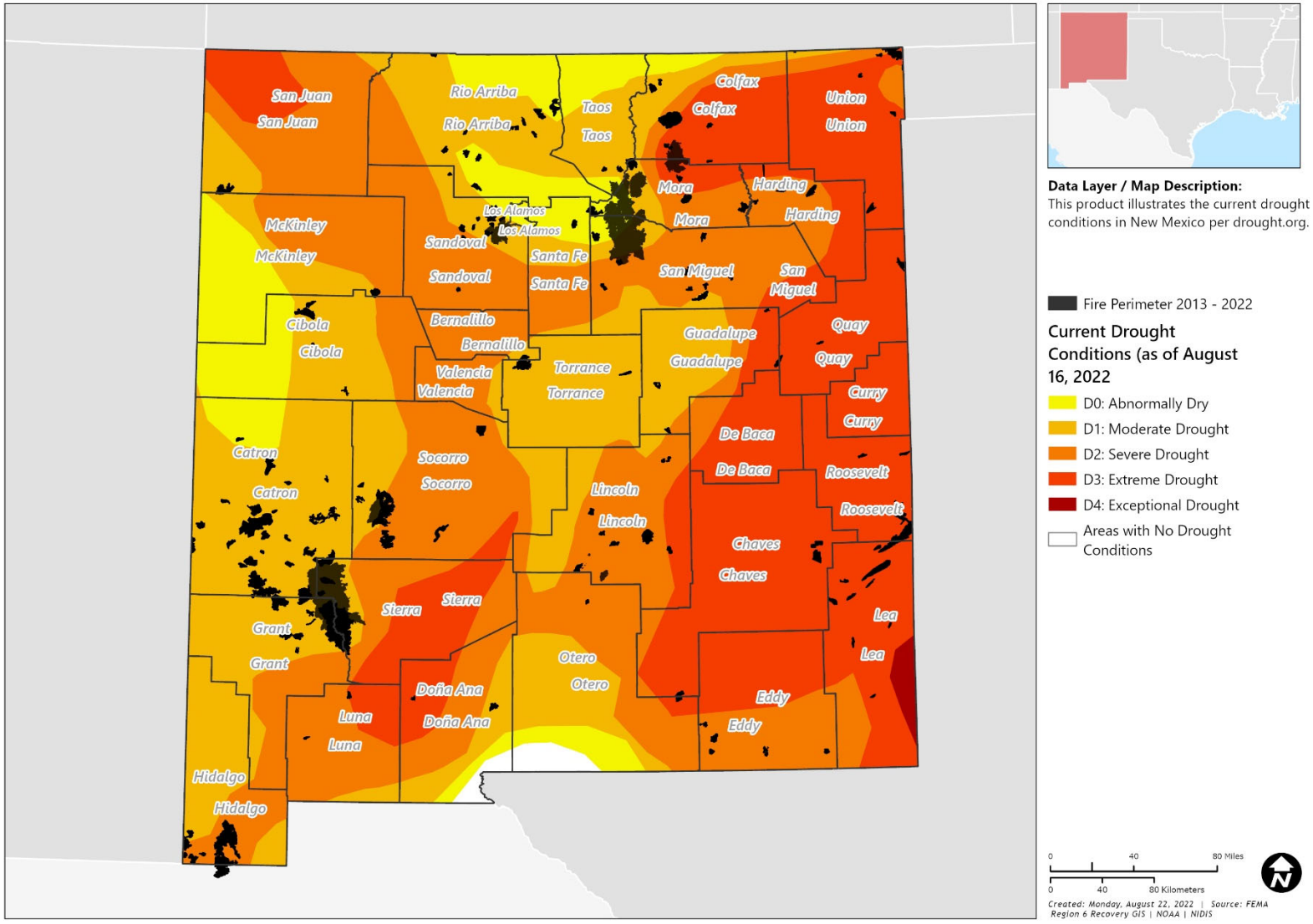
0 40 80 Miles
0 40 80 Kilometers

Created: Monday, August 22, 2022 | Source: FEMA Region 6 Recovery GIS | ESRI Living Atlas | EPA

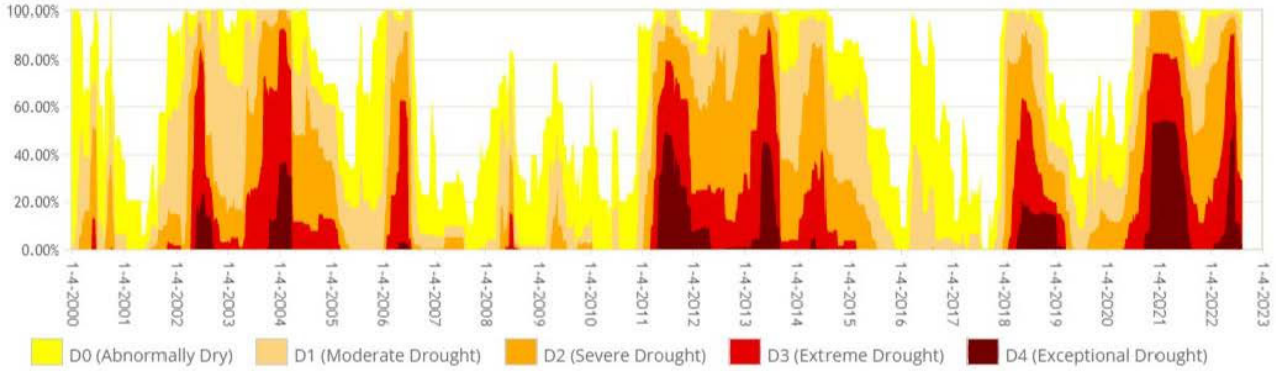
A-4
Soil and Water Conservation Districts in New Mexico



A-5
Current Drought Conditions in New Mexico



A-6 Drought Conditions in New Mexico 2000 - 2022



Drought Monitor Legend
D0: Abnormally Dry
D1: Moderate Drought
D2: Severe Drought
D3: Extreme Drought
D4: Exceptional Drought

Additional Conditions

D0: Soil moisture is low; Fire danger increases

D1: Livestock need supplemental feed and water; Burn bans and firework restrictions begin

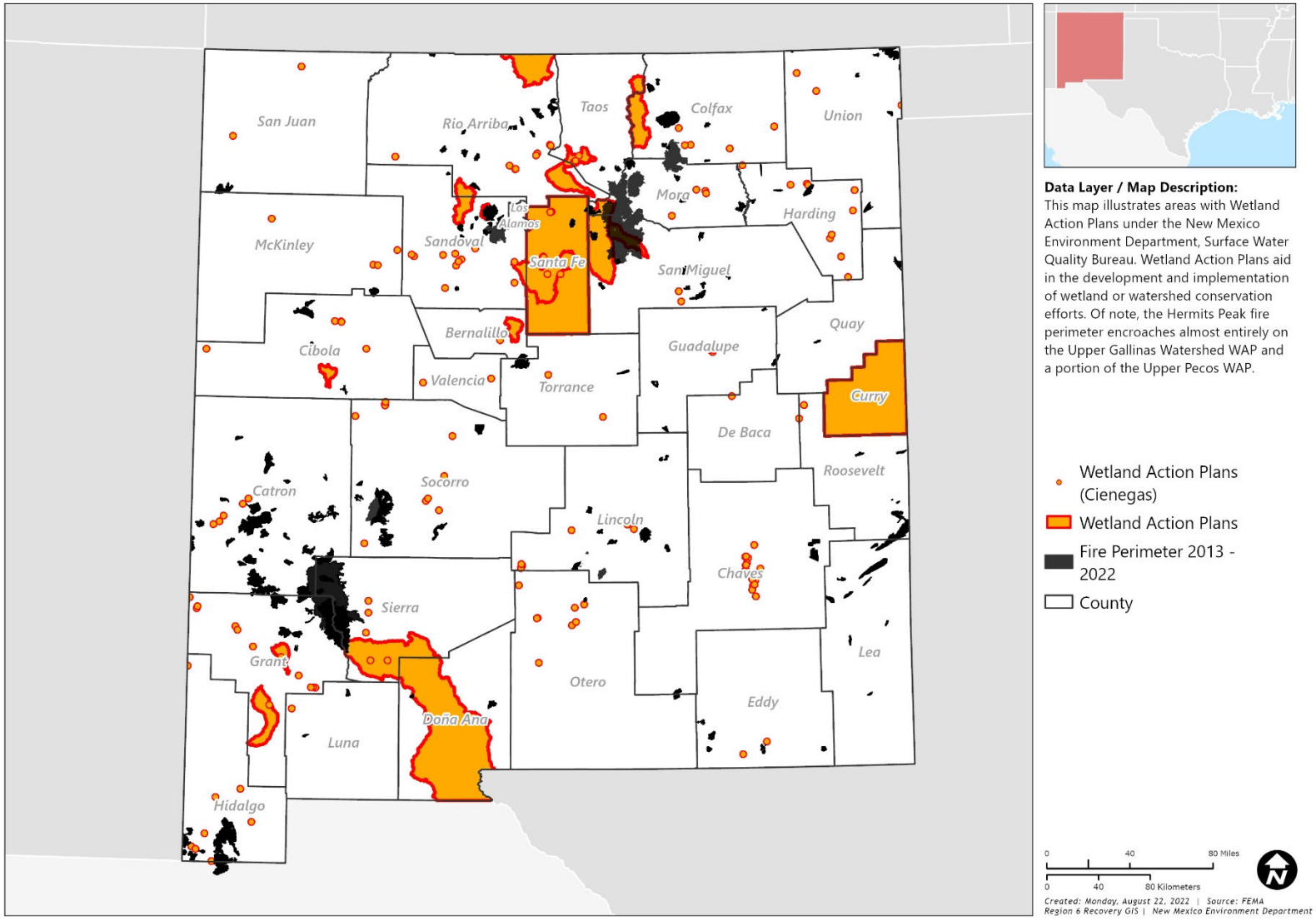
D2: Pasture yield is limited, producers sell livestock; Irrigated crops are stunted, dryland crops are brown; Abundance and magnitude of wildfires may increase, fuel mitigation practices are in effect

D3: Livestock are suffering, producers are selling herds, feed costs are high, emergency Conservation Reserve Program (CRP) grazing is authorized, crop yields are low; Fire danger is extreme; Irrigation allotments decrease

D4: Federal lands begin to close for fire precautions, burn bans increase; No surface water is left for agriculture, farmers use private wells; Rio Grande and other large rivers are dry

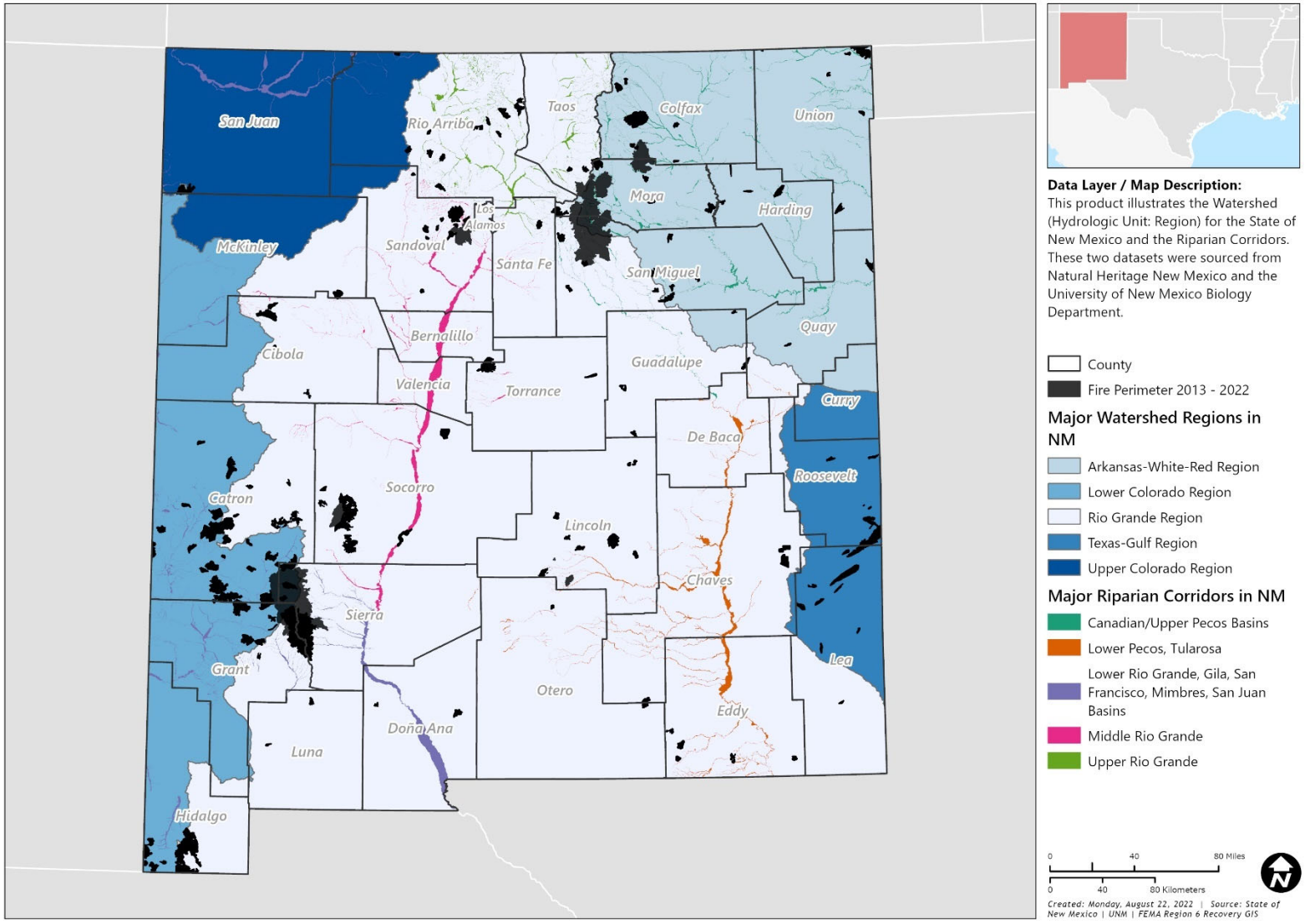
A-7

Areas with Wetland Action Plans in New Mexico

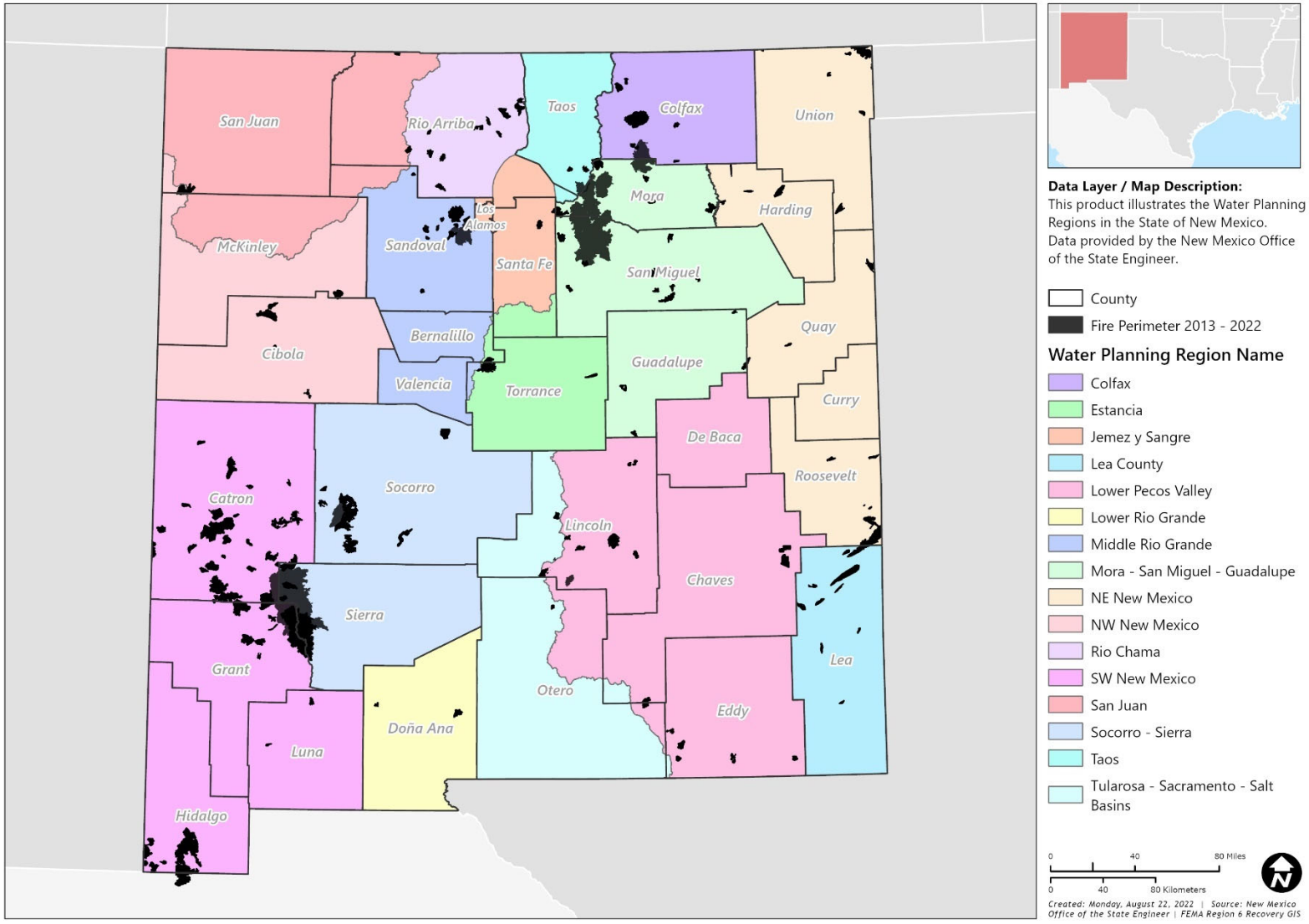


A-8

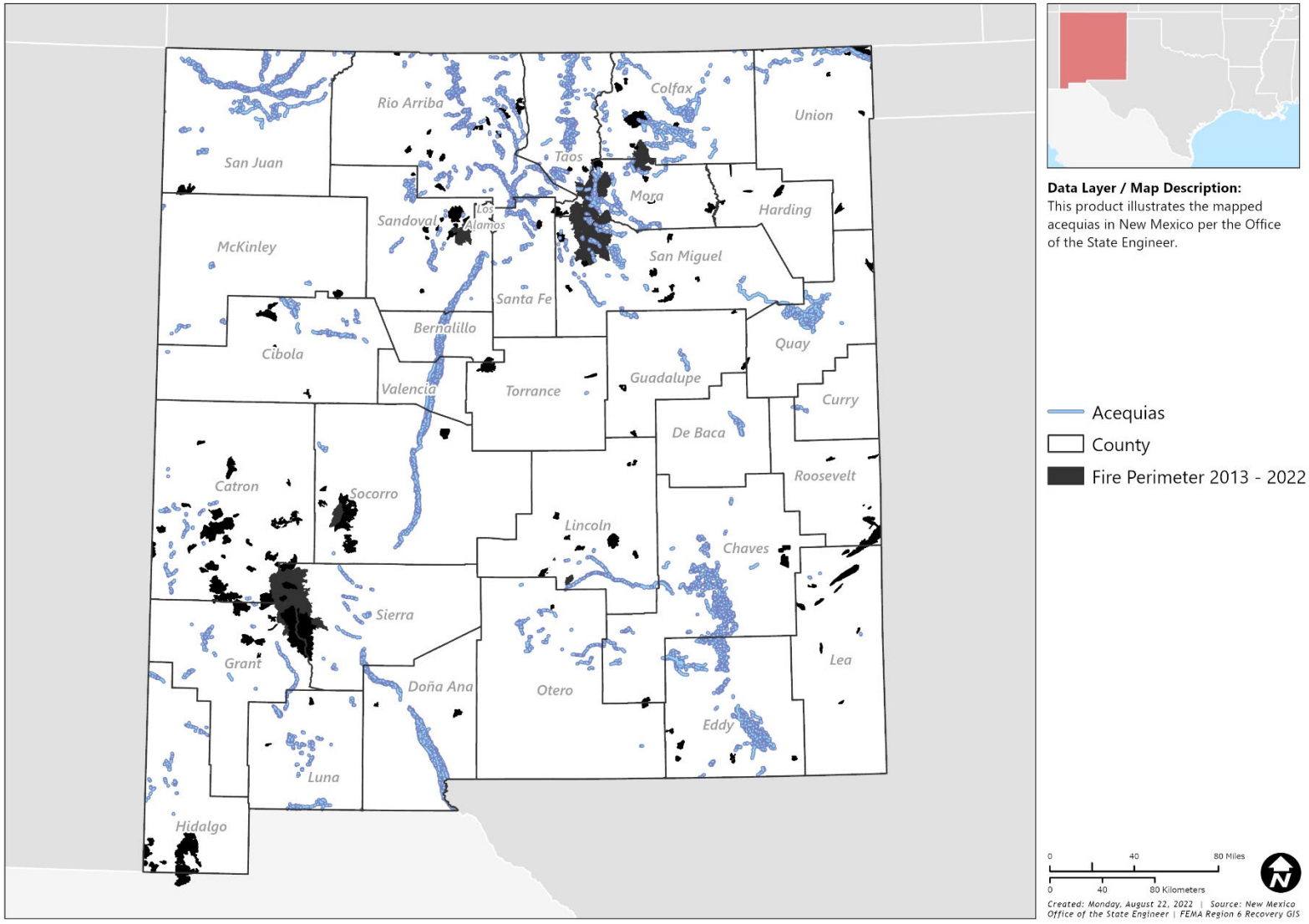
Five Regional Watersheds in New Mexico and Mapped Riparian Corridors



A-9
Water Planning Regions in New Mexico

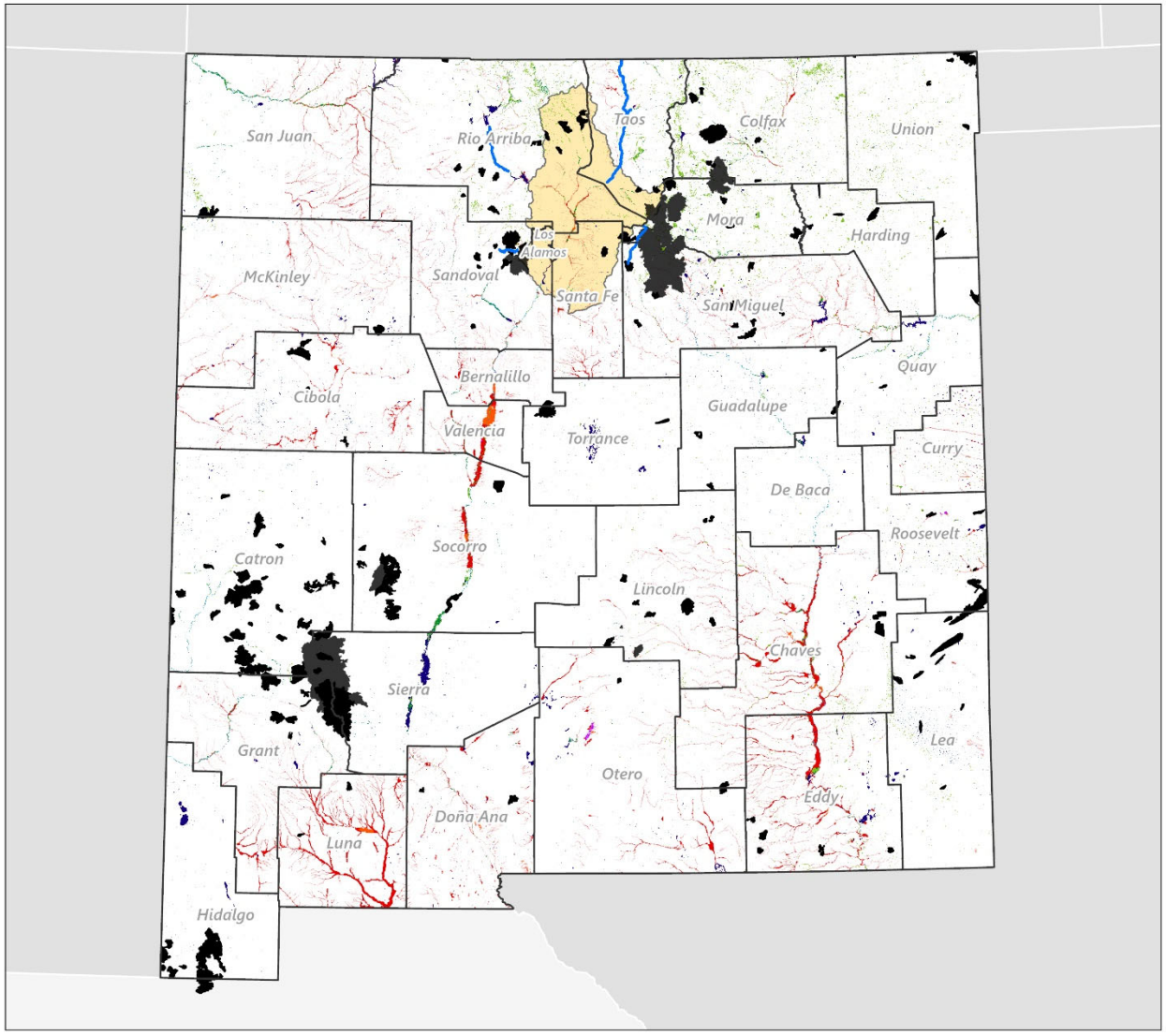


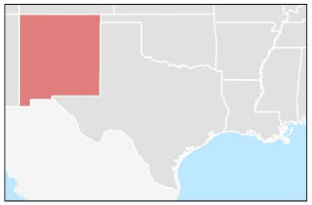
A-10
Mapped Acequias in New Mexico



A-11

Floodplains, Wetlands, Sole Source Aquifers and Wild and Scenic River Segments in New Mexico





Data Layer / Map Description:
This product illustrates wetland boundaries, sole source aquifers and Wild and Scenic River Segments in New Mexico. Wild and Scenic Rivers provided by the New Mexico Environment Department. Sole Source Aquifer dataset provided by the Environmental Protection Agency. US Wetland Data provided by the US Fish and Wildlife Service. Some counties within the State of New Mexico do not have floodplains in a digital format. Therefore floodplains from these counties are not included on this map. The state-wide scale of this map prevents meaningful interpretation of site-specific water resources.

- National Wild and Scenic River
- Fire Perimeter 2013 - 2022
- County

Flood Zone
- A
- AE
- AH
- AO

Wetlands
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

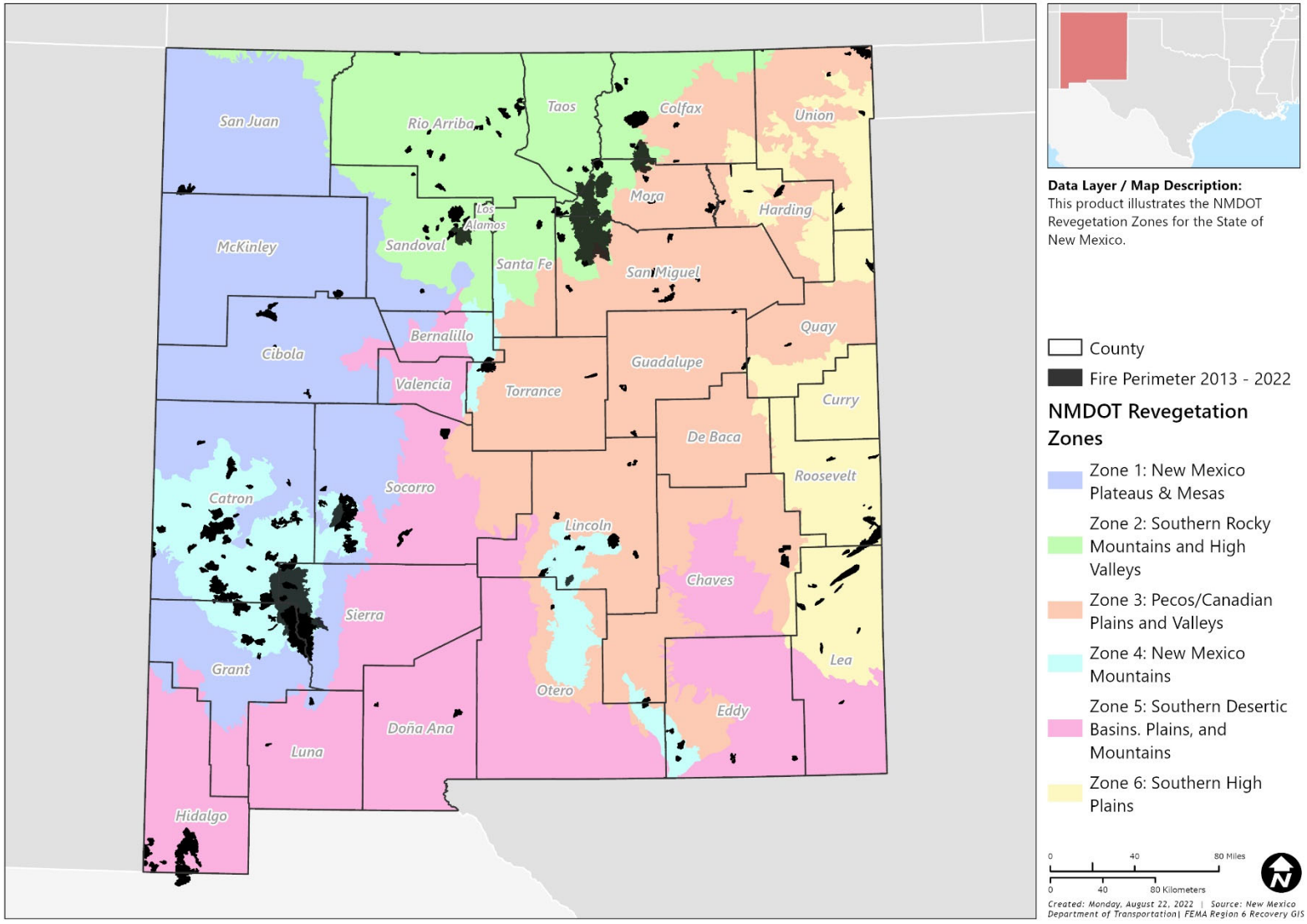
Sole Source Aquifers
- Espanola Basin Aquifer System SSA

0 40 80 Miles
0 40 80 Kilometers

Created: Monday, August 22, 2022 | Source: New Mexico Environment Department | FEMA Region 6 Recovery GIS

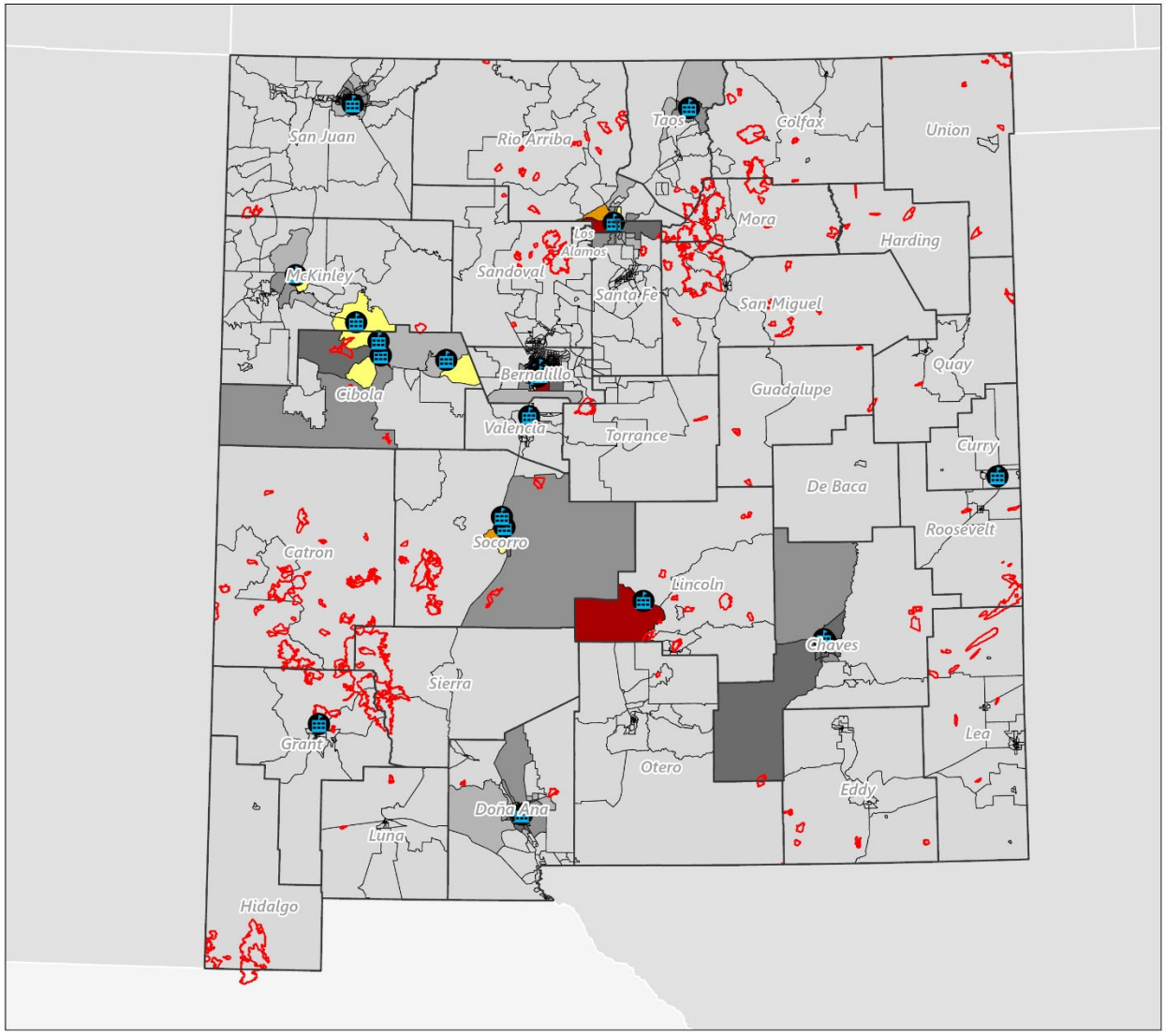
A-12

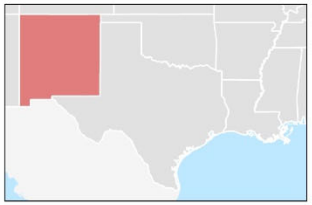
New Mexico Department of Transportation Revegetation Zones



A-13

Superfund National Priorities List Sites and Superfund Proximity Percentile





Data Layer / Map Description:
This map illustrates the National Priorities List (NPL) sites, also known Superfund Sites in NM. The map also illustrates an Environmental Justice (EJ) Index that combines two demographic factors, race and income, living in close proximity to a Superfund site. The source for this information is EPA's EJSCREEN Version 2, Superfund proximity EJ Index. The EJ Index highlights the percent of a Census block group's population with the highest intersection of low-income populations, and people of color living within five kilometers or less from the nearest Superfund Site in NM. The EJ Index is a higher value in block groups with large numbers of mainly low-income and/or minority residents living five kilometers or less from a Superfund Site.

Superfund Sites National Priorities List

County

Fire Perimeter 2013 - 2022

Superfund Proximity

Data Not Available

Less than 50%

50-60%

60-70%

70-80%

80-90%

90-95%

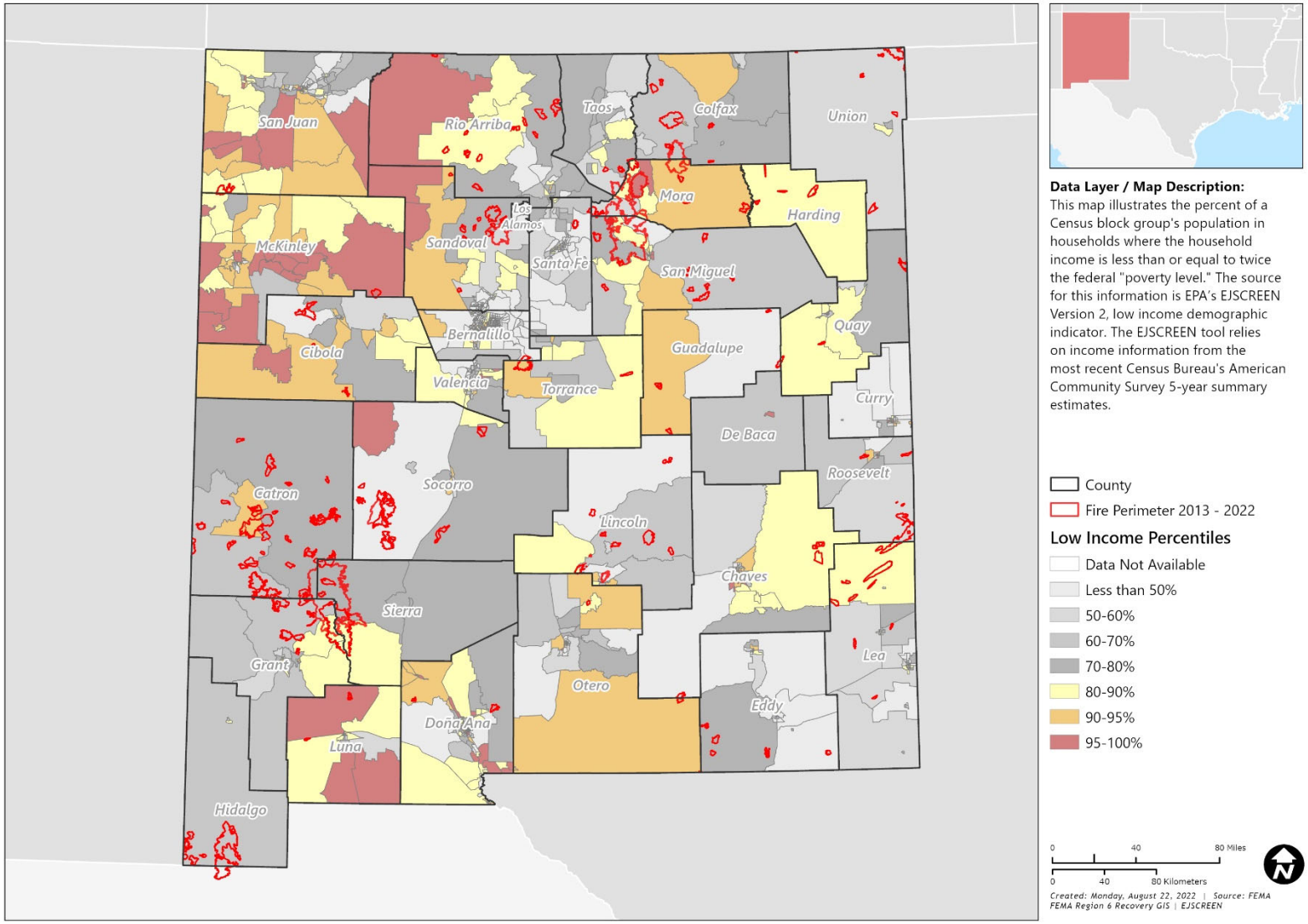
95-100%

0 40 80 Miles

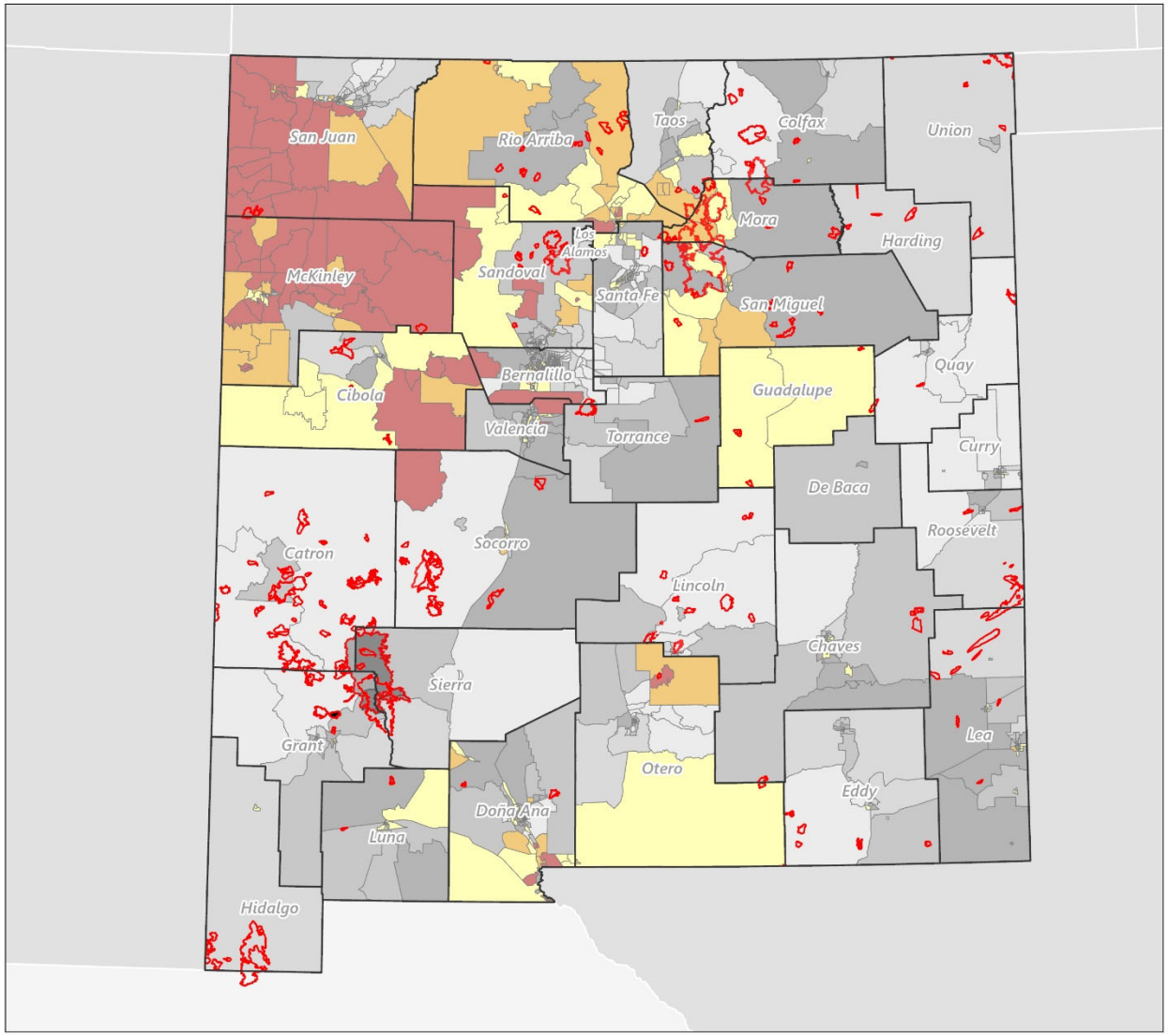
0 40 80 Kilometers

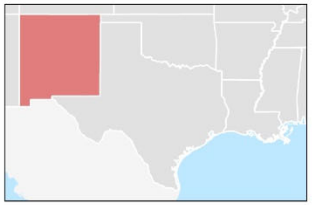
Created: Monday, August 22, 2022 | Source: FEMA FEMA Region 6 Recovery GIS | EPA Environmental Justice Screening Tool

A-14
Low Income Percentiles and Fire Perimeter



A-15
People of Color Percentiles and Fire Perimeters





Data Layer / Map Description:
This map illustrates the percent of individuals in a Census block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino. That is, all people other than non-Hispanic white-alone individuals. The word "alone" is defined in the EJSCREEN tool as an indication that the person is of a single race, not multiracial. The source for this information is EPA's EJSCREEN Version 2, people of color demographic indicator. The EJSCREEN tool relies on race information from the most recent Census Bureau's American Community Survey 5-year summary estimates.

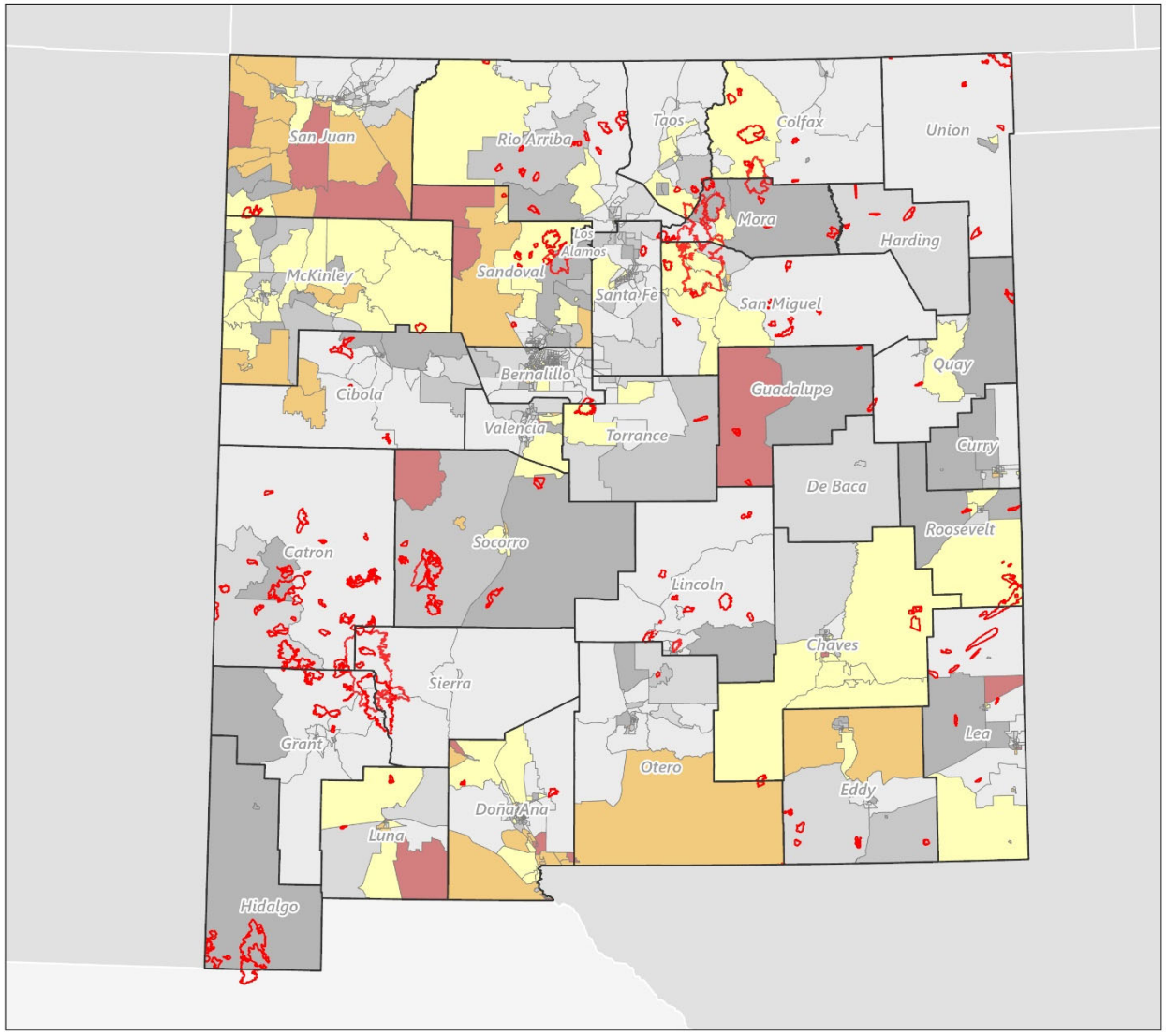
County
Fire Perimeter 2013 - 2022

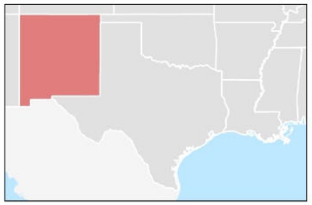
People of Color Percentiles
Data Not Available
Less than 50%
50-60%
60-70%
70-80%
80-90%
90-95%
95-100%

0 40 80 Miles
0 40 80 Kilometers

Created: Monday, August 22, 2022 | Source: FEMA FEMA Region 6 Recovery GIS | EJSCREEN

A-16
Linguistically Isolated Percentiles and Fire Perimeters





Data Layer / Map Description:
This map illustrates the percent of people in a Census block group living in linguistically isolated households. Linguistically isolated is defined as a household in which all members age 14 years and over speak a non-English language and also speak English less than "very well" defined in the EJSCREEN tool as having difficulty with English. The source for this information is EPA's EJSCREEN Version 2, linguistic isolation demographic indicator. The EJSCREEN tool relies on linguistic information from the most recent Census Bureau's American Community Survey 5-year summary estimates.

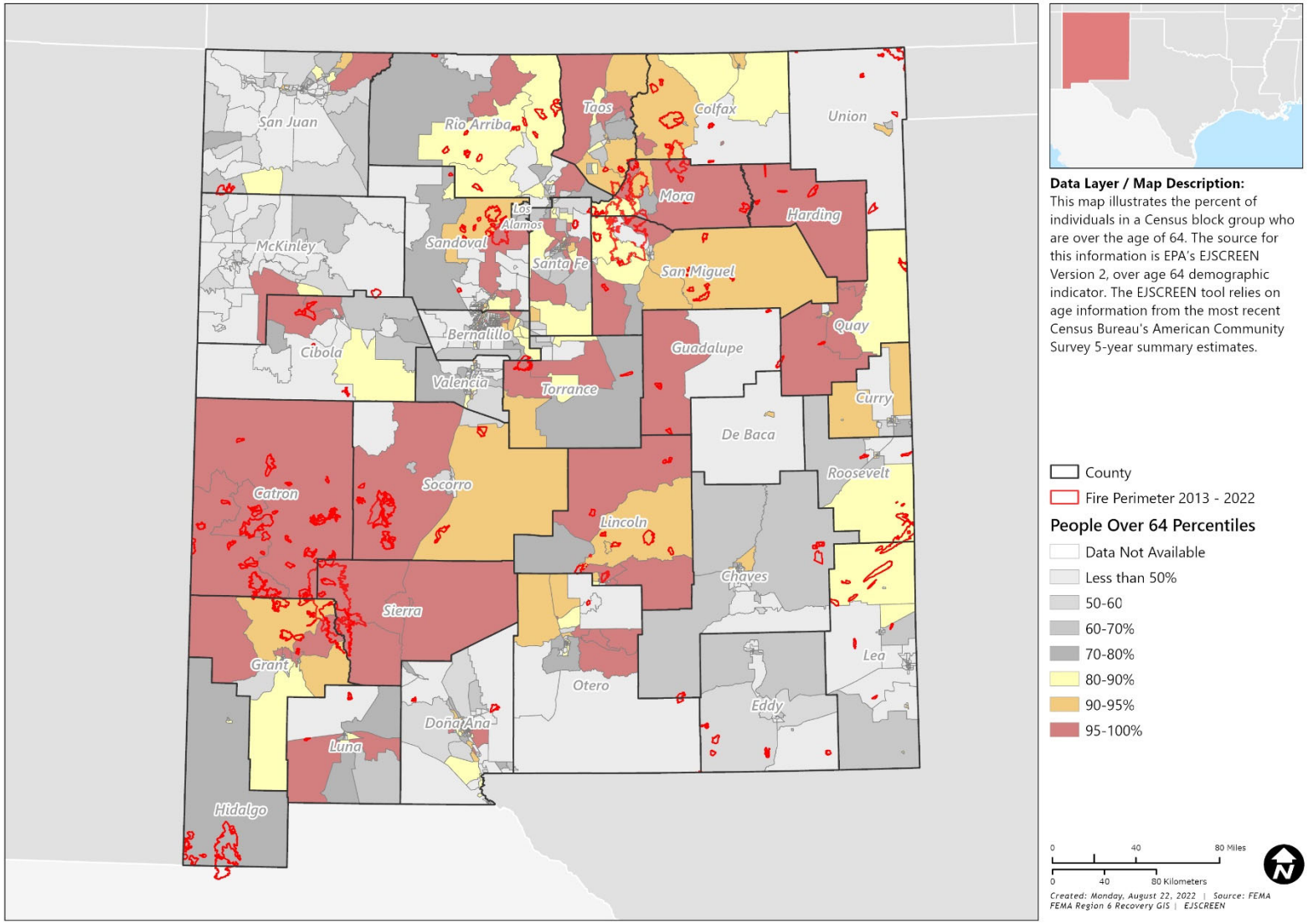
County
Fire Perimeter 2013 - 2022

Linguistically Isolated Percentiles
- Data Not Available
- Less than 50%
- 50-60%
- 60-70%
- 70-80%
- 80-90%
- 90-95%
- 95-100%

0 40 80 Miles
0 40 80 Kilometers

Created: Monday, August 22, 2022 | Source: FEMA FEMA Region 6 Recovery GIS | EJScreen

A-17
People Over Age 64 and Fire Perimeters



APPENDIX B: PROGRAMMATIC AGREEMENT AND ESA MATRIX

APPENDIX B INDEX

B-1 Programmatic Agreement Among FEMA, the NM SHPO, and the NM DHSEM

PROGRAMMATIC AGREEMENT AMONG
THE FEDERAL EMERGENCY MANAGEMENT AGENCY,
THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER, AND
THE NEW MEXICO DEPARTMENT OF HOMELAND SECURITY
AND EMERGENCY MANAGEMENT

WHEREAS, the mission of the Federal Emergency Management Agency (FEMA) of the Department of Homeland Security is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards; and

WHEREAS, FEMA makes assistance available to States, Territories, Commonwealths, communities, Federally recognized Indian Tribes (Tribes) and other eligible entities through programs (Programs) set forth in Appendix A, pursuant to the Homeland Security Act of 2002, Pub. L. No. 107-296 (2002) (codified as amended at 6 U.S.C. § 101 *et seq*.); Robert T. Stafford Disaster Relief and Emergency Assistance Act, Pub. L. No. 93-288 (1974) (codified as amended at 42 U.S.C. § 5121 *et seq*., (Stafford Act); the National Flood Insurance Act of 1968, Pub. L. No. 90-448 (1968) (as amended); the National Flood Insurance Reform Act of 1994, Pub. L. No. 103-325 (1994) (as amended); the Post-Katrina Emergency Management Reform Act of 2006, Pub. L. No. 109-295 (2006) (as amended); the Sandy Recovery Improvement Act, Pub. L. No. 113-2 (2013); implementing regulations contained in Title 44 of the Code of Federal Regulations (CFR), Executive Order 13407 (2006), and such other acts, executive orders, implementing regulations, or Congressionally authorized programs as are enacted from time to time; and

WHEREAS, FEMA has determined that implementing its Programs may result in Undertakings (as defined by 54 U.S.C. § 300320 and 36 CFR § 800.16(y)) that may affect properties listed in or eligible for listing in the National Register of Historic Places (National Register) pursuant to 36 CFR Part 60 (historic properties), and FEMA has consulted with the New Mexico State Historic Preservation Officer (SHPO) in accordance with 54 U.S.C. § 306108 and commonly known as Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, 36 CFR Part 800, *Protection of Historic Properties*; and

WHEREAS, FEMA, the Advisory Council on Historic Preservation (ACHP), and the National Conference of State Historic Preservation Officers (NCSHPO) have determined that FEMA's Section 106 requirements can be more effectively and efficiently implemented and delays to the delivery of FEMA assistance minimized if a programmatic approach is used to stipulate roles and responsibilities, exempt certain Undertakings from Section 106 review, establish protocols for consultation, facilitate identification and evaluation of historic properties, and streamline the assessment and resolution of adverse effects; and

WHEREAS, FEMA has developed a Prototype Programmatic Agreement (FEMA Prototype Agreement) pursuant to 36 CFR § 800.14(b)(4) in consultation with the ACHP and NCSHPO to serve as a basis for negotiation of a State Programmatic Agreement (Agreement) with the SHPO, and the New Mexico Department of Homeland Security and Emergency Management (DHSEM); and

WHEREAS, this Agreement conforms to the FEMA Prototype Agreement as designated by the ACHP on December 17, 2013, and therefore does not require the participation or signature of the ACHP; and

WHEREAS, in order to implement its Programs, FEMA will provide assistance to the State of New Mexico (Recipient) that may provide monies and other assistance to eligible sub-recipients, and as such, DHSEM, which is typically responsible for administering funds provided under these Programs, has participated in this consultation; and

WHEREAS, FEMA also may directly perform its own Undertakings pursuant to this Agreement; and

WHEREAS, this Programmatic Agreement will complement agreements currently being negotiated between FEMA and Federally recognized Tribes of the State of New Mexico, as well as those agreements with ancestral Tribal interests in the state; and will ensure other aspects of FEMA's required Section 106 compliance with the Tribes; and

WHEREAS, in anticipation or in the immediate aftermath of an event, impacted communities and the State of New Mexico, and/or appropriate Tribes, may conduct critical preparedness, response and recovery activities to safeguard public health and safety and/or to restore vital community services and functions before, during, and/or following an event. Some of these activities may become Undertakings requiring Section 106 review subject to the terms of this Agreement, and FEMA shall coordinate the appropriate review as warranted; and

WHEREAS, FEMA has determined that its Programs may result in Undertakings with the potential to affect historic properties having religious and cultural significance to Tribes, including sites that may contain human remains and/or associated cultural items; and

WHEREAS, FEMA recognizes that Tribes may have sites of religious and cultural significance on or off Tribal lands (as defined in 36 CFR § 800.16(x)), and in meeting its Federal trust responsibility, FEMA will engage in government-to-government consultation with all Tribes in New Mexico, and all Tribes in neighboring states that have sites of religious and cultural significance within New Mexico; and

WHEREAS, pursuant to 36 CFR § 800.2(c)(2)(ii)(E), FEMA will invite Federally recognized Tribes of the State of New Mexico, as well as those with ancestral Tribal interests in the state to enter into agreements that specifies how the agency and Tribes will carry out Section 106 responsibilities, including the confidentiality of information; and

WHEREAS, FEMA may invite additional Tribes that have sites of religious and cultural significance to enter into the terms of this Agreement as invited signatories or concurring parties in accordance with 36 CFR § 800.14(f); and

WHEREAS, certain Tribes have assumed the responsibilities of the SHPO in their Tribal lands through appointment of a Tribal Historic Preservation Officer (THPO) in accordance with 54

U.S.C. § 302702, and FEMA shall consult with the THPO in lieu of the SHPO for Undertakings occurring on or affecting their Tribal lands; and

WHEREAS, certain Tribe(s) have not assumed the responsibilities of the SHPO in their Tribal land and pursuant to 36 CFR § 800.2(c)(2)(i)(B), FEMA shall consult with a representative designated by such Tribe, in addition to the SHPO regarding undertakings occurring on or effecting historic properties on its Tribal land. Such Tribe(s) will have the same rights of consultation and concurrence that the THPOs are given, except that such consultations shall be in addition to and on the same basis as consultations with the SHPO; and

WHEREAS, the terms of this Agreement shall not apply to Undertakings on or affecting Tribal lands without prior execution of the Agreement by the appropriate Tribe(s); and

WHEREAS, for the review of specific Undertakings under this Agreement, FEMA may invite other agencies, organizations, and individuals to participate as consulting parties; and

NOW, THEREFORE, FEMA, SHPO, and DHSEM agree that FEMA Programs in the State of New Mexico shall be administered in accordance with the following Stipulations to satisfy FEMA's Section 106 and Section 110 responsibilities for all resulting Undertakings and effectively integrate historic preservation compliance considerations into the delivery of FEMA assistance. FEMA will not authorize implementation of an individual Undertaking until Section 106 review is completed pursuant to this Agreement.

STIPULATIONS

To the extent of its legal authority, and in coordination with other Signatories, FEMA shall ensure that the following measures are implemented:

I. GENERAL

A. Applicability

1. For FEMA Undertakings that also are within the jurisdiction of the Federal Communications Commission (FCC) and within the scope of its Section 106 Programmatic Agreements for communication facilities, FEMA defers Section 106 review in accordance with the ACHP Program Comment, as amended on September 24, 2015. The approval of funding for the FEMA Undertaking shall be conditioned upon the compliance of the sub-recipient with FCC's applicable Section 106 review, including any required consultation with Tribes. FEMA shall notify the SHPO and/or appropriate Tribe(s) when it applies the ACHP Program Comment to an Undertaking. FEMA remains responsible for any FEMA Undertakings it determines are outside the jurisdiction of FCC.

2. In the event of a Stafford Act major disaster or emergency declaration (Declaration), State, Tribal and local governments may lack the capability to perform or to contract for emergency work, and instead request that the work be accomplished by a Federal

agency. Through a mission assignment (MA), FEMA may direct appropriate Federal agencies to perform the work. This Agreement shall apply to such Federal assistance undertaken by or funded by FEMA pursuant to Titles IV and V of the Stafford Act and 44 CFR Part 206.

3. FEMA may utilize this Agreement to fulfill its Section 106 responsibilities and those of other Federal agencies that designate FEMA as the lead Federal agency pursuant to 36 CFR § 800.2(a)(2) with appropriate notification to the other Signatories and the ACHP regarding Undertakings that fall within the scope of this Agreement. When FEMA is not designated as the lead Federal agency, all Federal agencies, including FEMA, remain individually responsible for their compliance with Section 106. This provision does not prevent FEMA from recognizing another Federal agency as lead Federal agency for specific Undertakings as appropriate.

4. If another Federal program or Federal agency has concluded Section 106 consultation review and approved an Undertaking within the past 5 years, FEMA has no further requirement for Section 106 review regarding that Undertaking provided that FEMA:

   a. adopts the findings and determinations of the previous agency;

   b. confirms that the scope and effect [as defined by 36 CFR § 800.16(i)] of its Undertaking are the same as that of the Undertaking reviewed by the previous agency, and

   c. determines that the previous agency complied with Section 106 appropriately.

   FEMA shall document these findings in its project file in order to confirm that the requirements of Section 106 have been satisfied. Should FEMA, in consultation with SHPO and participating Tribe(s), determine that the previous Section 106 review was insufficient or involved interagency disagreements about eligibility, effect, and/or treatment measures, FEMA shall conduct additional Section 106 consultation in accordance with the terms of this Agreement.

5. With the written concurrence of the Signatories, other Federal agencies providing financial assistance for the type of activities covered under the terms of this Agreement as outlined in Appendix A may satisfy their Section 106 responsibilities for such activities by accepting and complying in writing with the terms of this Agreement.

   a. Other Federal Agencies may include States, Tribes, and units of local government who have assumed environmental responsibilities of the U.S. Department of Housing and Urban Development and, acting as the Responsible Entity pursuant to 24 CFR Part 58, are responsible for environmental review, decision-making and action.

b. In such situations, the other Federal Agency shall notify the Signatories in writing of its intent to use this Agreement to achieve compliance with its Section 106 requirements, and consult with the Signatories regarding its Section 106 compliance responsibilities. Resumes of staff who meet the Secretary of the Interior's Professional Qualification Standard(s) and who will review Second Tier projects in accordance with Appendix B of this Agreement shall be provided to FEMA and the SHPO.

6. FEMA has determined that the following types of activities have limited or no potential to affect historic properties and FEMA has no further Section 106 responsibilities with regards to them, pursuant to 36 CFR § 800.3(a)(1):

   a. Pursuant to 44 CFR § 206.110(m), assistance to individuals and households provided under 44 CFR Part 206, Subpart D and Section 408 of the Stafford Act, including funding for owner occupied home repair and replacement, content replacement, personal property, transportation and healthcare expenses, is exempt from the provisions of Section 106. For ground disturbing activities, and construction related to 44 CFR §§ 206.117(b)(1)(ii) (temporary housing), 206.117(b)(3) (replacement housing), 206.117(b)(4) (permanent housing construction), 206.117(c)(1)(vi) (repair or replacement of privately owned access routes), and repair of multi-family housing units, FEMA shall conduct Section 106 review.

   b. Administrative actions such as personnel actions, travel, procurement of services, supplies (including vehicles and equipment) for the support of day-to-day and emergency operational activities, and the temporary storage of goods provided storage occurs within existing facilities or on previously disturbed soils.

   c. Granting of variances, and actions to enforce Federal, State, or local codes, standards or regulations.

   d. Monitoring, data gathering, and reporting in support of emergency and disaster planning, response and recovery, and hazard activities.

   e. Research and development of hazard warning systems, hazard mitigation plans, codes and standards, and education/public awareness programs.

   f. Assistance provided for planning, studies, design and engineering costs that involve no commitment of resources other than staffing and associated funding.

   g. Assistance provided for training, management and administration, exercises, and mobile/portable equipment purchases; with the exception of potential ground-disturbing activities and modification of existing structures.

h. Community Disaster Loans for funding to perform governmental functions for any eligible jurisdiction in a designated disaster area that has suffered a substantial loss of tax and other revenue.

i. Funding the administrative action of acquisition or lease of existing facilities where planned uses conform to past use or local land use requirements.

j. Funding the administrative action of acquiring properties in acquisition projects, including the real estate transaction.

k. Labor, equipment and materials used to provide security in the Declaration area, including lease, rental, purchase or repair of equipment or vehicles and payment for staff and contract labor.

l. Application of pesticides to reduce adverse public health effects, including aerial and truck-mounted spraying.

m. Unemployment assistance.

n. Distribution of food coupons.

o. Legal services.

p. Crisis counseling.

7. Any FEMA Programs authorized by the United States Congress in the future may be included in this Agreement in accordance with Stipulation IV.A, Amendments. Any change in the FEMA name, Programs, or organizational structure shall not affect this Agreement.

B. Roles and Responsibilities of the Signatories

1. FEMA:

a. FEMA shall use Federal, Tribal, State, sub-recipient, or contractor staff whose qualifications meet the Secretary of the Interior's (Secretary's) Professional Qualifications Standards (Professional Qualifications) set forth in the Federal Register at 48 Fed. Reg. 44716-01 (September 29, 1983), as amended (Qualified staff), in applying Second Tier Programmatic Allowances listed in Appendix B, completing identification and evaluation of historic properties, and in making determinations of effects. FEMA shall review any National Register eligibility determination and make its own findings of effect resulting from the performance of these activities prior to submitting such determinations to the SHPO.

i. FEMA acknowledges that Tribes possess special expertise in assessing the National Register eligibility of properties with religious and cultural significance

to them. Tribal leaders, and as appropriate, their designated representatives, shall decide who may provide information or review Undertakings affecting properties with religious and cultural significance to them.

b. FEMA alone shall conduct all Section 106 consultation with Tribe(s). Tribal consultation cannot be delegated from FEMA to the State or to sub-recipients. Pursuant to 36 CFR § 800.2(c)(2)(ii)(C), consultation with a Tribe must recognize the unique government-to-government relationship between the Federal Government and Tribe(s). FEMA shall consult with representatives designated or identified by the Tribal government.

c. In accordance with 36 CFR § 800.2(c)(4), FEMA may authorize the Recipient(s), or a sub-recipient through the recipient(s), to initiate the Section 106 process with the SHPO and other consulting parties, assist in identifying other consulting parties with a demonstrated interest in the Undertaking, and prepare any necessary analyses and documentation, but FEMA shall remain responsible for determinations of National Register eligibility and findings of effect recommended by the authorized party. FEMA shall follow the process set forth in Stipulation I.B.1(a), FEMA Roles and Responsibilities, and notify the SHPO in writing when a Recipient or sub-recipient has been authorized to initiate consultation on FEMA's behalf.

d. Prior to authorizing the release of funds for individual Undertakings requiring grant conditions pursuant to this Agreement, FEMA shall inform the Recipient(s) of all stipulations and conditions and ensure that they are understood so they can be adequately conveyed to the sub-recipient. FEMA shall work in partnership with the Recipient(s) to provide sub-recipients with guidance on in-kind repair pursuant to *The Secretary of the Interior's Standards for the Treatment of Historic Properties 1995 (Standards)*, 36 CFR Part 68, or the most updated version, and techniques to avoid or minimize adverse effects to historic properties.

e. FEMA shall provide the other Signatories and the ACHP with an annual report for the previous calendar year by March 31st of each year that this Agreement is in effect. This annual report will summarize the actions taken to implement the terms of this Agreement, including appendices, statistics on Undertakings reviewed, and recommend any actions or revisions to be considered, including updates to the appendices.

f. FEMA shall confer annually and as necessary with the other Signatories within thirty (30) days after issuance of the annual report, to review the report and/or discuss issues and concerns in greater detail. This review shall occur in person or by telephone as determined by FEMA.

g. FEMA shall notify the SHPO and appropriate Tribe(s), as soon as practicable, following a Declaration to provide specific points of contact and other pertinent information about the Declaration.

h. FEMA may convene an initial scoping meeting with the Signatories and other interested parties as soon as practicable after each Declaration to address Declaration-specific issues and procedures.

i. FEMA shall ensure that all documentation resulting from Undertakings reviewed pursuant to this Agreement is consistent with applicable SHPO and Tribal guidelines and the confidentiality provisions of 54 U.S.C. § 307103 and 36 CFR § 800.11(c).

2. SHPO:

a. SHPO shall review FEMA's determination of the Areas of Potential Effects (APE), National Register eligibility determinations, and FEMA's effect findings and respond within timeframes required by this Agreement.

b. The SHPO maintains a statewide inventory of known archaeological sites and historic structures and cultural resource studies in the State of New Mexico. This inventory is archived at the SHPO facilities in Santa Fe, New Mexico, and many of the records are included in the New Mexico Cultural Resource Information System (NMCRIS), an integrated online information system. Upon request, the SHPO shall provide FEMA and/or its designee(s) with available information about historic properties (such as access to online systems or site files, GIS data, survey information, geographic areas of concern), consistent with SHPO procedures to access records and the requirements in the New Mexico Cultural Properties Act (NMSA 1978, §§ 18-6-1 to –17 (1969, as amended through 2015). Such data sharing may be memorialized in an agreement. Only Qualified FEMA staff and/or designee(s) shall be afforded access to protected historic property information.

c. The SHPO shall identify staff or consultants to assist FEMA staff with their Section 106 responsibilities, and identify, in coordination with FEMA, those activities within the Section 106 review process that SHPO may perform for specific Undertakings as agreed in writing with FEMA.

d. As requested, SHPO staff shall be reasonably available as a resource and for consultation through site visits**,** written requests, telephone conversations or electronic media. In those instances where consultation with SHPO has occurred, FEMA shall provide a written summary via e-mail or regular mail to SHPO, including any decisions that were reached.

e. The SHPO may delegate some or all of its responsibilities under this Agreement to one or more Liaisons to serve as a dedicated point of contact for consultation with FEMA. The SHPO shall confer with FEMA about the selection of any Liaisons, the scope of responsibilities delegated and related implementing procedures. SHPO shall formally document these decisions for concurrence by FEMA. Liaisons are not required to be members of the SHPO staff.

f. The SHPO shall participate in an initial scoping meeting for a Declaration.

g. The SHPO may assist local jurisdictions and/or the Recipient(s) in the State of New Mexico with advance planning efforts to consider historic properties in the context of homeland security considerations, including disaster preparedness, response, recovery, and mitigation programs for which FEMA funding may be requested.

h. The SHPO shall coordinate with FEMA, to identify consulting parties, including any communities, organizations, or individuals that may have an interest in a specific Undertaking and its effects on historic properties.

i. The SHPO shall participate in annual reviews convened by FEMA to review the effectiveness of this Agreement in accordance with Stipulation I.B.1.e.

3. Recipient(s):

a. The Recipient(s) shall ensure that their sub-recipients understand and acknowledge conditions and potential requirements that may be placed upon Undertakings as a result of Section 106 consultation and the provisions of this Agreement.

b. The Recipient(s) shall participate in an initial scoping meeting for a Declaration.

c. The Recipient(s) shall ensure that their sub-recipients understand that failure to comply with any project-specific conditions that have been placed on their grants could jeopardize FEMA funding.

d. The Recipient(s) shall notify FEMA as soon as possible of any proposed change to the approved scope of work. The Recipient(s) shall direct their sub-recipient not to implement the changes to the proposed scope of work until any additional review required by this Agreement is complete.

e. The Recipient(s) shall ensure that its sub-recipients are made aware that in the event of an unexpected discovery involving an Undertaking that has affected a previously unidentified historic property or human remains, or affected a known historic property in an unanticipated manner, the sub-recipient will comply with Stipulation III.B, Unexpected Discoveries, Previously Unidentified Properties, or Unexpected Effects.

f. The Recipient(s) shall ensure that in its subgrant agreements, any scope of work involving ground disturbance, and resultant contracts to execute said work, provide for the protection of and notification protocols for unexpected discoveries or unexpected effects to historic properties and human remains.

C. Tribal Consultation

1. For FEMA Undertakings on Tribal lands or affecting properties of religious and cultural significance, and where no tribe-specific consultation agreements or protocols are in place, FEMA shall consult with appropriate Tribe(s) in accordance with 36 CFR Part

800. In determining who the appropriate Tribe(s) may be, FEMA will first establish that it is a type of Undertaking with potential to affect historic properties with religious and cultural significance and may consult with the SHPO, and/or appropriate Tribe(s), or the New Mexico Indian Affairs Department, and access the National Park Service (NPS) Native American Consultation Database or other tools to identify geographic Tribal interests.

2. To the extent permitted by Section 304 of the NHPA (54 U.S.C. § 307103), Section 9(a) of the Archaeological Resources Protection Act (ARPA) (16 U.S.C. §§ 470aa-470mm), and any other applicable laws, FEMA shall ensure it withholds information protected by such laws from public disclosure.

3. FEMA shall invite appropriate Tribe(s) to participate in the initial scoping meeting within their geographic area of interest for each Declaration, as appropriate.

D. Public Participation

1. FEMA recognizes that the views of the public are essential to informed decision making throughout the Section 106 consultation process. FEMA shall notify the public of proposed Undertakings in a manner that reflects the nature, complexity, significance of historic properties likely affected by the Undertaking, the likely public interest given FEMA's specific involvement, and any confidentiality concerns.

2. FEMA may consult with the Recipient(s), sub-recipient, SHPO, and appropriate Tribe(s), and other consulting parties to determine if there are individuals or organizations with a demonstrated interest in historic properties that should be included as a consulting party for the Undertaking in accordance with 36 CFR § 800.2(c)(5). If such parties are identified or identify themselves to FEMA, FEMA shall provide them with information regarding the Undertaking and its effects on historic properties, consistent with the confidentiality provisions of 36 CFR § 800.11(c).

3. In accordance with the outreach strategy developed for an Undertaking in consultation with the SHPO for involving the public, FEMA shall identify the appropriate stages for seeking public input during the Section 106 consultation process. FEMA shall consider all views provided by the public regarding an Undertaking.

4. FEMA may also provide public notices and the opportunity for public comment or participation in an Undertaking through the public participation process of the National Environmental Policy Act (NEPA) and its implementing regulations set out at 44 CFR Part 10, and/or Executive Orders 11988 and 11990 relating to floodplains and wetlands as set out in 44 CFR Part 9, and Executive Order 12898, Environmental Justice, provided such notices specifically reference Section 106 as a basis for public involvement.

5. Should a member of the public object in writing to implementation of the Agreement's terms, FEMA will notify the other Signatories in writing and take the objection into consideration. FEMA shall consult with the objecting party and, if that party so requests,

the other Signatories, for not more than thirty (30) days. In reaching its decision regarding the objection, FEMA shall take into consideration all comments from these parties. Within fifteen (15) days after closure of this consultation period, FEMA shall provide the other parties with its final decision in writing.

E. Timeframes and Communications

1. All time designations shall be in calendar days unless otherwise stipulated. If any Signatory does not object to FEMA's finding or determination related to an Undertaking within an agreed upon timeframe, FEMA may proceed to the next step in the consultation process as described in Stipulation II, Project Review.

2. Due to the varied nature of Undertakings, the individual response times to FEMA's requests for comment/concurrence will vary. These response times are contingent upon FEMA ensuring that its findings and determinations are made by Qualified staff and supported by documentation as required by 36 CFR § 800.11(d) and 36 CFR § 800.11(e), and consistent with FEMA guidance.

   a. For Emergency Undertakings as outlined in Stipulation II.B, Expedited Review of Emergency Undertakings, the SHPO and appropriate Tribe(s) shall respond to any FEMA request for comments within three (3) business days after receipt, unless FEMA determines the nature of the emergency action warrants a shorter time period.

   b. For Undertakings associated with the Individual Assistance (IA) and Public Assistance (PA) programs, the response time for each request for concurrence shall be a maximum of fifteen (15) days, or in accordance with temporary timelines established by FEMA on a Declaration by Declaration basis.

   c. For the Hazard Mitigation Grant Program (HMGP) and all non-disaster programs, the response time for each request for concurrence shall be a maximum of thirty (30) days.

3. The consulting parties may send and accept official notices, comments, requests for further information and documentation, and other communications required by this Agreement by e-mail.

II. PROJECT REVIEW

A. Programmatic Allowances

1. If FEMA determines an Undertaking conforms to one or more allowances in Appendix B of this Agreement, FEMA shall complete the Section 106 review process by documenting this determination in the project file, without SHPO review or notification. Prior to determining whether an undertaking qualifies for an allowance, Qualified staff may need to review records including NMCRIS and/or other SHPO files and federal agency records when federal land is involved to determine whether

historic properties or buried cultural deposits are present or likely to be present and affected by an allowance.

2. If the Undertaking involves a National Historic Landmark (NHL), FEMA shall notify the SHPO, and appropriate Tribe(s), and the NPS NHL Program Manager of the Intermountain NPS Regional Office that the Undertaking conforms to one or more allowances. FEMA shall provide information about the proposed scope of work for the Undertaking and the allowance(s) enabling FEMA's determination.

3. If FEMA determines any portion of an Undertaking's scope of work does not conform to one or more allowances listed in Appendix B, FEMA shall conduct expedited or standard Section 106 review, as appropriate, for the entire Undertaking in accordance with Stipulation II.B, Expedited Review for Emergency Undertakings, or Stipulation II.C, Standard Project Review.

4. Allowances may be revised and new allowances may be added to this Agreement in accordance with Stipulation IV.A.3, Amendments.

B. Expedited Review for Emergency Undertakings

1. Determine Expedited Review

a. As part of the Declaration process, FEMA shall define the time interval during which the disaster causing incident occurs (the incident period, as defined in 44 CFR § 206.32(f)). FEMA may approve direct Federal assistance and/or funding for emergency work (as defined in 44 CFR § 206.201(b)) that occurs during the incident period, including work already completed, in response to an immediate threat to human health and safety or property. Pursuant to 36 CFR § 800.12(d), FEMA may conduct expedited review of emergency Undertakings for thirty (30) days from the beginning of the incident period.

b. Should FEMA determine that it is necessary to extend the expedited review period for emergency Undertakings beyond the initial thirty (30) days, FEMA shall, in thirty (30)-day increments, as needed, notify in writing the ACHP, SHPO, and participating Tribe(s).

2. Conduct Expedited Reviews

a. If the emergency Undertaking is an immediate rescue and salvage operation conducted in response to an event to preserve life and property, then FEMA has no Section 106 consultation responsibilities in accordance with 36 CFR § 800.12(d);

or

b. If the emergency Undertaking meets one or more of the Allowances in Appendix B of this Agreement, then FEMA shall complete the Section 106 review process pursuant to Stipulation II.A.1, Programmatic Allowances.

c. If FEMA determines that the emergency Undertaking would adversely affect a historic property during this expedited review period:

i. To the extent practicable, FEMA will propose treatment measures that would address adverse effects during implementation, and request the comments of the SHPO and appropriate Tribe(s) within three (3) business days of receipt of this information unless FEMA determines the nature of the emergency warrants a shorter time period.

ii. FEMA may provide this information through written requests, telephone conversations, meetings, or electronic media. In all cases, FEMA shall clarify that an "expedited review" is being requested for the Undertaking.

iii. FEMA shall take into account any timely comments provided by SHPO and appropriate Tribe(s) in making a decision on how to proceed.

iv. Should the SHPO and appropriate Tribe(s) not comment within 3 business days, FEMA shall complete Section 106 consultation for the Undertaking based on the available information.

v. FEMA shall notify the SHPO and appropriate Tribe(s) of the final decision, indicating how any comments received were considered in reaching that decision.

C. Standard Project Review: For Undertakings not exempt from further Section 106 review, FEMA shall ensure that the following standard project review steps are implemented. In the interest of streamlining, FEMA may combine some or all of these steps during consultation in accordance with 36 CFR § 800.3(g).

1. Consulting Parties: FEMA shall consider all written requests of individuals and organizations to participate as consulting parties, and consult with the SHPO and any Tribe(s) upon whose Tribal lands an undertaking occurs or affects historic properties to identify any other parties that meet the criteria to be consulting parties and invite them to participate in the Section 106 process. FEMA may invite others to participate as consulting parties as the Section 106 consultation proceeds. FEMA shall invite any individual or organization that will assume a specific role or responsibility outlined in an MOA or Programmatic Agreement to participate as an invited signatory to the agreement.

2. Area of Potential Effects:

a. For standing structures not adjacent to or located within the boundaries of a National Register listed or eligible district, Qualified staff may define the APE as the individual structure when the proposed Undertaking is limited to its repair or rehabilitation (as defined in 36 CFR § 68.2(b)).

b. For all other Undertakings, Qualified staff shall determine the APE in consultation with the SHPO. FEMA may consider information provided by other parties, such as local governments and the public, when establishing the APE.

3. Identification and Evaluation: Qualified staff shall determine, in consultation with the SHPO if the APE contains historic properties, including standing buildings, structures, districts and archaeological sites, and properties of religious and cultural significance. This may include the review of documentation provided by the Recipient(s) or sub-recipients in coordination with the SHPO.

   a. Level of Effort: FEMA shall make a reasonable and good faith effort to identify historic properties in accordance with 36 CFR § 800.4(b)(1). FEMA may consult with the SHPO to determine the level of effort and methodology necessary to identify and evaluate a variety of historic property types.

   b. National Historic Landmarks: When FEMA identifies an Undertaking with the potential to affect an NHL, FEMA shall contact the NPS NHL Program Manager of the Intermountain NPS Regional Office in addition to the SHPO and other consulting parties. The purpose of this notification is to ensure early coordination for the Undertaking which FEMA later may determine adversely affects the NHL as outlined in Stipulation II.A.2.

   c. Properties of Religious and Cultural Significance: FEMA shall consult with the appropriate Tribe(s) to determine geographical areas containing properties or places of religious and cultural significance that may be affected by an Undertaking and determine additional efforts necessary to identify and evaluate or avoid any such resources.

   d. Determinations of Eligibility: FEMA shall review or determine National Register eligibility based on identification and evaluation efforts, and consult with SHPO, participating Tribe(s), and other consulting parties regarding these determinations. Should the SHPO or another consulting party disagree with the determination of eligibility, FEMA shall either:

      i. Elect to consult further with the objecting party until the objection is resolved;

      ii. Treat the property as eligible for the National Register; or

      iii. Obtain a determination of eligibility from the Keeper of the National Register in accordance with 36 CFR §§ 63.2(d)-(e) and 36 CFR § 800.4(c)(2).

4. Findings of No Historic Properties Affected: FEMA shall make a finding of "no historic properties affected" under the following circumstances:

   a. If no historic properties, as defined in 36 CFR § 800.16(l)(1), are present in the APE; or

b. The Undertaking is designed to avoid effects to historic properties, including National Register listed or eligible properties of religious or cultural significance to affected Tribe(s); or

c. The Undertaking does not affect the integrity of a historic property.

d. FEMA shall notify the SHPO, participating Tribes(s), and any other consulting parties of a "no historic properties affected" finding and provide supporting documentation in accordance with 36 CFR § 800.11(d). Unless the SHPO or participating Tribes(s), objects to the finding within the applicable timeframe outlined in Stipulation I.E, Timeframes and Communications, the Section 106 review of the Undertaking will have concluded.

e. If the SHPO, or participating Tribes(s), objects to a finding of "no historic properties affected," FEMA shall consult with the objecting party to resolve the disagreement.

   i. If the objection is resolved, FEMA either may proceed with the Undertaking in accordance with the resolution or reconsider effects on the historic property by applying the criteria of adverse effect pursuant to Stipulation II.C.5, Application of the Criteria of Adverse Effect, below.

   ii. If FEMA is unable to resolve the disagreement, it will forward the finding and supporting documentation to the ACHP and request that the ACHP review FEMA's finding in accordance with 36 CFR § 800.4(d)(1)(iv)(A) through 36 CFR § 800.4(d)(1)(iv)(C). FEMA shall consider the ACHP's recommendation in making its final determination. If FEMA's final determination is to reaffirm its "no historic properties affected" finding, the Section 106 review of the Undertaking will have concluded. Otherwise, FEMA will proceed to Stipulation II.C.5., below.

5. Application of the Criteria of Adverse Effect: If FEMA finds an Undertaking may affect historic properties in the APE, including those of religious or cultural significance to appropriate Tribe(s), FEMA shall apply the criteria of adverse effect to historic properties within the APE(s), taking into account the views of the consulting parties and the public concerning effects in accordance with 36 CFR § 800.5(a).

   1. If FEMA determines that an Undertaking does not meet the adverse effect criteria, FEMA shall propose a finding of "no adverse effect" in accordance with 36 CFR § 800.5(b).

      i. FEMA shall notify the SHPO, and appropriate Tribe(s), and all other consulting parties of its finding and provide supporting documentation pursuant to 36 CFR §800.11(e).

ii. Unless a consulting party objects within the applicable timeframe outlined in Stipulation I.E, Timeframes and Communications, FEMA will proceed with its "no adverse effect" determination and conclude the Section 106 review.

iii. If a consulting party objects to a finding of "no adverse effect," FEMA will consult with the objecting party to resolve the disagreement.

1) If the objection is resolved, FEMA shall proceed with the Undertaking in accordance with the resolution, or;

2) If the objection cannot be resolved, FEMA shall request that the ACHP review the findings in accordance with 36 CFR § 800.5(c)(3)(i)-(ii) and submit the required supporting documentation. FEMA shall consider the ACHP's comments in making its final determination.

2. If FEMA finds the Undertaking may adversely affect historic properties, FEMA shall request through the Recipient(s) that the sub-recipient revise the scope of work to conform to the *Standards* for standing structures, or avoid or minimize adverse effects for National Register listed or eligible archaeological properties.

i. If the sub-recipient modifies the scope of work to avoid the adverse effect(s), FEMA shall notify the SHPO, and appropriate Tribe(s) and all other consulting parties, and provide supporting documentation. Unless a consulting party makes a timely objection in accordance with the applicable timeframe outlined in Stipulation I.E, Timeframes and Communications, FEMA shall proceed with its "no adverse effect" determination, including any conditions, and conclude the Section 106 review.

ii. If an Undertaking is not modified to avoid the adverse effect(s), FEMA shall initiate consultation to resolve the adverse effect(s) in accordance with Stipulation II.C.6, Resolution of Adverse Effects.

6. Resolution of Adverse Effects: If FEMA determines that an Undertaking may adversely affect a historic property, it shall resolve the effects of the Undertaking in consultation with the SHPO, Recipient(s), sub-recipient, and appropriate Tribe(s), the ACHP, if participating, and other consulting parties, by one of the following methods depending upon the severity of the adverse effect(s) as well as the determination of the historic property's significance on a local, state or national level. When FEMA determines an Undertaking will adversely affect an NHL, FEMA shall notify and invite the Secretary and ACHP to participate in consultation in accordance with 36 CFR § 800.10. When the ACHP participates in consultation related to an NHL, the ACHP shall report the outcome of the consultation to the Secretary and the FEMA Administrator.

a. Abbreviated Consultation Process**:** After taking into consideration the significance of the historic properties affected, the severity of the adverse effect(s) and avoidance or minimization of the adverse effect(s), FEMA may propose in writing to the consulting parties to resolve the adverse effects of the Undertaking through the

application of one or more Treatment Measures outlined in Appendix C as negotiated with the SHPO, and appropriate Tribes, and other consulting parties. The use of these Treatment Measures may not require the execution of a Memorandum of Agreement (MOA) or Programmatic Agreement.

i. In consultation with the SHPO, and appropriate Tribe(s), and other consulting parties, FEMA shall propose in writing the implementation of a specific Treatment Measure, or combination of Treatment Measures, with the intent of expediting the resolution of adverse effects, and provide documentation as required by 36 CFR § 800.11(e) and subject to the confidentiality provisions of 36 CFR § 800.11(c)). Unless a consulting party or the ACHP objects within fifteen (15) days of receipt of FEMA's proposal, FEMA shall proceed with the implementation of the Treatment Measure(s) and will conclude the Section 106 review.

ii. If any of the consulting parties or the ACHP objects within the fifteen (15) day review and comment period to the resolution of adverse effects through the application of the Abbreviated Consultation Process, FEMA shall resolve the adverse effect(s) using procedures outlined below in Stipulation II.C.6(b), MOA or Stipulation II.C.6(c), Programmatic Agreement.

iii. Because funding and implementation details of Treatment Measures for specific Undertakings may vary by program, FEMA shall provide written notice to the consulting parties within sixty (60) days of the completion of the Treatment Measure(s). This written notice will serve as confirmation that the Treatment Measure(s) for a specific Undertaking have been implemented. FEMA also shall include information pertaining to the completion of Treatment Measures in the annual report pursuant to Stipulation I.B.1(e), FEMA Roles and Responsibilities.

b. Memorandum of Agreement: FEMA shall provide the ACHP with an adverse effect notice in accordance with 36 CFR § 800.6(a)(1) if it has not already provided such under the Abbreviated Consultation Process of this Agreement, if a consulting party or the ACHP objects in accordance with Stipulation II.C.6(a)(ii), or if FEMA in consultation with the SHPO, appropriate Tribe(s), and other consulting parties has determined that an MOA would be more appropriate to resolve the adverse effect(s). In consultation with the SHPO, and appropriate Tribe(s), and other consulting parties, including the ACHP (if participating), FEMA shall develop an MOA in accordance with 36 CFR § 800.6(c) to agree upon treatment measures to avoid, minimize, and/or mitigate adverse effects on historic properties. The MOA may also include treatment measures that serve an equal or greater public benefit in promoting the preservation of historic properties in lieu of more traditional treatment measures.

c. Programmatic Agreement: Should the execution of an MOA be inappropriate given the similar nature of effects on historic properties, the inability to determine effects prior to approval of an Undertaking, or where other circumstances warrant, FEMA, shall consult with the SHPO, and appropriate Tribe(s), the ACHP, if participating,

and any other consulting parties to develop a Programmatic Agreement in accordance with 36 CFR § 800.14(b) and identify programmatic conditions or treatment measures to govern the resolution of potential or anticipated adverse effects from certain complex project situations for an Undertaking or for multiple but similar Undertakings by a single sub-recipient.

7. Objections: Should any signatory or consulting party object within the timeframes established by this Agreement to any plans, specifications, or actions taken pursuant to resolving an adverse effect, FEMA shall consult further with the objecting party to seek resolution. If FEMA determines the objection cannot be resolved, FEMA shall address the objection in accordance with Stipulation IV.B, Dispute Resolution.

III. OTHER CONSIDERATIONS

A. Changes to an Approved Scope of Work: The Recipient(s) shall notify FEMA and shall require a sub-recipient to notify it immediately when a sub-recipient proposes changes to an approved scope of work for an Undertaking.

1. If FEMA determines the change meets a Programmatic Allowance or has no effect on the property, FEMA shall approve the change.

2. If the change can be modified to meet a Programmatic Allowance, or conform to any applicable SOI Standards, FEMA shall conclude its Section 106 review responsibilities.

3. If FEMA determines that the change does not meet an Allowance, FEMA shall initiate consultation pursuant to Stipulation II.C, Standard Project Review.

B. Unexpected Discoveries, Previously Unidentified Properties, or Unexpected Effects:

1. Upon notification by a sub-recipient of an unexpected discovery, or if it appears that a Undertaking has affected a previously unidentified property or affected a known historic property in an unanticipated manner, in accordance with Stipulation I.B.3(e), Recipient(s) Roles and Responsibilities, the Recipient(s) shall immediately notify FEMA and require the sub-recipient to:

   a. Stop construction activities in the vicinity of the discovery.

   b. Take all reasonable measures to avoid or minimize harm to the property until FEMA has completed consultation with the SHPO, and appropriate Tribe(s), and any other consulting parties. Upon notification by the Recipient of a discovery, FEMA shall immediately notify the SHPO, and appropriate Tribe(s), and other consulting parties that may have an interest in the discovery, previously unidentified property or unexpected effects, and consult to evaluate the discovery for National Register eligibility and/or the effects of the undertaking on historic properties.

c. If human remains are discovered, notify the local law enforcement office and state medical investigator in accordance with State of New Mexico statute(s), and protect the remains and any nearby area that may also contain human remains from any harm. Discoveries of human remains on Federal or Tribal lands shall be subject to the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. § 3001-3013; 18 U.S.C. § 1170) and ARPA, as applicable. Discoveries of human remains and associated funerary objects on state or private land shall be subject to NMSA 1978, Section 18-6-11.2 of the New Mexico Cultural Properties Act and its implementing rule in Title 4, Chapter 10, Part 11 of the New Mexico Administrative Code (NMAC).

d. Assist FEMA in completing the following actions, as required:

i. FEMA shall consult with the SHPO, appropriate Tribe(s), and other consulting parties in accordance with the consultation process outlined in Stipulation II, Project Review, to develop a mutually agreeable action plan with timeframes to identify the discovery or previously unidentified property, take into account the effects of the Undertaking, resolve adverse effects if necessary, and ensure compliance with applicable Federal, State, and local statutes.

ii. FEMA shall coordinate with the Recipient(s) and the sub-recipient regarding any needed modification to the scope of work for the Undertaking necessary to implement recommendations of the consultation and facilitate proceeding with the Undertaking.

iii. In cases where discovered human remains are determined to be Native American, FEMA shall consult with the appropriate Tribal representatives and SHPO. In addition, FEMA shall follow the guidelines outlined in the ACHP's *Policy Statement Regarding the Treatment of Burial Sites, Human Remains, and Funerary Objects* (2007) and any state-specific policies that may be in force.

C. Curation

1. In cases where archaeological survey and testing are conducted on private land, any recovered collections remain the property of the land owner. In such instances, FEMA and the Recipient(s), in coordination with the SHPO, and appropriate Tribe(s), shall encourage land owners to donate the collection(s) to an appropriate public or Tribal entity. In cases where the property owner wishes to transfer ownership of the collection(s) to a public or Tribal entity, and in the case of artifacts recovered from public lands, FEMA and the Recipient(s) shall ensure that recovered artifacts and related documentation are curated in a suitable repository as agreed to by FEMA, SHPO, and appropriate Tribe(s), and following applicable State or Tribal guidelines.

2. When an Undertaking will adversely affect a National Register listed or eligible archaeological site, FEMA may treat the adverse effect by providing for the recovery of significant information through archaeological data recovery. FEMA shall consult with the SHPO, appropriate Tribe(s), and other consulting parties to prepare a research design

and data recovery plan, including a specific plan for curation. This plan will incorporate any relevant curation provisions contained in State of New Mexico's *Standards for Excavation and Test Excavation*, 4.10.16. NMAC and the ACHP's "*Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites*" published in the Federal Register (64 Fed. Reg. 27085-27087 (May 18, 1999)), or other provisions agreed to by the consulting parties. No excavation should be initiated before FEMA acceptance and approval of the curation plan.

a. As stipulated in the curation plan, artifacts, as well as field and laboratory records sufficient to document the collection, shall be curated at a facility, preferably in-New Mexico, that meets the standards of, and in accordance with the provisions of 36 CFR Part 79, "Curation of Federally-Owned and Administered Archaeological Collections," and applicable State or Tribal requirements.

D. Review of Undertakings Initiated Before Initiation or Completion of Section 106 Review

1. In accordance with Section 110(k) of the NHPA, FEMA shall not grant assistance to a sub-recipient who, with intent to avoid the requirements of this Agreement or Section 106 of the NHPA, has intentionally significantly and adversely affected a historic property to which the assistance would relate, or having legal power to prevent it, allowed an adverse effect to occur. However, if after consultation with the SHPO, and appropriate Tribe(s), and ACHP, FEMA determines that extraordinary circumstances justify granting assistance despite the adverse effect created or permitted by the sub-recipient, FEMA shall complete consultation for the Undertaking pursuant to the terms of this Agreement.

2. FEMA shall specifically advise the Recipient(s) and shall require that the Recipient(s) advise its sub-recipients in writing that they may jeopardize Federal funding if work is performed without all required local, State, and Federal licenses, permits, or approvals, including the completion of the Section 106 process. FEMA also shall document this requirement in its Record of Environmental Consideration, as applicable, as well as all project approval documents specifying the project scope and limits, and containing all conditions and caveats.

3. In circumstances where FEMA determines a sub-recipient has initiated an Undertaking without willful intent to avoid the requirements of this Agreement or Section 106 of NHPA, FEMA shall proceed as follows:

a. Determine if the Undertaking is of a type for which FEMA has no further Section 106 responsibilities, namely:

i. An Undertaking listed in Stipulation I.A.6; or

ii. An immediate rescue and salvage operation in accordance with 36 CFR § 800.12(d); or

iii. A Programmatic Allowance as described under Stipulation II.A.

b. In any such cases listed in Stipulation III.D.3.a., above, FEMA shall document this determination in the project files, and consider the Undertaking Section 106 compliant.

c. If FEMA determines the Undertaking would have required Section 106 review, FEMA shall coordinate with the SHPO and appropriate Tribe(s) to determine whether the Undertaking could have affected previously identified archaeological sites, historic structures or districts, or other significant cultural places in or immediately adjacent to the APE. FEMA shall conduct a review of NMCRIS and other related SHPO files and federal agency records when federal land is involved, as needed, and information from the appropriate Tribe(s) to make this determination.

i. If that review with the SHPO and appropriate Tribe(s) does not reveal the presence of previously identified cultural resources, FEMA may approve the undertaking without SHPO or Tribal consultation, if the Tribe has signed this agreement.

ii. If that review reveals the presence of previously identified cultural resources, FEMA shall review the Undertaking in accordance with Stipulation II.C. Standard Project Review.

iii. If after coordination with the SHPO and appropriate Tribe(s), FEMA determines that review cannot be completed, FEMA shall document the outcome to the Section 106 review process, and the applicable FEMA program shall take the outcome into account before making a decision whether to fund the Undertaking. FEMA shall provide written notification of its funding decision to the SHPO, and appropriate Tribe(s) and the ACHP.

d. FEMA shall ensure that all Undertakings considered for after the fact review in accordance with this stipulation are included in the annual report.

IV. IMPLEMENTATION OF AGREEMENT

A. Amendments

1. If any Signatory determines that an amendment to the terms of this Agreement must be made, the Signatories shall consult for no more than thirty (30) days to seek amendment of the Agreement.

2. An amendment to this Agreement, exclusive of the Appendices, shall be effective only when it has been signed by all the Signatories. An amendment shall be effective for Undertakings occurring on or affecting historic properties on Tribal lands only when the Tribe has signed the Agreement and its amendment.

3. Appendix A (FEMA Programs), Appendix B (Programmatic Allowances), and Appendix C (Treatment Measures) may be amended at the request of FEMA or another Signatory in the following manner:
    a. FEMA, on its own behalf or on behalf of another Signatory, shall notify the Signatories of the intent to modify the current Appendix or Appendices and shall provide a draft of the updated Appendix or Appendices to all signatory parties.

    b. If no other Signatory objects in writing within thirty (30) days of receipt of FEMA's proposed modification, FEMA shall date and sign the amended Appendix and provide a copy of the amended Appendix to the other Signatories. Such an amendment shall go into effect on the date FEMA transmits the amendment to the other Signatories.

B. Dispute Resolution

1. Should any Signatory object in writing to the terms of this Agreement, FEMA shall consult with the objecting party for not more than thirty (30) days to resolve the objection.

2. If the objection is resolved within 14 days, FEMA shall proceed in accordance with the resolution.

3. If FEMA determines within thirty (30) days that the objection cannot be resolved, FEMA shall forward to ACHP all documentation relevant to the objection, including FEMA's proposed resolution. Within thirty (30) days of receipt, ACHP will:

    a. Concur in FEMA's proposed resolution; or

    b. Provide FEMA with recommendations, which FEMA shall take into account in reaching a final decision regarding the objection; or

    c. Notify FEMA that the objection will be referred for comment in accordance with 36 CFR § 800.7(a)(4), and proceed to do so.

4. FEMA shall take into account any ACHP recommendations or comments, and any comments from the other Signatories, in reaching a final decision regarding the objection. FEMA shall provide in writing to the ACHP and Signatories a summary of its final decision before authorizing any disputed action to proceed. The Signatories shall continue to implement all other terms of this Agreement that are not subject to objection.

5. Should ACHP not respond within thirty (30) days, FEMA may assume ACHP has no comment and proceed with its proposed resolution to the objection after providing the ACHP and Signatories a written summary of its final decision.

C. Severability and Termination

1. In the event any provision of this Agreement is deemed by a Federal court to be contrary to, or in violation of, any applicable existing law or regulation of the United States of America, only the conflicting provision(s) shall be deemed null and void, and the remaining provisions of the Agreement shall remain in effect.

2. FEMA, the SHPO, ACHP, or Recipient(s) may terminate this Agreement by providing thirty (30) days written notice to the other Signatories, provided that the Signatories consult during this period to seek amendments or other actions that would prevent termination. If this Agreement is terminated, FEMA shall comply with Section 106 through other applicable means pursuant to 36 CFR Part 800. Upon such determination, FEMA shall provide all other Signatories and the ACHP with written notice of the termination of this Agreement.

3. A participating Tribe may notify the other Signatories that it is fully withdrawing from participation in the Agreement. Following such a withdrawal, FEMA shall review undertakings that may affect historic properties of religious and cultural significance to the Tribe, and Undertakings that occur on the Tribal lands of the relevant Tribe, in accordance with 36 CFR §§ 800.3 through 800.7, 36 CFR § 800.8(c), or an applicable alternative under 36 CFR § 800.14. Withdrawal from this Agreement by a Tribe does not terminate the Agreement. At any time that this Agreement remains in effect, a Tribe that has withdrawn from the Agreement may notify FEMA, the Recipient(s), and SHPO in writing that it has rescinded its notice withdrawing from participation in the Agreement.

4. This Agreement may be terminated by the implementation of a subsequent Agreement, pursuant to 36 CFR § 800.14(b), that explicitly terminates or supersedes this Agreement, or by FEMA's implementation of Alternate Procedures, pursuant to 36 CFR § 800.14(a).

D. Duration and Extension

1. This Agreement shall remain in effect from the date of execution for a period not to exceed seven (7) years unless otherwise extended pursuant to Stipulation IV.D.2 below, or terminated pursuant to Stipulation IV.C.2 or IV.C.3, Severability and Termination. The Agreement shall remain in effect for Declarations made prior to expiration of the Agreement in order to minimize delays in delivery of FEMA assistance.

2. The Signatories may collectively agree to extend this Agreement to cover additional calendar years, or portions thereof, through an amendment per Stipulation IV.A., provided that the original Agreement has not expired.

E. Execution and Implementation

1. This Agreement may be executed in counterparts, with a separate page for each Signatory, and shall become effective on the date of the final signature of FEMA and the SHPO.

2. The Agreement shall go into effect regarding Undertakings occurring, or affecting historic properties, on Tribal lands when the appropriate Tribe has signed the Agreement.

3. FEMA shall ensure that each Signatory is provided with a complete copy of the Agreement, including an original set of signatures.

3. Execution and implementation of this Agreement evidence that FEMA has afforded ACHP a reasonable opportunity to comment on FEMA's administration of all referenced Programs, and that FEMA has satisfied its Section 106 responsibilities for all individual Undertakings of its referenced Programs.

**PROGRAMMATIC AGREEMENT AMONG
THE FEDERAL EMERGENCY MANAGEMENT AGENCY,
THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER, AND
THE NEW MEXICO DEPARTMENT OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT**

FEDERAL EMERGENCY MANAGEMENT AGENCY

By: _____ Date: 5/23/16
Kevin Jaynes
Regional Environmental Officer
Region 6

By: _____ Date: 5/23/16
George A. Robinson
Regional Administrator
Region 6

**PROGRAMMATIC AGREEMENT AMONG
THE FEDERAL EMERGENCY MANAGEMENT AGENCY,
THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER, AND
THE NEW MEXICO DEPARTMENT OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT**

NEW MEXICO STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: 5/23/16

Jeff Pappas, PhD.
State Historic Preservation Officer

**PROGRAMMATIC AGREEMENT AMONG
THE FEDERAL EMERGENCY MANAGEMENT AGENCY,
THE NEW MEXICO STATE HISTORIC PRESERVATION OFFICER, AND
THE NEW MEXICO DEPARTMENT OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT**

THE NEW MEXICO DEPARTMENT OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT

By: _____ Date: 23 May 18

M. Jay Mitchell
Cabinet Secretary

Appendix A

FEMA Program Summaries

This Appendix may be amended in accordance with Stipulation IV.A, Amendments.

Disaster Response and Recovery Programs

The following programs are authorized under Titles IV and V of the Stafford Act.

Public Assistance Program (PA)
This program assists States, Tribal and local governments, and certain types of private nonprofit organizations quickly respond to and recover from major disasters or emergencies declared by the President. Grants are provided for debris removal (Category A), emergency protective measures (Category B), and the repair, replacement, or restoration of disaster-damaged, publicly owned and certain private non-profit facilities (Categories C-G).

Individual Assistance Programs (IA)
These programs help to ensure that individuals and families that have been affected by disasters have access to the full range of FEMA assistance including: crisis counseling (Section 416), disaster legal services (Section 415), essential assistance (Section 403), emergency sheltering assistance (Section 403), transportation (Section 419), funeral services, minor home repairs (Section 408), and temporary housing assistance (Section 408). It should be noted that other Federal agencies provide disaster assistance programs, services, and activities to individuals as well, including the U.S. Small Business Administration, U.S. Department of Agriculture, and U.S. Department of Labor, but these other assistance programs are not subject to the terms of this Agreement.

Fire Management Assistance Grant Program (FMAG)
The FMAG is available to State, Tribal, and local governments for the mitigation, management, and control of fires on publicly or privately owned lands. Eligible costs may include expenses for field camps, equipment use, repair and replacement, materials and supplies, and mobilization and demobilization activities.

Hazard Mitigation Grant Program (HMGP)
The HMGP provides grants to States, Territories, Tribes, and local governments to implement long-term hazard mitigation measures after a Declaration. Activities may include buyouts, retrofits, relocations, elevations, and minor flood control projects.

Non-Disaster Programs

Pre-Disaster Mitigation Program (PDM)
The PDM program provides competitive grants to States, Territories, Tribes, and local governments for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. Activities may include planning, buyouts, retrofits, relocations, elevations, minor flood control projects, and vegetative fuels reduction.

Flood Mitigation Assistance Program (FMA)
The FMA program provides grants to States, Territories, Tribal entities, and communities to assist in their efforts to reduce or eliminate the risk of repetitive flood damage to buildings and structures insurable under the National Flood Insurance Program (NFIP).

Assistance to Firefighters Grant Program
The AFG program provides funding for purchase of equipment and retrofit or construction of fire stations to improve first responder capabilities.

Homeland Security Grant Program (HSGP)
The HSGP plays an important role in the implementation of the National Preparedness System (NPS) by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal (NPG) of a secure and resilient Nation. HSGP is comprised of three interconnected grant programs including (1) the State Homeland Security Program (SHSP), (2) the Urban Areas Security Initiative (UASI) and the Operation Stonegarden (OPSG). Together, these grant programs and other future projects that may be included under the HSGP fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration.

State Homeland Security Program (SHSP)
This core assistance program provides funds to build capabilities at the state and local levels and to implement the goals and objectives included in state homeland security strategies and initiatives in the State Preparedness Report.

Urban Areas Security Initiative (UASI) Program
The Urban Areas Security Initiative (UASI) program focuses on enhancing regional preparedness in major metropolitan areas. The UASI program directly supports the National Priority on expanding regional collaboration in the National Preparedness Guidelines and is intended to assist participating jurisdictions in developing integrated regional systems for prevention, protection, response and recovery.

Metropolitan Medical Response System (MMRS) Program
The MMRS program supports the integration of emergency management, health, and medical systems into a coordinated response to mass casualty incidents caused by any hazard. Successful MMRS recipients reduce the consequences of a mass casualty incident during the initial period of a response by having augmented existing local operational response systems before the incident occurs.

Citizen Corps Program (CCP)
The Citizen Corps mission is to bring community and government leaders together to coordinate community involvement in emergency preparedness, planning, mitigation, response and recovery.

State Homeland Security Program Tribal (SHSP Tribal)
To provide supplemental funding to directly eligible Tribes to help strengthen the nation against risks associated with potential terrorist attacks. Pursuant to the 9/11 Act, "a directly eligible tribe applying for a grant under section 2004 [SHSP] shall designate an individual to serve as a tribal

liaison with [DHS] and other Federal, state, local, and regional government officials concerning preventing, preparing for, protecting against and responding to acts of terrorism."

Nonprofit Security Grant Program (NSGP)
NSGP provides funding support for target-hardening activities to nonprofit organizations that are at high risk of a terrorist attack and are located within one of the specific UASI-eligible urban areas.

Operation Stonegarden (OPSG)
The intent of OPSG is to enhance cooperation and coordination among local, State and Federal law enforcement agencies in a joint mission to secure the United States borders along routes of ingress from international borders to include travel corridors in States bordering Mexico and Canada, as well as States and territories with international water borders.

Transit Security Grant Program (TSGP)
The TSGP provides grant funding to the nation's key high-threat urban areas to enhance security measures for their critical transit infrastructure including bus, ferry and rail systems.

Freight Rail Security Grant Program (FRSGP)
The FRSGP funds security training for frontline employees, the completion of vulnerability assessments, the development of security plans within the freight rail industry and GPS tracking systems for railroad cars transporting toxic inhalation materials.

Intercity Passenger Rail (Amtrak)
The purpose of the Intercity Passenger Rail (IPR) is to create a sustainable, risk-based effort to protect critical surface transportation infrastructure and the traveling public from acts of terrorism, major disasters and other emergencies within the Amtrak rail system.

Port Security Grant Program (PSGP)
The PSGP provides grant funding to port areas for the protection of critical port infrastructure from terrorism. PSGP funds are primarily intended to assist ports in enhancing maritime domain awareness, enhancing risk management capabilities to prevent, detect, respond to and recover from attacks involving improvised explosive devices (IEDs), weapons of mass destruction (WMDs) and other non-conventional weapons, as well as training and exercises and Transportation Worker Identification Credential (TWIC) implementation.

Intercity Bus Security Grant Program (IBSGP)
The IBSGP provides funding to create a sustainable program for the protection of intercity bus systems and the traveling public from terrorism. The program seeks to assist operators of fixed-route intercity and charter bus services in obtaining the resources required to support security measures such as enhanced planning, facility security upgrades and vehicle and driver protection.

Trucking Security Program (TSP)
TSP funding will be awarded to eligible applicants to implement security improvement measures and policies deemed valuable by DHS as indicated in the *Security Action Items* publication of June 26, 2008. These items are primarily focused on the purchase and installation or enhancement of equipment and systems related to tractor and trailer tracking systems. Additionally, the TSP will

provide funding to develop a system for DHS to monitor, collect and analyze tracking information; and develop plans to improve the effectiveness of transportation and distribution of supplies and commodities during catastrophic events.

Buffer Zone Protection Program (BZPP)
The BZPP provides funding to increase the preparedness capabilities of jurisdictions responsible for the safety and security of communities surrounding high-priority pre-designated Tier 1 and Tier 2 critical infrastructure and key resource (CIKR) assets, including chemical facilities, financial institutions, nuclear and electric power plants, dams, stadiums and other high-risk/high-consequence facilities, through allowable planning and equipment acquisition.
Emergency Management Performance Grants (EMPG)
The purpose of the EMPG program is to assist State and local governments in enhancing and sustaining all-hazards emergency management capabilities.

Emergency Operations Center (EOC) Grant Program
The EOC grant program is intended to improve emergency management and preparedness capabilities by supporting flexible, sustainable, secure, and interoperable Emergency Operations Centers (EOCs) with a focus on addressing identified deficiencies and needs. This program provides funding for construction or renovation of a State, local, or tribal governments' principal EOC. Fully capable emergency operations facilities at the State and local levels are an essential element of a comprehensive national emergency management system and are necessary to ensure continuity of operations and continuity of government in major disasters caused by any hazard.

Driver's License Security Grant Program
The purpose of the Driver's License Security Grant Program is to prevent terrorism, reduce fraud, and improve the reliability and accuracy of personal identification documents that States and territories issue.

Integrated Public Alert and Warning System (IPAWS)
The Integrated Public Alert and Warning System (IPAWS) was established by Executive Order 13407 in 2006. In the event of a national emergency, the President may use IPAWS to send a message to the American people quickly and simultaneously through multiple communications pathways. FEMA has identified several radio transmission sites across the nation with significantly powerful signals for this purpose, and FEMA is responsible for upgrading, maintaining, and managing the agency installed and owned auxiliary fuel systems at each of these radio transmission sites.

Appendix B

Programmatic Allowances

This list of Programmatic Allowances enumerates FEMA funded activities that based on FEMA experience have no or minimal effect on historic properties if implemented as specified in this Appendix and will not require review by the SHPO and participating Tribes.

The Programmatic Allowances consist of two tiers – First Tier and Second Tier. Staff may apply First Tier allowances, whether or not they meet professional historic preservation qualification standards (Stipulation I.B(1)(a)). Second Tier allowances may be applied only by qualified staff under Stipulation I.B(1)(a), to ensure that the proposed scope of work will result in no adverse effect on identified historic properties within the project's Area of Potential Effect.

When referenced in the Programmatic Allowances, "in-kind" shall mean that the result of the work shall match all physical and visual aspects, including form, color, finish, texture, workmanship, and, to the greatest extent possible, materials. The in-kind repair provided for in both First and Second Tier allowances in Appendix B shall be limited to pre-existing architectural features and physical components of buildings and structures.

When referenced in the allowances, "previously disturbed soils" shall refer to soils that are not likely to possess intact and distinct soil horizons and have the reduced likelihood of possessing historic properties within their original depositional contexts in the area and to the depth to be excavated. Determining the horizontal and vertical extent of "previously disturbed soils," particularly the impacts to buried cultural deposits, may require an assessment by qualified staff and archaeologists with knowledge of the local archaeology. FEMA may request assistance of SHPO in determining whether intact and distinct soil horizons and buried cultural deposits are likely to be present in areas with existing disturbance.

I. First Tier Allowances

A. GROUND DISTURBING ACTIVITIES AND SITE MODIFICATION, when proposed activities described below conform to the original footprint and/or are performed in previously disturbed soils, including the area where the activity is staged**.**

1. Hazard Tree, Vegetative and Construction Debris, and Snow Removal

    a. Debris removal and collection, including removal of snow, uprooted trees, limbs and branches from public rights of way and public areas and areas as well as the transport and disposal of such waste to existing licensed waste facilities or landfills. This includes the temporary establishment and expansion of non-hazardous debris staging, reduction, and disposal areas at licensed transfer stations, or existing hard-

topped or graveled surfaces (e.g., parking lots, roads, athletic courts) but not the creation of new or temporary access roads.

b. Removal of debris from private property provided that un-damaged buildings or structures are not affected, ground disturbance is minimal (within approximately 4-6 inches of the ground surface), heavy equipment is confined to existing driveways and/or previously disturbed right of way (ROW), and in-ground elements, such as driveways, walkways or swimming pools are left in place.

c. Chipping and disposal of woody debris by broadcasting within existing rights-of-way.

d. Sediment removal from man-made drainage facilities, including retention/detention basins, ponds, ditches, and canals, in order to restore the facility to its pre-disaster condition. The sediment may be used to repair eroded banks or disposed of at an existing licensed or permitted spoil site.

e. Dewatering flooded developed areas by pumping.

f. Wildfire Mitigation Projects involving the removal of wood debris such as branches, limbs, and uprooted trees from within the defined wildfire boundaries or improved property or infrastructure, when staging and operation of associated machinery is limited to existing service roads, parking lots, or other existing hardened surfaces.

g. Wildfire Mitigation Projects involving the removal of wood debris such as branches, limbs, and uprooted trees from within the defined wildfire boundaries or improved property or infrastructure, using non-mechanized equipment (i.e. hand tools) only, when existing service roads, parking lots, or other existing hardened surfaces are unavailable for machinery access.

h. Clearing and removal of vegetative snags, drifts, or other obstructions from natural or improved riverine channels and streams

2. Temporary Structures and Housing

a. Staging, installation, and removal of temporary structures for use as school classrooms, offices, or temporary shelters for essential public service agencies, such as police, fire, rescue and medical care, as well as temporary housing for disaster personnel and survivors at the following types of locations:

i. Single units on private residential sites when all utilities are installed above ground or tie into pre-existing utility lines.

ii. Existing RV/Mobile Home Parks and campgrounds with pre-existing utility hookups.

iii. Paved areas, such as parking lots and paved areas at such facilities as conference centers, shopping malls, airports, industrial port facilities business parks, and military bases when all utilities are installed above ground or tie into pre-existing utility lines.

iv. Sites that have been previously prepared for planned construction, such as land being developed for public housing, office buildings, city parks, ball fields, schools, etc. when all utilities are installed above-ground or tie into pre-existing utility lines.

v. Areas previously filled to depths of at least six feet so that subsurface utilities can be installed.

b. Temporary repairs to single family, residential properties to ensure safe shelter with access to essential electrical supply, HVAC, hot water, natural gas, and potable water, and protection from elements such as weatherproofing, and securing broken doors and windows.

2. Recreation and Landscaping

a. Installation of temporary removable barriers.

b. In-kind repairs, installation, or replacement, and minor upgrades/mitigation of bollards and associated protective barriers when in previously disturbed areas.

B. BUILDINGS AND STRUCTURES

1. Repair or retrofit of buildings less than 45 years old, unless the property has achieved significance with the last 50 years or is of exceptional importance (National Register criterion consideration "G" of 36 CFR § 60.4).

2. Removal of water by physical or mechanical means.

3. Installation of exterior security features and early warning devices on existing light poles or other permanent utilities.

C. TRANSPORTATION FACILITIES, when proposed activities conform to the original footprint and/or performed in previously disturbed soils, including any staging areas.

1. Roads and Roadways

a. Construction of temporary emergency access roads in previously disturbed soils to allow for passage of emergency vehicles.

b. Repairs to road slips and landslides that do not require grading of undisturbed soils on the up-hill side of the slip.

c. In-kind repair or replacement of traffic control devices such as traffic signs and signals, delineators, pavement markings, traffic surveillance systems.

d. Installation and removal of temporary traffic control devices, including pre-formed concrete barriers and fencings.

e. In-kind repair or replacement of roadway safety elements such as barriers, guardrails, and impact-attenuation devices. In the case of guardrails, the addition of safety end treatments is permitted.

2. Airports

a. In-kind repair or replacement of existing runway surfaces and features (e.g. asphalt, concrete, gravel, and dirt) and associated air transportation safety components and systems (e.g. lighting bars, beacons, signage and weather sensors).

3. Rail Systems

a. In-kind repair or replacement of safety components.

b. In-kind repair or replacement of existing track system and passenger loading areas.

D. FEES AND SERVICES

1. Reimbursement of a sub-recipient's insurance deductible, not to exceed $2,500.

II. Second Tier Allowances:

A. GROUND DISTURBING ACTIVITIES AND SITE WORK, when proposed activities described below conform to the original footprint and/or are performed in previously disturbed soils, including the area where the activity is staged and no historic properties are present or likely to be present**.**

1. Footings, Foundations, Retaining Walls, Slopes, and Slope Stabilization Systems

a. In-kind repair, replacement, and reinforcement of footings, foundations, retaining walls, slopes, and slope stabilization systems (e.g., gabion baskets, crib walls, soldier pile and lag walls) if related ground disturbing activities are within the boundary of previously disturbed soils.

b. Installation of perimeter drainage (e.g. French drains) when performed in previously disturbed soils.

2. Recreation and Landscaping

   a. In-kind repairs or replacement, and minor upgrades to recreational facilities and features (e.g. playgrounds, campgrounds, fire pits, dump stations and utility hook-ups, swimming pools, athletic fields and signage, batting cages, basketball courts, swing sets, pathways, simple wooden/wire stream crossings).

   b. In-kind repair, replacements, and minor upgrades to landscaping elements (e.g., fencing, free standing walls, paving, planters, irrigation systems, lighting elements, signs, flag poles, ramps, steps) if related ground disturbing activities are within the boundary of previously disturbed soils.

3. Piers, Docks, Boardwalks, Boat Ramps, and Dune Crossovers

   a. In-kind repair and replacement and minor upgrades to existing piers, docks, boardwalks, boat ramps and dune crossovers in areas of previously disturbed soils.

4. Cemeteries

   a. Removal of woody debris such as branches and limbs, from cemeteries, provided that heavy equipment and other machinery are not operated or staged on areas potentially containing human remains and locations of known or suspected archaeological sensitivity.

   b. Hand clearing in instances where damage might occur.

   c. Removal of ash/soot from gravestones, slabs, or monuments provided that destructive treatments are not used including sand blasting, water blasting, or chemical cleaning.

5. Wildfire Recovery

   a. Clearing and removal of vegetative snags, drifts, or other obstructions from natural or improved riverine channels, streams, canals, and acequias using documented pre-disaster maintenance methods.

   b. Removal of fire or flood-damaged or destroyed standing trees within public rights-of-way and public areas that otherwise pose a hazard to work crews or risk to buildings or structures (either private, commercial, or public sector) and on private property, when trees are flush cut or stumps are ground to grade level, no root balls are removed, provided that buildings are not affected, ground disturbance is minimal, and all access and staging of equipment is on improved surfaces.

c. Inspection for, collection/removal of, and licensed disposal of household hazardous waste on public, commercial, or private property when there are public health and safety risks with these materials. Limited site abatement measures may also be implemented to contain or stabilize materials on site.

d. Debris removal from private property including demolition of condemned heavily damaged buildings and structures, foundation removal, capping or decommissioning on site utilities, and limited ash removal to six inches deep from the ground surface to facilitate reconstruction/re-occupancy. Provided that buildings or structures are not eligible for or included in the National Register or located within or adjacent to a historic district eligible for or included in the National Register or a known archaeological site.

e. Creation of defensible space around buildings and structures in the wildland interface through selective vegetation removal including limbing low branches, brush removal, and limited thinning of small understory trees. Work will be done with hand-held tools, chainsaws, and/or small rubber tired mechanized equipment fitted with a mower or masticator deck. The defensible space usually extends about 100 feet from the building or structure, but no more than 200 feet in steep sloped areas. Associated ground disturbance will be limited to surface soils only. Equipment will be staged on improved surfaces to the maximum extent possible.

f. Creation of defensible space within 50 feet of an existing roadway through selective vegetation removal including limbing low branches, brush thinning and removal, and limited thinning of small understory trees. Work will be done with hand-held tools, chainsaws, and/or small rubber tired mechanized equipment fitted with a mower or masticator deck. Equipment will be staged on improved surfaces to the maximum extent possible. Associated ground disturbance will be limited to surface soils only.

6. Erosion Threat Reduction Measures

a. Including hydro-seeding and/or placement of a variety of measure such as jute and coir matting, hay bales, silt fencing, or other similar measures as appropriate to sloped and erodible areas, with ground disturbance limited to surface soils only, and when staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces.

b. Seeding/straw mulching by fixed or rotary wing aircraft, a blowing machine, or by hand to re-establish vegetative ground cover after a wildfire, using a native seed mix and limited to broadcast in areas that are not known to be in or affect tribal plant gathering/harvesting sites, and when staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces.

c. Ground-based hydromulching slurry (including seeding, fiber mulches, soil stabilizers, tackifiers, and polymers) applied from the road using truck-mounted applicators that can reach 200 to 300 feet to reduce erosion and foster plant growth.

d. Erosion control mats used to treat site-specific resource concerns including historic properties, water intake facilities, and other critical locations. The mats are to be installed by hand on the ground surface. Associated ground disturbance will be limited to surface soils only, and staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces.

e. Log Erosion Barriers (LEBs) used in timbered areas where hillslope erosion rates are increased significantly from the disaster. LEBs (contour felled logs, log terraces, or terracettes) are placed in a shallow trench on ground contours. Associated ground disturbance will be limited to surface soils only and, staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces.

f. Prefabricated (rice straw) fiber rolls (wattles) wrapped in ultraviolet degradable plastic or jute netting used in areas where soil erosion and water quality deterioration are at risk and where LEBs are not practical. They are for intensive treatment of high values at risk including historic properties. Associated ground disturbance will be limited to surface soils and staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces.

g. Geotextile silt fences installed with wooden posts or metal T-posts to trap sediment and anchored below ground level. Associated ground disturbance will be limited to surface soils only, and staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces.

h. Check dams (constructed from straw, log, or rock) used as temporary erosion control measures. Associated ground disturbance will be limited to surface soils only, and staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces.

i. Grade stabilizers to prevent channel incising and downcutting that provide grade control to systems that may become destabilized from increased storm runoff and velocities. Grade stabilizers can be constructed from various materials, including logs, rocks, and wood. Assessment teams may recommend this treatment in areas where the loss of soil cover and increased runoff would result in channel downcutting. Associated ground disturbance will be limited to surface soils only, and staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces. All fill will come from an approved source. The Allowance does not apply to projects involving buildings or structures eligible for or included in the National Register or projects that are located within or adjacent to a historic district eligible for or included in the National Register or a known archaeological site.

j. In-channel, directional tree felling up-stream, so the tops of the trees are in the channel. Associated ground disturbance will be limited to surface soils only, and staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces.

k. Hand planting of conifers, willows, or other tree species where the depth of the hole is less than eight inches, on slopes of more than 10 percent. Associated ground disturbance will be limited to surface soils only.

l. Tree/shrub establishment: hand-planting seedlings to serve as natural wind breaks or living snow-fences; shoreline plantings for natural dune restoration using native vegetation and/or cuttings by hand or lightweight machinery, where blading, grubbing, or scalping is not involved. Associated ground disturbance will be limited to surface soils only, and staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces.

B. BUILDINGS AND STRUCTURES

1. Interior Work: Floors, Walls, Stairs, Ceilings and Trim

   a. In-kind repair and replacement of floors, walls, stairs, ceilings, and/or trim as long as the activity does not affect adjacent materials. The allowance does not apply to decorative finishes, including murals, glazed paint, gold leaf, or ornamental plaster.

   b. Interior cleaning of surfaces using a weak solution of household bleach and water, mold remediation, or mold removal. The allowance applies to interior finishes, including plaster and wallboard, provided the cleaning is restricted to damaged areas and does not affect adjacent materials.

   c. Non-destructive or concealed testing for hazardous materials (e.g., lead paint, asbestos) or for assessment of hidden damages.

   d. Exterior cleaning including the removal of ash and soot from structures using the gentlest means possible and, provided that destructive surface preparation treatments are not used, such as water blasting, sandblasting, power sanding or chemical cleaning. Low pressure washing may be used to remove ash and soot, with power washing of historic masonry elements limited to the lowest psi possible, but not to exceed 300psi. See National Park Service (NPS) Preservation Brief 1: *Assessing Cleaning and Water-Repellent Treatments for Historic Masonry Buildings,* and NPS Preservation Brief 6: *Dangers of Abrasive Cleaning to Historic Buildings.*

2. Building Contents

   a. Repair or replacement of building contents including furniture, movable partitions, computers, cabinetry, supplies, and equipment and any other moveable items which are not character defining features of a historic property.

3. Utilities and Mechanical, Electrical, and Security Systems

a. In-kind repair or replacement, or limited upgrading of interior utility systems, including mechanical (e.g., heating, ventilation, air conditioning), electrical, and plumbing systems. This allowance does not provide for the installation of new exposed ductwork.

b. Elevation of heating, ventilation, and air conditioning system (HVAC) and mechanical equipment as long as it is placed or located where it is not visible from the street.

c. Installation or replacement of interior fire detection, fire suppression, or security alarm systems. The allowance does not apply to surface mounted wiring, conduits, piping, etc., unless previously existing, provided that installation of the system hardware does not damage or cause the removal of character-defining architectural features and can be easily removed in the future.

d. Installation of communication and surveillance security systems, such as cameras, closed-circuit television, alarm systems, and public address systems, provided that installation of the system hardware does not damage or cause the removal of character defining architectural features and can be easily removed in the future.

e. Installation of building access security devices, such as card readers, enhanced locks, and security scanners (e.g., metal detectors), provided the device does not damage or cause the removal of character-defining architectural features and can be removed in the future without impacts to significant architectural features.

4. Windows and Doors

a. In-kind repair of damaged or severely deteriorated windows and window frames, shutters, storm shutters, doors and door frames, and associated hardware, where profiles, elevations, details and materials match those of the originals.

b. In-kind replacement of window panes. Clear plate, double, laminated or triple insulating glazing can be used, provided it does not result in altering the existing window material, tint, form, muntin profiles, or number of divided lights. This allowance does not apply to the replacement of intact decorative glass.

c. Replacement of exterior, utilitarian, non-character-defining metal doors and frames leading into non character-defining spaces with metal blast resistant doors and frames.

d. Installation of security bars over windows on rear elevations.

5. Exterior Walls, Cornices, Porches, and Foundations

a. In-kind repainting of surfaces, provided that destructive surface preparation treatments are not used, such as water blasting, sandblasting, power sanding and chemical cleaning.

b. In-kind repair of walls, porches, foundations, columns, cornices, siding, balustrades, stairs, dormers, brackets, trim, and their ancillary components or in-kind replacement of severely deteriorated or missing or lost features, as long as the replacement pieces match the original in detail and material. Any ground disturbance will be limited to previously disturbed soils.

c. In-kind repair or replacement of signs or awnings.

d. Installation of temporary stabilization bracing or shoring, provided such work does not result in additional damage.

e. Anchoring of walls to floor systems, provided the anchors are embedded and concealed from exterior view.

f. In-kind repair of concrete and masonry walls, columns, parapets, chimneys, or cornices or limited in-kind replacement of damaged components including comparable brick, and mortar that matches the color, strength, content, rake, and joint width.

g. Bracing and reinforcing of walls, chimneys and fireplaces, provided the bracing and reinforcing are either concealed from exterior view or reversible in the future.

h. Strengthening of foundations and the addition of foundation bolts, provided that visible new work is in-kind, including mortar that matches the color, content, strength, rake, and joint width where occurring.

i. Repairs to and in-kind replacement of elements of curtain wall assemblies or exterior cladding that is hung on the building structure, usually from floor to floor, and when the color, size reflectivity, materials, and visual patterns are unaltered.

6. Roofing

a. Installation of scaffolding, polyethylene sheeting, or tarps, provided such work will not result in additional damage or irreversible alterations to character defining features.

b. In-kind repair, replacement, or strengthening of roofing, rafters, fascia, soffits, gutters, verge boards, leader boxes, downspouts, or other damaged roof system components.

c. Repairs to flat roof cladding, including changes in roofing materials, where the repairs are not highly visible from the ground level.

7. Weatherproofing and Insulation

    a. Caulking and weather-stripping to complement the color of adjacent surfaces or sealant materials.

    b. In-kind repair or replacement of insulation systems, provided that existing interior plaster, woodwork, exterior siding, or exterior architectural detail is not altered.

8. Structural Retrofits

    a. The installation of the following retrofits/upgrades, provided that such upgrades are not visible on the exterior: attic bracing, cross bracing on pier and post foundations; fasteners; collar ties; gussets; tie downs; strapping and anchoring of mechanical, electrical, and plumbing equipment; concealed anchoring of furniture; installation of plywood diaphragms beneath first floor joists, above top floor ceiling rafters, and on roofs; and automatic gas shut off valves.

    b. Replacement, repair or installation of lightning rods.

9. Americans with Disabilities Act (ADA) Compliance

    a. Installation of grab bars and other such minor interior modifications.

10. Safe Rooms

    a. Installation of individual safe rooms within the property limits of a residence where the installation would occur within the existing building or structure or in previously disturbed soils.

11. Elevation, Demolition, and Reconstruction

    a. Activities related to the elevation, demolition and/or reconstruction of buildings or structures less than 45 years of age so long as the proposed activities conform to the original footprint and/or are performed in previously disturbed soils including any staging area, and the buildings or structures are not located within or adjacent to a National Register listed or eligible historic district.

    b. Reconstruction or replacement of buildings or structures forty-five (45) years or older of age completely destroyed (following FEMA's definition: "Substantial damage, as defined in 44 C.F.R. § 59.1, means "damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.") by fire so long as the proposed activities conform to the original footprint (including depth) and are performed in previously disturbed soils including any staging area, and the buildings or structures are not eligible for or included in the National Register or are not located within or adjacent to a historic

district eligible for or included in the National Register or an archaeological site.

C. TRANSPORTATION FACILITIES, when proposed activities conform to the original footprint and/or performed in previously disturbed soils, including the area where the activity is staged.

1. Roads and Roadways

    a. Repair of roads to pre-disaster geometric design standards and conditions using in-kind materials, shoulders, medians, clearances, curbs, and side slopes and no historic properties are present or likely to be present. This allowance permits minor improvement to meet current code and standards or hazard mitigation measures, such as those designed to harden exposed surfaces.

    b. Re-establishment, armoring and/or upgrading of existing roadway side slopes and ditches. This allowance does not include re-establishment, armoring and/or upgrading ditches where previously recorded archaeological sites or other historic properties are present.

    c. In-kind repair to historic paving materials for roads and walkways.

    d. In-kind repair or replacement, or minor upgrade of culvert systems and arches beneath roads or within associated drainage systems, including provision of headwalls, riprap and any modest increase in capacity for the purposes of hazard mitigation or to meet current codes and standards, provided that the work conforms to the existing footprint. For stone or brick culverts or arches beneath roadways, this allowance only applies to in-kind repair. This allowance does not apply to work associated with the New Deal such as Works Progress Administration (WPA) or Civilian Conservation Corp (CCC).

    e. In-kind repair or replacement of road lighting systems, including period lighting fixture styles.

    f. In-kind repair or replacement of road appurtenances such as curbs, berms, fences, and sidewalks. This allowance does not apply to work associated with the New Deal such as Works Progress Administration (WPA) or Civilian Conservation Corp (CCC).

2. Bridges

    a. Installation of a temporary (Bailey-type) bridge over an existing structure or at a previously disturbed location, such as a former bridge location, to allow passage of emergency vehicles.

b. In-kind repair or replacement of bridges and bridge components (e.g. abutments, wing walls, piers, decks, and fenders) including staging areas in previously disturbed soils.

D. UTILITIES, COMMUNICATIONS SYSTEMS AND TOWERS, when proposed activities conform to the original footprint and/or performed in previously disturbed soils, including the area where the activity is staged and no historic properties are present or likely to be present.

1. General

   a. In-kind repair or replacement, or minor upgrading, and elevation of utilities and associated features and structures where no historic properties are present or likely to be present or utility corridors.

   b. Installation of new utilities and associated features within previously disturbed soils of rights-of-way where no historic properties are present or likely to be present.

   c. Directional boring of new/replacement service line and related appurtenances involving boring or silt trenches within previously disturbed soils of rights-of-way or utility corridors where no historic properties are present or likely to be present.

   d. In-kind repair or replacement, or minor upgrade of water towers provided activities take place within previously disturbed soils where no historic properties are present or likely to be present. Ground-level facilities may be added or expanded in previously disturbed areas. This allowance does not apply to masonry water towers.

2. Generators and Utilities

   a. In-kind repair or replacement, or minor upgrades, elevation, and/or installation of generators, HVAC systems, and similar equipment provided no historic properties are present or likely to be present, activities occur within previously disturbed soils, and any roof mounted equipment is not visible from the ground level.

   b. Replacement of power poles within existing utility corridors. This allowance provides for an increase in pole diameter and applies to relocation of existing poles or construction of new poles within an existing utility corridor located in: (1) urban or suburban settings between the edge of roadway and the sidewalk; (2) rural settings along roadway shoulders; and (3) off-road alignment settings. This allowance also does not apply to work that will occur in close proximity (100 meters or 300 feet) to a known archaeological site or within the viewshed of a historic district that is eligible for or included in the National Register.

3. Communication Equipment/Systems and Towers

a. Acquisition, installation, or operation of communication and security equipment/systems that use existing distribution systems, facilities, or existing infrastructure right-of-way where no historic properties are present or likely to be present.

b. The collocation of communication and security equipment on existing towers and buildings/structures less than 45 year in age, provided that the work does not increase existing tower height or footprint by more than 10% and occurs within previously disturbed soils.

c. Enhancement, repair or replacement of existing communication towers and antenna structures provided the work does not increase existing tower height or footprint by more than 10% and occurs within previously disturbed soils.

d. Installation of new temporary (not to exceed 12 months) communications towers and antenna structures provided that the work occurs does not require modification of buildings/structures 45 years or older and occurs within previously disturbed soils where no historic properties are present or likely to be present.

e. Installation of new communication towers, less than 200 feet tall, in previously developed urban complexes when the work does not require modification of buildings/structures 45 years or older, occurs within previously disturbed soil, and is not within-one-half mile of the boundaries of a historic property.

E. WATER RESOURCE MANAGEMENT AND CONTROLS, when proposed activities conform to the original footprint and/or performed in previously disturbed soils, including the area where the activity is staged where no historic properties are present or likely to be present.

1. Canal Systems

   a. In-kind repairs or replacement to canal systems and associated elements.

2. Dams, Levees, Locks, and Floodwalls

   a. In-kind repair of dams, levees, locks, floodwalls and related features, including spillways, tide gates, and fuse plugs, provided the work occurs in previously disturbed soils.

3. Fish Hatcheries

   a. In-kind repair or replacement of fish hatcheries and fish ladders.

4. Waste-Water Treatment Lagoon Systems

a. In-kind repair or replacement, or minor upgrades of waste-water treatment lagoon systems.

5. Acequias, Community Ditch Associations, and Irrigation Districts

   a. Repair of access or service roads to pre-disaster geometric design standards and conditions using in-kind materials. All repairs will be in the original location and repaired to the pre-disaster footprint.

   b. Sediment and debris removal from ditches, acequias and/or canals, in order to restore the facility to its pre-disaster geometric design. The sediment may be used to repair eroded banks, reconstruct eroded diversion dams, repair water traps, repair access or service roads or stock piled on ditch rights of way as a material spoils site. Sediment can also be disposed of by traditional side cast.

   c. Repair or replacement of existing structures, using in-kind materials, (e.g.,- check structures, vehicle crossings, flumes, siphons, corrugated metal pipe, re-enforced concrete pipe, irrigation pipe, turn outs, desagues, head walls, concrete linings, walkways, water measuring devices, diversion dams) to pre-disaster design and location.

6. Stream Channel Armoring

   a. May include placement of boulders, riprap, or gabion baskets. Streambank armoring is prescribed to reduce erosion and sediment in stream channels. Associated ground disturbance will be limited to surface soils only and staging and operation of associated heavy-machinery is limited to existing service roads, parking lots, or other existing hardened surfaces. The Allowance does not apply to stream channels located within or adjacent to a historic district eligible for or included in the National Register or a known archaeological site.

FEDERAL EMERGENCY MANAGEMENT AGENCY

_____ Date: 7/13/22

Kevin Jaynes
Regional Environmental Officer
Region 6

Appendix C

Treatment Measures

When avoidance or minimization of adverse effects is not appropriate, the following Treatment Measures are suggested for the resolution of adverse effects:

If Undertakings may or will result in adverse effects, FEMA, the Recipient(s), sub-recipient, SHPO, and/or appropriate Tribe(s), may develop a treatment measure plan that includes one or more of the following Treatment Measures, depending on the nature of historic properties affected and the severity of adverse effects.

This Appendix may be amended in accordance with Stipulation IV.A.3 of this Agreement, Amendments.

A. Recordation

1. Digital Photography Package: Prior to project implementation, the designated responsible party shall oversee the successful delivery of a digital photography package prepared by staff or contractors meeting the Professional Qualifications for Architectural History, History, Architecture, or Historic Architecture, as appropriate. The digital photography package will meet the standards cited in the NPS' *National Register of Historic Places Photographic Policy May 2015* or subsequent revisions (http://www.nps.gov/nr/publications/bulletins/photopolicy/index.htm).

    a. The digital photography package shall include a comprehensive collection of photographs of both interior and exterior views showing representative spaces and details of significant architectural features and typical building materials. Exterior photographs shall include full oblique and contextual images of each elevation. Exterior views shall be keyed to a site plan while interior views shall be keyed to a floor plan of the building/structure. The photographs shall be indexed according to the date photographed, site number, site name, site address, direction, frame number, subject matter and photographer's name recorded on the reverse side in pencil.

    b. The digital photography package shall include printed color copies of the digital photographs (on appropriate paper, per *NPS Photographic Policy*), a CD/DVD of the digital photographs, a completed Historic Cultural Property Inventory (HCPI) form, and a written site history of the historic property.

    c. The designated responsible party shall submit the digital photography package to the SHPO and/or appropriate Tribe(s), for review and approval. Once approved by the SHPO and/or the appropriate Tribe(s), the designated responsible party shall submit a copy of the approved documentation to SHPO.

2. 35mm Black and White Photography Package: Prior to project implementation, the designated responsible party shall oversee the successful delivery of a 35 mm film black and white film photography package prepared by staff or contractors meeting the Professional Qualifications for Architectural History, History, Architecture, or Historic Architecture, as appropriate to document the historic property.

    a. The 35 mm film black and white film photography package shall include a comprehensive collection of photographs of both interior and exterior views showing representative spaces and details of significant architectural features and typical building materials. Exterior photographs shall include full oblique and contextual images of each elevation. Exterior views shall be keyed to a site plan while interior views shall be keyed to a floor plan of the building/structure. The photographs shall be indexed according to the date photographed, site number, site name, site address, direction, frame number, subject matter and photographer's name recorded on the reverse side in pencil.

    b. The 35 mm film black and white film photography package shall include one (1) full set of 35mm film black and white photographs printed on acid free paper, the corresponding 35mm film negatives in acid free sleeves, a completed HCPI form, and a written site history of the historic property.

    c. The designated responsible party shall submit the 35 mm black and white film photography package the SHPO and/or appropriate Tribe(s) for review and approval. Once approved by the SHPO and/or appropriate Tribe(s), the designated responsible party shall submit a copy of the approved documentation to a state or local historical society, archive, and/or library for permanent retention.

3. Large Format Photography Package: Prior to project implementation, the designated responsible party shall oversee the successful delivery of a large format photography package prepared by staff or contractors meeting the Professional Qualifications for Architectural History, History, Architecture, or Historic Architecture, as appropriate to document the historic property.

    a. The large format photography package shall include a comprehensive collection of photographs of both interior and exterior views showing representative spaces and details of significant architectural features and typical building materials. Exterior photographs shall include full oblique and contextual images of each elevation. Exterior views shall be keyed to a site plan while interior views shall be keyed to a floor plan of the building/structure. The photographs shall be indexed according to the date photographed, site number, site name, site address, direction, frame number, subject matter and photographer's name recorded on the reverse side in pencil.

    b. The large format film photography package shall include one (1) full set of 4 x 5 or 5 x 7-inch photographs printed on acid free paper, the corresponding 4 x 5 or 5 x 7-inch negatives in acid free sleeves, a completed state architectural inventory form, and a written site history of the historic property.

c. The designated responsible party shall submit the large format film photography package to the SHPO and/or appropriate Tribe(s) for review and approval. Once approved by the SHPO, and/or appropriate Tribe(s), the designated responsible party shall submit copies of the approved documentation to SHPO.

B. Public Interpretation

Prior to project implementation, FEMA, the Recipient(s), and sub-recipient shall work with the SHPO and/or appropriate Tribe(s) to design an educational interpretive plan. The plan may include signs, displays, educational pamphlets, websites or web-based digital and video materials, workshops and other similar mechanisms to educate the public on historic properties within the local community, state, or region. Once an interpretive plan has been agreed to by the parties, SHPO and/or appropriate Tribes, and the designated responsible party shall continue to consult throughout implementation of the plan until all agreed upon actions have been completed by the designated responsible party.

C. Historical Context Statements and Narratives

Prior to project implementation, FEMA, the Recipient(s), and sub-recipient shall work with the SHPO and/or appropriate Tribe(s) to determine the topic and framework of a historic context statement or narrative the designated responsible party shall be responsible for completing. The statement or narrative may focus on an individual property, a historic district, a set of related properties, or relevant themes as identified in the statewide preservation plan. Once the topic of the historic context statement or narrative has been agreed to, the designated responsible party shall continue to coordinate with the SHPO and/or appropriate Tribe(s) through the drafting of the document and delivery of a final product. The designated responsible party shall use staff or contractors that meet the Secretary's Professional Qualifications for the appropriate discipline.

D. Oral History Documentation

Prior to project implementation, FEMA, the Recipient(s), and sub-recipient shall work with the SHPO and/or appropriate Tribe(s) to identify oral history documentation needs and agree upon a topic and list of interview candidates. Once the parameters of the oral history project have been agreed upon, the designated responsible partyshall continue to coordinate with the SHPO and/or appropriate Tribe(s) through the data collection, drafting of the document, and delivery of a final product. The designated responsible party shall use staff or contractors that meet the Secretary's Professional Qualifications for the appropriate discipline.

E. Historic Property Inventory

Prior to project implementation, FEMA, the Recipient(s), and sub-recipient shall work with the SHPO and/or appropriate Tribe(s), to establish the appropriate level of effort to accomplish a historic property inventory. Efforts may be directed toward the resurvey of previously designated historic properties and/or districts which have undergone change or lack sufficient documentation, or the survey of new historic properties and/or districts that lack formal designation. Once the boundaries of the survey area have been agreed upon, the designated responsible party shall continue to coordinate with the SHPO and/or appropriate Tribe(s), through the data collection process. The designated responsible party shall use SHPO and/or appropriate Tribe(s), standards for the survey of historic properties and SHPO and/or appropriate Tribe(s) forms as appropriate. The designated responsible party shall prepare a draft inventory report, according to SHPO and/or appropriate Tribe(s) templates and guidelines, and work with the SHPO and/or appropriate Tribe(s), until a final property inventory is approved. The designated responsible party shall use staff or contractors that meet the Secretary's Professional Qualifications for the appropriate discipline.

F. National Register and National Historic Landmark Nominations

Prior to project implementation, FEMA, the Recipient(s), and sub-recipient shall work with the SHPO and/or appropriate Tribe(s), to identify the individual properties that would benefit from a completed National Register or National Historic Landmark nomination form. Once the parties have agreed to a property, the designated responsible party shall continue to coordinate with the SHPO and/or appropriate Tribe(s), through the drafting of the nomination form. The SHPO and/or appropriate Tribe(s) shall provide adequate guidance to the designated responsible party during the preparation of the nomination form and shall formally submit the final nomination to the Keeper for inclusion in the National Register. The designated responsible party shall use staff or contractors that meet the Secretary's Professional Qualifications for the appropriate discipline.

G. Geo-References of Historic Maps and Aerial Photographs

Prior to project implementation, FEMA, the Recipient(s), and sub-recipient shall work with the SHPO and/or appropriate Tribe(s) to identify the historic maps and/or aerial photographs for scanning and geo-referencing. Once a list of maps and/or aerial photographs have been agreed upon, the designated responsible party shall continue to coordinate with the SHPO and/or appropriate Tribe(s) through the scanning and geo-referencing process and shall submit drafts of paper maps and electronic files to the SHPO, and/or appropriate Tribe(s) for review. The SHPO and/or appropriate Tribe(s) shall have final approval on the quality of the documentation provided by the designated responsible party. The final deliverable produced by the designated responsible party shall include a paper copy of each scanned image, a geo-referenced copy of each scanned image, and the metadata relating to both the original creation of the paper maps and the digitization process.

H. Archaeological Standard Treatment Plan

1. In accordance with Stipulation II.C.6(a) of this Agreement, potential adverse effects to an archaeological property may be resolved through alternative mitigation measures to avoid or minimize adverse effects, or through data recovery to recover important information that would have been otherwise lost as a result of an undertaking. FEMA staff or contractors that meet the Professional Qualifications for prehistoric or historic archaeology, appropriate to the properties being treated, shall determine applicability of an archaeological treatment plan (ATP), and the appropriate level of documentation, in consultation with the SHPO, land-managing agencies, and/or appropriate Tribe(s) and other consulting parties, as appropriate.

    a. The ATP will provide detailed descriptions of protection measures for archaeological resources and resources of importance to Tribes or Tribal organizations because of cultural affinity. The ATP could include but is not limited to, the establishment of environmentally sensitive areas (ESAs), use of preconstruction archaeological excavation, preservation-in-place, avoidance, minimization, monitoring during construction where appropriate, procedures to be followed when unanticipated discoveries are encountered {see Stipulation III.B.), processes for revaluation and data recovery of discoveries, responsibilities and coordination with Tribe(s) and Tribal organizations, NAGPRA compliance (Stipulation III.B.1(c)), and curation of recovered materials (Stipulation III.C.).

    b. The ATP will address historic properties adversely affected and set forth means to avoid, protect, or develop treatment measures to minimize or mitigate the Undertaking's effects where FEMA, the SHPO, and/or appropriate Tribe(s), and other consulting parties determine that adverse effects cannot be avoided. The ATP will conform to the principles of the ACHP's *Treatment of Archaeological Properties: A Handbook Parts I and II*, the *Secretary of the Interior's Guidelines for Archeology and Historic Preservation* (Federal Register, Vol. 48, September 29, 1983, pp. 44716-44742) and appropriate SHPO Guidelines including *Standards for Excavation and Test Excavation*, 4.10.16. NMAC. FEMA will take into consideration the concerns of the SHPO, land-managing agencies, and/or appropriate Tribe(s) and other consulting parties in determining the measures to be implemented.

    c. Each ATP will include but not be limited to:

        i. Methods to recover a reasonable sample of the intact archaeological deposits and artifacts from National Register eligible archaeological sites that the agency determines may be adversely affected by the implementation of the Undertaking;

        ii. Specific research issues/questions to be addressed through the recovery of data and an explanation of how data from the historic property will address those research issues/questions;

iii. Specific methods and level of effort to be used in fieldwork and analysis, and an explanation of how these methods are relevant to the research issues/questions;

iv. An explanation of how recovered materials and records will be curated, taking into account the expressed wishes of the appropriate Tribe(s);

v. A schedule for providing the SHPO and/or appropriate Tribe(s) and other consulting parties with periodic updates on implementation of the data recovery plan;

vi. If applicable, a curation agreement in accordance with applicable laws and regulations;

vii. A plan for monitoring and treatment of unanticipated discoveries including human remains and associated funerary objects according to applicable laws and regulations, taking into account the expressed wishes of the appropriate Tribe(s); and

viii. A description of the public benefit that will be achieved from the ATP.

B-2 Endangered Species Act Consultation Matrix for New Mexico

UNIFIED FEDERAL REVIEW:
NEW MEXICO
ENDANGERED SPECIES ACT MATRIX

I. Purpose

In the spirit of the Unified Federal Review (UFR) process, the U.S. Fish and Wildlife Service (FWS) agreed to partner with the Federal Emergency Management Agency (FEMA) to develop the New Mexico Endangered Species Act (ESA) Matrix (from this point on referred to as ESA Matrix). The purpose of the ESA Matrix is to aid the federal agencies' Environmental and Historic Preservation Practitioners (EHP) when conducting ESA Section 7 compliance reviews by guiding their determinations, identifying circumstances requiring additional coordination with FWS.

II. Background

The Memorandum of Understanding (MOU) Establishing the Unified Federal EHP Review Process was signed on July 29, 2014. The MOU formalizes federal agencies' commitments to a unified review process that is consistent with applicable laws in order to expedite and streamline EHP reviews for disaster recovery projects. The UFR process also encourages the identification and use of existing efficiencies, along with the development of new tools and mechanisms to improve the EHP review of proposed disaster recovery projects. The ESA Matrix is a best practice that was identified in the MOU's companion document, *Unified Federal Review Guidance for Environmental and Historic Preservation Practitioners*, published July 2014.

III. Application

The ESA Matrix identifies ESA species and critical habitat located or known to occur in the state of New Mexico. Potential post disaster activities may be reviewed against the species and habitat information to determine which, if any, federally listed species and critical habitat could be affected. The ESA Matrix is designed for use by federal funding agencies' EHP Practitioners, taking users through place-based considerations related to their proposed project(s) to determine if the project activities and location trigger further ESA coordination with FWS or would have "no effect." The ESA Matrix is resource tool intended to streamline the ESA desktop reviews and decision-making process.

Species	Status	Critical Habitat	Counties with Species Occurrence																						Range or Habitat Requirements
(Name)	*(T/E/P)*	*(Y/N)*	*Bernalillo*	*Catron*	*Chaves*	*Cibola*	*Colfax*	*Grant*	*Hidalgo*	*Lincoln*	*Los Alamos*	*Luna*	*Mora*	*Otero*	*Rio Arriba*	*San Juan*	*San Miguel*	*Santa Fe*	*Sierra*	*Socorro*	*Taos*	*Torrance*	*Union*	*Valencia*	*(Description of Habitat and Range)*
Black-footed Ferret	**E**												**X**												Black-footed ferrets inhabit the intermountain prairies and grasslands. Range influenced by the presence of prairie dogs
Canada Lynx	**T**						**X**					**X**	**X**		**X**	**X**	**X**						**X**		Inhabit the classic boreal forest ecosystem known as the taiga.
Gray Wolf	**P**	**N**		**X**		**X**		**X**	**X**										**X**	**X**	**X**				
Jaguar	**E**	**Y**							**X**																The species only occasionally occurs in mountain scrub habitat in the bootheel region of New Mexico.
Mexican Long-nosed Bat	**E**	**N**							**X**																This is a nectar feeding bat (feeding primarily on flowering agave) that travels from Mexico to the southwestern part of NM. There is one roost site currently known in NM, which consists of Romney Cave in the Big Hatchet Mountains Wilderness Study Area, Hidalgo County. Females typically migrate in the spring to give birth in case in northern Mexico and southwestern US, in the fall females and young migrate back down south to central and southern Mexico.
New Mexico Meadow Jumping Mouse	**E**	**Y**	**X**	**X**	**X**		**X**				**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		**X**		**X**	**X**	**X**	Critical habitat is located along 7.4 miles of Coyote Creek beginning at the confluence of Little Blue Creek and Coyote Creek downstream to the terminus just south of the Village of Guadalupita. (Mora). Critical habitat also exists in the San Juan NF on the Jemez RD along Rio de las Vacas, Rio Cebollo and San Antonio Creek. Critical habitat on the Lincoln NF occurs along Wills Canyon, Rio Penasco, Agua Chiquita Creek and Silver Springs Creek. Endemic to New Mexico, Arizona, and a small area of southern Colorado. Primarily utilizes two riparian community types: (1) persistent emergent herbaceous wetlands (i.e., beaked sedge [Care rostrata] and reed canary grass [Phalaris arundinaceous] alliances) and (2) scrub-shrub wetlands (i.e., riparian areas along perennial streams that are composed of willows and alders) (New Mexico Department of Game and Fish [NMDGF] 2020). They are also known to use irrigation canal systems with moist soil conditions and herbaceous riparian vegetation (Frey and Wright 2012). Occupies mesic habitats in lowland valleys and along montane streams, and in riparian zones along permanent waterways. It is also found along irrigation ditches and in wet meadow areas within some river floodplains.
Penasco (least) Chipmunk	**P**	**N (proposed)**								**X**				**X**											The chipmunk has two preferred habitats: ponderosa pine forest and alpine talus imbedded in a subalpine grassland matrix (Frey and Boykin 2007). Narrow historic range in White and Sacramento mountain ranges in Otero and Lincoln counties in New Mexico. Currently only known population is in the White Mountains.

Species	Status	Critical Habitat	Counties with Species Occurrence																						USFWS Coordination
(Name)	*(T/E/P)*	*(Y/N)*	*Bernalillo*	*Catron*	*Chaves*	*Cibola*	*Colfax*	*Grant*	*Hidalgo*	*Lincoln*	*Los Alamos*	*Luna*	*Mora*	*Otero*	*Rio Arriba*	*San Juan*	*San Miguel*	*Santa Fe*	*Sierra*	*Socorro*	*Taos*	*Torrance*	*Union*	*Valencia*	
Black-footed Ferret	**E**												**X**												**Coordination recommended** when project involves prairie dog towns or complexes of 200 acres or more for the Gunnison's prairie dog, and/or 80 acres or more of any subspecies of Black-tailed prairie dog, or if a complex consists of two or more neighboring prairie dog towns within 4.3 miles of each other.
Canada Lynx	**T**						**X**					**X**	**X**		**X**	**X**	**X**						**X**		**Coordination recommended** for projects located in boreal forests.
Gray Wolf	**P**	**N**		**X**		**X**		**X**	**X**										**X**	**X**	**X**				
Jaguar	**E**	**Y**							**X**																
Mexican Long-nosed Bat	**E**	**N**							**X**																**Coordination recommend** when project impacts floral resources such as agave, near Romney Cave, Big Hatchet Mountains and along migratory corridors
New Mexico Meadow Jumping Mouse	**E**	**Y**	**X**	**X**	**X**		**X**				**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		**X**		**X**	**X**	**X**	**Coordination recommended** when project impacts streamside herbaceous vegetation that is dense and tall (averaging at least 24 inches), composed of sedges and Forbes, when within 100 m of a waterway.
Penasco (least) Chipmunk	**P**	**N (proposed)**								**X**				**X**											**Coordination recommended** for projects in forested ponderosa pine and subalpine habitat with a grassland matrix within the Smokey Bear RD and Sacramento RD on the Lincoln NF

Species	Status	Critical Habitat	Avoidance & Minimization Measures		
(Name)	*(T/E/P)*	*(Y/N)*	*Hazardous Fuels Reduction and Debris Removal*	*Soil/Slope/Bank Stabilization*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Black-footed Ferret	**E**				
Canada Lynx	**T**				
Gray Wolf	**P**	**N**			
Jaguar	**E**	**Y**			
Mexican Long-nosed Bat	**E**	**N**	Avoid work (as much as possible) that results in destruction of agave plants in southwestern NM. When using mechanical equipment near aquatic or riparian areas avoid any potential impacts to these habitats. All fuels, hydraulic fluids, and other hazardous materials will be stored outside the normal floodplain. No equipment refueling shall take place within 100 feet of any water feature, wetted or dried. Equipment will be parked at predetermined locations on high ground overnight. If a spill occurs during construction or maintenance activities, the project proponent or USFWS will be immediately notified. Spill response materials, such as booms and absorbent pads, should be available onsite at all times during the Project; all spills should be reported to appropriate agencies. If fire retardant is needed, then please avoid applying fire retardant that may enter into aquatic systems (since bats may use these as water sources).	Avoid work (as much as possible) that results in destruction of agave plants in southwestern NM.	All earthmoving and hauling equipment should be washed prior to entering the Project area to prevent the introduction of invasive species seeds, diseases, or toxins. All construction equipment should be inspected and all attached plant/vegetation and soil/mud debris should be removed prior to leaving the Project area to prevent invasive species seeds, diseases or toxins from leaving the site. Heavy equipment used in the stream should be steam cleaned to remove petroleum products (oil, grease, and hydraulic fluids) before being used in the Project area, to reduce the potential for adverse effects from petroleum products in the River. The Project should adhere to any terms and conditions under the Clean Water Act, such as the U.S. Army Corps of Engineers 404 permit and the 401 water quality certification from the New Mexico Environment Department.
New Mexico Meadow Jumping Mouse	**E**	**Y**	Upland forest areas being managed for hazardous fuel reduction should be outside of NMMJM habitat. Avoid any controlled burning within adjacent wet meadows where feasible and do not create and burn slash piles in these adjacent meadows. Reducing fuels should reduce the potential for post-wildfire flooding and debris flows from forested habitat into NMMJM riparian habitat.		Preferably do any stream work during the inactive season for the NMMJM (October-late May) to avoid or minimize impacts to the species during its active season. If work must take place during NMMJM active season (late May to early October) , in-stream actions should avoid or minimize to the degree possible travel through the adjacent wet meadow or riparian woody/herbaceous vegetation to access the stream project area. Activities should focus on staying within the river channel as much as possible to reduce direct risks to the species.
Penasco (least) Chipmunk	**P**	**N (proposed)**	Hazardous fuel reduction in the White Mountains will likely only occur in the vicinity of the Ski Apache resort area. The majority of PLC habitat is in Lincoln NF wilderness area and therefore will not likely be treated.		

Species	Status	Critical Habitat	Counties with Species Occurrence																												
(Name)	*(T/E/P)*	*(Y/N)*	*Bernalillo*	*Catron*	*Chaves*	*Cibola*	*Colfax*	*Dona Ana*	*Eddy*	*Grant*	*Guadalupe*	*Harding*	*Hidalgo*	*Lincoln*	*Los Alamos*	*Luna*	*McKinley*	*Mora*	*Otero*	*Quay*	*Rio Arriba*	*Sandoval*	*San Juan*	*San Miguel*	*Santa Fe*	*Sierra*	*Socorro*	*Taos*	*Torrance*	*Union*	*Valencia*
Mexican Spotted Owl	**T**	**Y**	X			X	X	X	X	X		X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X	X
Piping Plover	**T**	**Y**		X	X		X		X		X			X					X	X							X			X	
South-western Willow Fly-catcher	**E**	**Y**	X	X		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X
Yellow-billed Cuckoo	**T**	**Y**	X	X	X	X	X	X		X			X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X		X
Northern Aplomado Falcon	**E**	**N**						X	X	X			X																		
Red Knot	**T**	**Y**							X																					X	

Species	Status	Critical Habitat	Range or Habitat Requirements	USFWS Coordination
(Name)	*(T/E/P)*	*(Y/N)*	*(Description of Habitat and Range)*	
Mexican Spotted Owl	**T**	**Y**	Inhabits canyon and forest habitats across a range that extends from southern Utah and Colorado, through Arizona, New Mexico, and west Texas, to the mountains of central Mexico. Inhabits mesic and shaded canyons and mountainous forests, including ponderosa pine (Pinus ponderosa) and mixed-conifer forests. Dependent on the presence of large trees, snags, downed logs, dense canopy cover, and multistoried conditions within predominantly mixed-conifer and pine-oak habitats on a steep mountain hillside. Critical habitat for the species occurs approximately 4.5 miles (7.2 km) to the south near Water Canyon. Critical habitat is located in within the Santa Fe National Forest, including inholdings (critical habitat unit SRM-NM- 5b) (San Miguel). Recovery habitat is also present on the Santa Fe National Forest and private land inholdings. Douglas fir (Pseudotsuga mentziesii) trees, including snags and downed woody debris, will be left wherever possible.	**Coordination recommended** when project involves canyon habitat dominated by vertically-walled cliffs, and that contain watersheds including tributary side canyons. **Coordination recommended** when project occurs in suitable forested recovery habitat or in and near (0.5 miles from protected activity center (PAC) Mexican spotted owl critical habitat. **Coordination recommended** for UAS drone_ work in critical habitat.
Piping Plover	**T**	**Y**	Piping plovers nest on the unvegetated shorelines of alkaline lakes, reservoirs, or river sandbars,	**Coordination recommended** for projects involving unvegetated sand bars, river islands, beaches, sand flats, and drained river floodplains.
South-western Willow Fly-catcher	**E**	**Y**	In New Mexico, the primary breeding areas occur along the Gila River and the Rio Grande with other smaller populations scattered throughout the state. Associated with moist riparian areas throughout the year. Breeding habitat requirements vary by region. In migration may be associated with willows (Salix sp.) along ditches, cottonwood (Populus sp.) woodland, and salt cedar (Tamarix sp.) stands. Breeds and migrates through relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes and reservoirs. Historically, nested in native vegetation, including willows (Salix sp.), seep willow (Baccharis salicifolia), boxelder (Acer negundo), buttonbush (Cephalanthus occidentalis), and cottonwood (Populus sp.). Nests in native vegetation, but also uses thickets dominated by nonnative tamarisk (Tamarix sp.) and Russian olive (Elaeagnus angustifolia), or in mixed native and nonnative stands of vegetation.	**Coordination recommended** when project involves relatively dense riparian tree and shrub communities associated with rivers, swamps and other wetlands including lakes and reservoirs. **Coordination recommended** when project is not to pre-disaster condition within 300 foot buffer to Critical Habitat and when project involves relatively dense riparian tree and shrub communities associated with rivers, swamps and other wetlands including lakes and reservoirs. **Coordination recommended** when project involves relatively dense riparian tree and shrub communities associated with rivers, swamps and other wetlands including lakes and reservoirs.
Yellow-billed Cuckoo	**T**	**Y**	Only the western population beyond the Pecos River drainage has been listed as threatened under the ESA. NM largest cuckoo populations occur in the Rio Grande and Gila Rivers with smaller populations scattered throughout the state. Breeds in and migrates through riparian habitat and associated drainages; springs, developed wells, and earthen ponds supporting mesic vegetation; and deciduous woodlands with cottonwoods and willows. Dense understory foliage is important for nest site selection. Nests in willow and cottonwood trees; forages in similar riparian woodlands. Uses wooded habitat with dense cover and water nearby, including woodlands with low, scrubby vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes.	**Coordination recommended** when project involves riparian woodlands, especially over 50 acres and containing cottonwood and willow. **Coordination recommended** when project involves relatively dense riparian tree and shrub communities associated with rivers.
Northern Aplomado Falcon	**E**	**N**	Chihuahuan desert grassland habitat in southern New Mexico, with some shrubs or trees for nesting, including mesquite and yuccas. Historically range as far north as Socorro County in NM.	**Coordination recommended** for projects that involve work within 500 feet of an active nest, or work that would increase shrub encroachment into grasslands.
Red Knot	**T**	**Y**	Refer to IPaC: https://ipac.ecosphere.fws.gov/	**Coordination recommended** for wind energy projects.

Species	Status	Critical Habitat	Avoidance & Minimization Measures
(Name)	*(T/E/P)*	*(Y/N)*	*Hazardous Fuels Reduction and Debris Removal*
Mexican Spotted Owl	**T**	**Y**	If work must take place during Mexican spotted owl breeding and nesting season from March 1 to August 31, nesting surveys must be conducted by a permitted biologist prior to project implementation in order to identify any occupied nests and establish avoidance buffers until the young have fledged. Avoid disturbing cliff structure in canyons. Minimize impacts to terrestrial habitats by using existing roads and cleared staging areas. Conduct nesting surveys prior to thinning vegetation during the migratory bird nesting and breeding season (March 1 –August 31) to identify any occupied nests and establish avoidance buffers until the young have fledged. Reduce noise disturbance by implementing timing restrictions (i.e., restrict work hours for heavy equipment by starting work a minimum of 2 hours after sunrise and stop work at least 2 hours before sunset. Do not conduct low aerial flights over suitable recovery habitats or protected activity centers (PACs). Do not use drones (UAS) in or near PACs.
Piping Plover	**T**	**Y**	
South-western Willow Fly-catcher	**E**	**Y**	Employ a “no treatment zone” within a 1/4 mi buffer of occupied territories for flycatchers. The 1/4 mi buffer area will be well marked for work crews prior to the commencement of work by flagging/taping and these materials must be promptly removed once work is complete. Native understory plantings will be done where nonnative plants are removed under gallery forest cottonwood trees. The groundwater table is a suspected limiting factor in the establishment of cottonwoods and willow species in certain treatment areas. Where possible, cottonwoods will be established to provide structural diversity to planting patches. When construction activities will occur during the flycatcher breeding season, protocol surveys are required to ensure no flycatchers or cuckoos are nesting in the Proposed Project area that could be impacted by noise disturbance. Should an active nest be found within 0.25 mile of the Proposed Project area, construction would cease until the nest is no longer active. If an active nest is observed during work activities, the USFWS biologist shall be contacted immediately. Equipment operation will take place in previously cleared areas or where vegetation is particularly sparse and unsuitable for flycatchers and all efforts would be made to minimize damage to native riparian vegetation. No native vegetation will be removed in treatment areas. All necessary permits for access points, staging areas, and study sites would be acquired prior to construction activity.
Yellow-billed Cuckoo	**T**	**Y**	Employ a “no treatment zone” within the1 mi buffer of occupied territories for cuckoos. The 1 mi buffer area will be well marked for work crews prior to the commencement of work by flagging/taping and these materials must be promptly removed once work is complete. Planting and seeding will be focused in areas where nonnative plants are removed in open forest or grassland habitats. No native vegetation will be removed in treatment areas. When construction activities will occur during the cuckoo breeding season, protocol surveys are required to ensure no cuckoos are nesting in the Proposed Project area that could be impacted by noise disturbance. Should an active nest be found within 1 mile of the Proposed Project area, construction would cease until the nest is no longer active. If an active nest is observed during work activities, the USFWS biologist shall be contacted immediately. Patches of cottonwood, Goodding’s willow (Salix gooddingii) and understory shrubs augment existing cottonwood forests to improve potential nesting habitats. This strategy of planting in the understory of cottonwood/willow galleries is to increase understory cover and benefit nesting cuckoos. The groundwater table is a suspected limiting factor in the establishment of cottonwoods and willow species in certain treatment areas. Where possible, cottonwoods/tree willows will be established to provide structural diversity to planting patches. Equipment operation will take place in previously cleared areas or where vegetation is particularly sparse, and all efforts would be made to minimize damage to native riparian vegetation. All necessary permits for access points, staging areas, and study sites would be acquired prior to construction activity.
Northern Aplomado Falcon	**E**	**N**	Removal of excess woody vegetation encroaching into Chihuahuan desert grassland habitat will mostly be beneficial to NAF. Prescriptive removal activities should avoid nesting NAF sites. Prescriptive fire in this habitat type should be conducted outside of the NAF breeding season to allow fledging of young.
Red Knot	**T**	**Y**	

Species	Status	Critical Habitat	Avoidance & Minimization Measures	
(Name)	*(T/E/P)*	*(Y/N)*	*Soil/Slope/Bank Stabilization*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Mexican Spotted Owl	**T**	**Y**	If work must take place during Mexican spotted owl breeding and nesting season from March 1 to August 31, nesting surveys must be conducted by a permitted biologist prior to project implementation in order to identify any occupied nests and establish avoidance buffers until the young have fledged. Avoid disturbing cliff structure in canyons. Minimize impacts to terrestrial habitats by using existing roads and cleared staging areas. Conduct nesting surveys prior to thinning vegetation during the migratory bird nesting and breeding season (March 1 –August 31) to identify any occupied nests and establish avoidance buffers until the young have fledged. Reduce noise disturbance by implementing timing restrictions (i.e., restrict work hours for heavy equipment by starting work a minimum of 2 hours after sunrise and stop work at least 2 hours before sunset. Do not conduct low aerial flights over suitable recovery habitats or protected activity centers (PACs). Do not use drones (UAS) in or near PACs.	
Piping Plover	**T**	**Y**		
Southwestern Willow Flycatcher	**E**	**Y**		
Yellow-billed Cuckoo	**T**	**Y**		
Northern Aplomado Falcon	**E**	**N**	Soil stabilization in Chihuahuan desert grasslands should be done in heavily grazed habitat to restore native vegetation that supports NAF prey species.	
Red Knot	**T**	**Y**		

Species	Status	Critical Habitat	Counties with Species Occurrence								Range or Habitat Requirements	USFWS Coordination
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Grant*	*Hidalgo*	*Los Alamos*	*Rio Arriba*	*Sandoval*	*Sierra*	*Socorro*	*(Description of Habitat and Range)*	
Narrow-headed Garter-snake	**T**	**Y**	**X**	**X**	**X**						Historically associated with San Francisco and Gila River subbasins in New Mexico, presently known from Tularosa River, diamond Creek, Middle Fork Gila River and potentially connected waterbodies. This species is strongly associated with clear, rocky streams, using predominantly pool and riffle habitat that includes cobbles and boulders, the species has been observed using lake shoreline habitat in New Mexico. Individuals use bank vegetation for basking, while quickly escaping back into the water or under rocks when startled. NH gartersnakes are surface active generally from March through November.	**Coordination recommended** when working in perennial streams or spatially intermittent streams containing pools, riffles, and cobble and boulder substrate, with a low amount of fine sediment and substrate embeddedness or when working in adjacent habitat up to 328 feet from the active stream channel (water's edge) that includes flood debris, rock piles, and rock walls containing cracks and crevices, small mammal burrows, downed woody debris, and streamside vegetation (e.g., alder, willow, sedges, and shrubs).
New Mexican Ridged-nosed Rattlesnake	**T**	**Y**			**X**						This rattlesnake can be found in pine-oak woodlands, on steep, rocky hillsides, in canyon bottoms, and on talus slopes at elevations ranging from approximately 5,000 to 8,500 feet (1,524 to 2,590 meters) in the Animas and Peloncillo Mountains in Hidalgo county, NM. Mating and copulation has been reported to occur from June through October, and young are born from late July through August.	Animas Mountains are currently privately owned so coordination likely unnecessary. Peloncillo Mountains occur mostly on Bureau of Land Management or US Forest Service lands, thus coordination is needed when activities occur above 1,500 meters.
Northern Mexican Garter-snake	**T**	**Y**	**X**	**X**	**X**						Historically, limited distribution in NM consisting of scattered locations throughout the Upper Gila River watershed in Grant and western Hidalgo Counties, including the Upper Gila River, Mule Creek in the San Francisco River subbasin, and the Mimbres River. This species is a riparian obligate generally found in riparian areas when not dispersing, gestating (pregnant females on land), or hibernating. General habitat types include: (1) Small, often isolated wetlands (e.g., cienegas (mid-elevation wetlands with highly organic, reducing (basic or alkaline) soils), or stock tanks (small earthen impoundment)); (2) large river riparian woodlands and forests; and (3) streamside gallery forests (as defined by well-developed broadleaf deciduous riparian forests with limited, if any, herbaceous ground cover or dense grass). NM gartersnake are typically surface active from June through September.	**Coordination recommended** when project involves wetlands with thick vegetation along the Gila River.
Chiricahua Leopard Frog	**T**	**Y**	**X**	**X**	**X**				**X**	**X**	This species occurs in watersheds in Catron, Grant, Hidalgo, Sierra, and Socorro counties including the Gila Mountains and the Black Range mountains of New Mexico. Distribution is patchy and associated with several aquatic habitats including tanks, springs, seeps, small streams, and larger rivers. This species is highly aquatic. It breeds in a wide variety of aquatic habitats, ranging from stock ponds, reservoirs, and lakes to spring-fed streams.	**Coordination recommended** when project involves headwater streams, springs and water tanks where non-native fish, bullfrogs, crayfish and barred tiger salamanders are not present. CLF females lay eggs from Feb - Oct and tadpoles can be found in water bodies year round, so eggs/young/adults are likely present year-round and can be active during the day and at night.
Jemez Mountains Salamander	**E**	**Y**				**X**	**X**	**X**			This species is only found in the higher elevations (approximately 7,000 feet up) of the Jemez Mountains in Los Alamos, Rio Arriba, and Sandoval counties. Critical habitat is located in two units, one in the western portion of the Jemez Mountains north of NM 126 and NM 4, and the other in the eastern portion bisected by NM 4 and west and north of NM 501. These salamanders are typically active and aboveground during the monsoon season from May through October, when not active they hibernate underground.	**Coordination recommended** for projects located around the rim of the Valles Caldera, and adjacent lands (especially in conifer or mixed conifer forested areas).

Species	Status	Critical Habitat	Counties with Species Occurrence								Avoidance & Minimization Measures
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Grant*	*Hidalgo*	*Los Alamos*	*Rio Arriba*	*Sandoval*	*Sierra*	*Socorro*	*Hazardous Fuels Reduction and Debris Removal*
Narrow-headed Garter-snake	**T**	**Y**	**X**	**X**	**X**						When using mechanical equipment near aquatic or riparian areas avoid any potential impacts to these habitats. All fuels, hydraulic fluids, and other hazardous materials will be stored outside the normal floodplain. No equipment refueling shall take place within 100 feet of any water feature, wetted or dried. Equipment will be parked at predetermined locations on high ground overnight. If a spill occurs during construction or maintenance activities, the project proponent or USFWS will be immediately notified. Spill response materials, such as booms and absorbent pads, should be available onsite at all times during the Project; all spills should be reported to appropriate agencies. If fire retardant is needed, then please avoid applying fire retardant that may enter into aquatic systems. If using surface water for water drops (with respect to fighting wildfires), take water from Chytrid/Bd (disease)- free water bodies, to avoid dispersing pathogens into terrestrial and potentially other aquatic/riparian habitats.
New Mexican Ridged-nosed Rattlesnake	**T**	**Y**			**X**						Avoid ground disturbing activities, as much as possible especially with heavy equipment, as rattlesnakes likely use rocks or logs as shelter. Avoid creating debris piles from rocks or logs that will be removed later as this may create suitable shelter conditions for rattlesnakes. If fire retardant is needed, then please minimize use in rattlesnake habitat as much as possible (basically areas in the Peloncillo Mountains above 1,500 meters). Minimize fire line construction within rattlesnake habitat, especially when construction requires a bulldozer. When feasible, fire lines should be as small as possible (in length and width) and utilize previously disturbed areas. Inform personnel digging hand line that there may be rattlesnakes in the vicinity, and they encounter one when digging near logs or rocks (rattlesnakes shelter under these during the day and at night). Inform personnel digging handline what to do if they encounter a rattlesnake in a non-emergency situation (i.e., don't pick it up, and leave it alone, do not disturb the shelter object or let in slither away). Report afterward the location of observation and any action taken.
Northern Mexican Garter-snake	**T**	**Y**	**X**	**X**	**X**						When using mechanical equipment near aquatic or riparian areas avoid any potential impacts to these habitats. All fuels, hydraulic fluids, and other hazardous materials will be stored outside the normal floodplain. No equipment refueling shall take place within 100 feet of any water feature, wetted or dried. Equipment will be parked at predetermined locations on high ground overnight. If a spill occurs during construction or maintenance activities, the project proponent or USFWS will be immediately notified. Spill response materials, such as booms and absorbent pads, should be available onsite at all times during the Project; all spills should be reported to appropriate agencies. If fire retardant is needed, then please avoid applying fire retardant that may enter into aquatic systems. If using surface water for water drops (with respect to fighting wildfires), take water from Chytrid/Bd (disease)- free water bodies, to avoid dispersing pathogens into terrestrial and potentially other aquatic/riparian habitats.

Species	Status	Critical Habitat	Counties with Species Occurrence								Avoidance & Minimization Measures
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Grant*	*Hidalgo*	*Los Alamos*	*Rio Arriba*	*Sandoval*	*Sierra*	*Socorro*	*Hazardous Fuels Reduction and Debris Removal*
Chiricahua Leopard Frog	**T**	**Y**	**X**	**X**	**X**				**X**	**X**	When using mechanical equipment near aquatic or riparian areas avoid any potential impacts to these habitats. All fuels, hydraulic fluids, and other hazardous materials will be stored outside the normal floodplain. No equipment refueling shall take place within 100 feet of any water feature, wetted or dried. Equipment will be parked at predetermined locations on high ground overnight. If a spill occurs during construction or maintenance activities, the project proponent or USFWS will be immediately notified. Spill response materials, such as booms and absorbent pads, should be available onsite at all times during the Project; all spills should be reported to appropriate agencies. If fire retardant is needed, then please avoid applying fire retardant that may enter into aquatic systems. If using surface water for water drops (with respect to fighting wildfires), take water from Chytrid/Bd (disease)- free water bodies, to avoid dispersing pathogens into terrestrial and potentially other aquatic/riparian habitats.
Jemez Mountains Salamander	**E**	**Y**				**X**	**X**	**X**			If fire retardant is needed, then please minimize use in Jemez Mountains salamander habitat as much as possible. Minimize fire line construction within Jemez Mountains salamander habitat, especially when construction requires a bulldozer. When feasible, fire lines should be as small as possible (in length and width) and utilize previously disturbed areas. Inform personnel digging hand line that there may be Jemez Mountains salamanders in the vicinity, and they may dig one up. Inform personnel digging handline what to do if they encounter a Jemez Mountains salamander in a non-emergency situation (i.e., don't pick it up, and let it crawl under a nearby cover object; if time allows, add water where released). Report afterward the location of observation and any action taken.

Species	Status	Critical Habitat	Counties with Species Occurrence								Avoidance & Minimization Measures
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Grant*	*Hidalgo*	*Los Alamos*	*Rio Arriba*	*Sandoval*	*Sierra*	*Socorro*	*Soil/Slope/Bank Stabilization*
Narrow-headed Garter-snake	**T**	**Y**	**X**	**X**	**X**						Minimize input of materials to stream. Have biologist on-site to move gartersnakes found aestivating/burrowing in bank areas. Avoid ground disturbing activities, especially with heavy equipment, as gartersnakes use rocks, logs, and debris piles as shelter in designated critical habitat. NH GS designated critical habitat includes terrestrial habitat up to 328 feet from the active stream that includes areas the snake can hide/hibernate in. The distance should be considered when working in NH GS dCH.
New Mexican Ridged-nosed Rattlesnake	**T**	**Y**			**X**						Avoid ground disturbing activities, as much as possible especially with heavy equipment, as rattlesnakes likely use rocks or logs as shelter.
Northern Mexican Garter-snake	**T**	**Y**	**X**	**X**	**X**						Minimize input of materials to stream. Have biologist on-site to move gartersnakes found aestivating/burrowing in bank areas. Avoid ground disturbing activities, especially with heavy equipment, as gartersnakes use rocks, logs, and debris piles as shelter in designated critical habitat.
Chiricahua Leopard Frog	**T**	**Y**	**X**	**X**	**X**				**X**	**X**	Minimize input of materials to stream. Have biologist on-site to move CLF found aestivating/burrowing in bank areas during inactive season (Nov - Feb) or times of extreme drought.
Jemez Mountains Salamander	**E**	**Y**				**X**	**X**	**X**			Avoid ground disturbing activities, as much as possible especially with heavy equipment, as salamanders use rocks, logs, and debris piles as shelter.

Species	Status	Critical Habitat	Counties with Species Occurrence								Avoidance & Minimization Measures
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Grant*	*Hidalgo*	*Los Alamos*	*Rio Arriba*	*Sandoval*	*Sierra*	*Socorro*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Narrow-headed Garter-snake	**T**	**Y**	**X**	**X**	**X**						All work should be conducted during low flow conditions. Flows should be diverted around the in channel work area using concrete wall barriers (or place two rows of straw bales across the wetted stream channel to form a water permeable sediment trap). A block net should be installed upstream and downstream of the Project area during construction to exclude fish and reptiles. All federally listed fish and reptiles should be salvaged from the Project area and translocated upstream to areas of suitable habitat, outside the action area (by an individual authorized to conduct this activity). All earthmoving and hauling equipment should be washed prior to entering the Project area to prevent the introduction of invasive species seeds, diseases, or toxins. All construction equipment should be inspected and all attached plant/vegetation and soil/mud debris should be removed prior to leaving the Project area to prevent invasive species seeds, diseases or toxins from leaving the site. Heavy equipment used in the stream should be steam cleaned to remove petroleum products (oil, grease, and hydraulic fluids) before being used in the Project area, to reduce the potential for adverse effects from petroleum products in the River. The Project should adhere to any terms and conditions under the Clean Water Act, such as the U.S. Army Corps of Engineers 404 permit and the 401 water quality certification from the New Mexico Environment Department.
New Mexican Ridged-nosed Rattlesnake	**T**	**Y**			**X**						All earthmoving and hauling equipment should be washed prior to entering the Project area to prevent the introduction of invasive species seeds, diseases, or toxins. All construction equipment should be inspected and all attached plant/vegetation and soil/mud debris should be removed prior to leaving the Project area to prevent invasive species seeds, diseases or toxins from leaving the site. Heavy equipment used in the stream should be steam cleaned to remove petroleum products (oil, grease, and hydraulic fluids) before being used in the Project area, to reduce the potential for adverse effects from petroleum products in the River. The Project should adhere to any terms and conditions under the Clean Water Act, such as the U.S. Army Corps of Engineers 404 permit and the 401 water quality certification from the New Mexico Environment Department.

Species	Status	Critical Habitat	Counties with Species Occurrence								Avoidance & Minimization Measures
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Grant*	*Hidalgo*	*Los Alamos*	*Rio Arriba*	*Sandoval*	*Sierra*	*Socorro*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Northern Mexican Garter-snake	**T**	**Y**	**X**	**X**	**X**						All work should be conducted during low flow conditions. Flows should be diverted around the in channel work area using concrete wall barriers (or place two rows of straw bales across the wetted stream channel to form a water permeable sediment trap). A block net should be installed upstream and downstream of the Project area during construction to exclude fish and reptiles. All federally listed fish and reptiles should be salvaged from the Project area and translocated upstream to areas of suitable habitat, outside the action area (by an individual authorized to conduct this activity). All earthmoving and hauling equipment should be washed prior to entering the Project area to prevent the introduction of invasive species seeds, diseases, or toxins. All construction equipment should be inspected and all attached plant/vegetation and soil/mud debris should be removed prior to leaving the Project area to prevent invasive species seeds, diseases or toxins from leaving the site. Heavy equipment used in the stream should be steam cleaned to remove petroleum products (oil, grease, and hydraulic fluids) before being used in the Project area, to reduce the potential for adverse effects from petroleum products in the River. The Project should adhere to any terms and conditions under the Clean Water Act, such as the U.S. Army Corps of Engineers 404 permit and the 401 water quality certification from the New Mexico Environment Department.
Chiricahua Leopard Frog	**T**	**Y**	**X**	**X**	**X**				**X**	**X**	All work should be conducted during low flow conditions. Flows should be diverted around the in channel work area using concrete wall barriers (or place two rows of straw bales across the wetted stream channel to form a water permeable sediment trap). A block net should be installed upstream and downstream of the Project area during construction to exclude fish and amphibians. All federally listed fish and amphibians should be salvaged from the Project area and translocated upstream to areas of suitable habitat, outside the action area (by an individual authorized to conduct this activity). All earthmoving and hauling equipment should be washed prior to entering the Project area to prevent the introduction of invasive species seeds, diseases, or toxins. All construction equipment should be inspected and all attached plant/vegetation and soil/mud debris should be removed prior to leaving the Project area to prevent invasive species seeds, diseases or toxins from leaving the site. Heavy equipment used in the stream should be steam cleaned to remove petroleum products (oil, grease, and hydraulic fluids) before being used in the Project area, to reduce the potential for adverse effects from petroleum products in the River. The Project should adhere to any terms and conditions under the Clean Water Act, such as the U.S. Army Corps of Engineers 404 permit and the 401 water quality certification from the New Mexico Environment Department.
Jemez Mountains Salamander	**E**	**Y**				**X**	**X**	**X**			NA, this species doesn't use water for any life stage.

Species	Status	Critical Habitat	Counties with Species Occurrence					Range or Habitat Requirements
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Chaves*	*Eddy*	*Sierra*	*Socorro*	*(Description of Habitat and Range)*
Texas Hornsell	**E**	**N (proposed)**			**X**			Refer to IPaC: https://ipac.ecosphere.fws.gov/
Alamosa Springsnail	**E**	**N**	**X**			**X**	**X**	This species is endemic to No critical habitat and is endemic to Ojo Caliente spring in New Mexico.
Chupadera Springsnail	**E**	**Y**					**X**	This species is endemic to Willow spring at the base of the chupadera mountains
Koster's Springsnail	**E**	**Y**		**X**				Critical habitat is located on Bitter Lake NWR and a lake system immediately south of Bitter Lake NWR. Habitat requirements include: permanent, flowing water with no or no more than low levels of pollutants; slow to moderate water velocities; substrates ranging from deep organic silts to limestone cobble and gypsum; stable water levels with natural diurnal (daily) and seasonal variations; consist of fresh to moderately saline water; vary in temperature between 50– 68 °F (10–20 °C) with natural seasonal and diurnal variations slightly above and below that range; food, consisting of: (a) Algae, bacteria, and decaying organic material; and (b) Submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage.
Pecos Assiminea Snail	**E**	**Y**		**X**				Critical habitat is located on Bitter Lake NWR and a lake system immediately south of Bitter Lake NWR. Also found at one site in Pecos County, Texas, and one site in Reeves County, Texas. Habitat requirements include: wet mud or occurs beneath mats of vegetation; is within 1 in (2 to 3 cm) of flowing water; has native wetland plant species, such as salt grass or sedges, that provide leaf litter, shade, cover, and appropriate microhabitat; contains wetland vegetation adjacent to spring complexes that supports the algae, detritus, and bacteria needed for foraging; has adjacent spring complexes with: (a) Permanent, flowing, fresh to moderately saline water with no or no more than low levels of pollutants; and (b) Stable water levels with natural diurnal and seasonal variations.
Roswell Springsnail	**E**	**Y**		**X**				Critical habitat is located on Bitter Lake NWR and a lake system immediately south of Bitter Lake NWR. Habitat requirements include: permanent, flowing water with no or no more than low levels of pollutants; slow to moderate water velocities; substrates ranging from deep organic silts to limestone cobble and gypsum; stable water levels with natural diurnal (daily) and seasonal variations; consist of fresh to moderately saline water; vary in temperature between 50– 68 °F (10–20 °C) with natural seasonal and diurnal variations slightly above and below that range; food, consisting of: (a) Algae, bacteria, and decaying organic material; and (b) Submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage.
Socorro Springsnail	**E**	**N**					**X**	This species is endemic to Torreon spring in Socorro county
Noel's Amphipod	**E**	**Y**		**X**				Critical habitat is located within Bitter Lake NWR and a lake system immediately south of Bitter Lake NWR. Habitat requirements include: permanent, flowing water with no or no more than low levels of pollutants; slow to moderate water velocities; substrates including limestone cobble and aquatic vegetation; stable water levels with natural diurnal (daily) and seasonal variations; consist of fresh to moderately saline water; minimal sedimentation; vary in temperature between 50– 68 °F (10–20 °C) with natural seasonal and diurnal variations slightly above and below that range; provide abundant food, consisting of: (a) Submergent vegetation and decaying organic matter; (b) A surface film of algae, diatoms, bacteria, and fungi; and (c) Microbial foods, such as algae and bacteria, associated with aquatic plants, algae, bacteria, and decaying organic material.
Socorro Isopod	**E**	**N**					**X**	This species exists at the Evergreen site, and at the Socorro Isopod propagation facility.

Species	Status	Critical Habitat	Counties with Species Occurrence					USFWS Coordination	Avoidance & Minimization Measures		
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Chaves*	*Eddy*	*Sierra*	*Socorro*		*Hazardous Fuels Reduction and Debris Removal*	*Soil/Slope/ Bank Stabilization*	*Stream Alterations or Work in Water*
Texas Hornsell	**E**	**N (proposed)**			**X**			**Coordination recommended** for projects with work in the Pecos or Black Rivers, in areas where travertine shelves and boulders are associated with soft sediment bottoms.			
Alamosa Springsnail	**E**	**N**	**X**			**X**	**X**	**Coordination recommended** when project involves springs and/or spring-fed wetland systems with permanent flowing water, slow to moderate flow, submergent vegetation and algae, and temperatures of 50-68 degrees F.			
Chupadera Springsnail	**E**	**Y**					**X**	**Coordination recommended** for projects that involve fresh flowing thermally heated springs and their flow runs on the southeastern side in the Chupadera Mountains in Socorro County.			
Koster's Springsnail	**E**	**Y**		**X**				**Coordination recommended** when project involves springs and/or spring-fed wetland systems with permanent flowing water, slow to moderate flow, submergent vegetation and algae, and temperatures of 50-68 degrees F.			
Pecos Assiminea Snail	**E**	**Y**		**X**				**Coordination recommended** when project involves stream or spring run margins associated with spring systems that have perennial flow, that have native sedges or salt grass cover, and has wet matted vegetation within 1 to 2 inches of flowing water.			
Roswell Springsnail	**E**	**Y**		**X**				**Coordination recommended** when project involves springs and/or spring-fed wetland systems with permanent flowing water, slow to moderate flow, submergent vegetation and algae, and temperatures of 50-68 degrees F.			
Socorro Springsnail	**E**	**N**					**X**	**Coordination recommended** for projects that involve fresh flowing thermally heated springs and their flow runs.			
Noel's Amphipod	**E**	**Y**		**X**				**Coordination recommended** if projects will affect springs or spring fed systems that have perennial flowing water and contain beds of submergent aquatic plants and algae.			
Socorro Isopod	**E**	**N**					**X**	**Coordination recommended** for projects involving a thermal outflow approximately 3 kilometers west of Socorro, commonly known as “The Evergreen”.			

Species	Status	Critical Habitat	Counties with Species Occurrence					Range or Habitat Requirements
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Grant*	*Rio Arriba*	*San Juan*	*Sierra*	*(Description of Habitat and Range)*
Arkansas River Shiner	**T**	**Y**						Range: Mainstem and off-channel riverine habitat of the South Canadian River, New Mexico from the Ute Reservoir outlet channel to the New Mexico/Texas state line. Note: 1) range continues into Texas and Oklahoma and 2) Cimarron River (Oklahoma and Kansas) is not currently known to be occupied but is a target for near-term reintroduction efforts and therefore a similar concern as occupied habitat. No critical habitat designated in New Mexico.
Beautiful Shiner	**T**	**Y**	**X**					Refer to IPaC: https://ipac.ecosphere.fws.gov/
Chihuahua Chub	**T**	**N (proposed)**		**X**				Refer to IPaC: https://ipac.ecosphere.fws.gov/
Colorado Pikeminnow	**E**	**Y**	**X**		**X**	**X**		The Colorado pikeminnow is endemic to warmwater reaches of large rivers in the Colorado River basin. Colorado pikeminnow are known to make long distance migrations for spawning and return to their home range where they inhabit deep runs, pools, and eddies. Eggs hatch within the river substrate as spring peak flows decline, with the larvae carried potentially long distances by river flows to low velocity nursery habitats downstream of the cobble spawning bars. In these reaches, larvae and juveniles seek low to zero velocity backwaters that provide warm temperatures for growth and abundant food supply in the form of macroinvertebrates and small fish prey. Individuals become sexually mature between seven and ten years of age and can spawn repeatedly as adults. Both adult and nursery habitats, as well as spawning bars, are formed and maintained by high spring peak flows that move sediment, clean cobble substrates, and maintain channel complexity to provide a diversity of habitats. Colorado pikeminnow inhabit river reaches that historically experienced extremes in both flow and temperature on an annual basis, in addition to high turbidity from sediment inputs as a result of spring snow melt or flash floods. Historically, Colorado pikeminnow occurred throughout the warmwater reaches of the Colorado River basin, including the Green, Colorado, and San Juan subbasins of Wyoming, Colorado, Utah, and New Mexico; downstream through the Colorado River mainstem in Arizona, Nevada, California, and Mexico; and the Gila River subbasin in Arizona and New Mexico.
Gila Chub	**E**	**Y**	**X**	**X**			**X**	Critical Habitat in New Mexico Includes Turkey Creek —22.3 km (13.8 mi) of creek extending from the edge of the Gila Wilderness boundary and continuing upstream into the Gila Wilderness in the Gila National Forest. Roundtail chub are found in cool to warm waters of rivers, streams, and cienegas, and often occupy the deepest pools and eddies present in the stream. Adult roundtail chub favor slow-moving, deep pools with access to feeding areas and cover such as large rocks or boulders, root wads, undercut banks, overhead bank cover, and woody debris. Spawning occurs in pool, run, and riffle habitats with slow to moderate water velocities. Roundtail chub larvae use low velocity habitats. Young of the year roundtail chub occupy shallow (less than 50 cm (19.7 in) in depth) and low velocity waters with vegetated shorelines. Water temperatures of habitats occupied by roundtail chub vary seasonally between 0 and 32˚C (32 to 90˚F). Lethal water temperature limits are around 34˚C (93˚F). Spawning is associated with water temperatures of 14 to 24˚C (57 to 75˚F) with most at 18 to 20˚C (64 to 68˚F).
Gila Topminnow	**E**	**N**		**X**				Refer to IPaC: https://ipac.ecosphere.fws.gov/

Species	Status	Critical Habitat	Counties with Species Occurrence					USFWS Coordination	Avoidance & Minimization Measures		
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Grant*	*Rio Arriba*	*San Juan*	*Sierra*		*Hazardous Fuels Reduction and Debris Removal*	*Soil/Slope/Bank Stabilization*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Arkansas River Shiner	**T**	**Y**						**Coordination recommended** for projects that are within the 300 foot buffer to mainstem South Canadian River, New Mexico that are expanding footprint or have the potential to cause deposition from erosion or runoff, impacts to hydrological pattern of flows or decreases water quality in the South Canadian River and tributaries; includes the Cimarron River in Oklahoma and Kansas. Must coordinate with NMESFO for all surveys in New Mexico and Texas Ecological Services (Arlington) for surveys in Texas and Oklahoma Ecological Services (Tulsa) for all surveys in Oklahoma.			
Beautiful Shiner	**T**	**Y**	**X**					Refer to IPaC: https://ipac.ecosphere.fws.gov/			
Chihuahua Chub	**T**	**N (proposed)**		**X**				**Coordination recommended** for projects within the Mimbres River.	Avoid inputting sediment of hazardous materials into streams.		
Colorado Pikeminnow	**E**	**Y**	**X**		**X**	**X**		**Coordination recommended** for projects within the San Juan River.	Avoid inputting sediment of hazardous materials into streams.	Minimize input of materials to stream.	Minimize in-stream work especially from March to October.
Gila Chub	**E**	**Y**	**X**	**X**			**X**	**Coordination recommended** for projects within the Gila River.	Avoid inputting sediment of hazardous materials into streams.	Minimize input of materials to stream.	Minimize in-stream work especially from March to October.
Gila Topminnow	**E**	**N**		**X**				Refer to IPaC: https://ipac.ecosphere.fws.gov/			

Species	Status	Critical Habitat	Counties with Species Occurrence													Range or Habitat Requirements
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Chaves*	*Cibola*	*De Baca*	*Eddy*	*Grant*	*Guadalupe*	*Hidalgo*	*Lincoln*	*Otero*	*San Miguel*	*Sierra*	*Socorro*	*(Description of Habitat and Range)*
Gila Trout	**T**	**N**	**X**					**X**						**X**		Refer to IPaC: https://ipac.ecosphere.fws.gov/
Loach Minnow	**E**	**Y**	**X**		**X**			**X**		**X**				**X**	**X**	Critical habitat is the San Francisco river from the state line upstream to the northern boundary of Township 6 S, Range19 W, section 2 (excluding lands belonging to Freeport-McMoRan), the Tularosa River from the San Francisco upstream to the town of Cruzville, Negrito Creek from the confluence with the Tularosa River upstream to the confluence with Cerco Canyon, the Whitewater Creek from the San Francisco River upstream to the Little Whitewater Creek, Blue River, Campbell Blue Creek from the confluence with Dry Blue upstream to Coleman Canyon, Pace Creek from confluence with Dry Blue Creek upstream .8 mile to a barrier falls, Frieborn Creek from confluence with Dry Blue Creek upstream 1.1 miles to an unnamed creek, and Dry Blue Creek for 3 miles from the confluence with Campbell Blue Creek upstream to Pace Creek. It also includes the west Fork of the Gila from the Grant/Catron County line upstream to the confluence with EE Canyon, Middle Fork of the Gila from confluence with the West Fork upstream to confluence of Brothers West canyon and the East Fork of the Gila from the Grant/Catron County line upstream to the confluence of Beaver and Taylor Creeks.
Pecos Bluntnose Shiner	**T**	**Y**		**X**		**X**	**X**		**X**		**X**	**X**	**X**			Overall range spans from one kilometer (0.6 miles) upstream of the Taiban Creek/Pecos River confluence (33.338°N; 104.176°W) to the Brantley Reservoir delta (32.592°N; 104359°W). Two critical habitat units along the Pecos River mainstem. Upper unit is: 34.347°N; 104.174°W (De Baca County) to 33.821°N; 104.295°W to 33.821°N; 104.295°W (Chaves County). Lower unit is: 33.121°N; 104.284°W (Chaves County) to 33.840°N; 104.324°W (Eddy County). Critical habitat includes floodplain area approximately 35 meters (112.5 feet) laterally from each bank.
Pecos Gambusia	**E**	**N**		**X**			**X**				**X**	**X**				Endemic to springs and sinkholes in the Pecos River system, New Mexico and Texas (Hubbs et al. 1991; Page and Burr 1991). Prefers clear, vegetated waters in springs and sinkholes.

Species	Status	Critical Habitat	Counties with Species Occurrence													USFWS Coordination	Avoidance & Minimization Measures		
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Chaves*	*Cibola*	*De Baca*	*Eddy*	*Grant*	*Guadalupe*	*Hidalgo*	*Lincoln*	*Otero*	*San Miguel*	*Sierra*	*Socorro*		*Hazardous Fuels Reduction and Debris Removal*	*Soil/Slope/Bank Stabilization*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Gila Trout	**T**	**N**	**X**					**X**						**X**		**Coordination recommended** for projects that involve Lower Little Creek, Upper White Creek, Spruce Creek, Big Dry Creek, Whiskey Creek, Langstroth Canyon stream, Mogollon Creek, Main Diamond Creek, and South Diamond Creek.	Avoid inputting sediment of hazardous materials into streams.	Minimize input of materials to stream.	Minimize in-stream work especially from March to June.
Loach Minnow	**E**	**Y**	**X**		**X**			**X**		**X**				**X**	**X**	**Coordination recommended** for projects that are within the 300 foot buffer to critical habitat that are expanding footprint or have the potential to cause deposition from erosion or runoff, impacts to hydrological pattern of flows or decreases water quality in the West, Middle and East Forks of the Gila River, the San Francisco River and its tributaries Negrito and Whitewater Creeks, and the Blue River and its tributaries Dry Blue, Campbell Blue, Pace and Frieborn Creeks.	Avoid inputting sediment of hazardous materials into streams.	Minimize input of materials to stream.	Minimize in-stream work especially from February to June.
Pecos Bluntnose Shiner	**T**	**Y**		**X**		**X**	**X**		**X**		**X**	**X**	**X**			**Coordination recommended** for projects that are within the 300 foot buffer to critical habitat that are expanding footprint or have the potential to cause deposition from erosion or runoff, impacts to hydrological pattern of flows or decreases water quality in the Pecos River and tributaries from the Brantley Reservoir delta (Eddy County, NM) upstream to the Pecos and Gallinas Rivers headwaters in San Miguel County, NM. Must coordinate with NMESFO for all surveys.			
Pecos Gambusia	**E**	**N**		**X**			**X**				**X**	**X**				**Coordination recommended** for projects that involve springheads and spring runs, streams with abundant overhead coverage, sedge covered marshes or gypsum sinkholes. Primarily located on Bitter Lake NWR.			

Species	Status	Critical Habitat	Counties with Species Occurrence									Range or Habitat Requirements
(Name)	*(T/E/P)*	*(Y/N)*	*Colfax*	*Curry*	*Guadalupe*	*Harding*	*Quay*	*Rio Arriba*	*San Juan*	*San Miguel*	*Union*	*(Description of Habitat and Range)*
Peppered Chub	**E**	**Y**	**X**	**X**	**X**	**X**	**X**			**X**	**X**	The peppered chub is now limited to the Canadian River that runs through northeastern New Mexico and the panhandle of Texas. Research indicates that PCs require approximately 127 river miles (205 river kilometers) of impounded flow to complete their reproductive cycle (Perkin and Gido 2011, p. 374). Adult PCs prefer shallow channels where currents flow over clean fine sand (Cross & Collins 1995, p. 62; Collins et al. 1995, p. 45), avoid calm waters and silted stream bottoms. Critical habitat includes a segment within the South Canadian River approximately 134 river miles from the New Mexico border downstream to Lake Meredith.
Razorback Sucker	**E**	**Y**						**X**	**X**			The razorback sucker (family Catostomidae) is a fish endemic to the warm-water portions of the Colorado River basin of the southwestern United States. Razorback sucker are found throughout the basin in both lotic and lentic habitats, but are most common in low-velocity habitats such as backwaters, floodplains, flatwater river reaches and reservoirs. Razorback sucker prefer cobble or rocky substrate for spawning. Depending on the subbasin, juveniles and adults frequently have access to appropriate habitat throughout the system ranging from backwaters and floodplains to deep and slow-moving pools, however nonnative fishes are frequently found in such habitats as well. The species is tolerant of wide-ranging temperatures, high turbidity and salinity, low dissolved oxygen and wide-ranging flow conditions. The historical range of the species includes most of the Colorado River basin, from Wyoming onto the delta in Mexico, including the states of Colorado, Utah, New Mexico, Arizona, Nevada and California, and Mexican states of Baja and Sonora.

Species	Status	Critical Habitat	Counties with Species Occurrence									USFWS Coordination	Avoidance & Minimization Measures		
(Name)	*(T/E/P)*	*(Y/N)*	*Colfax*	*Curry*	*Guadalupe*	*Harding*	*Quay*	*Rio Arriba*	*San Juan*	*San Miguel*	*Union*		*Hazardous Fuels Reduction and Debris Removal*	*Soil/Slope/Bank Stabilization*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Peppered Chub	**E**	**Y**	**X**	**X**	**X**	**X**	**X**			**X**	**X**	**Coordination recommended** when project involves stream alterations such as water diversions or impoundments occurring with the Canadian River in northeastern New Mexico. (Arlington issued a D-Key for this species)			
Razorback Sucker	**E**	**Y**						**X**	**X**			**Coordination recommended** for projects within the San Juan River.	Avoid inputting sediment of hazardous materials into streams.	Minimize input of materials to stream.	Minimize in-stream work especially from March to October.

Species	Status	Critical Habitat	Counties with Species Occurrence															Range or Habitat Requirements	USFWS Coordination
(Name)	*(T/E/P)*	*(Y/N)*	*Bernalillo*	*Catron*	*Cibola*	*Grant*	*Hidalgo*	*Lincoln*	*McKinley*	*Rio Arriba*	*Sandoval*	*San Juan*	*Santa Fe*	*Sierra*	*Socorro*	*Torrance*	*Valencia*	*(Description of Habitat and Range)*	
Rio Grande Silvery Minnow	**E**	**Y**	**X**	**X**	**X**			**X**	**X**	**X**	**X**		**X**	**X**	**X**	**X**	**X**	Endemic to the Rio Grande and Pecos River systems and canals. Requires pools and backwaters of medium to large streams with low or moderate gradient in mud, sand, or gravel bottom; ingests mud and bottom ooze for algae and other organic matter; and probably spawns on silt substrates of quiet coves.	**Coordination recommended** for projects that are within the 300 foot buffer to critical habitat that are expanding footprint or have the potential to cause deposition from erosion or runoff, impacts to hydrological pattern of flows or decreases water quality in the Rio Grande River. Critical habitat is located from Valencia/Socorro County line downstream to the Utility line crossing the Rio Grande just east of the Bosque well demarcated on USGS Paraje Well quadrangle (Approximately 10 miles north of Socorro/Sierra County line)**.**
Spikedace	**E**	**Y**		**X**	**X**	**X**	**X**							**X**	**X**			Critical habitat includes the San Francisco River from the Arizona/NM State line upstream to Township 6 S, Range 19 W, Section 2 (except lands owned by Freeport-McMoRan), the west Fork of the Gila from the Grant/Catron County line upstream to the confluence with EE Canyon, Middle Fork of the Gila from confluence with the West Fork upstream to confluence of Big Bear Canyon and the East Fork of the Gila from the Grant/Catron County line upstream to the confluence of Beaver and Taylor Creeks.	**Coordination recommended** for projects that involve work within and adjacent to the upper portions of the Gila River and San Francisco River.
Yaqui Catfish	**T**	**Y**					**X**											Refer to IPaC: https://ipac.ecosphere.fws.gov/	Refer to IPaC: https://ipac.ecosphere.fws.gov/
Yaqui Chub	**E**	**Y**					**X**											Refer to IPaC: https://ipac.ecosphere.fws.gov/	Refer to IPaC: https://ipac.ecosphere.fws.gov/
Zuni Bluehead Sucker	**E**	**Y**			**X**				**X**			**X**						Refer to IPaC: https://ipac.ecosphere.fws.gov/	**Coordination recommended** for work involving the Rio Nutria drainage upstream of the mouth of the Nutria Box Canyon.

Species	Status	Critical Habitat	Counties with Species Occurrence															Avoidance & Minimization Measures		
(Name)	*(T/E/P)*	*(Y/N)*	*Bernalillo*	*Catron*	*Cibola*	*Grant*	*Hidalgo*	*Lincoln*	*McKinley*	*Rio Arriba*	*Sandoval*	*San Juan*	*Santa Fe*	*Sierra*	*Socorro*	*Torrance*	*Valencia*	*Hazardous Fuels Reduction and Debris Removal*	*Soil/Slope/Bank Stabilization*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Rio Grande Silvery Minnow	**E**	**Y**	**X**	**X**	**X**			**X**	**X**	**X**	**X**		**X**	**X**	**X**	**X**	**X**	Slash piles will be located a minimum of 91.44 m (300 feet) from the center of the river channel to limit impacts to critical habitat for the Rio Grande silvery minnow. To avoid any potential impacts to aquatic habitats, all fuels, hydraulic fluids, and other hazardous materials will be stored outside the normal floodplain. No equipment refueling shall take place within 100 feet of any water feature, wetted or dried. Equipment will be parked at predetermined locations on high ground overnight. If a spill occurs during construction or maintenance activities, the City and USFWS will be immediately notified.	Erosion controls (i.e., silt fences) should be incorporated along banks and in the floodplain to minimize sediment input to the Rio Grande within the designated critical habitat. When vegetation destruction of removal occurs, revegetation of native plants is recommended.	Prior to instream work in the Rio Grande, fish surveys and relocation of Rio Grande Silvery Minnow (minnow) should occur. After minnow removal, barriers to prevent minnows from entering the project site should be installed until instream work is complete. Contact USFWS to discuss minnow translocation and barrier type prior to moving minnows and installing barriers. Alterations to the flow, sinuosity, channel width, etc. should not occur and the USFWS should be contacted prior to any potential changes to the river.
Spikedace	**E**	**Y**		**X**	**X**	**X**	**X**							**X**	**X**					
Yaqui Catfish	**T**	**Y**					**X**													
Yaqui Chub	**E**	**Y**					**X**													
Zuni Bluehead Sucker	**E**	**Y**			**X**				**X**			**X**								

Species	Status	Critical Habitat	Counties with Species Occurrence							Range or Habitat Requirements	USFWS Coordination
(Name)	*(T/E/P)*	*(Y/N)*	*Chaves*	*Eddy*	*Hidalgo*	*Lincoln*	*Otero*	*Rio Arriba*	*San Juan*	*(Description of Habitat and Range)*	
Cochise Pincusion Cactus	**T**	**N**			**X**					Refer to IPaC: https://ipac.ecosphere.fws.gov/	Refer to IPaC: https://ipac.ecosphere.fws.gov/
Guadalupe Fescue	**E**	**Y**		**X**						Refer to IPaC: https://ipac.ecosphere.fws.gov/	Refer to IPaC: https://ipac.ecosphere.fws.gov/
Gypsum Wild-buckwheat	**T**	**Y**		**X**						Grows in hypergypsic soils or gypsum bedrock on slopes and adjacent uplands and bajadas in the Chihuahuan Deserts ecosystem.	**Coordination recommended** for projects in or near hypergypsic soils and/or gypsum outcrops in Eddy County. **Coordination recommended** for projects within 300-600 meters (990-1,970 feet) of known occupied, unsurveyed potential habitat, or designated critical
Holy Ghost Ipomopsis	**E**	**N**								Inhabits openings in ponderosa pine-Douglas fir forest and appears to prefer disturbed areas with relatively low densities of other perennial species. (EMNRD, 2018)	**Coordination recommended** for projects within the Holy Ghost Canyon in the Sangre de Cristo Mountains between 7,000 and 8,250 feet elevation. **Coordination recommended** when project is within 0.5 miles (900m) of population.
Huachuca Water-umbel	**E**	**Y**			**X**					Refer to IPaC: https://ipac.ecosphere.fws.gov/	**Coordination recommended** for projects occurring in warm-temperate wetlands, Sonoran riparian deciduous forest and woodlands, Sonoran and Sinaloan interior marshlands and submergent communities, at elevations ranging from 610 to 2,166 meters.
Knowlton's Cactus	**E**	**N**						**X**	**X**	Suitable habitats are cobble substrates in piñon-juniper woodland with a dominant shrub component of black sagebrush. Found at TNC's Sabo Preserve, near the Los Pinos Arm of Navajo Lake, and BLM's Reese Canyon ACEC.	**Coordination recommended** for projects located on the Colorado Plateau, adjacent to the San Juan Mountains. Typically in areas of rolling gravelly hills with pinon-juniper cover. **Coordination recommended** for projects located in the vicinity of known populations or transplant sites.
Kuenzler's Hedgehog Cactus	**T**	**N**	**X**	**X**		**X**	**X**			Grows on calcareous, gravelly to rocky, gentle slopes and benches with grassland, oak woodland, or pinon-juniper woodland vegetation between 5,000 and 7,000 feet elevation in the Capitan Mountains, eastern Sacramento Mountains, and eastern Guadalupe Mountains of southeastern New Mexico.	**Coordination recommended** for projects within the Sacramento, Capitan, or Guadalupe mountains and foothills. **Coordination recommended** for projects within 300-600 meters (990-1,970 feet) of known occupied or unsurveyed potential habitat.
Lee Pincushion Cactus	**T**	**N**		**X**						Grows on calcareous, gravelly, rocky, or bedrock cliffs, slopes, and benches with grassland or shrub-steppe vegetation above 1,220 meters (4,000 feet) elevation in the eastern Guadalupe Mountains of southeastern New Mexico.	**Coordination recommended** for projects within the Guadalupe Mountains and foothills. **Coordination recommended** for projects within 300-600 meters (990-1,970 feet) of known occupied or unsurveyed potential habitat.

Species	Status	Critical Habitat	Avoidance & Minimization Measures		
(Name)	*(T/E/P)*	*(Y/N)*	*Hazardous Fuels Reduction and Debris Removal*	*Soil/Slope/Bank Stabilization*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Cochise Pincusion Cactus	**T**	**N**			
Guadalupe Fescue	**E**	**Y**			
Gypsum Wild-buckwheat	**T**	**Y**	Clean equipment regularly to minimize translocation of exotic species. Only use county native species in seed mixes or plantings. Map all known occupied and unsurveyed potential habitat areas for all terrestrial and aquatic threatened, endangered, and proposed (TEP) species as avoidance areas. Update avoidance area GIS at least annually. Provide all pilots and lead field personnel with maps of avoidance areas within work units at all briefings. Avoid aerial applications, camps, staging areas, and equipment repair/maintenance within 600 meters (2,000 feet) of avoidance areas. Avoid off road vehicle travel, surface disturbance, and manual/mechanical vegetation treatments within 300 meters of avoidance areas. Avoid use/introduction of biological controls. If conducting work within avoidance areas, survey the area and map TEP species locations prior to work and assign dedicated biologists (biomonitors) to guide avoidance of harm to TEP species during work. Survey for TEP species when they are blooming or otherwise active and/or conspicuous. Utilize existing disturbance to the maximum extent practicable. Be prepared to respond to inadvertent releases of hazardous materials.		
Holy Ghost Ipomopsis	**E**	**N**			
Huachuca Water-umbel	**E**	**Y**			
Knowlton's Cactus	**E**	**N**	Clean equipment regularly to minimize translocation of exotic species. Only use county native species in seed mixes or plantings. Map all known occupied and unsurveyed potential habitat areas for all terrestrial and aquatic threatened, endangered, and proposed (TEP) species as avoidance areas. Update avoidance area GIS at least annually. Provide all pilots and lead field personnel with maps of avoidance areas within work units at all briefings. Avoid aerial applications, camps, staging areas, and equipment repair/maintenance within 600 meters (2,000 feet) of avoidance areas. Avoid off road vehicle travel, surface disturbance, and manual/mechanical vegetation treatments within 300 meters of avoidance areas. Avoid use/introduction of biological controls. If conducting work within avoidance areas, survey the area and map TEP species locations prior to work and assign dedicated biologists (biomonitors) to guide avoidance of harm to TEP species during work. Survey for TEP species when they are blooming or otherwise active and/or conspicuous. Utilize existing disturbance to the maximum extent practicable. Be prepared to respond to inadvertent releases of hazardous materials.		
Kuenzler's Hedgehog Cactus	**T**	**N**			
Lee Pincushion Cactus	**T**	**N**			

Species	Status	Critical Habitat	Counties with Species Occurrence			Range or Habitat Requirements	USFWS Coordination
(Name)	*(T/E/P)*	*(Y/N)*	*Dona Ana*	*Eddy*	*Otero*	*(Description of Habitat and Range)*	
Mancos Milk-vetch	**E**	**N**				It only occurs in shallow pockets of soil in the tan-colored units of Point Lookout sandstone, particularly at the bases of gentle inclines of slickrock, in cracks, and along the margins of bowl-like depressions in the otherwise flat rock. Because Mancos milkvetch has such a restricted habitat, biologists have speculated that the thin, exfoliated layers of Point Lookout sandstone may be an important physical habitat requirement, or the sandstone may contain a particular chemical element needed for the plant's growth. The habitats where Mancos milkvetch grows receive eight to nine inches of annual rainfall and occur between 1610 and 1830 m (5275 and 6000 ft) in elevation. The plant occurs in 18 populations in the Four Corners region in Colorado and New Mexico. The majority of the populations are on Navajo Nation and Ute Mountain Ute land, with one population on BLM and New Mexico state land.	**Coordination recommended** for projects involving low rolling hills (badlands) with sparse vegetation, primarily found on the Navajo Nation, Ute Mountain Ute, and adjacent BLM lands (some private lands).
Mesa Verde Cactus	**T**	**N**				Grows on low rolling clay hills derived from upper Cretaceous Mancos shale in Colorado, and Mancos and Fruitland shale in New Mexico. Populations are located in a narrow strip of land between Cortez, Colorado, and Sheep Springs, New Mexico, at elevations ranging from 1,500 to 1,700 m (4,900 - 5,500 ft).	**Coordination recommended** for projects involving low rolling hills (badlands) with sparse vegetation, primarily found on the Navajo Nation, Ute Mountain Ute Reservation, and adjacent BLM lands (some private lands). **Coordination required** for projects located in the vicinity of known populations, transplant sites, or unsurveyed potential habitat.
Pecos Sunflower	**T**	**Y**			**X**	Occupies wet and saline soils typical of groundwater fed wetlands on the Rio Grande and other desert river courses (USFWS 2008).	**Coordination recommended** for projects that impacting desert springs and seeps that form wet meadows known as "cienegas".
Sacramento Mountains Thistle	**T**	**N**			**X**	This species is associated with streams, seeps, and springs and associated travertine deposits or areas with alkaline soils that are inundated with water for a portion of the year.	**Coordination recommended** for projects associated with springs, seeps and streams that have a high content of calcium carbonate, thus creating travertine deposits, or alkaline soil conditions. Plants will be in wetlands, at, or downstream, of the springs or seeps.
Sacramento Prickly Poppy	**E**	**N**			**X**	This species is associated with benches that occur above or alongside streams, seeps, and springs.	**Coordination recommended** for projects within the 10 canyons on the western side of the Sacramento Mountains, beginning on the north with Fresnal Canyon and going southward through the Escondido Canyon.
Sneed Pincushion Cactus	**E**	**N**	**X**	**X**		Grows on calcareous, gravelly, rocky, or bedrock cliffs, slopes, and benches with grassland or shrub-steppe vegetation above 1,220 meters (4,000 feet) elevation in the Bishop Cap, Franklin, and southern Guadalupe mountains of southern New Mexico.	**Coordination recommended** for projects within calcareous mountains and foothills in southern New Mexico, especially in the Franklin, Bishop Cap, southern San Andreas, and southern Guadalupe mountains. **Coordination recommended** for projects within 300-600 meters (990-1,970 feet) of known occupied or unsurveyed potential habitat.

Species	Status	Critical Habitat	Avoidance & Minimization Measures		
(Name)	*(T/E/P)*	*(Y/N)*	*Hazardous Fuels Reduction and Debris Removal*	*Soil/Slope/Bank Stabilization*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Mancos Milk-vetch	**E**	**N**	Clean equipment regularly to minimize translocation of exotic species. Only use county native species in seed mixes or plantings. Map all known occupied and unsurveyed potential habitat areas for all terrestrial and aquatic threatened, endangered, and proposed (TEP) species as avoidance areas. Update avoidance area GIS at least annually. Provide all pilots and lead field personnel with maps of avoidance areas within work units at all briefings. Avoid aerial applications, camps, staging areas, and equipment repair/maintenance within 600 meters (2,000 feet) of avoidance areas. Avoid off road vehicle travel, surface disturbance, and manual/mechanical vegetation treatments within 300 meters of avoidance areas. Avoid use/introduction of biological controls. If conducting work within avoidance areas, survey the area and map TEP species locations prior to work and assign dedicated biologists (biomonitors) to guide avoidance of harm to TEP species during work Survey for TEP species when they are blooming or otherwise active and/or conspicuous. Utilize existing disturbance to the maximum extent practicable. Be prepared to respond to inadvertent releases of hazardous materials.		
Mesa Verde Cactus	**T**	**N**			
Pecos Sunflower	**T**	**Y**			
Sacramento Mountains Thistle	**T**	**N**	Clean equipment regularly to minimize translocation of exotic species. Only use county native species in seed mixes or plantings. Map all known occupied and unsurveyed potential habitat areas for all terrestrial and aquatic threatened, endangered, and proposed (TEP) species as avoidance areas. Update avoidance area GIS at least annually. Provide all pilots and lead field personnel with maps of avoidance areas within work units at all briefings. Avoid aerial applications, camps, staging areas, and equipment repair/maintenance within 600 meters (2,000 feet) of avoidance areas. Avoid off road vehicle travel, surface disturbance, and manual/mechanical vegetation treatments within 300 meters of avoidance areas. Avoid use/introduction of biological controls. If conducting work within avoidance areas, survey the area and map TEP species locations prior to work and assign dedicated biologists (biomonitors) to guide avoidance of harm to TEP species during work. Survey for TEP species when they are blooming or otherwise active and/or conspicuous. Utilize existing disturbance to the maximum extent practicable. Be prepared to respond to inadvertent releases of hazardous materials.		
Sacramento Prickly Poppy	**E**	**N**			
Sneed Pincushion Cactus	**E**	**N**			

Species	Status	Critical Habitat	Counties with Species Occurrence														Range or Habitat Requirements	USFWS Coordination
(Name)	*(T/E/P)*	*(Y/N)*	*Catron*	*Chaves*	*Cibola*	*Dona Ana*	*Eddy*	*Guadalupe*	*Hidalgo*	*Lincoln*	*McKinley*	*Otero*	*Quay*	*Sandoval*	*Sierra*	*Socorro*	*(Description of Habitat and Range)*	
Todsen's Pennyroyal	**E**	**Y**										**X**			**X**		Grows on steep, north facing slows within piñon-juniper habitat in gypseous, sandy loam soils, often with loose limestone gravel between 1909-2257 meters in the Sacramento Mountains and between 1883-2094 meters in the San Andres Mountains.	**Coordination recommended** for projects located in gypsum-limestone soils on north facing slopes in pinon-juniper woodland within the Sacramento and San Andres Mountains. **Coordination recommended** for projects located in the vicinity of known populations or unsurveyed potential habitat.
Wright's Marsh Thistle	**P**	**N (proposed)**	**X**	**X**		**X**	**X**	**X**	**X**	**X**		**X**	**X**		**X**	**X**	Grows in wetlands, typically in alkaline soils near seeps, springs, and along marshy edges of streams and ponds.	**Coordination recommended** for projects that would alter alkaline soil wetlands near seeps, springs, and along marshy edges of streams and ponds.
Zuni Fleabane	**T**	**N**	**X**								**X**			**X**			This perennial herbaceous plant species is known in New Mexico from scattered populations in the Datil, Sawtooth, Zuni, and Chuska Mountain ranges. It occurs on sparsely vegetated clay hillsides within pinyon-juniper woodlands to transitional forests of ponderosa pine and Douglas-fir.	**Coordination recommended** for projects expanding footprint into undeveloped areas that involve coarse textured, steep shale slope outcrops from 7,300 to 8,400 feet msl.
American Hart's-tongue Farm	**T**	**N**			**X**												This species is associated with cool, moist refugia, normally on substrates of limestone bedrock. In New Mexico, this species is found in cave or sinkhole features in basaltic lava flows.	**Coordination recommended** for work on El Malpais National Monument.

Species	Status	Critical Habitat	Avoidance & Minimization Measures		
(Name)	*(T/E/P)*	*(Y/N)*	*Hazardous Fuels Reduction and Debris Removal*	*Soil/Slope/Bank Stabilization*	*Stream Alterations or Work in Water (Diversion structures, culvert upsizing, armoring)*
Todsen's Pennyroyal	**E**	**Y**	Clean equipment regularly to minimize translocation of exotic species. Only use county native species in seed mixes or plantings. Map all known occupied and unsurveyed potential habitat areas for all terrestrial and aquatic threatened, endangered, and proposed (TEP) species as avoidance areas. Update avoidance area GIS at least annually. Provide all pilots and lead field personnel with maps of avoidance areas within work units at all briefings. Avoid aerial applications, camps, staging areas, and equipment repair/maintenance within 600 meters (2,000 feet) of avoidance areas. Avoid off road vehicle travel, surface disturbance, and manual/mechanical vegetation treatments within 300 meters of avoidance areas. Avoid use/introduction of biological controls. If conducting work within avoidance areas, survey the area and map TEP species locations prior to work and assign dedicated biologists (biomonitors) to guide avoidance of harm to TEP species during work. Survey for TEP species when they are blooming or otherwise active and/or conspicuous. Utilize existing disturbance to the maximum extent practicable. Be prepared to respond to inadvertent releases of hazardous materials.		
Wright's Marsh Thistle	**P**	**N (proposed)**			
Zuni Fleabane	**T**	**N**	Before arriving or departing a work site within the range of Zuni fleabane, thoroughly clean vehicles and equipment of all visible dirt and mud in a manner that will help contain and control the potential spread of invasive vegetation or weed seeds. Avoid off road vehicle travel, surface disturbance, and vegetation treatments on any portion of slopes where Zuni fleabane has been shown to occur. Following fuel reduction and debris removal activities, effectively close and restore any temporary roads or equipment paths that could allow off-road vehicle travel to occupied Zuni fleabane habitats. For reclamation of the project area, use only native plant species in the reclamation seed mix. The seed mix and mulch should be certified weed-free, with seed test results requested from the vendor in order to avoid inadvertently introducing non-native species to the site. Any alternate seeds used to substitute for primary plant species that are unavailable at the time of reclamation should also be native. When possible, use seeds that are sourced from the same region and habitat type as the reclamation site.	Before arriving or departing a work site within the range of Zuni fleabane, thoroughly clean vehicles and equipment of all visible dirt and mud. Avoid off road vehicle travel, surface disturbance, or any earth-moving or erosion-causing activities on any portion of slopes where Zuni fleabane has been shown to occur. Following stabilization activities, effectively close and restore any temporary roads or equipment paths that could allow off-road vehicle travel to occupied Zuni fleabane habitats. Use only native seeds in the reclamation mix.	Before arriving or departing a work site within the range of Zuni fleabane, thoroughly clean vehicles and equipment of all visible dirt and mud.
American Hart's-tongue Farm	**T**	**N**	None expected that would affect the lava flows containing the karst features used by this species.	Before arriving or departing a work site on the monument, thoroughly clean vehicles and equipment of all visible dirt and mud. For stabilization or restoration activities on the monument, use only native seeds in the reclamation mix.	None expected that would affect the lava flows containing the karst features used by this species.

APPENDIX C: SUPPLEMENTAL INFORMATION AND PHOTOS

APPENDIX C INDEX

C-1 CEQ Programmatic and Tiered Analyses Comparison Table

C-1 CEQ Programmatic and Tiered Analysis

Programmatic and tiered analyses differ in their focus and scope. The following table indicates the general differences between programmatic and subsequent tiered analyses.

	Programmatic Level (e.g., Tier 1)	**Subsequent Tiered Level (e.g., Project, Site-Specific, or Tier2 Level)**
Nature of Action	Strategic, conceptual	Construction, operations, site-specific actions
Level of Decision	Policy, program, planning, suite of similar projects	Individual project(s)
Alternatives	Broad, general, research, technologies, fiscal measures, socioeconomic, land use allocations	Specific alternative locations, design, construction, operation, permits, site-specific
Scale of Impacts	Macroscopic, for example, at a national, regional, or landscape level	Project level, mainly local
Scope of Impacts	Broad in scale and magnitude	Localized and specific
Time Scale	Long- to medium-term (e.g., Regulatory)	Medium- to short-term (e.g., Permit)
Key Data Sources	Existing national or regional statistical and trend data, policy and planning instruments	Field work, sample analysis, statistical data, local monitoring data
Impacts	Qualitative and maybe quantitative to the degree possible	Generally quantifiable (though not always)
Decision	Broad, strategic program, policy, or plan	Detailed, project- or site-specific, action-oriented
Mitigation	General, broad suite of potential measures that could be applied after site-specific analysis	Specific, precise refinement of measures identified at the programmatic level

C-2 Example photos of Post-Wildfire Treatments

C-2 Post-Wildfire Treatment Example Photos

HILLSLOPE TREATMENTS

A. Cover Applications

1. Hillslope Cover Application: Dry Mulch

2. Hillslope Cover Application: Dry Mulch

3. Hillslope Cover Application: Wet Mulch (Hydromulch)

4. Hillslope Cover Application: Wet Mulch (Hydromulch)

5. Hillslope Cover Application: Slash Spreading

6. Hillslope Cover Application: Slash spreading mechanical equipment

7. Hillslope Cover Application: Seeding

8. Hillslope Cover Application: Soil Scarification with Seeding

9. Hillslope Cover Application: Log Erosion Barrier

10. Barrier Application: Erosion Control Mat

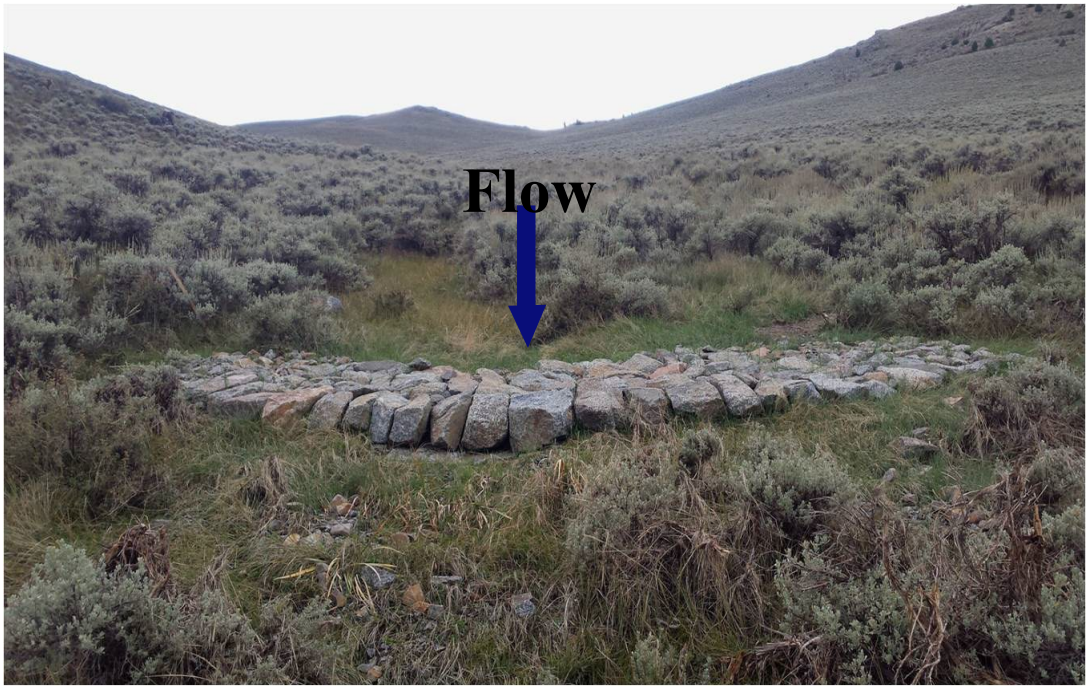
11. Barrier Application: Fiber Rolls (e.g., wattles)

12. Barrier Application: Silt Fencing

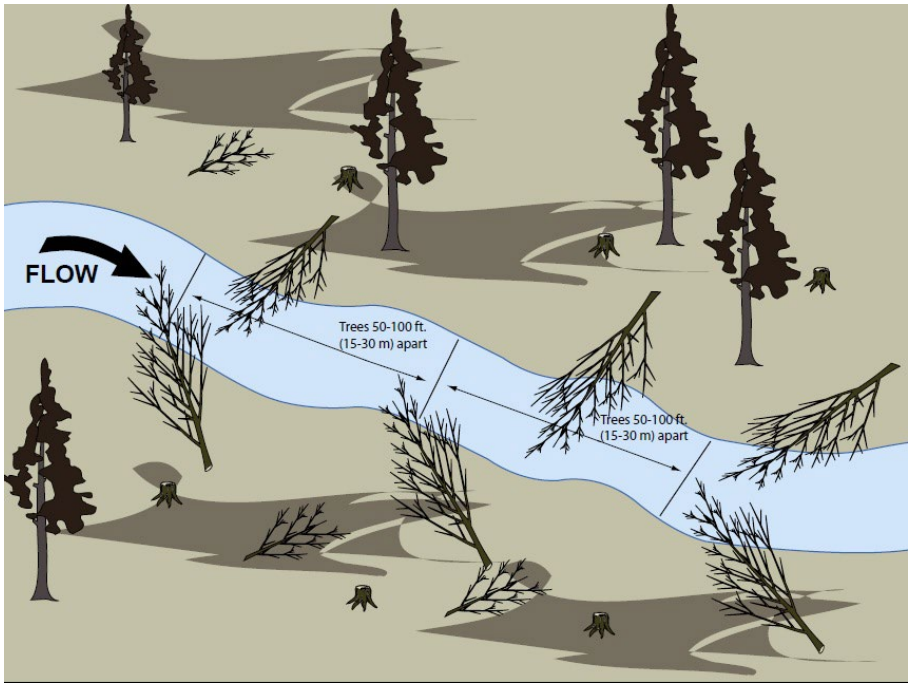
13. Channel Treatments: Post Assisted Log Structures (PALS). Photo source: Washington State Conservation Commission

14. Channel Treatments: One Rock Dam
Photo source: NRCS Conservation Practice 643 – Specification Sheet

15. Channel Treatments: Zuni Bowl
Photo source: NRCS Conservation Practice 643 – Specification Sheet



16. Channel Treatments: Media Luna
Photo source: NRCS Conservation Practice 643 – Specification Sheet



17. Channel Treatments: In-Channel Tree Felling

18. Channel Treatments: Jetty Jacks
Photo source: USACE Albuquerque District website

19. Channel or Hillside Treatments: Flexible Ring-Net Barriers
Photo source: www.landslidebarrier.com

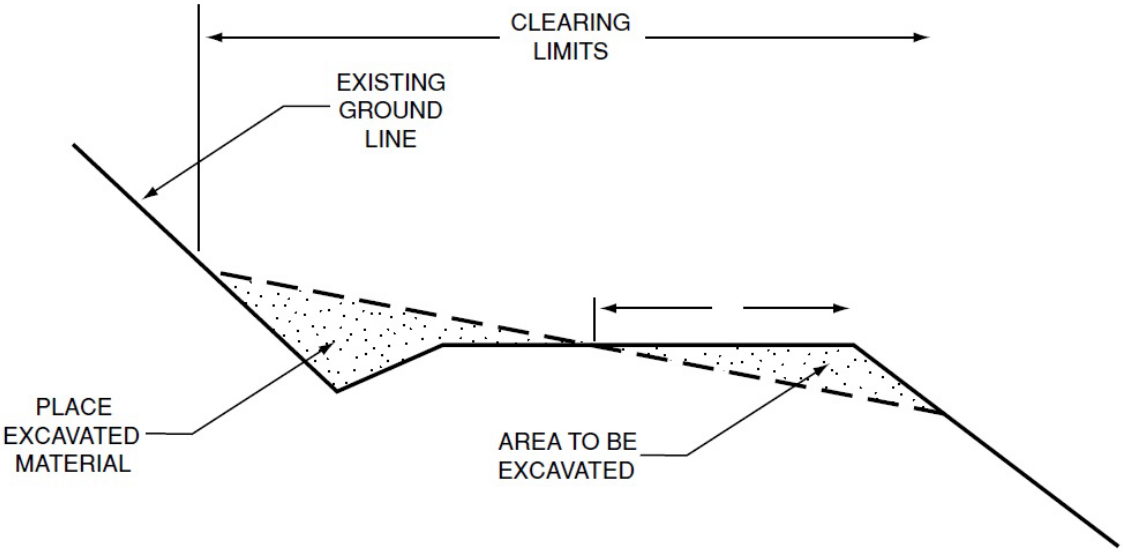
20. Channel Treatments: Grade Stabilizer

21. Channel Treatments: Bank Armoring (rip rap)

22. Channel Treatments: Flow Deflectors

23. Channel Treatments: Debris Dams

24. Channel Treatments: Debris Dams



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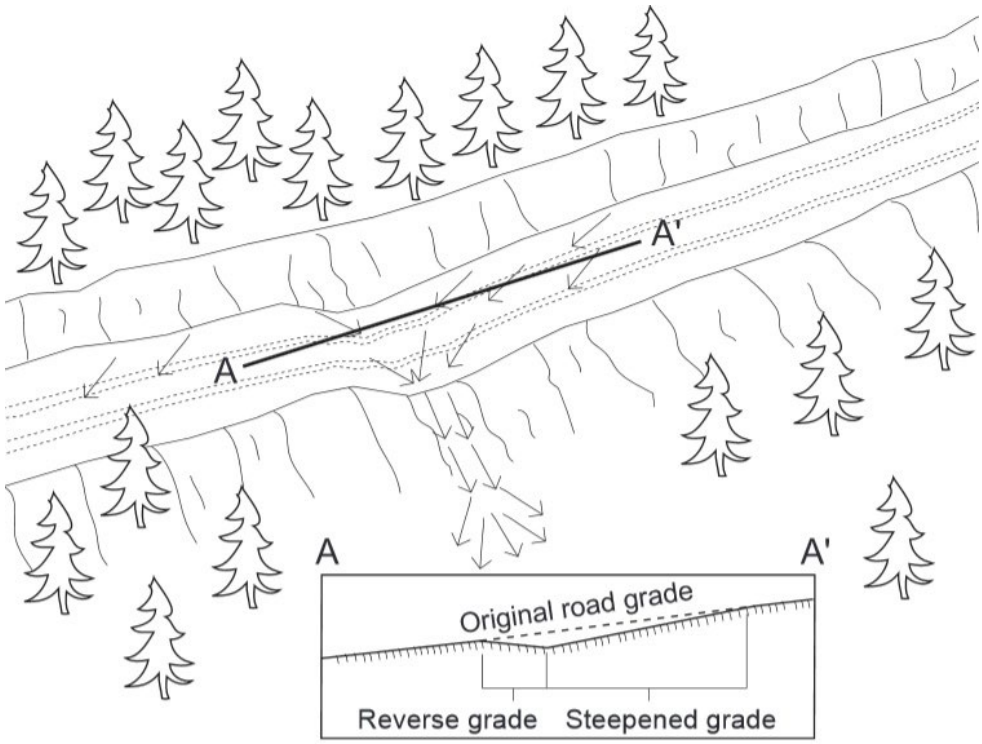
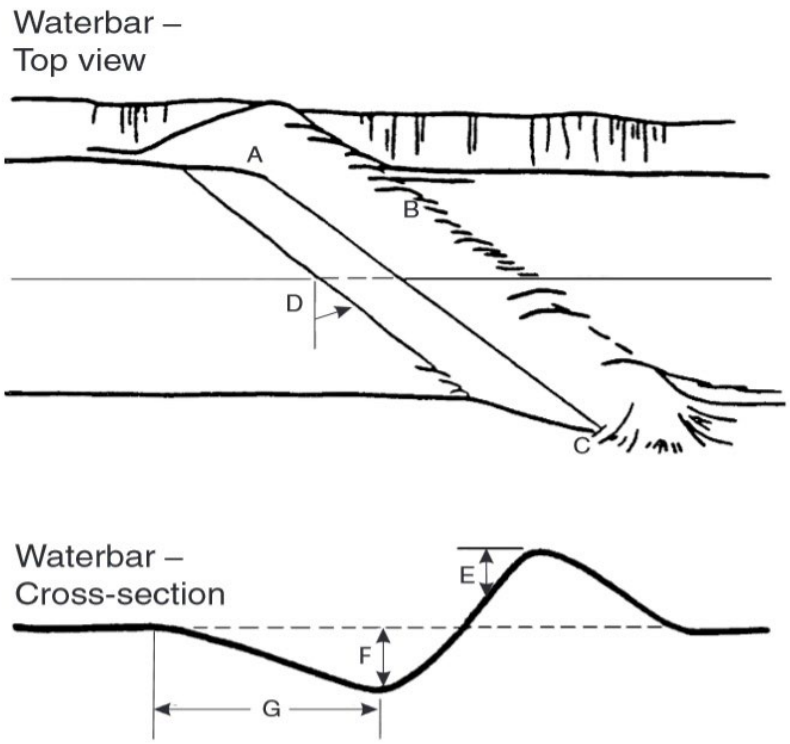
25. Road, Culvert, and Trail Flow Diversion Treatments: Outsloping

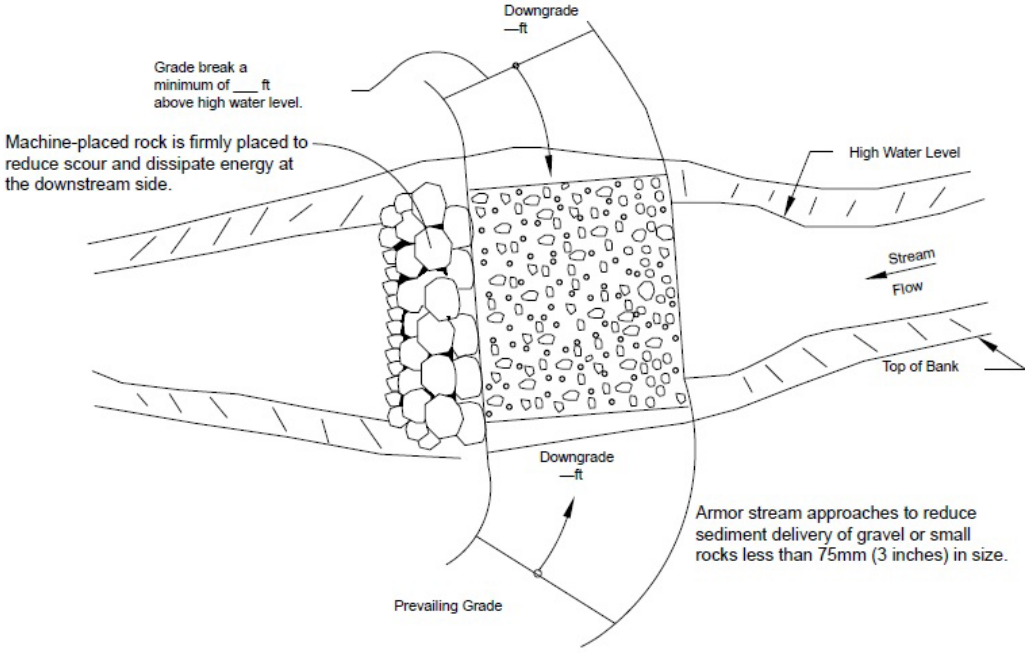


26. Road, Culvert, and Trail Flow Diversion Treatments: Rolling Dip



27. Road, Culvert, and Trail Flow Diversion Treatments: Waterbar

28. Road, Culvert, and Trail Flow Diversion Treatments: Overflow structure



29. Road, Culvert, and Trail Flow Diversion Treatments: Low-Water Stream Crossing

30. Road, Culvert, and Trail Flow Diversion Treatments: Culvert modification

31. Road, Culvert, and Trail Flow Diversion Treatments: Debris Rack and Deflectors

32. Road, Culvert, and Trail Flow Diversion Treatments: Riser Pipes

33. Road, Culvert, and Trail Flow Diversion Treatments: Trail stabilization (before/after)

34. Road, Culvert, and Trail Flow Diversion Treatments: Road decommissioning

C-3 Summary of Geographic Areas Containing Soil Units Applicable to the FPPA

C-3 Summary of Geographic Areas Containing Soil Units Protected Under the Farmland Protection Policy Act

Natural Resources Conservation Service Geographic Area Name	Prime farmland	Prime farmland if irrigated	Prime farmland if protected from flooding	Prime farmland if reclaimed of excess salts and sodium	Farmland of statewide importance	Farmland of local importance
Cabezon Area, New Mexico					x	
Carlsbad Caverns National Park, New Mexico		x				
Chaves County, New Mexico, Northern Part		x			x	
Chaves County, New Mexico, Southern Part					x	
Cibola Area, New Mexico, Parts of Cibola, McKinley, and Valencia Counties		x				
Colfax County, New Mexico		x				
Curry County and Southwest Part of Quay County, New Mexico		x			x	
De Baca County, New Mexico		x			x	
Dona Ana County Area, New Mexico					x	
Eddy Area, New Mexico		x			x	
Grant County, New Mexico, Central and Southern Parts		x			x	
Guadalupe County, New Mexico		x			x	
Harding County, New Mexico		x			x	
Hidalgo County, New Mexico		x			x	
Lea County, New Mexico		x			x	
Luna County, New Mexico					x	
McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties						x
Mora County, New Mexico		x			x	
Rio Arriba Area, New Mexico, Parts of Rio Arriba and Sandoval Counties		x				
Roosevelt County, New Mexico			x			
San Juan County, New Mexico, Eastern Part		x			x	
San Miguel County Area, New Mexico		x			x	

Natural Resources Conservation Service Geographic Area Name	Prime farmland	Prime farmland if irrigated	Prime farmland if protected from flooding	Prime farmland if reclaimed of excess salts and sodium	Farmland of statewide importance	Farmland of local importance
Sandoval County Area, New Mexico, Parts of Los Alamos, Sandoval, and Rio Arriba Counties		x				
Santa Fe National Forest Area, New Mexico, Parts of Los Alamos, Mora, Rio Arriba, Sandoval, San Miguel and Santa Fe Counties		x			x	
Shiprock Area, Parts of San Juan County, New Mexico and Apache County, Arizona					x	
Sierra County Area, New Mexico					x	
Socorro County Area, New Mexico		x				
Taos County and Parts of Rio Arriba and Mora Counties, New Mexico		x			x	
Torrance Area, New Mexico	x				x	
Tucumcari Area, Northern Quay County, New Mexico		x			x	
Union County, New Mexico		x			x	
Ute Mountain Area, Colorado and New Mexico		x		x		
Valencia County, New Mexico, Eastern Part					x	

Source: NRCS Soil Data Access database

C-4 Joint EPA-USACE Memorandum on Exemptions to 404 CWA Permits

JOINT MEMORANDUM TO THE FIELD BETWEEN THE U.S. DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY CONCERNING EXEMPT CONSTRUCTION OR MAINTENANCE OF IRRIGATION DITCHES AND EXEMPT MAINTENANCE OF DRAINAGE DITCHES UNDER SECTION 404 OF THE CLEAN WATER ACT

I. INTRODUCTION

The U.S. Army Corps of Engineers ("Corps") and the U.S. Environmental Protection Agency ("EPA") (together, "the agencies"), implement Section 404 of the Clean Water Act ("CWA").[1] Section 404 of the CWA regulates the discharge of dredged or fill material into the navigable waters, which the CWA defines as "waters of the United States, including the territorial seas." 33 U.S.C. 1344 and 1362. The agencies are signing this memorandum to provide a clear, consistent approach regarding the application of the exemptions from regulation under Section 404(f)(1)(C) of the CWA for the construction or maintenance of irrigation ditches and for the maintenance of drainage ditches ("ditch exemptions").

This memorandum supersedes previous Corps Regulatory Guidance Letter ("RGL") 07-02, which superseded RGL 87-07. In an effort to provide greater clarity, this memorandum defines the following terms for purposes of implementing the ditch exemptions: "irrigation ditch," "drainage ditch," "construction," and "maintenance." This memorandum also provides a framework for determining the applicability of the ditch exemptions and the "recapture provision" in CWA Section 404(f)(2).

The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.

II. BACKGROUND

a. Under Section 404(f)(1)(C) of the CWA (*see also* 33 CFR 323.4(a)(3) and 40 CFR 232.3(c)(3)), discharges of dredged or fill material for the purpose of construction or maintenance of jurisdictional irrigation ditches, or the maintenance (but not construction) of jurisdictional drainage ditches, are not prohibited by or otherwise subject to regulation under Section 404 of the CWA (*i.e.,* these activities are exempt from the need to obtain a Section 404 permit).

---

[1] In a 1979 opinion, the U.S. Attorney General Benjamin R. Civiletti determined that EPA has the ultimate responsibility for interpreting the CWA Section 404(f) exemptions. *See* 43 Op. Att'y Gen. 197 (Sept. 5, 1979), https://www.epa.gov/cwa-404/1979-civiletti-memorandum-under-cwa-section-404f. Attorney General Civiletti stated that it is the EPA Administrator who has general responsibility under the Act (33 U.S.C. 1251(d)), and who has general authority to prescribe regulations (33 U.S.C. 1361(a)).

b. Section 404(f)(2) of the CWA states that "[a]ny discharge of dredged or fill material into the navigable waters incidental to any activity having as its purpose bringing an area of navigable waters into a use to which it was not previously subject, where the flow or circulation of navigable waters may be impaired or the reach of such waters be reduced, shall be required to have a permit under this section." This is commonly referred to as the "recapture provision"; see paragraph c of this section for the regulations implementing this provision.

c. Under 33 CFR 323.4(c) and 40 CFR 232.3(b), exemptions under 33 CFR 323.4(a)(1)-(6) and 40 CFR 232.3(c)(1)-(6) do not apply if the discharge into a water of the United States "is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will result in significant discernable alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration."

III. DEFINITIONS

a. On April 21, 2020, the agencies promulgated a definition of the term "ditch," to mean "a constructed or excavated channel used to convey water." 85 FR 22250. The agencies believe that a clear definition of this term is useful in the context of the ditch exemptions independent of the regulatory text defining "waters of the United States," and therefore this same definition is hereby adopted for the purpose of this memorandum. However, when referred to in this memorandum, the term "ditch" specifically refers to irrigation and drainage ditches.

b. The agencies' regulations define "discharge of dredged material" and "discharge of fill material." *See* 33 CFR 323.2(d) and (f), and 40 CFR 232.2.

c. The agencies' regulations define "waters of the United States." *See* 33 CFR 328.3 and 40 CFR 120.2. It has been the agencies' longstanding practice that certain ditches generally are not considered waters of the United States. However, certain ditches may be a water of the United States, such as certain ditches constructed in or through a jurisdictional water, including a jurisdictional wetland.

d. For the purposes of this memorandum, "irrigation ditch" is defined as a ditch (as defined in paragraph III.a above) that either conveys water to an ultimate irrigation use or place of use ("irrigation water"), or that moves and/or conveys irrigation water (*e.g.*, "run-off" from irrigation) away from irrigated lands ("irrigation return flows").

e. For the purposes of this memorandum, "drainage ditch" is defined as a ditch (as defined in paragraph III.a above) where increasing drainage of a particular land area or infrastructure is at least part of the designed purpose. This includes the following ditch use categories: agricultural, transportation (*e.g.*, roadside, railroad), mosquito abatement, and stormwater management.

f. For the purposes of this memorandum, "related structure" is defined as a structure which is appurtenant to, and functionally related to, an irrigation ditch. Examples of such related structures include, but are not limited to: siphons, pipes, pumps or pump systems, grade control structures, headgates, wingwalls, weirs, diversion structures, and such other facilities. The key to whether a structure is a "related structure" and potentially covered by the irrigation ditch exemption is whether the structure affects the ability (*e.g.*, capacity, design velocities) of the ditch to convey water as designed.

g. For the purposes of this memorandum, "maintenance" is defined as the activity undertaken to preserve or restore the original designed purpose and approximate capacity of the original, as-built configuration of a ditch. Maintenance includes a repair to an existing structure or feature to keep the ditch in its existing state or proper condition, or to preserve it from failure or decline.

h. For the purposes of this memorandum, "construction" is defined as new work, or work that results in a relocation, an extension, or an expansion of an existing ditch and/or related structure. In general, the construction of an irrigation ditch must be intended to primarily serve an irrigation purpose in order for the construction activity to be exempt.

IV. GUIDANCE FOR APPLYING THE DITCH EXEMPTIONS

General Guidance. To determine whether one of the ditch exemptions applies, the following steps should be analyzed:

a. Step 1 is to determine whether the proposed activity will occur in waters of the United States. The agencies' regulations and associated preamble language, guidance documents, and technical manuals may be used to make this determination. If the proposed activity will not occur in waters of the United States, the proposed activity is not prohibited by nor regulated under Section 404 of the CWA.

b. Step 2 is to determine whether the proposed activity involves a discharge of dredged and/or fill material. As noted in paragraph III.b above, the agencies' regulations define these terms. If no discharge of dredged and/or fill material will occur, the proposed activity is not prohibited by nor regulated under Section 404 of the CWA.

c. Step 3 is to determine whether the proposed activity involves an "irrigation ditch" or a "drainage ditch" according to the definitions in Section III of this memorandum. The following clarifications may assist in making this determination:

- Irrigation Ditches:
    - Related structures, as defined in paragraph III.f above, are included in the scope of the irrigation ditch exemption.
    - If a ditch carries only irrigation water, irrigation return flows, and/or overland flow (precipitation and/or snowmelt) to and/or from an irrigated area, that ditch would be considered an irrigation ditch, not a drainage ditch.
    - A ditch that diverts water from a waterbody (*e.g.*, stream, lake, or reservoir) for irrigation purposes is an irrigation ditch and does not become a drainage ditch even if a substantial portion of the flow into or volume of the waterbody is diverted by the irrigation ditch.
- Drainage Ditches:
    - Where a ditch would have the effect of draining wetlands (other than wetlands established due to the presence of irrigation water), the ditch would be considered a drainage ditch, not an irrigation ditch, even if used for irrigation.

d. Step 4 is to determine whether the proposed activity is "maintenance," which is exempt for irrigation and drainage ditches, or "construction," which is exempt for irrigation ditches only.[2] The following clarifications may assist in making this determination:

[2] In many cases, accurate historical records are not available to determine the "as-built" specifications of the original ditch and/or related structures. In these cases, agency staff should work closely with the project proponent to establish an appropriate maintenance depth and/or reference an appropriate structure design to restore the ditch's original designed

- Maintenance (for both irrigation and drainage ditches):
    - Removal of material, including vegetation, from an existing ditch such as by dredging or recontouring in accordance with the historical design and purpose of the ditch, qualifies as maintenance. However, the ditch must not be deepened such that it would drain additional areas compared to the original design.
    - Minor changes to the cross-section of the ditch to conform with current engineering standards (*e.g.*, where more graduated side-slopes result in greater stability) qualify as maintenance, so long as those modifications of the ditch will not result in the drainage, degradation, or destruction of additional jurisdictional waters.
    - Replacement or repair of existing related structure(s) qualify as maintenance as long as the original purpose of the structure is not changed and original approximate capacity of the irrigation ditch or related structures are not increased. Activities related to structures that were not designed to contribute to the original purpose and capacity of the ditch are not covered by the maintenance portion of the irrigation ditch exemption or the drainage ditch exemption. There may, however, be circumstances where a drainage ditch includes associated structures which may be evaluated on a case-by-case basis as to whether the maintenance of such structures is exempt.
- Construction (for irrigation ditches only):
    - Relocation of existing ditches or tributaries, and converting existing ditches into pipes, qualifies as construction. However, these actions should be analyzed in Step 5, below, to determine whether they would be subject to the recapture provision.
- Maintenance (for irrigation and drainage ditches) and/or Construction (for irrigation ditches only) Depending on the Site-specific Circumstances:
    - Sidecasting, for purposes of this memorandum, is the casting of dredged or excavated material to the side of or near the ditch being constructed or maintained. Sidecasting of any dredged material for the purpose of construction or maintenance of jurisdictional irrigation ditches, or the maintenance (but not construction) of jurisdictional drainage ditches, into jurisdictional wetlands or other waters of the United States is exempt. However, these actions should be analyzed in Step 5, below, to determine whether the sidecasting would be subject to the recapture provision.
    - Armoring, lining, and/or piping repair activities qualify as maintenance only where a previously armored, lined, or piped section is being repaired and all work occurs within the footprint of the previous work. All new lining of ditches, where the ditch had not previously been lined, is considered construction.
    - Temporary discharges of fill material in waters of the United States that would be used to facilitate the completion of the exempt ditch maintenance and ditch construction activities described above, such as the placement of temporary cofferdams for erosion and sediment control purposes, are also exempt under Section 404(f)(1)(C) of the CWA, provided the temporary fills are not recaptured under Step 5, below, and provided the temporary fills are removed from waters of the United States in their entirety upon completion of the ditch maintenance or ditch construction activity.

purpose and approximate capacity, while meeting the spirit of the exemption and ensuring adequate protection of aquatic resources. In situations where the potential applicability of the exemption under CWA Section 404(f)(1)(C) to a proposed activity has been raised to the District, and where the District cannot make a determination due to a lack of pertinent factual information, the District should request additional documentation or supporting evidence from the project proponent or inform the proponent that the activity may not qualify for the exemption.

e. Step 5 is to determine applicability of the "recapture provision." CWA Section 404(f)(2) sets forth a two-part test, and both parts must be met to "recapture" an activity (*i.e.*, to bring the activity within the scope of regulation under CWA Section 404, such that a permit would be required).

Part 1: Is the discharge incidental to a proposed activity where the purpose of the activity is to convert an area of the waters of the United States into a use to which it was not previously subject? This is also known as the "change in use" test. The following clarifications may assist in making this determination:

- Construction of an irrigation ditch that cuts through (or across) a jurisdictional waterbody, including wetlands, may be a change in use of the waterbody because the footprint of the ditch and any structure(s) within the jurisdictional water(s) may convert that portion of the waterbody from a non-irrigation use to an irrigation use.
- Conversion of a jurisdictional wetland to a non-wetland is a change in use. However, the development of wetland characteristics in a ditch does not establish a new use for the ditch. The recapture provision would not apply to the maintenance activities of ditches which have developed wetland characteristics even if sediment and vegetation removal occurs to eliminate obstructions to flow.[3]
- Construction of dikes, drainage ditches, or other works or structures used to effect conversion of a wetland from silvicultural to agricultural use (such as by draining the wetland) is a change in use (33 CFR 323.4(c) and 40 CFR 232.3(b)).
- The fill of the former area of existing jurisdictional ditches or tributaries associated with relocation of such waters or converting existing jurisdictional ditches into pipes, is a change in use (*i.e.*, from jurisdictional waters to dry land or to non-jurisdictional waters).

Part 2: If Part 1 of the test is met, will the proposed activity impair the flow or circulation of waters of the United States or reduce the reach of such waters? This determination should be made on a case-by-case basis,[4] and the following clarifications may assist in making this determination:

- The agencies' regulations implementing CWA Section 404(f) (*i.e.*, 33 CFR 323.4(c) and 40 CFR 232.3(b)) specify that "(w)here the proposed discharge will result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration." The project proponent should provide information to the agencies regarding why this presumption is not met if they request an exemption determination by the agencies.
- A discharge which elevates the bottom of waters of the United States without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the United States (33 CFR 323.4(c) and 40 CFR 232.3(b)). An example of this could be "thin-spreading" dredged material into jurisdictional wetlands. Case-specific information should be considered to determine if such alterations to flow or circulation would rise to the level of impairment.

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[3] In certain circumstances, the accumulation of sediment over time may be so extensive that the ditch is no longer capable of being used to convey water, or the intended purpose of the ditch as a drainage resource has been abandoned. The removal of sediment and vegetation in such cases may be considered construction instead of maintenance, depending on the factual circumstances, and may require a permit, assuming the feature is, or the activity at issue is performed in, an otherwise jurisdictional water. When accumulation of sediment or debris occurs in response to a flood, storm, hurricane or similar event or series of events, the maintenance designed to restore such ditches to their original capacity should fall within the scope of the CWA Section 404(f) permit exemption. The maintenance activities performed to restore the ditch, however, must not expand the ditch beyond the contours of the ditch that existed before the event or events occurred.

[4] Because the CWA Section 404(f)(1) exemption for maintenance of irrigation or drainage ditches applies only to maintenance activities that would maintain existing capacity and functionality (not to construction activities), it is unlikely that the recapture provision in CWA Section 404(f)(2) would apply to ditch maintenance activities as defined above.

- A proposed activity for the purpose of construction or maintenance of a ditch that has the effect of substantially increasing or decreasing water levels in a nearby jurisdictional wetland or other jurisdictional water would be an alteration of the flow and circulation of said water(s), and should be analyzed to determine whether that alteration rises to the level of impairment.
- Construction of an irrigation ditch which converts a jurisdictional ditch into a pipe is a change in use of waters of the United States, and by definition also a reduction in their reach, within the meaning of CWA Section 404(f)(2).
- Certain construction or maintenance activities in a ditch have the potential to sever the hydrologic connection of waters of the United States and/or to sever adjacency between a jurisdictional wetland and another water of the United States. Ditch maintenance or construction activities having such an effect would reduce the reach of waters of the United States, and therefore may meet the second part of the recapture provision test. However, if a project proponent is able to demonstrate that hydrologic connectivity is maintained between the waters that would otherwise be severed, such as through the use of a culvert, flood or tide gate, pump, or similar artificial feature, or through the intentional breaches of levees or similar features, the reach of waters of the United States may not be reduced by the activity, although it may result in an impairment of flow or circulation.

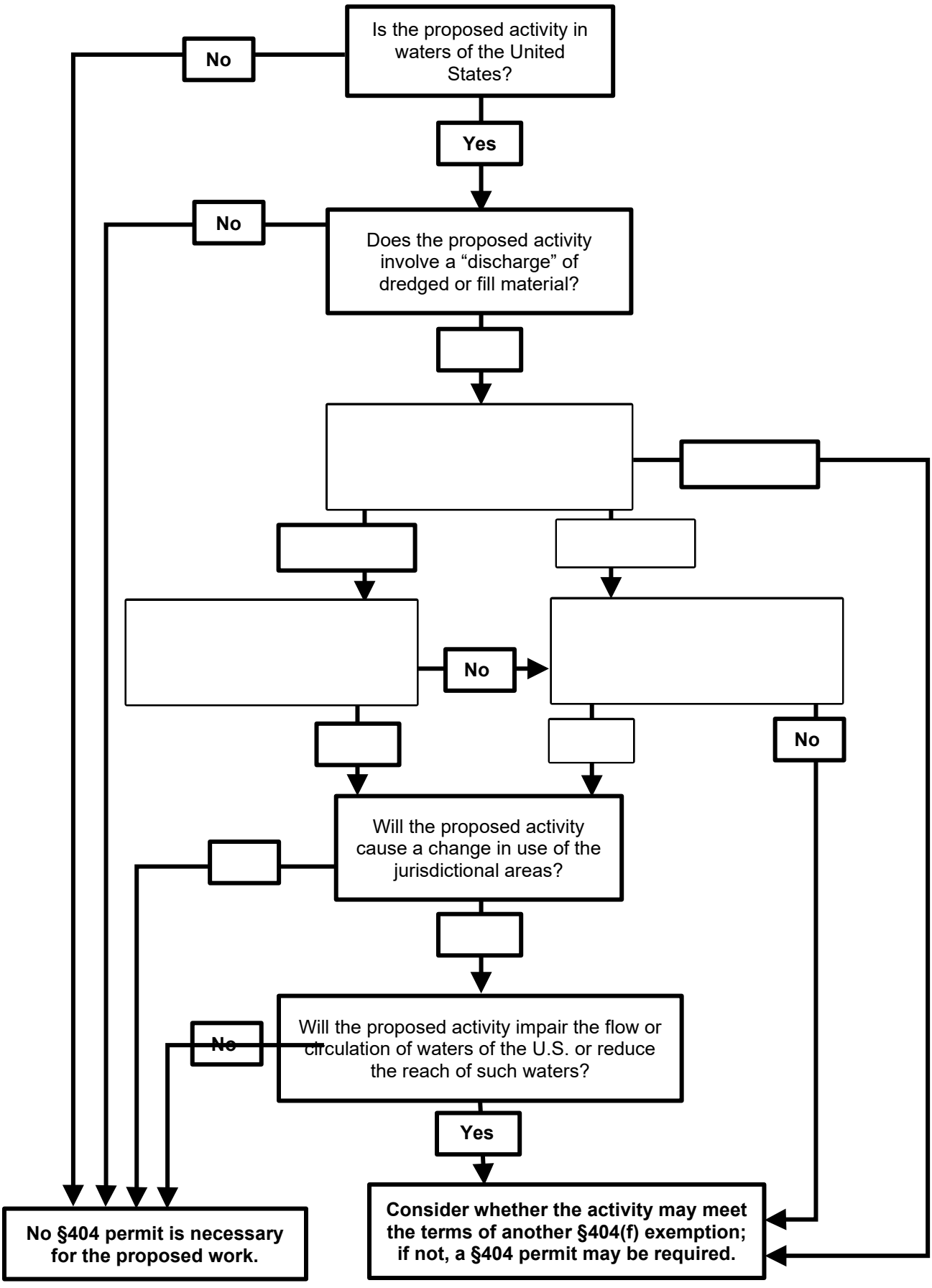
V. CONCLUSION

When an activity has been determined in the first four steps of Section IV above to involve discharges of dredged or fill material into waters of the United States, the discharges are for the purpose of construction or maintenance of irrigation ditches or the maintenance (but not construction) of drainage ditches, and the elements of the recapture provision are not satisfied, then the activity is exempt from regulation under Section 404 of the CWA.

R.D. JAMES
Assistant Secretary of the Army
(Civil Works)

DAVID P. ROSS
Assistant Administrator, Office of Water
Environmental Protection Agency

FLOW CHART ATTACHMENT TO THE JOINT MEMORANDUM TO THE FIELD BETWEEN ARMY AND EPA CONCERNING SECTION 404(f)(1)(C) OF THE CLEAN WATER ACT



C-5 NMDA Memorandum on New Mexico's Noxious Weed List

NEW MEXICO DEPARTMENT OF AGRICULTURE
Office of the Director/Secretary
MSC 3189
New Mexico State University
P.O. Box 30005
Las Cruces, NM 88003-8005
Phone: (575) 646-3007

July 2, 2020

MEMORANDUM

TO: General Public

FROM: Director/Secretary Jeff Witte

SUBJECT: New Mexico Noxious Weed List Update

Petitions to add new plant species to the state noxious weed list were solicited and received by the New Mexico Department of Agriculture (NMDA) from Cooperative Weed Management Areas, individuals, agencies and organizations. The petitions were reviewed by the New Mexico Weed List Advisory Committee using ecological, distribution, impact, and legal status criteria within the State of New Mexico and adjoining states.

This list does not include every plant species with the potential to negatively impact the state's environment or economy. Landowners and land managers are encouraged to recognize plant species listed on the federal noxious weed list and other western states' noxious weed lists as potentially having negative impacts and to manage them accordingly.

As required by the Noxious Weed Management Act of 1998, the following plant species *(see attached New Mexico Noxious Weed List)* are designated as noxious weeds to be targeted for control or eradication. Thank you to the Cooperative Weed Management Areas, individuals, agencies and organizations who participated in this process.

attachment: New Mexico Noxious Weed List

IMG/jm/jw

New Mexico Noxious Weed List

Updated June 2020

Class A Species

Class A species are currently not present in New Mexico or have limited distribution. Preventing new infestations of these species and eradicating existing infestations is the highest priority.

Common Name	Scientific Name
Black henbane	*Hyoscyamus niger*
Camelthorn	*Alhagi psuedalhagi*
Canada thistle	*Cirsium arvense*
Dalmation toadflax	*Linaria dalmatica*
Diffuse knapweed	*Centaurea diffusa*
Dyer's woad	*Isatis tinctoria*
Giant salvinia	*Salvinia molesta*
Hoary cress	*Cardaria spp.*
Leafy spurge	*Euphorbia esula*
Oxeye daisy	*Leucanthemum vulgare*
Purple loosestrife	*Lythrum salicaria*
Purple starthistle	*Centaurea calcitrapa*
Ravenna grass	*Saccharum ravennae*
Scentless chamomile	*Matricaria perforata*
Scotch thistle	*Onopordum acanthium*
Spotted knapweed	*Centaurea biebersteinii*
Yellow starthistle	*Centaurea solstitialis*
Yellow toadflax	*Linaria vulgaris*

Class B Species

Class B species are limited to portions of the state. In areas with severe infestations, management should be designed to contain the infestation and stop any further spread.

Common Name	Scientific Name
African rue	*Peganum harmala*
Bull thistle	*Cirsium vulgare*
Chicory	*Cichorium intybus*
Halogeton	*Halogeton glomeratus*
Malta starthistle	*Centaurea melitensis*
Perennial pepperweed	*Lepidium latifolium*
Poison hemlock	*Conium maculatum*
Quackgrass	*Elytrigia repens*
Spiny cocklebur	*Xanthium spinosum*
Teasel	*Dipsacus fullonum*

Class C Species

Class C species are widespread in the state. Management decisions for these species should be determined at the local level, based on feasibility of control and level of infestation.

Common Name	Scientific Name
Cheatgrass	*Bromus tectorum*
Curlyleaf pondweed	*Potamogeton crispus*
Eurasian watermilfoil	*Myriophyllum spicatum*
Giant cane	*Arundo donax*
Hydrilla	*Hydrilla verticllata*
Jointed goatgrass	*Aegilops cylindrica*
Musk thistle	*Carduus nutans*
Parrotfeather	*Myriophyllum aquaticum*
Russian knapweed	*Acroptilon repans*
Russian olive	*Elaeagnus angustifolia*
Saltcedar	*Tamarix spp.*
Siberian elm	*Ulmus pumila*
Tree of heaven	*Ailanthus altissima*

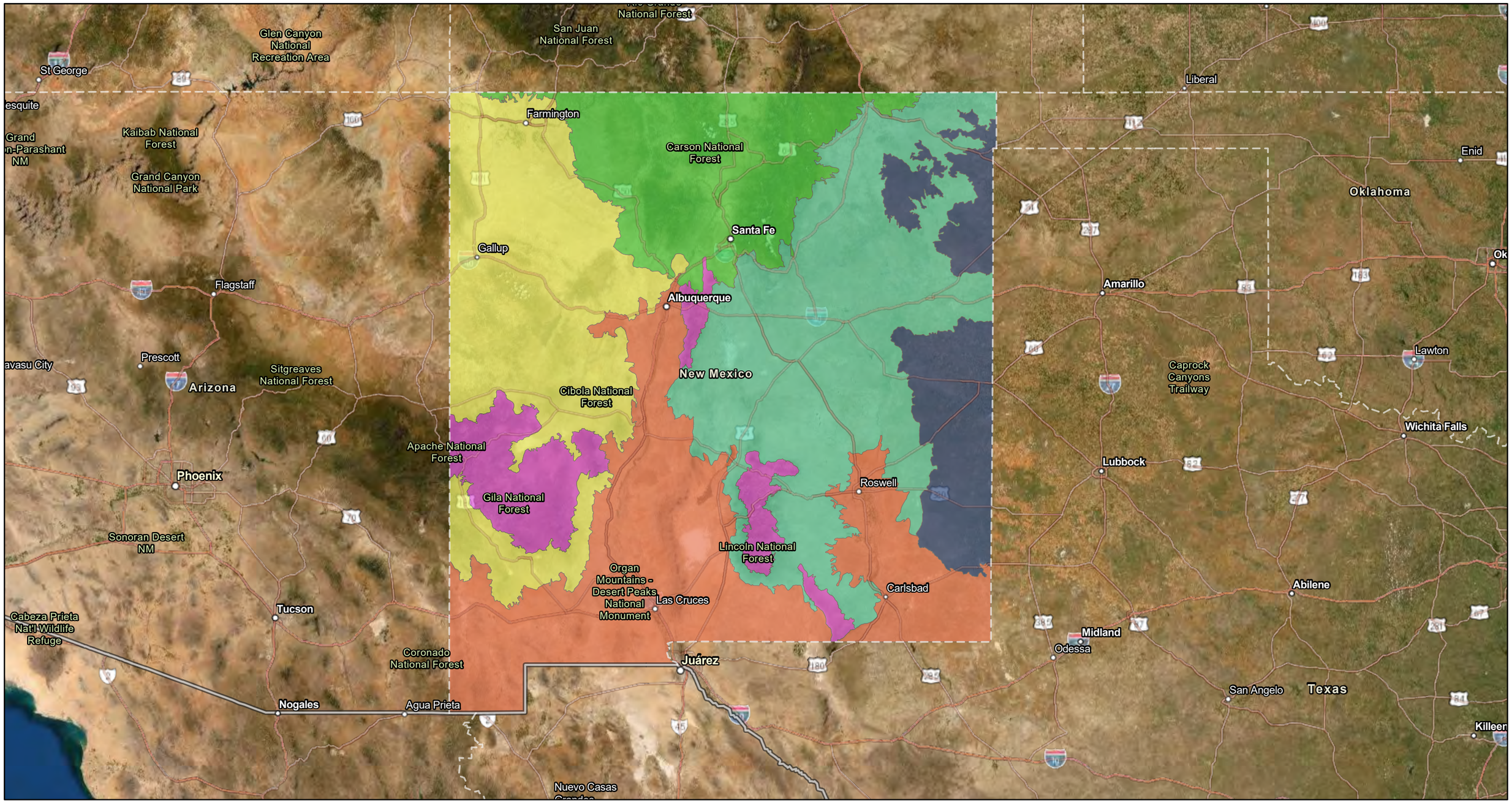
Watch List Species

Watch List species are species of concern in the state. These species have the potential to become problematic. More data is needed to determine if these species should be listed. When these species are encountered, please document their location and contact appropriate authorities.

Common Name	Scientific Name
Buffelgrass	*Pennisetum ciliaris*
Crimson fountaingrass	*Pennisetum setaceum*
Meadow knapweed	*Centaurea pratensis*
Myrtle spurge	*Euphorbia myrsinites*
Pampas grass	*Cortaderia sellonana*
Yellow bluestem	*Bothriochloa ischaemum*

C-6 NMDOT Revegetation Zone Seed Lists

NMDOT Revegetation Zones



July 2, 2022

NMDOT Revegetation Zones and Seed Lists

- Zone 1: New Mexico Plateaus and Mesas
- Zone 2: Southern Rocky Mountains and High Valleys
- Zone 3: Pecos/Canadian Plains and Valleys
- Zone 4: New Mexico Mountains
- Zone 5: Southern Desertic Basins, Plains, and Mountains
- Zone 6: Southern High Plains

1:4,622,324

0 45 90 180 mi

0 75 150 300 km

2017 Zone 1 Seed List: NM Plateaus and Mesas

Common Name	Botanical Name	Lbs of PLS*/Acre
Annual quick-cover grasses		
Oats	*Avena sativa*	0.50
Sterile triticale	*Triticum aestivum X Secale cereale'Quickguard'*	0.50
Cool-season grasses		
Bottlebrush squirreltail	*Elymus elymoides*	1.75
Indian ricegrass	*Achnatherum hymenoides* var. *Paloma***	0.75
Western wheatgrass	*Agropyron smithii*	1.75
Warm-season grasses		
Alkali sacaton	*Sporobolus airoides*	0.20
Blue grama	*Bouteloua gracilis* var. *Alma***	0.50
Galleta	*Pleuraphis jamesii* var. *Viva***	1.00
Little bluestem	*Schizachyrium scoparium*	0.50
Sand dropseed	*Sporobolus cryptandrus*	0.08
Sideoats grama	*Bouteloua curtipendula* var. *Vaughn***	0.75
Wildflowers		
Blanket flower	*Gaillardia pulchella*	0.20
Broadbeard penstemon	*Penstemon angustifolius*	0.20
Hairy golden aster	*Heterotheca villosa*	0.20
Lewis flax	*Linum lewisii*	0.20
Narrowleaf paintbrush	*Castilleja linariifolia*	0.02
Nelson globemallow	*Sphaeralcea parvifolia*	0.30
Prairie aster	*Machaeranthera tanacetifolia*	0.20
White prairie Clover	*Dalea candida*	0.20
Wild four o'clock	*Mirabilis multiflora*	0.30

Woody Shrubs

Antelope bitterbrush	*Purshia tridentata*	1.00
Four-wing saltbush	*Atriplex canescens*	0.40
Winterfat	*Krascheninnikovia lanata*	0.20
Sand sage	*Artemisia filifolia*	0.05

***PURE LIVE SEED/ACRE TOTAL**	**11.75**

**** Local, wild-sourced genotypes preferred. Provide specified registered variety only if wild-sourced seed is unavailable.**

2017 Zone 2 Seed List: Southern Rocky Mountains and High Valleys

Common Name	Botanical Name	Lbs of PLS*/Acre
Annual quick-cover grasses		
Oats	*Avena sativa*	0.50
Sterile triticale	*Triticum aestivum X Secale cereale'Quickguard'*	0.50
Cool-season grasses		
Arizona fescue	*Festuca arizonica*	0.40
California brome	*Bromus carinatus*	1.50
Indian ricegrass	*Achnatherum hymenoides var. Paloma***	0.50
Western wheatgrass	*Agropyron smithii*	1.50
Warm-season grasses		
Alkali sacaton	*Sporobolus airoides*	0.20
Blue grama	*Bouteloua gracilis var. Alma***	0.50
Galleta	*Pleuraphis jamesii var. Viva***	0.50
Little bluestem	*Schizachyrium scoparium*	0.50
Mountain muhly	*Muhlenbergia montana*	0.20
Sideoats grama	*Bouteloua curtipendula var. Vaughn***	0.50
Wildflowers		
Aspen fleabane	*Erigeron speciosus*	0.05
Beardlip penstemon	*Penstemon barbatus*	0.20
Bluebell bellflower	*Campanula rotundifolia*	0.10
Common yarrow	*Achillea millefolium*	0.05
Narrowleaf paintbrush	*Castilleja linariifolia*	0.02
Redroot buckwheat	*Eriogonum racemosum*	0.20
Scarlet gilia	*Ipomopsis aggregata*	0.20
Showy goldeneye	*Heliomeris multiflora*	0.07
White prairie clover	*Dalea candida*	0.20

Woody Shrubs

Four-wing saltbush	*Atriplex canescens*	0.40
Wax currant	*Ribes cereum*	0.05
Winterfat	*Krascheninnikovia lanata*	0.20
Woods rose	*Rosa woodsii*	0.30

***PURE LIVE SEED/ACRE TOTAL** **9.34**

**** Local, wild-sourced genotypes preferred. Provide specified registered variety only if wild-sourced seed is unavailable.**

2017 Zone 3 Seed List: Pecos/Canadian Plains and Valleys

Common Name	Botanical Name	Lbs of PLS*/Acre
Annual quick-cover grasses		
Oats	*Avena sativa*	0.50
Sterile triticale	*Triticum aestivum X Secale cereale'Quickguard'*	0.50
Cool-season grasses		
Bottlebrush squirreltail	*Elymus elymoides*	1.75
Western wheatgrass	*Agropyron smithii*	1.75
Warm-season grasses		
Alkali sacaton	*Sporobolus airoides*	0.20
Blue grama	*Bouteloua gracilis var. Alma***	0.50
Buffalograss	*Bouteloua dactyloides*	1.00
Galleta	*Pleuraphis jamesii var. Viva***	0.75
Little bluestem	*Schizachyrium scoparium*	0.50
Sand dropseed	*Sporobolus cryptandrus*	0.05
Sideoats grama	*Bouteloua curtipendula var. Vaughn***	0.50
Wildflowers		
Dotted gayfeather	*Liatris punctata*	0.50
Blanket flower	*Gaillardia pulchella*	0.30
Goldenrod	*Solidago rigida*	0.10
Prairie aster	*Machaeranthera tanacetifolia*	0.30
Prairie coneflower	*Ratibida columnifera*	0.20
Purple prairie clover	*Dalea purpurea var. purpurea*	0.30
Scarlet globemallow	*Sphaeralcea coccinea*	0.30
White prairie clover	*Dalea candida*	0.20
Wild four o'clock	*Mirabilis multiflora*	0.30

Woody Shrubs

Apache plume	*Fallugia paradoxa*	0.10
Four-wing saltbush	*Atriplex canescens*	0.40
Prairie sage	*Artemisia ludoviciana*	0.02
Winterfat	*Krascheninnikovia lanata*	0.20

***PURE LIVE SEED/ACRE TOTAL**	**11.97**

**** Local, wild-sourced genotypes preferred. Provide specified registered variety only if wild-sourced seed is unavailable.**

2017 Zone 4 Seed List: NM Mountains

Common Name	Botanical Name	Lbs of PLS*/Acre
Annual quick-cover grasses		
Oats	*Avena sativa*	0.50
Sterile triticale	*Triticum aestivum X Secale cereale'Quickguard'*	0.50
Cool-season grasses		
Arizona fescue	*Festuca arizonica*	0.40
California brome	*Bromus carinatus*	1.50
Indian ricegrass	*Achnatherum hymenoides var. Paloma***	0.50
Western wheatgrass	*Agropyron smithii*	1.50
Warm-season grasses		
Alkali sacaton	*Sporobolus airoides*	0.20
Blue grama	*Bouteloua gracilis var. Alma***	0.50
Galleta	*Pleuraphis jamesii var. Viva***	0.50
Little bluestem	*Schizachyrium scoparium*	0.50
Mountain muhly	*Muhlenbergia montana*	0.20
Sideoats grama	*Bouteloua curtipendula var. Vaughn***	0.50
Wildflowers		
Aspen fleabane	*Erigeron speciosus*	0.05
Beardlip penstemon	*Penstemon barbatus*	0.20
Bluebell bellflower	*Campanula rotundifolia*	0.10
Butterfly milkweed	*Asclepias tuberosa*	*0.70*
Common yarrow	*Achillea millefolium*	0.05
Narrowleaf paintbrush	*Castilleja linariifolia*	0.02
Scarlet gilia	*Ipomopsis aggregata*	0.20
Showy goldeneye	*Heliomeris multiflora*	0.07
White prairie clover	*Dalea candida*	0.20

Woody Shrubs

Four-wing saltbush	*Atriplex canescens*	0.40
Wax currant	*Ribes cereum*	0.05
Winterfat	*Krascheninnikovia lanata*	0.20
Woods rose	*Rosa woodsii*	0.30

***PURE LIVE SEED/ACRE TOTAL**	**9.84**

**** Local, wild-sourced genotypes preferred. Provide specified registered variety only if wild-sourced seed is unavailable.**

2017 Zone 5 Seed List: Southern Desertic Basins, Plains, and Mountains

Common Name	Botanical Name	Lbs of PLS*/Acre
Annual quick-cover grasses		
Oats	*Avena sativa*	0.50
Sterile triticale	*Triticum aestivum X Secale cereale'Quickguard'*	0.50
Cool-season grasses		
Bottlebrush squirreltail	*Elymus elymoides*	1.75
New Mexico feathergrass	*Hesperostipa neomexicana*	1.00
Western wheatgrass	*Agropyron smithii*	1.75
Warm-season grasses		
Alkali sacaton	*Sporobolus airoides*	0.20
Black grama	*Bouteloua eriopoda*	0.20
Little bluestem	*Schizachyrium scoparium*	0.50
Needle grama	*Bouteloua aristidoides*	0.30
Sand dropseed	*Sporobolus cryptandrus*	0.08
Sideoats grama	*Bouteloua curtipendula var. Vaughn***	0.75
Wildflowers		
Blanket flower	*Gaillardia pulchella*	0.30
Desert marigold	*Baileya multiradiata*	0.10
Desert zinnia	*Zinnia acerosa*	0.20
Hairy golden aster	*Heterotheca villosa*	0.20
Lewis flax	*Linum lewisii*	0.20
Prairie aster	*Machaeranthera tanacetifolia*	0.20
Wild four o'clock	*Mirabilis multiflora*	0.30
White prairie clover	*Dalea candida*	0.30
Scarlet globemallow	*Sphaeralcea coccinea*	0.30

Woody Shrubs

Four-wing saltbush	*Atriplex canescens*	0.40
Sand sage	*Artemisia filifolia*	0.05
Winterfat	*Krascheninnikovia lanata*	0.20

***PURE LIVE SEED/ACRE TOTAL**	**10.28**

**** Local, wild-sourced genotypes preferred. Provide specified registered variety only if wild-sourced seed is unavailable.**

2017 Zone 6 Seed List: Southern High Plains

Common Name	Botanical Name	Lbs of PLS*/Acre
Annual quick-cover grasses		
Oats	*Avena sativa*	0.50
Sterile triticale	*Triticum aestivum X Secale cereale'Quickguard'*	0.50
Cool-season grasses		
Bottlebrush squirreltail	*Elymus elymoides*	1.75
New Mexico feathergrass	*Hesperostipa neomexicana*	1.00
Western wheatgrass	*Agropyron smithii*	1.75
Warm-season grasses		
Alkali sacaton	*Sporobolus airoides*	0.20
Blue grama	*Bouteloua gracilis var. Alma***	0.50
Buffalograss	*Bouteloua dactyloides*	1.00
Galleta	*Pleuraphis jamesii var. Viva***	1.00
Little bluestem	*Schizachyrium scoparium*	0.50
Sand dropseed	*Sporobolus cryptandrus*	0.05
Sideoats grama	*Bouteloua curtipendula var. Vaughn***	0.50
Wildflowers		
Blanket flower	*Gaillardia pulchella*	0.30
Common sunflower	*Helianthus annuus*	1.00
Dotted gayfeather	*Liatris punctata*	0.50
Hairy golden aster	*Heterotheca villosa*	0.20
Prairie aster	*Machaeranthera tanacetifolia*	0.20
Prairie coneflower	*Ratibida columnifera*	0.20
Purple prairie clover	*Dalea purpurea var. purpurea*	0.30
Scarlet globemallow	*Sphaeralcea coccinea*	0.30
White prairie clover	*Dalea candida*	0.20

Woody Shrubs

Four-wing saltbush	*Atriplex canescens*	0.40
Sand sage	*Artemisia filifolia*	0.05
Spanish bayonet	*Yucca glauca*	0.50
Winterfat	*Krascheninnikovia lanata*	0.20

***PURE LIVE SEED/ACRE TOTAL**	**12.10**

**** Local, wild-sourced genotypes preferred. Provide specified registered variety only if wild-sourced seed is unavailable.**

APPENDIX D INDEX

D-1 FEMA Participating Agency Request Letter, dated June 13, 2022

U. S. Department of Homeland Security
FEMA Region 6
800 North Loop 288
Denton, TX 76209-3698

FEMA

June 13, 2022

RE: FEMA Participating Agency Request in Preparation of a Programmatic Environmental Assessment for the State of New Mexico Watershed Resiliency and Post-Fire Treatment Project(s)

Attention:

Federal disaster assistance has been made available to the state of New Mexico to supplement state and local recovery efforts in the areas affected by wildfires and straight-line winds beginning on April 5 and remains ongoing, under FEMA-4652-DR-NM, signed by the President on May 4, 2022. The mission of the Federal Emergency Management Agency (FEMA) is to reduce the loss of life and property and protect our institutions from all hazards by leading and supporting the nation ina comprehensive, risk-based emergency management program of mitigation, preparedness, response, and recovery. The federal government, through multiple agencies and their programs, proposes to perform comprehensive watershed resiliency and post-fire treatment actions through debris removal, river restoration, bank stabilization, structure demolition, relocation, or alteration, and hydraulic capacity mitigation measures for restoring watershed function. These actions may be implemented under funding programs from various federal agencies. In an effort to streamline federal environmental and historic preservation compliance reviews on behalf of the federal government, FEMA is preparing a Programmatic Environmental Assessment (PEA) in accordance with Unified Federal Review (UFR) as outlined in The Sandy Recovery Improvement Act (SRIA) of 2013, Section 6: Unified Federal Review. The UFR mandates the establishment of an "…expeditedand unified interagency review process to ensure compliance with environmental and historic requirements under federal law relating to disaster recovery projects, in order to expedite the recovery process, consistent with applicable law (SRIA, 2013)."

FEMA would like to request federal, state, and local agencies as well as federally recognized tribal governments with interest, jurisdiction, or authority in the state of New Mexico, become a **participating agency** to the PEA for the state of New Mexico Watershed Resiliency and Post-Fire Treatment Project(s) being prepared under the National Environmental Policy Act (NEPA).

As the designated lead federal agency, FEMA will develop a PEA and coordinate with other resource/regulatory agencies as well as participating agencies, as needed, to ensure compliance with all applicable federal laws and Executive Orders.

As a participating agency, your agency would be responsible for identifying, as early as practicable, any issues of concern regarding the project's potential environmental, cultural, or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your participating

agency's role in the development of the above PEA include the following as they relate to your area of expertise:

1. Provide meaningful and early input on defining the purpose and need, determining the range of alternatives to be considered, and the methodologies and level of detail required in the alternatives analysis.
2. Providing technical expertise and sharing relevant data, references, resources, or other federal environmental and historic preservation compliance documentation (i.e., PEAs, Environmental Assessments, Environmental Impact Statements, Biologic Opinions, Programmatic Agreements or Consultations, etc.)
3. Participate in coordination meetings and joint field reviews as appropriate.
4. Timely review and comment on early project information to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

If your agency is a federal agency and declines to be a participating agency to the PEA, we encourage your agency do so in writing by stating:

1. Your agency has no jurisdiction or authority;
2. Your agency has no expertise or information relevant to the project; and
3. Your agency does not intend to comment on the project.

We look forward to your response and to working with you on this PEA. **We would appreciate receiving a written response by letter or email to this request 5 days from the date of this letter.** Should you have any questions, please contact Regional Unified Federal Review Coordinator, Sarah Carrino at sarah.carrino@fema.dhs.gov or at 202-733-7908. Thank you.

Sincerely,

Kevin Jaynes
Regional Environmental Officer
FEMA Region 6

Cc: Portia Ross, Environmental Officer, Office of Environmental Planning and Historic Preservation, FEMA Headquarters

D-2 Participating Agency/Tribe Record of Interest

<mbowekaty@pol-nsn.gov>; Wesley Fernando <wfernando@pol-nsn.gov>; James Burson <jburson@pol-nsn.gov>; Marlene Analla <manalla@pol-nsn.gov>; Raymond P. Lucero <rplucero@pol-nsn.gov>
Subject: Pueblo of Laguna Response to: FEMA Participating Agency Request in Preparation of a Programmatic Environmental Assessment for the State of New Mexico Watershed Resiliency and Post Fire Project(s)

Good morning Ms. Carrino,

Thank you for taking the time this morning to discuss the ***Pueblo of Laguna's*** response to the **New Mexico Watershed Resiliency and Post Fire Treatment Project**.

The Pueblo of Laguna is concerned about the current environmental conditions in our region and want to be proactive to any situation(s) that may arise in the coming years. Our forest zones are unique and are a significant part of our watershed and our communities drinking water supply. This fragile ecosystem, if devastated by fire or other acts of nature, could permanently impact the pueblo's way of life for generations.

Therefore, the Pueblo of Laguna would like to officially become a **participating agency** to the **Programmatic Environmental Assessment** (PEA) and be involved with any updates , programmatic reviews, and coordination meetings. We are available to provide meaningful and early input if requested.

Respectfully,

Greg Jojola
Acting ENRD Director
PUEBLO OF LAGUNA
P.O. Box 194
Laguna, NM 87026
O: (505)552- 7512
gjojola@pol-nsn.gov

From: Pinu'u Stout <pstout@sfpueblo.com>
Sent: Tuesday, June 14, 2022 12:23 PM
To: Scoggin, Robert <robert.w.scoggin@fema.dhs.gov>
Subject: RE: FEMA Participation Request for Preliminary Environmental Assessment NM Watershed Resiliency and Post-Fire Treatment Project(s)

Good Morning,
Please include the Pueblo of San Felipe as a participating agency in the development of a PEA for the Post Fire treatment.
Thank you,
Pinu'u Stout

Pinu'u Stout
Pueblo of San Felipe
Interim Tribal Administrator
Director Department of Natural Resources
127 Hagen Road
San Felipe Pueblo, NM 87001
Office: (505) 771-6628
Email: pstout@sfpueblo.com

From: Scoggin, Robert <robert.w.scoggin@fema.dhs.gov>
Sent: Monday, June 13, 2022 11:19 AM
To: Pinu'u Stout <pstout@sfpueblo.com>
Subject: FEMA Participation Request for Preliminary Environmental Assessment NM Watershed Resiliency and Post-Fire Treatment Project(s)

Good Morning Governor Valencia,

On behalf of FEMA and the Regional Environmental Officer, Kevin Jaynes, we would like to request federally recognized tribal governments with interest, jurisdiction, or authority in the

TAOS PUEBLO WARCHIEF

Office of Natural Resource Protection
P.O. Box 2596 Taos, New Mexico 87571
(575) 758-3883 FAX (575) 758-2706

June 17, 2022

Kevin Jaynes

Regional Environmental Officer

FEMA Region 6

800 N. Loop 288

Denton TX 76209

940-383-7224

RE: FEMA Participating Agency Request for PEA NM Watershed Resiliency and Post-Fire Treatment Project(s)

Dear Mr. Jaynes,

Taos Pueblo would like to submit this Letter of Intent to notify FEMA of Taos Pueblo's intent to become a participating agency in the support of the development of a Programmatic Environmental Assessment (PEA) for NM Watershed Resiliency and Post-Fire Treatment Project(s).

Taos Pueblo appreciates the opportunity to participate in the development of the PEA and looks forward to working together to complete this important task.

Rene Romero will be our main point of contact for the purposes of developing this PEA and can be reached at:

PO Box 1846
Taos, NM 87571
(575) 758- 7410
rromero@taospueblo.com

Taos Pueblo would like to thank you for this opportunity to participate in the development of this PEA which will undoubtedly benefit Taos Pueblo and their neighbors.

Sincerely,

Fred L. Romero
Taos Pueblo WarChief

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Southwest Regional Office
1001 Indian School Road NW
Albuquerque, New Mexico 87104

IN REPLY REFER TO:
360 – Tribal Government

June 15, 2022

Sarah Carrino
sarah.carrino@fema.dhs.gov
FEMA, Regional Unified Federal Review Coordinator

Dear Ms. Carrino:

We are in receipt of Mr. Kevin Jaynes, Regional Environmental Officer, FEMA Region 6, June 13, 2022, letter requesting the Bureau of Indian Affairs (BIA) Southwest Region (SWRO) participation with a Programmatic Environmental Assessment for the State of New Mexico Watershed Resiliency and Post-Fire Treatment Project(s).

The BIA SWRO will commit to participate in the Programmatic Environmental Assessment as a Participating Agency. The main point of contact for the SWRO will be Waylon Denny, Deputy Regional Director – Trust Services. You may contact Mr. Denny by email Waylon.Denny@bia.gov or by telephone at (505) 563-3103 if you may have any questions.

Sincerely,

PATRICIA MATTINGLY

Digitally signed by PATRICIA MATTINGLY
Date: 2022.06.15 09:33:23 -06'00'

Patricia L. Mattingly
Regional Director

cc: Priscilla Avila, Acting Branch Chief, Division of Environmental, Cultural & Safety
Beverly Schwab, Regional Forester
John Cervantes, Regional Fire Management Officer
Eric J. Rodriguez, Tribal Government Officer

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Cabinet Secretary

Office of the Secretary

June 14, 2022

Kevin Jaynes
Regional Environmental Officer
FEMA, Region-6

Dear Mr. Jaynes:

The Energy, Minerals and Natural Resources Department (EMNRD) is in receipt of a request sent on June 13, 2022, by Sarah Carrina, R6 Unified Federal Review Coordinator, of the Federal Emergency Management Agency (FEMA). Per the request, EMNRD is willing to become a participating agency to support the development of Programmatic Environmental Assessment for the New Mexico Watershed Resiliency and Post-Fire Treatment Project(s) under the National Environmental Policy Act and Unified Federal Review Process.

Please coordinate any future correspondence with the EMNRD-Forestry Division and State Parks Division points of contact:

1. Laura McCarthy, State Forester (laura.mccarthy@state.nm.us)
2. Lindsey Quam, Deputy State Forester (lindsey.quam@state.nm.us)
3. Collin Haffey, Forest and Watershed Health Coordinator (collin.haffey@state.nm.us)
4. Toby Velasquez, State Parks Director (toby.velasquez@state.nm.us)

Sincerely,

Sarah Cottrell Propst

Sarah Cottrell Propst
Cabinet Secretary

Hi Sarah-
HUD Region VI has no objection to acting as a participating agency for this effort. I hope everything is well with the FEAM team in New Mexico. Have a great weekend!

Regards,

David

David A. Storms
Regional Environmental Officer
U.S. Department of Housing and Urban Development
Office of Environment and Energy
307 W. 7th Street, Suite 1000
Fort Worth, TX 76102
(817) 978-5540 Environmental Review - HUD Exchange

From: Carrino, Sarah <Sarah.Carrino@fema.dhs.gov>
Sent: Monday, June 13, 2022 10:46 AM
To: Abe Franklin (abraham.franklin@state.nm.us) <abraham.franklin@state.nm.us>; Alex Lopez (alexjlopez13@gmail.com) <alexjlopez13@gmail.com>; Rye, Ali <ali.rye@state.nm.us>; Andrea Padilla (acfanta@hotmail.com) <acfanta@hotmail.com>; Andrew Gutierrez (Tajique1834@gmail.com) <Tajique1834@gmail.com>; Angela Herrera (chatoymaria1961@gmail.com) <chatoymaria1961@gmail.com>; Arturo Archuleta (carchuleta02@unm.edu) <carchuleta02@unm.edu>; Beverly Armijo (beverlyarmijo@yahoo.com) <beverlyarmijo@yahoo.com>; Bianca Gonzalez (bgonzalez@slo.state.nm.us) <bgonzalez@slo.state.nm.us>; Bob Estes Ph. D. (Bob.estes@state.nm.us) <Bob.estes@state.nm.us>; Bonifacio Vasquez (bonifacio@windstream.net) <bonifacio@windstream.net>; Carmen Morin (CarmenB.Morin@state.nm.us) <CarmenB.Morin@state.nm.us>; Collin Haffey (collin.haffey@state.nm.us) <collin.haffey@state.nm.us>; Cynthia Rael Vigil (cynthiaraelvigil@yahoo.com) <cynthiaraelvigil@yahoo.com>; Dana Vackar Strang (dvstrang@slo.state.nm.us) <dvstrang@slo.state.nm.us>; Davena Crosley (davena.crosley@state.nm.us) <davena.crosley@state.nm.us>; Donald Auer (donaldp.auer@state.nm.us) <donaldp.auer@state.nm.us>; Donnie Quintana (Donnie.quintana@state.nm.us) <Donnie.quintana@state.nm.us>; Eddie Quintana (eddiequintana68@yahoo.com) <eddiequintana68@yahoo.com>; Fenicia Ross (fenicia.ross@state.nm.us) <fenicia.ross@state.nm.us>; Frank Trujillo (taoslandgrant@gmail.com) <taoslandgrant@gmail.com>; Gregory Suko (gregory.suko@state.nm.us) <gregory.suko@state.nm.us>; Higinia Gallegos (higiniagallegos@yahoo.com) <higiniagallegos@yahoo.com>; Isaac Gutierrez (ijgutierrez@santaclarapueblo.org) <ijgutierrez@santaclarapueblo.org>; Jacobo Baca (jacobobaca@unm.edu) <jacobobaca@unm.edu>;

Sarah,

The New Mexico Environment Department (NMED) would like to be a participating agency to support the development of a Programmatic Environmental Assessment (PEA) for the NM Watershed Resiliency and Post-Fire Treatment Project(s) being prepared under the National Environmental Policy Act (NEPA) and the Unified Federal Review (UFR) Process. I will be the point of contact for NMED for this effort.

Thank you,

Abe Franklin

--
Abraham J. Franklin
Program Manager, Watershed Protection Section
New Mexico Environment Department
Surface Water Quality Bureau
PO Box 5469
Santa Fe, NM 87502-5469
Physical Address:
1190 South St. Francis Drive, Rm. N2050
Santa Fe, NM 87505

505-946-8952
abraham.franklin@state.nm.us
https://www.env.nm.gov/surface-water-quality/watershed-protection-section/

From: Carrino, Sarah <Sarah.Carrino@fema.dhs.gov>
Sent: Monday, June 13, 2022 9:56 AM
To: Franklin, Abraham, ENV <abraham.franklin@state.nm.us>; Alex Lopez (alexjlopez13@gmail.com) <alexjlopez13@gmail.com>; Rye, Ali, DHSEM <Ali.Rye@state.nm.us>; Andrea Padilla (acfanta@hotmail.com) <acfanta@hotmail.com>; Andrew Gutierrez (Tajique1834@gmail.com) <Tajique1834@gmail.com>; Angela Herrera (chatoymaria1961@gmail.com) <chatoymaria1961@gmail.com>; carchuleta02@unm.edu; Beverly Armijo (beverlyarmijo@yahoo.com) <beverlyarmijo@yahoo.com>; Bianca Gonzalez (bgonzalez@slo.state.nm.us) <bgonzalez@slo.state.nm.us>; Estes, Bob, DCA <Bob.Estes@state.nm.us>; Bonifacio Vasquez (bonifacio@windstream.net)

email if it is unsolicited or suspicious in nature.

Good Afternoon Sarah,

Please add New Mexico FSA as an Agency that will be willing to participate.

Jonas Moya
State Executive Director
New Mexico State FSA Office
100 Sun Ave. NE, Ste. 200
Albuquerque, NM 87109

USDA-Farm Service Agency
Office: 505-761-4900

USDA is an equal opportunity provider and employer.

From: Carrino, Sarah <Sarah.Carrino@fema.dhs.gov>
Sent: Monday, June 13, 2022 9:56 AM
To: abraham.franklin@state.nm.us; Alex Lopez (alexjlopez13@gmail.com) <alexjlopez13@gmail.com>; Rye, Ali <ali.rye@state.nm.us>; acfanta@hotmail.com; Andrew Gutierrez (Tajique1834@gmail.com) <Tajique1834@gmail.com>; Angela Herrera (chatoymaria1961@gmail.com) <chatoymaria1961@gmail.com>; carchuleta02@unm.edu; Beverly Armijo (beverlyarmijo@yahoo.com) <beverlyarmijo@yahoo.com>; Bianca Gonzalez (bgonzalez@slo.state.nm.us) <bgonzalez@slo.state.nm.us>; Bob Estes Ph. D. (Bob.estes@state.nm.us) <Bob.estes@state.nm.us>; Bonifacio Vasquez (bonifacio@windstream.net) <bonifacio@windstream.net>; Carmen Morin (CarmenB.Morin@state.nm.us) <CarmenB.Morin@state.nm.us>; Collin.Haffey@state.nm.us; Cynthia Rael Vigil (cynthiaraelvigil@yahoo.com) <cynthiaraelvigil@yahoo.com>; Dana Vackar Strang (dvstrang@slo.state.nm.us) <dvstrang@slo.state.nm.us>; Davena Crosley (davena.crosley@state.nm.us) <davena.crosley@state.nm.us>; Donald Auer (donaldp.auer@state.nm.us) <donaldp.auer@state.nm.us>; Donnie Quintana (Donnie.quintana@state.nm.us) <Donnie.quintana@state.nm.us>; Eddie Quintana (eddiequintana68@yahoo.com) <eddiequintana68@yahoo.com>; Fenicia Ross (fenicia.ross@state.nm.us) <fenicia.ross@state.nm.us>; Frank Trujillo (taoslandgrant@gmail.com) <taoslandgrant@gmail.com>; Gregory Suko (gregory.suko@state.nm.us) <gregory.suko@state.nm.us>; Higinia Gallegos (higiniagallegos@yahoo.com) <higiniagallegos@yahoo.com>; Isaac Gutierrez (ijgutierrez@santaclarapueblo.org) <ijgutierrez@santaclarapueblo.org>; jacobobaca@unm.edu; James ChÃ¡vez (jamesdeanchavez@gmail.com) <jamesdeanchavez@gmail.com>; Jason Quintana (jasoncq2415@gmail.com) <jasoncq2415@gmail.com>; Jeff Pappas (jeff.pappas@state.nm.us) <jeff.pappas@state.nm.us>; Jerome Padilla (jpadilla2@gmail.com) <jpadilla2@gmail.com>; Joe

From: Ensey, Michelle, DCA
To: Carrino, Sarah
Subject: RE: [EXTERNAL] FEMA Participating Agency Request for PEA NM Watershed Resiliency and Post-Fire Treatment Project(s)
Date: Thursday, June 16, 2022 4:03:31 PM
Attachments: image001.png

Hi Sarah,

Yes, we can participate. I look forward to the call next Thursday.

Michelle

Michelle M. Ensey
Deputy State Historic Preservation Officer
& State Archaeologist
Historic Preservation Division
407 Galisteo Street, Ste. 236, Santa Fe, NM 87501
Office: (505) 827-4064
Cell: (505) 490-3928
www.nmhistoricpreservation.org

From: Carrino, Sarah <Sarah.Carrino@fema.dhs.gov>
Sent: Thursday, June 16, 2022 12:01 PM
To: Ensey, Michelle, DCA <michelle.ensey@state.nm.us>
Subject: RE: [EXTERNAL] FEMA Participating Agency Request for PEA NM Watershed Resiliency and Post-Fire Treatment Project(s)

Afternoon Michelle,

If your office is able to support, we would love to have you participate. It shouldn't require a tremendous amount of time and effort, given how quickly we are moving to get this drafted. FEMA's doing the heavy lifting but we will rely on our resource agencies to support concurrence reviews on their areas of expertise to ensure there are not any glaring inaccuracies.

We'll host a quick call with all the participating agencies and pueblos next Thursday to tee up what we have so far and where we still have data or information gaps. I hope that helps frame the workload a little better. If you have any other questions, please let me know.

Thank you,

Sara,

I apologize for the late response. The USACE Albuquerque District, Regulatory Division, would like to request to be a participating agency for the this PEA. I will be the point of contact for the Regulatory Division in New Mexico.

Thank you,

Mr. Daniel Delgado
Regulatory Project Manager
U.S. Army Corps of Engineers-Albuquerque District
Regulatory Division
4101 Jefferson Plaza NE
Albuquerque, NM 87109
Desk: (505) 342-3111
Cell: (505) 231-4187
Daniel.i.Delgado@usace.army.mil

USDA United States Department of Agriculture | Forest Service | Southwestern Region Regional Office

333 Broadway SE
Albuquerque, NM 87102
505-842-3292
Fax: 505-842-3800

File Code: 1950
Date: June 14, 2022

Sarah Carrino
R6 Unified Review Coordinator
U.S. Department of Homeland Security
FEMA Region 6
800 North Loop 288
Denton, TX 76209-3698
sarah.carrino@fema.dhs.gov

Dear Ms. Carrino,

This letter is in response to the letter sent on June 13, 2022, FEMA Participating Agency Request in Preparation of a Programmatic Environmental Assessment for the State of New Mexico Watershed Resiliency and Post-Fire Treatment Project(s). Pursuant to 40 CFR 1501.8, the Southwestern Region of the USDA Forest Service requests to be a cooperating agency for the Programmatic Environmental Assessment (PEA) for the state of New Mexico Watershed Resiliency and Post-Fire Treatment Project(s) being prepared under the National Environmental Policy Act (NEPA). We welcome participating in the NEPA process at the earliest practicable time and assist matters within our jurisdiction by law and special expertise.

As a participating agency, we acknowledge our responsibility for identifying any issues of concern regarding the project's potential environmental, cultural, or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. In addition, we would bring solutions to the issues raised and be able to assist in the development of a proposed action, alternatives, and other proactive measures needed to expedite the NEPA process. As requested, we will actively provide expertise needed to:

1. Provide meaningful and early input on defining the purpose and need, determining the range of alternatives to be considered, and the methodologies and level of detail required in the alternatives analysis.

2. Providing technical expertise and sharing relevant data, references, resources, or other federal environmental and historic preservation compliance documentation (i.e., PEAs, Environmental Assessments, Environmental Impact Statements, Biologic Opinions, Programmatic Agreements or Consultations, etc.)

3. Participate in coordination meetings and joint field reviews as appropriate.

4. Timely review and comment on early project information to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Please contact Jennifer Ruyle, jennifer.ruyle@usda.gov, who will be able to answer questions,

inform responsible officials, and assign staff to the PEA. Thank you for initiating this important PEA. We look forward to working with you.

Sincerely,

MICHIKO J. MARTIN
Regional Forester

Sarah, good afternoon on behalf of New Mexico (NM) NRCS we would like to be included in the development of the Programmatic Environmental Assessment (PEA) for the NM Watershed Resiliency and Post Fire Treatment Project(s) being prepared under the National Environmental Policy Act (NEPA) and the Unified Federal Review (UFR) process. This process will allow us to implement our Emergency Watershed Protection Program (EWP) in a timely manner for the various post wildfires that have occurred in NM thus far. If you have questions feel free to reach out to me.

Thanks

Kenneth Alcon
State Resource Conservationist
USDA-NRCS New Mexico State Office
505-761-4422 (Office)
575-779-6497 (Cell)
Kenneth.Alcon@usda.gov

Subject: RE: FEMA Participating Agency Request for PEA NM Watershed Resiliency and Post-Fire Treatment Project(s)

Hi Sarah,

NM RD will collaborate as a participating agency in the NM Watershed Resiliency and Post-Fire Treatment Project(s). I do want to expectation set about the work that RD does related to water.

RD does not have watershed recovery programs but does have programs that cover drinking water and waste water projects through Water & Environmental Grant and Loan funding. https://www.rd.usda.gov/programs-services/water-environmental-programs

RD can assist eligible communities prepare, or recover from, an emergency that threatens the availability of safe, reliable drinking water through the Emergency Community Water Assistance Grant(s): https://www.rd.usda.gov/programs-services/water-environmental-programs/emergency-community-water-assistance-grants

I understand that this request is related to setting a uniform PEA for the sake of timeliness on recovery projects and again RD will participate but I wanted to share that RD doesn't strictly fall into the category of other federal agencies that do work on the physical watershed landscape.

All the best,
Patricia

Patricia Dominguez
State Director
New Mexico State Office | Rural Development
United States Department of Agriculture
One Sun Plaza
100 Sun Ave. NE, Suite 130
Albuquerque, New Mexico 87109
Phone: 505-761-4973 | Cell: 505-206-2708 | Fax: 855-543-9500
www.rd.usda.gov | Follow us on Twitter at: @RD_NewMexico

"Together, America Prospers"

Stay Connected with USDA:

Hi Sarah,

Thank you very much for the invitation to be a participating agency for FEMA's programmatic EA for the New Mexico Watershed Resiliency and Post-Fire Treatment Project. The U.S. Fish and Wildlife Service accepts the invitation. We look forward to working with you further on this project. Thank you!

Jodie Mamuscia
Branch Supervisor, Aquatic and Terrestrial Ecosystem Conservation
New Mexico Ecological Services Field Office
U.S. Fish and Wildlife Service
2105 Osuna Rd NE
Albuquerque, NM 87113
Office: 505-761-4762
Cell: 505-269-1985

Note: Please direct any e-mail requests for project reviews within New Mexico to nmesfo@fws.gov.

From: Carrino, Sarah <Sarah.Carrino@fema.dhs.gov>
Sent: Monday, June 13, 2022 9:46 AM
To: Abe Franklin (abraham.franklin@state.nm.us) <abraham.franklin@state.nm.us>; Alex Lopez (alexjlopez13@gmail.com) <alexjlopez13@gmail.com>; Rye, Ali <ali.rye@state.nm.us>; Andrea Padilla (acfanta@hotmail.com) <acfanta@hotmail.com>; Andrew Gutierrez (Tajique1834@gmail.com) <Tajique1834@gmail.com>; Angela Herrera (chatoymaria1961@gmail.com) <chatoymaria1961@gmail.com>; Arturo Archuleta (carchuleta02@unm.edu) <carchuleta02@unm.edu>; Beverly Armijo (beverlyarmijo@yahoo.com) <beverlyarmijo@yahoo.com>; Bianca Gonzalez <bgonzalez@slo.state.nm.us>; Bob Estes Ph. D. (Bob.estes@state.nm.us) <Bob.estes@state.nm.us>; Bonifacio Vasquez (bonifacio@windstream.net) <bonifacio@windstream.net>; Carmen Morin (CarmenB.Morin@state.nm.us) <CarmenB.Morin@state.nm.us>; Collin Haffey (collin.haffey@state.nm.us) <collin.haffey@state.nm.us>; Cynthia Rael Vigil (cynthiaraelvigil@yahoo.com) <cynthiaraelvigil@yahoo.com>; Dana Vackar Strang (dvstrang@slo.state.nm.us) <dvstrang@slo.state.nm.us>; Davena Crosley (davena.crosley@state.nm.us) <davena.crosley@state.nm.us>; Auer, Donald, DGF <DonaldP.Auer@state.nm.us>; Donnie Quintana (Donnie.quintana@state.nm.us) <Donnie.quintana@state.nm.us>; Eddie Quintana (eddiequintana68@yahoo.com) <eddiequintana68@yahoo.com>; Fenicia Ross (fenicia.ross@state.nm.us) <fenicia.ross@state.nm.us>; Frank Trujillo (taoslandgrant@gmail.com) <taoslandgrant@gmail.com>; Gregory Suko (gregory.suko@state.nm.us) <gregory.suko@state.nm.us>; Higinia Gallegos (higiniagallegos@yahoo.com) <higiniagallegos@yahoo.com>; Isaac Gutierrez (ijgutierrez@santaclarapueblo.org) <ijgutierrez@santaclarapueblo.org>; Jacobo Baca (jacobobaca@unm.edu) <jacobobaca@unm.edu>;

From:	Carrino, Sarah
To:	Skaar, Karen S
Cc:	Bunn, Windy WAB; Lehman, Kristin; Jaynes, Kevin
Subject:	RE: 7/8/22 NPS Participating Agency Acceptance: FEMA NM Watershed Resiliency PEA
Date:	Friday, July 8, 2022 10:53:00 AM
Attachments:	image001.png

Hi Karen,

Thank you for your response. Your participation is greatly appreciated!

We hosted our initial scoping call with our participating agencies back on June 23rd but I will forward everything that we have shared so far with Windy for her review. If she has any questions, we can always set up a call to discuss it further.

Thank you,

Sarah Carrino
R6 Unified Federal Review Coordinator| Environmental and Historic Preservation | Region 6 Mitigation Division
Office: (940) 297-0133 | Mobile: (202) 733-7908
sarah.carrino@fema.dhs.gov

Federal Emergency Management Agency
fema.gov

From: Skaar, Karen S <karen_skaar@nps.gov>
Sent: Friday, July 8, 2022 9:51 AM
To: Carrino, Sarah <Sarah.Carrino@fema.dhs.gov>
Cc: Bunn, Windy WAB <Windy_Bunn@nps.gov>
Subject: 7/8/22 NPS Participating Agency Acceptance: FEMA NM Watershed Resiliency PEA

Hello:

In response to your letter dated June 13, 2022, the National Park Service (NPS) accepts the invitation to become a participating agency in review of the FEMA Programmatic Environmental Assessment *State of New Mexico Watershed Resiliency and Post Fire Treatment*

Project(s). NPS has jurisdiction in all NPS park units in the state of NM, and our staff have special expertise to share for the fire treatment alternatives to be considered.

The NPS point of contact for the project will be Windy Bunn, Regional Fire Ecologist and Post-Fire Coordinator for the National Park Service Intermountain Region serving Interior Regions 6, 7, & 8. Windy is cc'd on this e-mail, and she may be contacted at Windy_bunn@nps.gov .

Thank you,

Karen Skaar (she/hers)
External Review Coordinator, Regional Environmental Quality
National Park Service Regional Office Serving Department of Interior Regions 6, 7, 8
12795 West Alameda Parkway, Denver, CO 80228
(303) 349-4160
karen_skaar@nps.gov | **IMR-EQ Sharepoint Site**

"Plans to protect air and water, wilderness and wildlife, are in fact plans to protect Man." -Stewart Udall

D-3 June 23, 2022, Scoping Meeting Summary

FEMA

Programmatic Environmental Assessment (PEA) Scoping Meeting Summary

Date: June 23, 2022 | 11:30 am – 1:00pm (MT) |Location: Zoom

Meeting Objectives:

- Confirm participating agency's primary points of contact
- Establish expectations concerning interagency coordination and collaboration moving forward
- Provide UFR process overview, PEA resource needs, and review timelines
- Address any questions or concerns from participating agency partners

Agenda:

- **Overview of the Unified Federal Review (UFR) Process** | Sarah Carrino, FEMA
- **Overview of the Programmatic Environmental Assessment (PEA) Process under the National Environmental Policy Act (NEPA)|** Sarah Carrino, FEMA
- **Role of the Participating Agencies and Tribes**| Sarah Carrino, FEMA
- **FEMA Preliminary Draft PEA Review** | Kristin Lehman, FEMA
    - Categories of Proposed Action
    - Questions for our Participating Agencies
    - Proposed PEA Milestones
- **Questions and Answers** | Open Floor to Participating Agencies and Tribes

Meeting Notes:

- Question regarding if PowerPoint slides would be shared. Yes.
- Pueblo of Laguna POC asked if reliance on the PEA was linked to participation in the NFIP. No.
- TAOS Pueblo will forward their existing Hazard Mitigation Plan for reference.
- Primary POCs identified on the call:
    - Rene Romero, Taos Pueblo
    - Toby Velasquez, State Parks Division
    - Wendy Jo Haskins, US Forest Service
    - Joilynn Gray, Farm Service Agency
    - Joe Woody, USDA Advisor
    - Michelle Ensey, New Mexico State Historic Preservation Office
    - Kelly Warner, HUD
    - Jacob Pederson, New Mexico EMNRD Forestry Division
    - Malcolm Bowekaty Pueblo of Laguna
    - Jodie Mamuscia, U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office.
    - Janelle Alleman, U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office
    - Jennifer Ruyle, USDA Forest Service Southwestern Region

D-4 Notice of Availability of the PEA (in English and Spanish)

PUBLIC NOTICE
Notice of Availability of the Programmatic Environmental Assessment for
The State of New Mexico Watershed Resiliency and Post-Fire Treatment Projects
FEMA

Notification is hereby given to the public of the intent of the Department of Homeland Security-Federal Emergency Management Agency (DHS-FEMA) to provide Federal financial assistance to the State of New Mexico and Federally recognized Tribal Nations to reduce the potential for loss of life, critical public infrastructure, and erosion resulting from repetitive wildfire and monsoon cycles in New Mexico. FEMA makes federal assistance available to state, local, tribal, and territorial governments and certain private nonprofit entities under the Public Assistance and Hazard Mitigation Assistance grant programs. These state, local, tribal, and territorial partners are the recipients and subrecipients of FEMA's grants. Tribal Nations may be either recipients or subrecipients of FEMA grants.

In accordance with the National Environmental Policy Act (NEPA), a Programmatic Environmental Assessment (PEA) has been prepared to assess impacts to the human environment from actions related to meeting purpose and need of the PEA undertaken by FEMA grant recipients or subrecipients in New Mexico. FEMA evaluated two scenarios in the PEA; a no action alternative, evaluated as a baseline, and a proposed action alternative that includes an evaluation of a range of potential actions to promote watershed resiliency. The range of actions, collectively identified as the proposed action alternative, includes but is not limited to vegetative thinning and noxious weed abatement; restoration of fire-adapted vegetation types; restoration of riparian areas; post-wildfire treatments for hillsides, channels, roads, and trails; structure demolition, relocation, or alteration; and hydraulic capacity improvements and sedimentation mitigation measures for critical flood control and reservoir infrastructure. DHS-FEMA's requirement of addressing floodplain management and wetlands protection in accordance with 44 CFR Part 9 is incorporated within the PEA.

The PEA is available for public comment on FEMA's website at https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository. Written comments may be submitted by mail or email. Comments pertaining to the PEA may be emailed to FEMA-R6-EHP@fema.dhs.gov noted with the subject line, "New Mexico PEA 2022", or mailed to FEMA Region 6, 800 North Loop 288, Denton, Texas 76209, "Attn: Environmental Planning and Historic Preservation – REO".

The comment period will end 30 days after the date this notice is confirmed. Written comments on the PEA can be mailed or e-mailed as directed in this notice. If no substantive comments are received, the PEA will become final and a Finding of No Significant Impact will be signed. Substantive comments will be addressed, as appropriate, in the final documents.

AVISO PÚBLICO
Aviso de Disponibilidad de la Evaluación Ambiental Programática para Proyectos de resiliencia de cuencas hidrográficas y tratamiento posincendio del estado de Nuevo México
FEMA

Por la presente se notifica al público la intención del Departamento de Seguridad Nacional-Agencia Federal para el Manejo de Emergencias (DHS-FEMA, por sus siglas en inglés) de proporcionar asistencia financiera federal al estado de Nuevo México y a las naciones tribales reconocidas federalmente para reducir el potencial de pérdida de vidas, infraestructura pública crítica y erosión resultante de los ciclos repetitivos de incendios forestales y monzones en Nuevo México. FEMA pone la asistencia federal a disposición de los gobiernos estatales, locales, tribales y territoriales, y de ciertas entidades privadas sin fines de lucro en el marco de los programas de subvenciones de Asistencia Pública y Asistencia para la Mitigación de Riesgos. Estos socios estatales, locales, tribales y territoriales son los beneficiarios y subbeneficiarios de las subvenciones de FEMA. Las naciones tribales pueden ser beneficiarias o subbeneficiarias de las subvenciones de FEMA.

De acuerdo con la Ley de Política Ambiental Nacional (NEPA, por sus siglas en inglés), se preparó una Evaluación Ambiental Programática (PEA, por sus siglas en inglés) para evaluar los impactos en el medio ambiente humano de las acciones relacionadas con el cumplimiento del propósito y la necesidad de la PEA emprendidas por los beneficiarios o subbeneficiarios de subvenciones de FEMA en Nuevo México. FEMA evaluó dos escenarios en la PEA; una alternativa de no tomar medidas, evaluada como línea de referencia, y una alternativa de medidas propuesta que incluye una evaluación de una gama de medidas potenciales para promover la resiliencia de la cuenca. La gama de medidas, identificadas conjuntamente como la alternativa de medidas propuestas, incluye, sin carácter limitativo, al raleo vegetativo y la eliminación de malezas nocivas; restauración de tipos de vegetación adaptados al fuego; restauración de áreas ribereñas; tratamientos posteriores a incendios forestales para laderas, canales, caminos y senderos; demolición, reubicación o modificación de estructuras; y mejoras en la capacidad hidráulica y medidas de mitigación de la sedimentación para el control crítico de inundaciones e infraestructura de embalses. El requisito de DHS-FEMA de abordar el manejo de valles de inundación y la protección de humedales de acuerdo con 44 CFR Parte 9 se incorpora dentro de la PEA.

La PEA está disponible para comentarios públicos en el sitio web de FEMA en https://www.fema.gov/es/emergency-managers/practitioners/environmental-historic/nepa-repository. Los comentarios escritos pueden enviarse por correo postal o correo electrónico. Los comentarios relacionados con la PEA se pueden enviar por correo electrónico a FEMA-R6-EHP@fema.dhs.gov anotando en la línea de asunto: “New Mexico PEA 2022”, o por correo

postal a FEMA Region 6, 800 North Loop 288, Denton, Texas 76209, “Attn: Environmental Planning and Historic Preservation – REO”.

El período de comentarios finalizará 30 días después de la fecha de confirmación de este aviso. Los comentarios escritos sobre la PEA se pueden enviar por correo postal o electrónico como se indica en este aviso. Si no se reciben comentarios sustantivos, la PEA se volverá final y se firmará un Hallazgo de Impacto No Significativo. Los comentarios sustantivos se abordarán, según corresponda, en los documentos finales.