

MEMORANDUM FOR:	Matthew Kuzemchak, National Weather Service (NWS) NEPA Coordinator
FROM:	Jessica Schultz, Deputy Director, Weather Surveillance Radar - Model 1988 Doppler (WSR-88D) Radar Operations Center (ROC)
SUBJECT:	Finding of No Significant Impact for Tree Removal to Improve Operation of the WSR-88D serving Vance Air Force Base, Oklahoma, Area – DECISION MEMORANDUM

Based on the subject environmental assessment, I have determined that no significant environmental impacts will result from the proposed action. I request your concurrence in this determination by signing below. Please return the memorandum for our files.

1. I concur \_\_\_\_\_ Date
2. I do not concur \_\_\_\_\_ Date

Attachment

## MEMORANDUM

**TO:** All Interested Government Agencies and Public Groups

Under the National Environmental Policy Act, an environmental review has been performed on the following action.

**TITLE:** Tree Removal to Improve Operation of the Weather Surveillance Radar - Model 1988 Doppler (WSR-88D) serving Vance Air Force Base, Oklahoma, Area

**LOCATION:** Great Salt Plains State Park, Alfalfa County, OK

**SUMMARY:** The U.S. Air Force owns and operates the existing Weather Surveillance Radar, Model 1988 Doppler (WSR-88D) serving the Vance Air Force Base (AFB) area. The International Civil Aviation Organization designator for the radar is KVNK and the radar is located at Kegelman Auxiliary Field in Alfalfa County, OK. The KVNK WSR-88D was commissioned in December 1993 and is one of 159 WSR-88Ds in the nationwide network.

Terrain to the west and southwest of the radar contains vegetated former sand dunes which rise in elevation about 20 ft higher than the ground surface elevation at the radar site. Tall trees growing on the former sand dunes have reached elevations above the WSR-88D antenna, resulting in blockage of the KVNK WSR-88D radio signal in those directions, reducing the effectiveness of WSR-88D operations. To eliminate the existing signal blockage, the WSR-88D Radar Operations Center (ROC) proposes to selectively remove the blocking tall trees, which are located within a roughly 20-acre portion of the 840-acre Great Salt Plains State Park, operated by Oklahoma Tourism and Recreation Department. The trees to be removed are primarily non-native Siberian elms which were planted as windbreaks between 1941 and 1953. Only trees taller than 20 ft AGL would be removed and all other trees and brush would be preserved at the site to the maximum extent possible.

**RESPONSIBLE OFFICIAL:** Jessica Schultz, Deputy Director, WSR-88D Radar Operations Center, 1200 Westheimer Drive, Norman, OK 73069, Tel. (405)573-8808, email: [jessica.a.schultz@noaa.gov](mailto:jessica.a.schultz@noaa.gov)

The environmental review process led us to conclude that this action will not have a significant effect on the human environment. A copy of the finding of no significant impact, and the supporting final environmental assessment is enclosed for your information. Please submit any comments to the responsible official named above by **October 10, 2021**. Also, please send one copy of your comments to me in 1325 East-West Highway, Room 8372, Silver Spring, MD 20910.

Sincerely

Matthew Kuzemchak, Team Lead  
Safety & Environmental team  
Facilities Management Division  
National Weather Service

Enclosure

## **FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

### **TREE REMOVAL TO IMPROVE OPERATION OF THE WEATHER SURVEILLANCE RADAR - MODEL 1988, DOPPLER (WSR-88D) SERVING VANCE AIR FORCE BASE, OKLAHOMA, AREA**

#### **ENVIRONMENTAL ASSESSMENT (EA) SUMMARY**

##### **Purpose and Need**

The U.S. Air Force owns and operates the existing Weather Surveillance Radar, Model 1988 Doppler (WSR-88D) serving the Vance Air Force Base (AFB) area. The International Civil Aviation Organization designator for the radar is KVNK and the radar is located at Kegelman Auxiliary Field in Alfalfa County, OK. The KVNK WSR-88D was commissioned in December 1993 and has been in continuous operation since then. It is one of 159 WSR-88Ds in the nationwide network, which is overseen by the Radar Operations Center (ROC), a tri-agency program serving the Departments of Defense, Transportation, and Commerce.

The KVNK WSR-88D was commissioned on Dec. 20, 1993 and has been in continuous operation since entering service. Ground elevation at the radar site is 1,210 ft above mean sea level (msl). The center of the radar antenna is at 1,259 ft msl or 49 ft above ground level (AGL). Terrain to the west of the radar contains vegetated former sand dunes which rise in elevation about 20 ft higher than the ground surface elevation at the radar site. Tall trees growing on the former sand dunes have reached elevations above the WSR-88D antenna, resulting in blockage of the KVNK WSR-88D radio signal in those directions, reducing the effectiveness of WSR-88D operations. To eliminate the existing signal blockage, ROC proposes to selectively remove the blocking tall trees, which are located within a roughly 20-acre portion of the 840-acre Great Salt Plains State Park, operated by Oklahoma Tourism and Recreation Department. These radar coverage improvements would be very beneficial to weather forecasters and others parties (e.g., U.S. Air Force, public safety agencies and emergency responders) using the radar information.

##### **Description of Proposed Action**

The ROC proposes to selectively remove trees growing at a small portion of Great Salt Plains State Park to remove blockage of the KVNK WSR-88D radio signal. The trees proposed for removal are located within a roughly 20-acre area located west and southwest of the radar. About 10.8 acres of the 20 acres is wooded and the remaining is vegetated with brush, low ground cover, and dirt tracks. The tall trees are primarily non-native Siberian Elm trees (*Ulmus pumila*), which were planted between 1941 and 1953 at the boundary of a construction staging area used to build the nearby Great Salt Plains Lake Dam. Additional Siberian elm trees have grown outside the wind breaks in the park interior. Also planned for removal are broad-leaved deciduous trees growing among the elms. The density of tall trees ranges up to about 50 per acre over the 10.8 wooded acres within the tree removal area and up to 500 trees would be removed in total. Trees would be removed by cutting to their trunks as close to the ground as possible.

The project sponsor plans to engage a forestry consultant to seek buyers for the removed wood to help offset the cost of tree removal and minimize the amount of organic debris requiring re-use or disposal. Organic debris not suitable for use as a wood product (e.g., small branches and leafy debris) would be chipped and spread on site as mulch and disturbed areas hydroseeded with native grasses/forbs to promote vegetative regrowth and minimize the potential for soil erosion. State Highway 38 provides vehicle access to the park and paved and unpaved interior park roads provided access to the tree removal areas. These roads provide suitable access for the equipment needed to remove the trees, chip the vegetative debris, and spread the chipped material as mulch on site. Tree removal would be expected to take several weeks and would occur during fall, winter or early spring when park usage is relatively low and breeding birds are not expected to nest at the site.

No changes to the KVNx facility or its operations would occur.

### **Alternatives Considered**

The no action alternative consists of continued operation of the KVNx WSR-88D without removal of the tall trees located west and southwest and west of the radar which block the WSR-88D signal. The existing blockage of the radar signal would not be abated. The project objectives would not be met. No changes in the quality of the environment would result. Like the proposed action, the no-action alternative would not result in significant environmental effects.

### **Environmental Consequences**

ROC prepared an Environmental Assessment (EA) analyzing the potential environmental consequences of the implementing the proposed action in compliance with the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) implementing regulations (40 Code of Federal Regulations Parts 1500 – 1508) and NOAA Administrative Order (NOA) 216-6A: *Compliance with the National Environmental Policy Act, Executive Orders 12114, Environmental Effects Abroad of Major Federal Actions; 11988 and 13690, Floodplain Management; and 11990 Protection of Wetlands*. (April 22, 2016).

The proposed tree removal would occur in a mostly undeveloped and sparsely used section of the state park. During tree removal, park users would be excluded for safety reasons. This would prevent recreation use of the 20-acre area, but the remainder of the 840-acre park, including all campgrounds and lakefront areas, would remain open. Disruption of park activities would be temporary and insignificant.

Soil at the proposed tree removal area is Eda sand, which formed from dune sand and is deep and somewhat excessively drained. The site is mostly wooded with areas of grass and brush interspersed. No excavation or earth movement would be required to implement the proposed action; however, cutting and transport of trees and movement of staff, vehicles, and equipment could result in temporary soil disturbance, which would expose soil to wind and water erosion. Wind erosion is a particular concern as soil at the area is susceptible to blowing, as evidenced by

the formation of sand dunes at the area in the past. The sand dunes have been stabilized by vegetative growth, but could become unstable again if substantial areas are denuded of vegetation. To reduce the risk of soil blowing, vegetation other than tall trees would be preserved to the maximum extent possible, tree roots would be retained, and best management practices would be implemented to prevent soil erosion. Disturbed areas would be hydroseeded with native grass seed. In the long-term, revegetation of disturbed areas would reduce the potential for soil blowing and stabilize the historical dunes at the area. With application of mitigation measures, erosion impacts would be reduced to less than significant level.

Vehicles and equipment associated with the tree removal would generate emissions of criteria air pollutants, including NO<sub>x</sub> (an ozone precursor), carbon monoxide, and particulate matter (PM). Additionally, sawing and chipping of wood and vegetative debris would generate PM emissions. Exposed soil would be subject to wind blowing and could generate fugitive dust. Measures to reduce dust emissions, including limiting vehicle speeds on unpaved roads and periodically watering denuded areas, would be implemented. Air emissions would be temporary and minor. The tree removal area is not located in an area designated by Environmental Protection Agency in non-attainment or maintenance of National Ambient Air Quality Standards area and the proposed action would not be a federal highway or mass transit project, therefore, a federal conformity determination would not be required.

The proposed action would result in emission of greenhouse gases (GHG) from vehicle and equipment exhaust and decomposition of vegetative matter. Total GHG emissions would make a negligible contribution to atmospheric GHG levels.

The proposed tree removal area is not within a flood hazard area and does not contain wetlands. No wild and scenic rivers are present in the vicinity. No impacts to flood risks, floodplains, wetlands, or wild and scenic rivers would result.

On behalf of the ROC, Sensor Environmental LLC consulted with U.S. Fish Wildlife Service (USFWS) which provided a list of threatened and endangered species that could potentially occur in alfalfa County, including piping plovers (threatened), red knots (threatened), and whooping cranes (endangered). Suitable nesting or foraging habitat for these three bird species is not present at the tree removal area. Migratory birds may occur at the area. To avoid impacts tree removal would occur between September 11 and March 31, which is outside the breeding season for all migratory birds, except bald eagles. A survey for bald eagle nests would be performed and if eagle nests (either active or inactive) are found they would be protected by establishment of a no-work buffer around the nest.

Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) requires federal agencies to consider the effects of their actions on historic places within the area of potential effects (APE). The APE for the proposed action consists of the tree removal area and area within 0.25 mile. No historic places listed or eligible for NRHP are located within the APE and none would be affected by the proposed action. The proposed action would not include

ground excavation or earth movement and would not have the potential to affect archaeological or paleontological resources.

During tree removal, noise would be generated by use of vehicles and equipment. Based on the type of equipment likely to be used during tree removal, the peak level of noise at 50 ft from the source of noise would be up to 110 A-weighted decibels (acoustic) (dBA). Tree removal would occur during normal working hours and noise would dissipate with distance from the source. The nearest residence is about 250 ft to the south. Project noise would occur intermittently and sporadically during the tree removal period and would not significantly affect nearby uses.

Alfalfa County has a population of 5,702 persons. The county has a mostly white population, and the percentage of blacks, Hispanics or Latinos, Asians, and Native Americans is less in Alfalfa County than in the state as a whole. The percentage of owner-occupied residences is greater in the County than in the state. Per capita income in the County is slightly higher (+2.9%) than for the state as a whole and the percentage of population in poverty is slightly less (-0.6%). The proposed action would not generate noxious emissions or pollutant streams. Temporary noise, traffic, and air emission impacts would occur but would not disproportionately affect minority or low-income populations in the vicinity.

No solid waste disposal areas of soil or water contamination are present at the proposed tree removal area. Tree removal would generate about 550 tons of vegetative debris, which would be chipped and spread as soil mulch at the area. Significant impacts would not result to solid waste disposal facilities.

Great Salt Plains State Park is located in a rural, mostly agricultural area. Nearby uses to the consist of Great Salt Plains Lake, Great Salt Plains NWR, Kegelman Auxiliary Field (military landing strip), pastures, crop fields, and widely spaced rural residences. The State Park differs visually from the surrounding uses by being more densely forested. Tree removal would result in a less dense woodland with more open areas of low vegetation and brush. Smaller trees would not be removed and would contribute to a mosaic appearance of the area. The tree removal area covers about 2.3% of the 840-acre remaining areas would continue to be vegetated with relatively dense forest. Thus, the proposed action would not significantly change the overall appearance of the state park. No scenic highways or byways are located in Alfalfa County (Scenic America, 2021) and the proposed action would not affect a scenic viewshed. Visual impacts would not be significant.

### **Mitigation Measures**

The Final EA contained a number of measures to mitigate potential impacts on the environment. ROC will implement the following measures:

**GEO1.** To reduce the potential for wind erosion after tree removal is completed, only selected trees tall enough to block the WSR-88D radio signal would be removed. Existing vegetation, including trees shorter than 20 feet AGL, brush, and ground cover should be retained to the maximum extent possible. Additionally, roots of removed trees should be retained in place.

**GEO2.** Disturbed areas would be hydroseeded with native grass/forbs seed and covered with mulch to retain soil moisture, protect against blowing, and promote regrowth of vegetation.

**WQ1.** The tree removal contractor should minimize the area of soil disturbance and implement temporary controls to minimize the potential for erosion. These should include use of hay bales, silt fences, and/or fiber rolls at the perimeter of disturbed areas to retain soil on site. Periodic sprinkling of water and/or application of dust suppressants should occur to reduce the potential for wind blowing of soil.

**WQ2.** The tree removal contractor should establish an on-site area with containment for fuel storage, fueling, and maintenance of equipment and vehicles. The area should have pans to collect fluid drippings and containment to prevent flow of fluids outside the contained area.

**AQ1:** ROC would require the contractor to implement the following measures during the tree removal to minimize emissions of PM and other air pollutants:

- Periodically sprinkle water or apply dust suppressants on areas cleared of vegetated for equipment/vehicle staging to reduce dust emissions.
- Limit vehicle speeds on unpaved roads and areas to 15 miles per hour
- Promptly hydroseed areas of exposed soil with native grass/forbs soon as tree removal is complete.
- Limit idling time of equipment to 10 minutes when not in use.

**BIO1:** Perform tree removal during September 11 through March 31 , which avoids the breeding season for the migratory birds that may occur on site (except bald eagles, see measure BIO3 below to protect bald eagles).

**BIO2:** Preserve to the maximum extent possible trees less than 20 ft in height and avoid unnecessary removal or damage to vegetation during removal of the selected tall trees.

**BIO3:** To prevent impacts to eagles or their nests, a qualified ornithologist would perform a survey at the work area and appropriate adjoining area extending in all directions for bald eagle nests prior to tree removal. If any bald eagle nests are identified, a buffer zone would be established around the nest and tree removal activities should not occur within the buffer zone. Because the Bald and Gold Eagle Protection Act protects both active and inactive eagle nets, removal of the nest or trees in close proximity would likely require a permit from USFWS.

**BIO4:** At the completion of tree removal, disturbed areas would be hydroseeded with native grass seed to promote vegetative cover and minimize the potential soil erosion. Removed trees should be chipped and the material spread on site to prevent soil erosion and promote growth of vegetation.

**NOI1:** Tree removal would occur during normal working hours to the maximum extent possible.

**SW1:** To promote re-use of wood from removed trees, the project sponsor would hire a forestry consultant to assess the economic value of wood from removed trees and seek buyers for that material.

**SW2:** After completion of tree removal, all equipment, vehicles and waste products should be removed from the site, with the exception for vegetative matter, which should be chipped and spread as mulch on the ground at the site.

### **Public and Agency Review of the Draft EA**

ROC distributed the Draft EA to interested members of the public and government agencies for review and comment. To facilitate that review, ROC prepared a Notice of Availability (NOA) for the Draft EA and distributed it to interested parties. In addition, ROC posted the NOA and an electronic copy of the Draft EA to the public accessible web sites maintained by the Radar Operations Center. Comments on the Draft EA were accepted by ROC during a 32-day comment period ending on August 31, 2021. The ROC received one comment on the Draft EA. Mr. Matthew Kuzemchak, Team Lead of the National Weather Service Environmental and Safety Team stated that he reviewed the Draft EA and had no substantial comments.

### **FINDING OF NO SIGNIFICANT IMPACT**

The CEQ Regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity, and lists ten criteria for intensity (40 CFR 1508.27). In addition, NAO 216-6A, Section 6.01(b) 1 – 11, provides eleven criteria, the same ten as the CEQ Regulations and one additional criterion for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action and considered individually as well as in combination with the others.

*1. Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?*

No. The EA report analyzes the potential for implementation of the proposed action to cause environmental consequences based on established standards and criteria. The proposed action would disturb about twenty acres of woodland vegetated primarily with non-native Siberian elm trees at Great Salt Plains State Park. ROC would implement best management practices listed in the Final EA to minimize emissions of air pollutants, prevent soil erosion, reduce noise impacts, and minimize the amount of solid waste generated by the proposed action. The proposed activity would be implemented outside the migratory bird nesting season and pre-activity surveys would be performed to prevent harm to bald eagles or their nests. With application of these measures, potential impacts to protected and sensitive wildlife would be avoided. No wetlands and floodplains are present at the action area. Likewise, no historic places listed or eligible for listing on the National Register of Historic Places (NRHP) are located within the proposed action's Area of Potential Effect.



*2. Can the proposed action be expected to significantly affect public health or safety?*

No. Tree removal could result in safety hazards from falling trees and use of heavy equipment. Workers would adhere to occupational safety regulations and non-workers would be excluded from the work area to prevent harm to both workers and the public.

*3. Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?*

No. None of the listed natural resources are present at the proposed area of tree removal and none would be affected. The proposed action would occur in a sparsely used, undeveloped portion of Great Salt Plains State Park and would not adversely affect recreational uses. The proposed actions area of potential effect (APE) is defined as the area of potential effects (APE) to historic or cultural resources consists of the 20-acre tree removal area and lands within 0.25 mile radius. No places listed on the National Register of Historic Places (NRHP), historic districts listed on the NRHP, or NRHP-eligible historic districts are present within the APE. The proposed action would not impact historic or cultural resources, prime farmland, or wild and scenic rivers.

*4. Are the proposed action's effects on the quality of the human environment likely to be highly controversial?*

No. The proposed action would remove selected mostly non-native trees from a roughly 20-acre portion of the 840-acre state park. During project planning, the ROC coordinated with Oklahoma Tourism and Recreation Department, which owns and operates the state park to ensure that disruption of park activities would be minimized. The tree removal area is undeveloped and receives limited use. Most of the park, including all developed recreational facilities, would remain in use. The USFWS was consulted and provided a list of threatened and endangered species and migratory birds occurring in Alfalfa County. Suitable habitat for threatened and endangered species is not present at tree removal area. ROC will implement measures recommended by USFWS to avoid impacts to migratory birds.

ROC distributed the Draft EA to interested members of the public and government agencies for review and comment. To facilitate that review, ROC prepared a Notice of Availability (NOA) for the Draft EA, distributed it to interested parties, and posted the NOA and an electronic copy of the Draft EA to the public accessible web sites maintained by the ROC. Comments on the Draft EA were accepted during a 32-day comment period ending on August 31, 2021. The ROC received one comment on the Draft EA. Mr. Matthew Kuzemchak, Team lead of the NWS Environmental and Safety Team stated that he reviewed the Draft EA and had no substantial comments.

*5. Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?*

No. The primary risk arising from the proposed action is potential for erosion at disturbed areas, especially soil blowing. Measures will be implemented to promote revegetation to protect disturbed areas from long-term erosion. The area was previously cleared and denuded during construction of the Salt Plains Dam and successfully revegetated in the 1940s and 1950s, halting erosion and dune migration. The proposed action would not denude the area; instead, some, but not all, of the existing trees would be removed and vegetative ground cover would be preserved to the maximum extent possible. Thus, revegetation and soil stabilization would be less challenging than in the 1940s and 1950s and is expected to be successful at preventing long-term soil erosion.

*6. Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?*

No. The proposed action consists of removing trees west and southwest of KVNK WSR-88D in response to local conditions affecting that radar. The analysis is specific to the KVNK WSR-88D and not applicable to other WSR-88D. If the ROC were to consider similar action at another WSR-88D, they will perform a site-specific analysis of potential effects for that radar in compliance with NEPA and NAO 216-6A. No precedents would result for future actions with significant effects or a decision in principle about a future consideration.

*7. Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?*

No. The Final EA report evaluates the potential for the proposed action, in conjunction with past, present, and reasonably foreseeable future actions to cause significant environmental effects. The proposed action is not reliant upon or connected to other actions, nor is it relied upon for the occurrence of other actions. Therefore, the proposed action will not result in a significant cumulative impact to the human environment.

*8. Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?*

No. As discussed in the answers to questions 3, no historic places occur with the proposed action's APE.

*9. Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?*

No. the EA preparers consulted with USFWS which provided a list of threatened and endangered species that could potentially occur in the site vicinity – red knots, whooping cranes, and piping plovers. Suitable habitat for these species is not present at the tree removal area and no impacts to those species would result. The tree removal area does not contain designated critical habitat for threatened and endangered species.

*10. Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?*

No. The Draft EA analyzed the proposed action relative to applicable Federal, state and local environmental laws or regulations. The action would be implemented in conformance with environmental laws and requirements. No regulatory violations or other significant environmental effects would result.

*11. Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?*

No. The proposed action would remove non-native trees, thereby promoting growth of native vegetation. Hydroseeding would use native grass/forb species and would not have the potential to cause the transport, release, propagation or spread of non-indigenous species.

### **DETERMINATION**

After careful and thorough consideration of the Final EA report, the undersigned finds that removal of trees at Great Salt Plains State Park blocking the KVNIX WSR-88D radio signal is consistent with existing national environmental policies and objectives set forth in sections 101(a) and 101(b) of NEPA and will not significantly affect the quality of the human environment or otherwise result in any condition requiring consultation pursuant to section 102(2) (c) of NEPA.

As described in section 5.03c of NOA 216-6A, a Finding of No Significant Impact is supported and appropriate for the proposed action as analyzed in the EA report. Preparation of an environmental impact statement for this action is not necessary.

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Jessica Schultz  
Deputy Director  
WSR-88D Radar Operations Center

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Date