

EXECUTIVE SUMMARY

Background

Western Area Power Administration (WAPA), a power marketing administration within the U.S. Department of Energy, proposes to improve the way it manages vegetation along approximately 273 miles of its transmission line rights-of-way (ROWs) on National Forest System (NFS) lands in Colorado, Nebraska, and Utah, along with updating or, where a current authorization is not in place, requesting new authorizations from the United States Forest Service for the operation and maintenance of its transmission lines as they cross National Forest System (NFS) lands. This Environmental Impact Statement (EIS) analyzes the potential impacts of implementing the No Action Alternative or the Proposed Action and identifies measures to address environmental consequences.

WAPA and the U.S. Forest Service are joint lead agencies for this EIS, and prepared it according to requirements of the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [U.S.C.] 4321 et seq.), as amended, and Council on Environmental Quality (CEQ) implementing regulations (40 Code of Federal Regulations [CFR] 1500–1508), and each agency's NEPA implementing regulations, policy, and guidance.

On August 10, 1996, during a period of high temperatures and high electricity demand, a transmission line sagged into filbert trees near Portland, Oregon, leading to a cascade of power outages as far away as southern California. Executive Order (EO) 13212, *Actions To Expedite Energy-Related Projects* (May 18, 2001), declared the increased production and transmission of energy in a safe and environmentally sound matter to be essential to the well-being of the American people, and called for the improvement and streamlining of cooperation among federal agencies to ensure the supply and availability of energy. However, in August 2003, high temperatures resulting in high electricity demand caused a widespread power outage in the Northeast and Midwest, affecting approximately 45 million people in the United States and 10 million people in Ontario, Canada. The U.S.-Canada Power System Outage Task Force found that, again, transmission line sag into overgrown trees in rural Ohio caused the outage.

In response to these widespread outages, Congress enacted the Energy Policy Act of 2005 (Public Law 109-58), which authorized the Federal Energy Regulatory Commission (FERC) to certify an "Electric Reliability Organization" (ERO) to create mandatory and enforceable reliability standards, subject to FERC review and approval. FERC certified the North American Electric Reliability Corporation (NERC) as the ERO. The Energy Policy Act of 2005 also requires federal agencies to expedite approvals to allow owners or operators of transmission facilities access to the facilities to comply with applicable standards, including vegetation management standards.

NERC's Reliability Standard, FAC-003-1, "Transmission Vegetation Management Program" (NERC Standard) was enforced beginning on June 18, 2007 followed by subsequent revisions to the current FAC-003-4 version "Transmission Vegetation Management" in force as of October 1, 2016. NERC enforceable standards are available at: www.nerc.net/standardsreports/standardsummary.aspx. To enhance WAPA's compliance with NERC's Transmission Vegetation Management Reliability Standard, industry standards, and WAPA's policy and guidance, WAPA proposes to improve the way it manages vegetation along its ROWs on NFS lands in Colorado, Nebraska, and Utah. WAPA services an area of approximately 1.3 million square miles and operates and maintains more than 17,000 miles of

transmission lines from its four regional offices, including approximately 273 miles of transmission line ROWs on NFS lands in Colorado, Nebraska, and Utah as follows:

- Colorado
 - Arapaho-Roosevelt National Forests
 - Grand Mesa, Uncompahgre, and Gunnison National Forests
 - Medicine Bow-Routt National Forests
 - Pike and San Isabel National Forests
 - San Juan National Forest
 - White River National Forest
- Nebraska
 - Nebraska National Forest
- Utah
 - Ashley National Forest

Forest Service Rocky Mountain Region, Region 2, manages NFS lands in Colorado and Nebraska, and the Intermountain Region, Region 4, manages NFS lands in Utah.

Purpose and Need for Action

WAPA needs to improve the way it manages vegetation along its 273 miles of transmission line ROWs on NFS lands in Colorado, Nebraska, and Utah with the following purposes and objectives:

1. To ensure that WAPA can safely and reliably operate and maintain its existing electrical transmission facilities to deliver electrical power
2. To further WAPA's compliance with NERC's Transmission Vegetation Management Reliability Standards, industry standards, and WAPA's policy and guidance
3. To ensure that WAPA's transmission facilities remain operational for the useful life of the facilities
4. To protect public and worker safety
5. To reduce the risk of wildfires caused by transmission lines and the risk to the facilities from fire
6. To control the spread of noxious weeds
7. To maintain sound relationships with landowners and land managers
8. To ensure that WAPA has access to its transmission facilities for maintenance and emergency response
9. To ensure that the costs associated with maintaining the transmission system can be controlled following sound business principles, including achieving technical and economic efficiencies to minimize impacts on transmission line tariff costs and electrical power rates
10. To allow flexibility to accommodate changes in transmission system operation and maintenance requirements
11. To minimize impacts to environmental resources

The Forest Service needs to issue new and/or updated Special Use Permits for each transmission line in order to be in compliance with the Federal Land Policy and Management Act and to authorize WAPA to change the way it manages vegetation along its ROWs on NFS lands.

Public Involvement

The Notice of Intent (NOI), published in the *Federal Register* (FR) on April 8, 2010 (75 FR 17847), was the first formal step in preparing an EIS and began the scoping process, which ended on May 26, 2010. The NOI invited public participation in the EIS scoping process and solicited public comments on the scope and content of the EIS. WAPA and the Forest Service solicited comments from federal, state, and local agencies; tribal governments; and other organizations and announced opportunities to comment in various local news media. In April 2010, WAPA and the Forest Service hosted three public scoping meetings in Denver and Grand Junction, Colorado, and Vernal, Utah, which provided the public an opportunity to comment and ask questions about the project and EIS development. Before each public meeting, WAPA and the Forest Service held interagency scoping meetings.

Substantive issues raised during the public comment process related to resources and resource uses, such as water resources and recreation, and concerns related to the NEPA process. The comments helped to define the scope of the analysis in this EIS, were used to develop the alternatives, or are addressed in other parts of the EIS. The following is a summary of the main issues raised during the scoping process, organized by topic:

Access and Transportation

- Ensure designated routes are used and maintain access routes according to Forest Service management specifications.
- Determine which routes are available for public use according to an approved Travel Management Plan.

Alternatives

- Minimize the width of vegetation treatment corridors consistent with safety and reliability of the transmission lines.
- Specify the circumstances and areas for treatments implemented under each alternative.

Climate Change

- Minimize the effects of global warming.

Floodplains, Wetlands, and Water Resources

- Design treatment activities near wetland and riparian areas to avoid or mitigate damage to soils, water quality, and non-target vegetation.

Health and Safety

- Concern for the effects of herbicides on human health.

Recreation

- Manage off-highway vehicle (OHV) use responsibly and uniformly across jurisdictional boundaries.

Roadless Areas

- Protect roadless area characteristics and minimize new road construction.

Social and Economic Values

- Promote opportunities for harvesting merchantable forest products following the National Healthy Forest Initiative (Public Law 108-148).

Soils

- Design, install, and maintain erosion control structures and culverts on access routes.
- Apply effective practices to maintain vegetation cover and prevent soil erosion.

Special Status and Sensitive Species

- Limit the removal of mature trees and other vegetation to avoid adversely altering the habitat of sensitive species that rely on a continuous forest canopy.

Vegetation

- Prioritize treatment areas and discuss the treatments proposed in each area.

Visual Resources

- Minimize the width of vegetation treatment corridors and transition cutting intensity to limit visual impacts by “feathering” the edges where trees are cleared.

Wildlife and Wildlife Habitat

- Concern for effects of herbicide on wildlife and general impacts of vegetation treatments on wildlife habitat.

Public Review of the Draft Environmental Impact Statement

The Notice of Availability (NOA) for the Draft EIS was published in the Federal Register on September 27, 2013. The NOA established a 46-day public comment period that ended on November 12, 2013. Due to the Federal government shutdown from October 1 to October 16, 2013, the Environmental Protection Agency and the U.S. Department of the Interior requested an extension to the comment period, which WAPA and the Forest Service granted them, extending their comment period to November 25, 2013. One public meeting was held in Denver, Colorado on October 23, 2013, which consisted of an open house and informal public hearing from 4:00 p.m. to 8:00 p.m. The meeting included exhibits displaying project information and a court reporter was available for taking oral comments. Notice of the meeting was provided through direct mailing and advertisements in the following newspapers: Denver Post and Vernal Express. The mailing notice was sent to approximately 930 individuals and agencies with an interest in the project, including tribal representatives and individuals and agencies that provided scoping comments.

No one attended the public meeting on October 23, 2013. WAPA and the Forest Service received four comment letters; two of the letters (from Uintah County, Utah and Bureau of Reclamation) expressed support for the project. The U.S. Department of the Interior letter indicated they had no comments on the project, and the Environmental Protection Agency letter indicated a rating of Lack of Objections (LO) for the project. No letters were received from the general public or tribes.

Changes to the Draft Environmental Impact Statement

Updates have been made to: wildlife, cultural resources, and cumulative impacts among other technical edits.

Comments received on the Draft EIS were carefully considered. Following coordination meetings between WAPA, the Forest Service, and the USFWS in January and February 2014, a new design feature was created to manage lynx habitat connectivity. The goal of this design feature is to facilitate lynx use of suitable habitat separated by the transmission line ROWs where vegetation management practices reduce the amount of horizontal cover on the ROW.

In the Air Quality section, additional details were added to describe the guidelines developed by federal land managers, including the Forest Service and National Park Service, for Levels of Concern (LOC) for total deposition of nitrogen and sulfur compounds in Class I Wilderness Areas. Because the amount and timing of specific activities that might be needed to maintain ROW will vary considerably by location and over time, the amount of emissions cannot be specifically predicted. Details were also added describing that because the proposed vegetation management activity takes place along already established ROW corridors, there would be no additional indirect impacts from the Proposed Action.

The Forest Health and Vegetation section was updated to include information on the management of felled trees if they are determined to have no economic value. The list of Forest Service sensitive plant species was updated to include information on five new species – the Aztec milkvetch, cushion bladderpod, English sundew, Missouri milkvetch, and Pagosa bladderpod – including their habitat/guild and their potential occurrence in forests in the Project Area.

Information on documented occurrences, and potential habitat of the Ute ladies'-tresses orchid in the Ashley National Forest were added to the Rare Plants section and the Threatened and Endangered Plant Species Section. The determinations for this species under the No Action Alternative and Proposed Action is "no effect." Based on known occurrences and surveys in 2014 species and critical habitat are not present.

Changes in species ESA listing status and changes to the Forest Service sensitive species list were updated, as described in the Affected Environment – Wildlife section. Based on the change in the ESA listing status of two species from candidate to threatened, the Gunnison sage-grouse and yellow-billed cuckoo discussions in this EIS were moved from the Forest Service Sensitive Species section to the Threatened and Endangered Wildlife Species section. In addition, the lesser prairie chicken and New Mexico meadow jumping mouse were also moved from the Forest Service Sensitive Species section to the Threatened and Endangered Wildlife Species section. The potential impacts to these species remain the same. Additional details were added to some Forest Service Wildlife Management Indicator Species and Species of Local Concern regarding the exclusion and reasons for the exclusion of these species. No additional species were added to this section, nor were there any changes for occurrence or potential habitat in the Project Area.

The descriptions for impacts to wildlife were updated to detail that similar impacts would occur to Threatened and Endangered species, MIS, and SOLC where they are present in the ROW; however, none of these impacts would be significant under the Proposed Action and No Action Alternative. Under the No Action Alternative, the determination for the Canada lynx was changed to "may affect, likely to adversely affect" in the Grand Mesa, Uncompahgre, and Gunnison National Forest based on consultation with the USFWS and existing habitat conditions. Under the Proposed Action, the determination for the Canada lynx was changed to "may affect, likely to adversely affect" in the Grand Mesa, Uncompahgre, and Gunnison National Forest, Arapaho-Roosevelt National Forest, Medicine Bow-Routt National Forest, and White River National Forest based on consultation with the USFWS and existing habitat conditions.

The descriptions for impacts to fisheries were updated to describe that no direct impacts are anticipated to greenback cutthroat trout and minor indirect impacts from fine sediment could occur. These

potential impacts are “may affect, not likely to adversely affect” the greenback trout under the Proposed Action and the No Action Alternative. In addition, the bluehead sucker and Colorado River cutthroat trout could be affected by the No Action Alternative, but the effects would not cause a trend toward federal listing.

In December 2014, just prior to the Final EIS and ROD being issued, the Gunnison Sage-Grouse was listed as a threatened species by the U.S. Fish and Wildlife Service (USFWS). WAPA officially finalized its first Gunnison Sage-Grouse consultation with the USFWS on February 1, 2017. In September 2018, WAPA completed a re-initiation of that consultation to address possible impacts to Gunnison Sage-Grouse and its designated critical habitat from clearing habitat 50 feet around structures necessary to meet human safety protocols of Occupational Safety and Health Administration (OSHA) requirements for maintenance work on energized power lines. On September 6, 2018, the USFWS concurred with WAPA’s mitigation measures and determination of “may affect, not likely to adversely affect.”

Additionally, the Cultural Resources section was updated based on a review of current information on recorded resources in the History Colorado and WAPA archives to capture data collected by field work in the project area since the Draft EIS was published.

Other changes to the Draft EIS included updates to Section 1.5 to describe the public review period for the Draft EIS, and other minor technical edits to the text and maps for clarity. The Interdisciplinary Team Members and List of Preparers section was updated to include any changes for persons who reviewed and contributed to the preparation of this document.

Unresolved Issues

No unresolved issues have been identified.

Alternatives

WAPA and the Forest Service developed the No Action Alternative and the Proposed Action alternative to compare the environmental impacts and address issues raised during the public scoping process. Both the No Action Alternative and Proposed Action address maintenance of transmission lines and associated infrastructure, including access routes and managing vegetation. The major difference between the No Action Alternative and the Proposed Action is the proposal to change from a need-driven, reactive vegetation management approach (current practice, or the No Action Alternative) to a proactive maintenance strategy (the Proposed Action) that does not let vegetation become an immediate threat.

No Action Alternative

Under the No Action Alternative, WAPA would continue to maintain its infrastructure, ROW, and access roads as it currently does, as defined under existing authorizations and other agreements. The management approach to controlling vegetation, ensuring access, and maintaining equipment is largely need driven and reactive.

Under existing authorizations WAPA manages trees that are already or nearly a risk to the transmission lines. Because WAPA addresses primarily danger trees, as defined in its policy, it must review the ROWs at least once a year to look for and remove new danger trees. This focus requires annual reentries, and

in some areas more frequent reentries, into a ROW to address danger trees that were identified during periodic line patrols or when maintenance crews were in the ROW for other activities. Under a need-driven management approach, WAPA currently manages vegetation along ROW segments as control needs are identified through periodic line patrols. WAPA uses a mix of manual, mechanical, and chemical (herbicides) methods to control vegetation in transmission line and access route ROWs. The No Action Alternative also includes the practice of spot application of Forest Service-approved herbicides. WAPA would continue to repair access routes as needed. Transmission system maintenance activities would consist of regular aerial and ground patrols to find problems, scheduling and performing repairs to correct problems, and preventive maintenance.

Proposed Action

WAPA proposes to change the way it manages vegetation in the ROWs for the transmission lines it owns, operates, or maintains. The Proposed Action is for the Forest Service to issue new Special Use Permits for each transmission line and authorize WAPA to manage vegetation along WAPA ROWs on NFS lands using an integrated vegetation management (IVM) approach, for which WAPA and the Forest Service will jointly develop new operation and maintenance plans which will be an appendix to the Special Use Permits. This approach is based on the American National Standard Institute Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (Integrated Vegetation Management, a. Electric Utility ROW (ANSI A300 (Part 7)-2006 IVM). WAPA would control vegetation growth and fuel conditions that threaten transmission lines. The Proposed Action would balance the purpose of and need for agency action with the need to comply with environmental regulations and Forest Service requirements, address potential impacts to environmental resources, and incorporate public and agency comments. It incorporates the design features developed to protect environmental resources.

The vegetation management proposal would include an initial treatment plan for areas that have been identified for treatment. The initial treatment would affect approximately 1,610 acres of the approximately 4,055 acres of transmission line ROWs on NFS lands.

WAPA identified six broad categories of existing conditions in the ROWs. The condition of the vegetation in the ROW determines whether the ROW would need to be treated soon, needs treatment over the longer term, or is unlikely to need treatment for some time. WAPA routinely monitors ROWs to determine vegetation conditions. The Proposed Action includes vegetation management options based on the conditions in the ROWs. Table ES-1 summarizes the six categories of ROW conditions and vegetation management.

These areas are proposed for mechanical treatment to remove incompatible tall-growth species, while addressing a buildup of fuels from several decades of previous vegetation management activities. Treatments could include logging, chipping, and grinding of trees and existing debris using mechanized equipment and other activities developed in coordination with the Forest Service. After the initial treatment is completed in an area, the proposal is to maintain the area in a desired condition that is generally defined by a lack of incompatible vegetation species. The desired condition depends on the ROW conditions and incorporates design features that protect sensitive resources. As a co-lead agency, the Forest Service proposes to authorize and permit the identified ROWs, access routes, and associated maintenance activities.

Table ES-1. Categories of Right-of-Way Conditions and Vegetation Treatment Methods

Category	Vegetation	Examples	Frequency of Treatment	Treatment Methods
1	Compatible with the transmission line.	The lines span canyons and there will likely always be adequate clearance between vegetation and the transmission line conductors – even with larger mature trees; a vegetation community that is already a stable, low-growth one (e.g., grasses, forbs, bushes, and shrubs) so that vegetation at mature height is not a threat to the transmission line.	None expected for the duration of the authorization, but ROW monitoring will be needed to ensure conditions have not changed.	None expected.
2	Fast-growing incompatible species that are presently not acceptable, and over the long term, the vegetation is likely to include incompatible vegetation types that would require monitoring and treatment.	Mature lodgepole pine, mature aspen, and other species on high-quality growth sites.	<ul style="list-style-type: none"> • Initial treatment expected within 1 to 5 years. • Maintenance treatments are expected to be relatively frequent (expected 2- to 6-year return intervals). 	<ul style="list-style-type: none"> • Accessible sites would favor use of mechanized equipment and removal of salvageable material. • Inaccessible sites would favor use of hand felling.
3	Fast-growing incompatible species of trees that are in an acceptable condition, but over the long term, incompatible vegetation treatments would be needed.	Immature lodgepole pine and aspen. Other species on high-quality growth sites.	<ul style="list-style-type: none"> • Maintenance treatments are expected to be relatively frequent (expected 2- to 6-year year return intervals, but this will vary depending on site conditions). 	<ul style="list-style-type: none"> • Accessible sites would favor mechanized equipment, with removal of salvageable material. • Inaccessible sites would favor use of hand felling.
4	Slow-growing incompatible species of mature vegetation that is not acceptable, and over the long term, treatments for incompatible vegetation would be needed to control re-growth.	Mature spruce and fir. Other species on harsh sites.	<ul style="list-style-type: none"> • Initial treatment is expected within 2 to 5 years, depending on site conditions and vegetation growth. • Maintenance treatments are expected to be relatively infrequent on sites with incompatible species with slow growth rates, perhaps 5 or more years, depending on site conditions. 	<ul style="list-style-type: none"> • On sites with good access, mechanized equipment would be favored and salvageable material would be removed. • On sites with poor access, hand felling and other manual methods would typically be used.

Table ES-1. Categories of Right-of-Way Conditions and Vegetation Treatment Methods

Category	Vegetation	Examples	Frequency of Treatment	Treatment Methods
5	These sites have slow-growing incompatible species, and the ROW is in an acceptable condition; but over the long term, the incompatible species would need to be monitored and treated.	Immature spruce and fir. Other incompatible species on harsh sites.	<ul style="list-style-type: none"> • Maintenance treatments are expected to be relatively infrequent, perhaps 5 years or longer, depending on site conditions. 	<ul style="list-style-type: none"> • On sites with good access, mechanized equipment would be favored and salvageable material would be removed. • On sites with poor access, hand felling and other manual methods would typically be used.
6	Treatments in these areas of ROW are driven largely by the conditions of the fuel load. Typically, they include areas with low-growing vegetation types characterized by having high fuel loads. Sites are characterized by dense, woody vegetation capable of high-intensity fire, with transmission lines having relatively low conductor-to-ground clearances.	Sagebrush, Gambel oak, dense lodgepole regeneration, and pinyon and juniper pine.	<ul style="list-style-type: none"> • Initial treatments are expected. This could include mechanical removal of vegetation near structures and from areas of the ROW. • Maintenance treatments as needed. Need is determined from ROW monitoring. 	<ul style="list-style-type: none"> • In areas with good access, mechanized treatment such as mowing would be favored. • In areas with poor access, manual treatments would typically be used. • Gambel oak could be treated with herbicides.

Environmental Consequences

Table ES-2 summarizes the impacts of the No Action Alternative and the Proposed Action. Potential effects would be similar across the affected NFS lands, unless otherwise indicated. Chapter 3, Affected Environment and Environmental Consequences, describes the affected environment and potential effects in detail.

Table ES-2. Summary of Environmental Consequences by Alternative

Resource	No Action Alternative	Proposed Action
Air Quality	<p>Except for slash-pile burning, which is expected to be done very infrequently if at all, direct and indirect impacts on air pollutant concentrations, atmospheric deposition, visibility, and climate change in the project area from ROW maintenance activity emissions are expected to be very minor or negligible. Potential cumulative effects would be localized along the various ROWs throughout the project area and insignificant compared to emissions from other regional sources.</p>	<p>Implementing integrated vegetation management would improve efficiencies in scheduling of maintenance activities. Following this approach and ensuring that engines and other equipment are properly tuned and turned on only when in active use (which minimizes emissions from idling), direct, indirect, and cumulative impacts on air quality are also expected to be negligible and comparable to or less than under the No Action Alternative.</p>
Surface Water	<p>There would be some potential for short-term adverse effects from vegetation maintenance that causes erosion and sedimentation from reentry into the same site or adjoining sites in the ROWs. These effects would be very localized because of the small footprint required to remove danger trees.</p> <p>There could be long-term, but likely minor, impacts to water quality from recurring vegetation treatments, including increased levels of erosion, sedimentation, habitat degradation, and degradation of beneficial uses of the receiving waters.</p> <p>No cumulative effects have been identified, but there would likely be at least a minor degree of impact from recurring maintenance activities.</p>	<p>There would be a potential for more short-term direct adverse effects on water resources in areas where treatments are required. After the initial treatments, long-term effects would be greatly reduced because of less-frequent reentry for vegetation maintenance.</p> <p>WAPA’s ROWs cross four waterbodies listed as impaired that serve as source waters for public drinking water systems – two in Grand Mesa, Uncompahgre, and Gunnison National Forests and two in Medicine Bow-Routt National Forests. Water quality issues near these impaired waterbodies should not be exacerbated, even during the initial maintenance effort to reset vegetation conditions, because of design features and standard maintenance procedures. There would be limited potential for cumulative effects.</p>

Table ES-2. Summary of Environmental Consequences by Alternative

Resource	No Action Alternative	Proposed Action
Soils	<p>Danger-tree removal, fuels reduction, and other ROW maintenance activities would continue to disturb soil and could subject soils to accelerated runoff and erosion rates. Management practices would continue to adversely affect soil compaction, soil quality, organic matter content, nutrient cycling, and soil productivity. These impacts would be short term and localized. Vegetation management activities in ROWs would continue to meet Forest Service Soil Quality Standards. No substantial cumulative effects were identified.</p>	<p>Potential short-term direct adverse effects include increased soil erosion, compaction, and rutting from mechanical and biological treatments, and decreased soil nitrogen levels in areas where large amounts of wood chips are broadcast. Formation of hydrophobic soil from slash-pile burning would be localized and not extend over large areas, so there would be no substantial increase in erosion. There would be potential long-term beneficial effects from decreased fuel loads, which would reduce the potential for high-intensity, long-duration wildfires. There could be short-term indirect cumulative effects on receiving waters from sedimentation caused by accelerated erosion along ROWs.</p>
Wetlands/Riparian Areas/Floodplains	<p>There would be potential direct adverse effects from danger-tree removal, access road maintenance, and accumulation of woody debris. These effects would include soil disturbance or compaction, and altering floodplains from removal of danger trees, access road maintenance, and tower repair. There would be potential beneficial effects from debris accumulation adding to the complexity of both the terrestrial and aquatic habitats. There would be potential indirect adverse effects associated with erosion (including streambed and bank instability), sedimentation, and inadvertent diversion of surface water. The potential for impacts increases with the number of wetland features present, and forests with the most wetland (especially PFO wetlands), riparian, and floodplain resources will have the highest potential for impacts. Design features would minimize these effects.</p> <p>There would be potential cumulative effects from changes in stream flow from the conversion of forested wetlands/riparian areas to non-forested, and the accumulation of downed danger trees. If stream flows were altered over time, it could cause increased sediment loading and decreased bank stability.</p>	<p>Same as the No Action Alternative.</p>
Forest Health and Vegetation	<p>No appreciable direct or indirect effects on forest health.</p>	<p>There would be potential beneficial effects on forest health from vegetation treatments in areas currently affected by pests (151 acres) within 6 years of authorization. However, potential effects on overall forest health would be negligible compared to more than 1 million acres in Colorado with active pest outbreaks. There would be potential beneficial effects from treating debris and eliminating bark beetle breeding habitat in the debris and returning fuel loads to pre-treatment levels. There would be potential beneficial cumulative effects on forest health from accelerating ROW treatments compared to the No Action Alternative.</p>

Table ES-2. Summary of Environmental Consequences by Alternative

Resource	No Action Alternative	Proposed Action
Invasive Species	<p>There would be no substantial adverse or beneficial effects on invasive species or effects on other vegetation populations from introduction or spread of invasive species. There could be indirect effects from the gradual, steady encroachment of newly established invasive plant populations over the long term.</p> <p>There would be more potential for increased spread of invasive species due to the aggressive, successional nature of the invasive species present in Grand Mesa, Uncompahgre, and Gunnison National Forests and San Juan National Forest.</p> <p>There could be minor cumulative effects on plant diversity, reduction or expansion of colonization of noxious weeds on disturbed sites, and potential herbicide damage to non-targeted plants.</p>	<p>There would be no substantial direct effects on invasive species. There could be gradual indirect effects on other vegetation populations from increased potential for introduction and spread of invasive species due to the greater area of surface disturbance and exposed soil. There would be more opportunity for spread of invasive species in San Juan National Forest and Grand Mesa, Uncompahgre, and Gunnison National Forest because of the diverse volume and number of existing invasive species in ROWs. There would be a potential for increased plant diversity because of more aggressive treatment and larger treatment areas, allowing for the establishment of compatible plant species and communities.</p> <p>Cumulative effects would be similar to those under the No Action Alternative.</p>
Rare Plants	<p>There would be no substantial adverse or beneficial effects on threatened, endangered, or proposed plant species, or their habitat. No impacts are anticipated to Ute ladies'-tresses based on lack of presence in 2014 surveys and critical habitat not present. Therefore, the No Action Alternative is "no effect" to Ute ladies'-tresses. Except for Ashley National Forest and Nebraska National Forest, the Forest Service has documented the presence of Forest Service sensitive species and associated habitats throughout the study area. The potential for direct and indirect effects on sensitive plant species would be from surface disturbance and potential habitat impacts from existing transmission line maintenance actions and associated vegetation management in the ROWs.</p> <p>There could be minor cumulative effects on plant diversity, the spread of noxious weeds on disturbed sites, and herbicide damage to non-targeted plants.</p>	<p>Similar to the No Action Alternative, Forest Service sensitive species or habitat may be affected. There would be more potential for direct and indirect adverse effects because there would be more vegetation treatments over larger areas in ROWs where vegetation would be treated. There would be a potential for increased plant diversity due to more aggressive and larger treatment areas, though with less re-entry and frequency allowing for the establishment of compatible plant species and communities. Although design features are intended to minimize direct impacts from proposed activities, there could still be unavoidable indirect impacts. Similar to the No Action Alternative, no impacts are anticipated to Ute ladies'-tresses based on lack of presence in 2014 surveys and critical habitat not present. Therefore, the Proposed Action is "no effect" to Ute ladies'-tresses.</p> <p>There would be minor potential for direct and indirect effects on rare plant habitat in alpine ecosystems in Grand Mesa, Uncompahgre, and Gunnison National Forests. Cumulative effects would be similar to those under the No Action Alternative.</p>

Table ES-2. Summary of Environmental Consequences by Alternative

Resource	No Action Alternative	Proposed Action
Wildlife	<p>There is a potential for minor direct and indirect impacts to wildlife resources from vegetation management, other maintenance activities, and ROW inspections. Danger tree management would allow for early and mid-seral habitat conditions to persist within forested landscapes, benefiting wildlife that favor these conditions. Few habitat effects would be evident within non-forested landscapes. Danger tree removal conducted during the spring and early summer nesting season could result in the destruction of bird nests with eggs or chicks present. Wildlife mortality or injury could also occur from collisions with vehicles and helicopters, and when vehicles leave roads and track across the ROWs; however, these would be rare. Noise and disturbances associated with maintenance operations could result in temporary short-term impacts as wildlife flee the disturbance or seek cover. Increased erosion from soil disturbing activities, accidental spills of hazardous materials (e.g. solvents, gasoline, diesel fuel, etc.), and herbicides used for vegetation management could pose a hazard to some wildlife species, particularly amphibians if these contaminants wash into wetlands and other aquatic habitats. Cumulative impacts to wildlife would be relatively minor when considered together with other actions in the region.</p> <p>Similar impacts would occur to federally-protected Threatened and Endangered species, MIS, and SOLC where they are present in the ROW; however, none of these impacts would be significant. In the Grand Mesa, Uncompahgre, and Gunnison National Forest, the No Action Alternative is “may affect, likely to adversely affect” the Canada lynx.</p>	<p>Direct and indirect effects would be similar to the No Action Alternative, except that the magnitude of the effects would be greater during initial treatment due to more intensive vegetation management. Removal and long-term management of incompatible vegetation, including regenerating forest stands and dense shrub stands that pose a high fire risk, would keep ROWs much more open than under the No Action Alternative. These conditions would primarily benefit those species that favor open herbaceous communities, low-density shrub communities, and forest-edge habitat. Reduced security cover in the more open ROWs could impede movements by some small mammals, amphibians, and reptiles, reducing habitat connectivity for those species. Risk to nesting birds, mortality from vehicle collisions and equipment operating within ROWs, and risk from contaminants (including fine sediments, hazardous materials, and herbicides) would be greater. Although design features are intended to minimize effects from the Proposed Action, some unavoidable impacts would remain. Noise and human disturbances associated with the proactive vegetation management would exceed the No Action Alternative, especially in the first five years. Cumulative effects would be similar to those under the No Action Alternative.</p> <p>Similar impacts would occur to federally-protected Threatened and Endangered species, MIS, and SOLC where they are present in the ROW; however, none of these impacts would be significant. In the Arapaho-Roosevelt National Forest, Grand Mesa, Uncompahgre, and Gunnison National Forests, Medicine Bow-Routt National Forest, and White River National Forest, the Proposed Action is “may affect, likely to adversely affect” the Canada lynx.</p>

Table ES-2. Summary of Environmental Consequences by Alternative

Resource	No Action Alternative	Proposed Action
Fisheries	<p>There would be minor potential for direct and indirect impacts to fisheries resources from vegetation management activities in ROWs compared to the overall lengths of streams in the surrounding National Forest System lands that have fisheries habitat. There would be no effects on fish survival or population numbers in the forests. Cumulative effects would be minor.</p> <p>No direct impacts are anticipated to the greenback cutthroat trout and minor indirect impacts from fine sediment delivery could occur. These potential impacts are “may affect, not likely to adversely affect” the greenback cutthroat trout. The bluehead sucker and Colorado River cutthroat trout could be affected by the No Action Alternative, but the effects would not cause a trend toward federal listing. No impacts are anticipated to the flannelmouth sucker, mountain sucker, or roundtail chub.</p>	<p>Direct and indirect effects would be similar to those under the No Action Alternative, except there would be more effects from increased vegetation management, application of herbicides, slash-pile burning, and erosion. There would be potential short-term adverse effects from vegetation treatment causing soil compaction and disruption, and the localized degradation of habitat through loss of shade and increased sunlight from canopy openings. There would be negligible effects from slash-pile burning and application of herbicides. Cumulative effects would be similar to those under the No Action Alternative.</p> <p>Similar to the No Action Alternative, no direct impacts are anticipated to the greenback cutthroat trout and minor indirect impacts from fine sediment delivery could occur. These potential impacts are “may affect, not likely to adversely affect” the greenback cutthroat trout. The bluehead sucker and Colorado River cutthroat trout could be affected by the No Action Alternative, but the effects would not cause a trend toward federal listing. No impacts are anticipated to the flannelmouth sucker, mountain sucker, or roundtail chub.</p>
Fire and Fuels Management	<p>There would be increased potential for wildfire damage on 1,153 acres that do not meet desired fuel conditions. Debris would continue to accumulate and add to the existing fuel loads, which would increase the risks from wildfire in the project area. Only dead or tall trees would be removed from the ROWs. Conditions and risks would vary by forest, depending on existing fuel loads and vegetation types in the ROWs. There would be no potential for adverse cumulative effects in the eight forests. There would be minor potential for beneficial cumulative effects in the Arapaho-Roosevelt, Ashley, and Grand Mesa, Uncompahgre, and Gunnison National Forests.</p>	<p>There would be decreased potential for wildfire damage and threat to adjacent NFS lands from reducing the amounts of fuel on the ground, thinning the trees to a wider spacing, controlling re-growth, and pruning the lower branches of the trees to create a gap between surface and ladder and canopy fuels. There would be potential indirect effects on fire behavior from lower heat produced and shorter flame lengths. There would be slight changes in the rate of fire spread because thinning trees opens the canopy to allow more sunlight to reach the surface, which reduces moisture in fine fuels that respond rapidly to changes in temperature. Beneficial cumulative effects would be similar to those under the No Action Alternative; however, they would be slightly greater given the reductions in risk of wildfire under the Proposed Action.</p>

Table ES-2. Summary of Environmental Consequences by Alternative

Resource	No Action Alternative	Proposed Action
Cultural Resources	<p>Continuation of the present maintenance practices will have little or no likelihood of affecting, either directly or indirectly, NRHP listed or eligible cultural resources (historic properties) for those exempt activities listed in WAPA’s existing Programmatic Agreement (Appendix F) for maintenance and minor construction activities at existing WAPA facilities (2015). Non-exempt activities listed in the Programmatic Agreement have a greater likelihood of directly or indirectly affecting historic properties. Any adverse effects to historic properties as a result of non-exempt activities will be resolved under the Sec. 106 process.</p> <p>WAPA expects there would be no or minimal cumulative impacts to cultural resources under the No Action Alternative.</p>	<p>The likelihood of affecting, either directly or indirectly, historic properties under the Proposed Action would be the same as under the No Action Alternative. There is little or no likelihood of directly or indirectly affecting historic properties for those exempt activities listed in WAPA’s existing Programmatic Agreement (Appendix F). Non-exempt activities listed in the Programmatic Agreement have a greater likelihood of directly or indirectly affecting historic properties. Any adverse effects to historic properties as a result of non-exempt activities will be resolved under the Sec. 106 process.</p> <p>WAPA expects there would be no or minimal cumulative impacts to cultural resources under the No Action Alternative.</p>
Transportation	<p>There could be temporary and short-term traffic delays and road closures on access routes open to public travel (580 miles) where immediate risks to transmission lines are found or when access routes need maintenance. There could be beneficial effects from access route maintenance improving travel conditions on NFS roads. Indirect effects include temporary increases in public traffic on other NFS roads, or use of unauthorized routes.</p> <p>There could be cumulative effects from traffic delays or road closures on access routes open to public travel if the reasonably foreseeable projects affect traffic patterns or travel on the same NFS routes and occur at the same time as project activities. However, these cumulative effects would be temporary and of short duration, lasting only as long as project activities in the immediate vicinity.</p>	<p>Project activities that affect transportation are the same as those described for the No Action Alternative, and effects would be similar. The potential for direct and indirect effects on transportation are primarily related to the frequency and location of initial vegetation treatments, and maintenance treatments needed thereafter. WAPA would use the same access routes under the Proposed Action as under the No Action Alternative.</p> <p>There could be increases in the frequency of traffic delays and road closures on access routes open to public travel (580 miles) in vegetation treatment areas, or as access routes need maintenance. There would be increased potential for road damage from using or hauling heavy equipment. Over the long-term, maintenance activities could also be identified and addressed more proactively, benefiting public travel on NFS routes.</p> <p>Cumulative effects on transportation would be similar to effects under the No Action Alternative because both alternatives use the same NFS access routes, except that project effects would occur more frequently and larger areas would be treated under the Proposed Action. For this reason, the potential for cumulative effects would increase under this alternative, but would be temporary and last only as long as project activities in the immediate vicinity.</p>

Table ES-2. Summary of Environmental Consequences by Alternative

Resource	No Action Alternative	Proposed Action
Visual Resources	<p>WAPA transmission line infrastructure, ROWs, and access routes, and current vegetation management activities are part of the existing visual landscape in the project area and would not substantially degrade the character or change scenic quality. There would be no impacts to existing VQOs or SIOs. Air pollutant emissions would be consistent with ongoing management activities and would not increase. There are currently no unresolved conflicts with visual standards identified by a federal land management agency. Because current management activities are a part of the existing visual landscape, continuing them would not permanently reduce visually important features on NFS lands. They are short-duration activities that would help maintain a visual landscape that is consistent within ROWs, and would not result in long-term adverse visual changes or contrasts to the existing landscape as viewed from areas with high visual sensitivity. There could be indirect and cumulative impacts on the project area’s scenic character because management under the No Action Alternative would increase the chance for catastrophic fire where dense vegetation under the transmission line would aid in the spread of forest fires.</p>	<p>Proposed Action activities that affect recreation are the same as those described for the No Action Alternative. Direct and indirect effects on recreation would be similar to those described for the No Action Alternative, but could occur more often in areas where ROWs need initial vegetation treatments, and maintenance treatments at intervals thereafter. Management of vegetation in Category 1 and 5 (Table 2-3) areas would affect recreation the least because these areas do not require initial treatments, but effects could occur more often in the Category 2, 3, 4 and 6 areas. Following design features and standard maintenance procedures would minimize effects. There would be increased potential for indirect visual effects because larger areas in one location might need treatment and would be more noticeable. Cumulative effects would be similar to those under the No Action Alternative, because both alternatives would affect the same recreation activities and facilities. The potential for cumulative effects would be greater under the Proposed Action because of the initial increased frequency of project activities over a larger area. These effects would be temporary and of similar duration as under the No Action Alternative</p>

Table ES-2. Summary of Environmental Consequences by Alternative

Resource	No Action Alternative	Proposed Action
Recreation	<p>There could be temporary and short-term trail closures from vegetation treatment or maintenance activities. There could be beneficial effects from trail maintenance and removing obstacles or repair work. Recreationists could experience temporary road closures that prevent or delay travel to recreation sites, trails, and trailheads for short periods. There could be indirect effects from localized noise or views of workers, equipment, vehicles, or debris, and treated areas; these conditions could temporarily affect the experience of dispersed recreationists on trails or in areas near treatment or maintenance activities. Recreationists in SPM or SPNM settings would be more sensitive to indirect effects, but the expected experience or character of the area would not be permanently altered to the degree that it would change these recreation opportunity settings. If the present and reasonably foreseeable projects occur at the same time and overlap with the same transmission line ROWs, there could be cumulative effects on recreation activities and facilities from temporary closures, delays, or detours, or displacement of recreation activities. These temporary effects would be limited to the transmission line ROWs or immediate area near the ROWs being treated. However, the potential cumulative effects would be temporary and of short duration, lasting only as long as vegetation treatment activities are underway in the immediate vicinity.</p>	<p>Proposed Action activities that affect recreation are the same as those described for the No Action Alternative. Direct and indirect effects on recreation would be similar to those described for the No Action Alternative, but could occur more often in areas where ROWs need initial vegetation treatments, and maintenance treatments at intervals thereafter.</p> <p>Management of vegetation in Category 1 and 5 (Table ES-1) areas would affect recreation the least because these areas do not require initial treatments, but effects could occur more often in the Category 2, 3, 4 and 6 areas. Following design features and standard maintenance procedures would minimize effects. There would be increased potential for indirect visual effects because larger areas in one location might need treatment and would be more noticeable. Cumulative effects would be similar to those under the No Action Alternative, because both alternatives would affect the same recreation activities and facilities. The potential for cumulative effects would be greater under the Proposed Action because of the initial increased frequency of project activities over a larger area. These effects would be temporary and of similar duration as under the No Action Alternative.</p>
Public Health and Safety	<p>Activities under the No Action Alternative are designed to maintain the transmission lines to minimize hardware failure and reduce risks from potentially dangerous interactions with vegetation that could cause a fire. For hazardous materials (e.g., solvents, gasoline, diesel fuel, etc.) spills, impacts are expected to be minor and short term. WAPA does not expect public-safety problems during maintenance activities. Impacts to public use of NFS lands are expected to be short term and minor. No direct or indirect effects related to electromagnetic fields are expected. No cumulative effects were identified.</p>	<p>Same as the No Action Alternative.</p>

MIS Management Indicator Species
 MVUM motor vehicle use map
 NFS National Forest System
 PFO palustrine forested
 ROW right-of-way

SIO Scenic Integrity Objective
 SOLC Species of Local Concern
 SPM semi-primitive motorized
 SPNM semi-primitive non-motorized
 VQO Visual Quality Objective

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